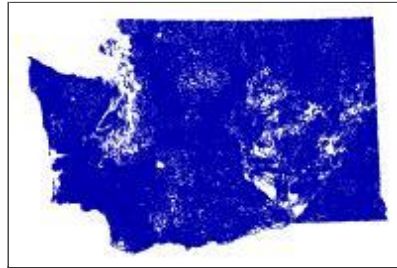


## ROPA.WCHYDRO

### SDE Feature Class



#### Tags

aqueduct, watercourse, inlandWaters, fish ladder, Washington State, Washington, hydro, water, pipeline, river, siphon, hydrography, ditch, canal, stream, surface water, Pacific Northwest

#### Summary

DNR HYDRO supports many agency programs and mandates and is available to the public. Agency uses include state base maps; landscape analyses and modeling; the Family Forest Fish Passage Program; landslide mapping; the Sustainable Harvest Calculation; fire protection; the Natural Heritage Program; and the Trust Forestland HCP water typing system. DNR HYDRO is also used for Forest Practices water typing. The dataset serves as the Forest Practices Water Type Map. The Forest Practices water typing system is used in the planning and regulation of forest practices on state and private forest land. Forest Practices water types (WAC 222-16-031) are intended for DNR Forest Practices regulatory purposes only.

#### Description

The DNR water course (WC), water body (WB), and water shoreline (WS) datasets, collectively known as DNR HYDRO, make up the most up-to-date hydrography layer for the state of Washington. WC represents water courses as arcs or lines. These occur alone as single arcs representing streams, ditches, or pipelines, or as centerlines through water body polygons such as double-banked streams, lakes, impoundments, reservoirs, wet areas, or glaciers. WB represents water bodies as polygonal features. WB includes features such as Puget Sound, lakes, wet areas, reservoirs, impoundments, glaciers, islands, and dams. WS represents shorelines as polygon perimeter arcs. The WC and WBWS are edited daily and simultaneously; updates are posted weekly for internal DNR use and monthly for external use. Attribute interrelationships within the WC and within the WBWS and spatial and attribute interrelationships between the WC and WBWS are maintained. Routes can be built on the WC by using the whole stream identifier (WC\_LLID\_NR). DNR HYDRO is continually updated through the DNR Forest Practices Water Type Modification Form process. DNR HYDRO is mixed scale. The nominal scale is considered 1:24,000, but some data at larger scales are included.

#### Credits

There are no credits for this item.

#### Use limitations

There are no access and use limitations for this item.

### ArcGIS Metadata ►

#### Topics and Keywords ►

THEMES OR CATEGORIES OF THE RESOURCE inlandWaters

\* CONTENT TYPE Downloadable Data

PLACE KEYWORDS Washington State, Washington, Pacific Northwest

THEME KEYWORDS aqueduct, watercourse, fish ladder, hydro, water, pipeline, river, siphon, hydrography, ditch, canal, stream, surface water

THEME KEYWORDS inlandWaters

THESAURUS ►

TITLE ISO 19115 Topic Category

*Hide Thesaurus ▲*

*Hide Topics and Keywords ▲*

## Citation ►

\* TITLE ROPA.WCHYDRO

PRESENTATION FORMATS \* digital map

*Hide Citation ▲*

## Citation Contacts ►

RESPONSIBLE PARTY

ORGANIZATION'S NAME Washington State Department of Natural Resources (DNR)

CONTACT'S ROLE originator

*Hide Citation Contacts ▲*

## Resource Details ►

DATASET LANGUAGES English (UNITED STATES)

DATASET CHARACTER SET utf8 - 8 bit UCS Transfer Format

STATUS completed

SPATIAL REPRESENTATION TYPE \* vector

SUPPLEMENTAL INFORMATION

Within DNR, HYDRO is available on ROPA as WCHYDRO, WBHYDRO, and WSHYDRO SDE Enterprise Geodatabase Feature Classes. Externally, the data set can be downloaded free of charge from the DNR GIS Data Center web page [http://www.dnr.wa.gov/BusinessPermits/Topics/Data/Pages/gis\\_data\\_center.aspx](http://www.dnr.wa.gov/BusinessPermits/Topics/Data/Pages/gis_data_center.aspx), click on Available GIS Data. Attributes identified by the "FP\_" prefix (for example: FP\_WTRTY\_1975\_CD, FP\_WTRTY\_1975\_DT, FP\_WTRTY\_CD, FP\_EXP\_CD, FP\_WTRTY\_APPR\_DT, etc.) are intended for DNR Forest Practices regulatory purposes only. The HYDRO data sets are refreshed weekly.

\* PROCESSING ENVIRONMENT Microsoft Windows Server 2008 R2 Version 6.1 (Build 7601) Service Pack 1; ESRI ArcGIS 10.0.5.4400

ARCGIS ITEM PROPERTIES

\* NAME ROPA.WCHYDRO

\* LOCATION Server=panhead; Service=esri\_ropa; User=ropa; Version=SDE.DEFAULT

\* ACCESS PROTOCOL ArcSDE Connection

*Hide Resource Details ▲*

## Extents ►

EXTENT

GEOGRAPHIC EXTENT

BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching

\* WEST LONGITUDE -124.798319

- \* EAST LONGITUDE -116.708499
- \* NORTH LATITUDE 49.049339
- \* SOUTH LATITUDE 45.485669
- \* EXTENT CONTAINS THE RESOURCE Yes

## EXTENT IN THE ITEM'S COORDINATE SYSTEM

- \* WEST LONGITUDE 607662.000000
- \* EAST LONGITUDE 2551198.000000
- \* SOUTH LATITUDE 81928.000000
- \* NORTH LATITUDE 1355595.000000
- \* EXTENT CONTAINS THE RESOURCE Yes

[Hide Extents ▲](#)

## Resource Points of Contact ►

## POINT OF CONTACT

INDIVIDUAL'S NAME Forest Practices Hydro/Trans Data Steward  
 ORGANIZATION'S NAME Washington State Department of Natural Resources, Forest Practices Division  
 CONTACT'S POSITION Hydrography and Transportation Data Steward  
 CONTACT'S ROLE point of contact

## CONTACT INFORMATION ►

## PHONE

VOICE 360.902.1400  
 FAX 360.902.1428

## ADDRESS

TYPE both  
 DELIVERY POINT 1111 WASHINGTON STREET S.E.  
 DELIVERY POINT PO BOX 47012  
 CITY OLYMPIA  
 ADMINISTRATIVE AREA WA  
 POSTAL CODE 98504-7012  
 COUNTRY US  
 E-MAIL ADDRESS [fpd@dnr.wa.gov](mailto:fpd@dnr.wa.gov)

[Hide Contact information ▲](#)

[Hide Resource Points of Contact ▲](#)

## Resource Maintenance ►

## RESOURCE MAINTENANCE

UPDATE FREQUENCY weekly

[Hide Resource Maintenance ▲](#)

## Resource Constraints ►

## LEGAL CONSTRAINTS

## LIMITATIONS OF USE

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#### OTHER CONSTRAINTS

WA ISB, IT Security, Data Category 1 - Public Information (See Security Information). External requests for this data should be directed to the WA DNR GIS Data Center web site ( [http://www.dnr.wa.gov/BusinessPermits/Topics/Data/Pages/gis\\_data\\_center.aspx](http://www.dnr.wa.gov/BusinessPermits/Topics/Data/Pages/gis_data_center.aspx) ).

#### SECURITY CONSTRAINTS

CLASSIFICATION SYSTEM WA ISB, Information Technology Security Standards, Policy 401-S4

ADDITIONAL RESTRICTIONS Data Category 1 - Public Information: Public information is information that can be or currently is released to the public. It does not need protection from unauthorized disclosure, but does need integrity and availability protection controls. (Washington State Information Services Board, Information Technology Security Standards, Policy 401-S4, <http://isb.wa.gov/policies/401S.doc>).

[Hide Resource Constraints ▲](#)

## Spatial Reference ►

#### ARCGIS COORDINATE SYSTEM

- \* TYPE Projected
- \* GEOGRAPHIC COORDINATE REFERENCE GCS\_North\_American\_1983\_HARN
- \* PROJECTION NAD\_1983\_HARN\_StatePlane\_Washington\_South\_FIPS\_4602\_Feet
- \* COORDINATE REFERENCE DETAILS
  - PROJECTED COORDINATE SYSTEM
    - WELL-KNOWN IDENTIFIER 2927
    - X ORIGIN -117498300
    - Y ORIGIN -98850300
    - XY SCALE 1000
    - Z ORIGIN 0
    - Z SCALE 1
    - M ORIGIN 0
    - M SCALE 1
    - XY TOLERANCE 0.002
    - Z TOLERANCE 0.001
    - M TOLERANCE 0.001
    - HIGH PRECISION true
    - WELL-KNOWN TEXT PROJCS
    - ["NAD\_1983\_HARN\_StatePlane\_Washington\_South\_FIPS\_4602\_Feet",GEOGCS
    - ["GCS\_North\_American\_1983\_HARN",DATUM["D\_North\_American\_1983\_HARN",SPHEROID
    - ["GRS\_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT
    - ["Degree",0.0174532925199433]],PROJECTION["Lambert\_Conformal\_Conic"],PARAMETER
    - ["False\_Easting",1640416.666666667],PARAMETER["False\_Northing",0.0],PARAMETER
    - ["Central\_Meridian",-120.5],PARAMETER["Standard\_Parallel\_1",45.83333333333334],PARAMETER
    - ["Standard\_Parallel\_2",47.33333333333334],PARAMETER
    - ["Latitude\_Of\_Origin",45.33333333333334],UNIT["Foot\_US",0.3048006096012192],AUTHORITY
    - ["EPSG",2927]]

#### REFERENCE SYSTEM IDENTIFIER

- \* VALUE 2927
- \* CODESPACE EPSG
- \* VERSION 7.4.1

[Hide Spatial Reference ▲](#)

## Spatial Data Properties ►

### VECTOR ►

\* LEVEL OF TOPOLOGY FOR THIS DATASET geometry only

#### GEOMETRIC OBJECTS

FEATURE CLASS NAME ROPA.WCHYDRO

\* OBJECT TYPE composite

\* OBJECT COUNT 0

[Hide Vector ▲](#)

### ARCGIS FEATURE CLASS PROPERTIES ►

\* FEATURE TYPE Simple

\* GEOMETRY TYPE Polyline

\* HAS TOPOLOGY FALSE

\* FEATURE COUNT 0

\* SPATIAL INDEX TRUE

\* LINEAR REFERENCING FALSE

[Hide ArcGIS Feature Class Properties ▲](#)

[Hide Spatial Data Properties ▲](#)

## Data Quality ►

### SCOPE OF QUALITY INFORMATION ►

RESOURCE LEVEL dataset

[Hide Scope of quality information ▲](#)

### DATA QUALITY REPORT - CONCEPTUAL CONSISTENCY ►

MEASURE DESCRIPTION Data refreshed weekly and receives continual spatial and attribute QAQC.

[Hide Data quality report - Conceptual consistency ▲](#)

### DATA QUALITY REPORT - COMPLETENESS OMISSION ►

MEASURE DESCRIPTION Due to the compilation history of the dataset it has inconsistent stream density across the state.

[Hide Data quality report - Completeness omission ▲](#)

### DATA QUALITY REPORT - ABSOLUTE EXTERNAL POSITIONAL ACCURACY ►

DIMENSION horizontal

MEASURE DESCRIPTION National Map Accuracy Standards of +/- 40 feet (12.19 meters).

[Hide Data quality report - Absolute external positional accuracy ▲](#)

[Hide Data Quality ▲](#)

## Lineage ►

### SOURCE DATA ►

**DESCRIPTION** DNR Washington State Mixed Scale Hydrography Historical Outline: 1987 - 1992 DNR HYDRO initially created from hydrographic features displayed on U.S. Geological Survey (USGS) 1:24,000 scale topographic maps for DNR Forest Practices Division. 1992 - 1994 Photogrammetric compilation of data for forested state, private, and some federal and tribal lands. This compilation was done by township. Where townships contained federal lands and state or private land the entire township was included. 1995 - 1996 Data for all other areas of the state were received in various formats and with differing compilation specifications from federal agencies and processed to produce the "DATA96" dataset. Changes continually accepted into the data set through DNR Forest Practices. 2000 DATA96 split into DNR operational HYDRO which continued to receive edits and a fixed snapshot that became the basis for the Conversion Project. 2003 - 2004 DNR HYDRO Conversion Project. Production and extensive, systematic QAQC to produce new DNR data in the Pacific Northwest Hydrography Framework Clearinghouse (Framework) data model in ESRI coverage format with arc/node topology. 2004 - 2006 Forest Practices Backlog Update Project. Systematic update of DNR HYDRO with backlog of all changes since 2000. 2004 - 2006 Forest Practices Water Typing Project. New Forest Practices Water Typing Classification system implemented. System is based on a multi-parameter, field-verified geographic information system (GIS) logistic regression model and modified by field observations as administered by DNR Forest Practices and reviewed by the Timber/Fish/Wildlife Agreement cooperators. The new system became operational for Western Washington on March 1, 2005, and for Eastern Washington on March 1, 2006. PRESENT - Changes continue to be accepted into DNR HYDRO through the DNR Forest Practices Water Type Modification Form (WTMF) process. DNR HYDRO is in ESRI coverage format and is edited in Workstation Arc/Info. See [http://www.dnr.wa.gov/BusinessPermits/Topics/ForestPracticesApplications/Pages/fp\\_watertyping.aspx](http://www.dnr.wa.gov/BusinessPermits/Topics/ForestPracticesApplications/Pages/fp_watertyping.aspx)

RESOLUTION OF THE SOURCE DATA  
SCALE DENOMINATOR 0

[Hide Source data ▲](#)

[Hide Lineage ▲](#)

## Geoprocessing history ►

### PROCESS

DATE 2014-06-20 17:52:23  
TOOL LOCATION C:\Program Files (x86)\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\ChangePrivileges  
COMMAND ISSUED  
ChangePrivileges 'Database Connections\esri\_ropa.sde\ROPA.WCHYDRO\_ropa\_read GRANT #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

### PROCESS

DATE 2014-06-20 17:52:43  
TOOL LOCATION C:\Program Files (x86)\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\ChangePrivileges  
COMMAND ISSUED  
ChangePrivileges 'Database Connections\esri\_ropa.sde\ROPA.WCHYDRO\_metadata GRANT #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

### PROCESS

DATE 2014-06-20 17:53:00  
TOOL LOCATION C:\Program Files (x86)\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\ChangePrivileges  
COMMAND ISSUED  
ChangePrivileges 'Database Connections\esri\_ropa.sde\ROPA.WCHYDRO\_wdfw\_reader GRANT #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

### PROCESS

DATE 2014-06-20 17:53:22  
TOOL LOCATION C:\Program Files (x86)\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\ChangePrivileges

## COMMAND ISSUED

```
ChangePrivileges 'Database Connections\esri_r opa. sde\ ROPA. WCHYDRO' fpar_s_i ms GRANT #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

## PROCESS

DATE 2014-06-20 17:53:38

TOOL LOCATION C:\Program Files (x86)\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\ChangePrivileges

## COMMAND ISSUED

```
ChangePrivileges 'Database Connections\esri_r opa. sde\ ROPA. WCHYDRO' sepamaps_user  
GRANT #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

## PROCESS

DATE 2014-06-20 18:11:01

TOOL LOCATION C:\Program Files (x86)\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

```
Append 'Database Connections\esri_prod_hydro_spatial_dc. sde\ HYDRO_SPATI AL. WCHYDRO_SV'  
"Database Connections\esri_r opa. sde\ ROPA. WCHYDRO" TEST # #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

## PROCESS

DATE 2014-06-20 18:42:20

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx&gt;DeleteFeatures

## COMMAND ISSUED

```
DeleteFeatures c:\sde_connections\ropa_ropa. sde\ ROPA. WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

## PROCESS

DATE 2014-06-20 19:00:50

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

```
Append c:\sde_connections\prod_hydro_spatial_default. sde\ HYDRO_SPATI AL. WCHYDRO_SV  
c:\sde_connections\ropa_ropa. sde\ ROPA. WCHYDRO TEST # #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

## PROCESS

DATE 2014-06-29 07:55:43

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx&gt;DeleteFeatures

## COMMAND ISSUED

```
DeleteFeatures c:\sde_connections\ropa_ropa. sde\ ROPA. WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

## PROCESS

DATE 2014-06-29 08:13:43

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

```
Append c:\sde_connections\prod_hydro_spatial_default. sde\ HYDRO_SPATI AL. WCHYDRO_SV  
c:\sde_connections\ropa_ropa. sde\ ROPA. WCHYDRO TEST # #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

## PROCESS

DATE 2014-07-04 22:19:14

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx&gt;DeleteFeatures

## COMMAND ISSUED

```
DeleteFeatures c:\sde_connections\ropa_ropa. sde\ ROPA. WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

## PROCESS

DATE 2014-07-04 22:39:42

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

Append c:\sde\_connect\_ions\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-07-11 22:14:51

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx&gt;DeleteFeatures

## COMMAND ISSUED

DeleteFeatures c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-07-11 22:34:04

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

Append c:\sde\_connect\_ions\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-07-18 22:14:48

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx&gt;DeleteFeatures

## COMMAND ISSUED

DeleteFeatures c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-07-18 22:32:18

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

Append c:\sde\_connect\_ions\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-07-25 22:15:19

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx&gt;DeleteFeatures

## COMMAND ISSUED

DeleteFeatures c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-07-25 22:34:02

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

Append c:\sde\_connect\_ions\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS



DATE 2014-08-01 22:14:53  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures  
COMMAND ISSUED  
DeleteFeatures c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-08-01 22:33:21  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append  
COMMAND ISSUED  
Append c:\sde\_connections\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-08-08 22:15:56  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures  
COMMAND ISSUED  
DeleteFeatures c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-08-08 22:34:44  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append  
COMMAND ISSUED  
Append c:\sde\_connections\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-08-15 22:17:16  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures  
COMMAND ISSUED  
DeleteFeatures c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-08-15 22:35:02  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append  
COMMAND ISSUED  
Append c:\sde\_connections\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-08-22 22:14:12  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures  
COMMAND ISSUED  
DeleteFeatures c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-08-22 22:31:48  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

```
Append c:\sde_connect_ions\prod_hydro_spatial_default.sde\HYDRO_SPATIAL.WCHYDRO_SV
c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO_TEST ##
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-08-29 22:13:51

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures

## COMMAND ISSUED

```
DeleteFeatures c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-08-29 22:31:31

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

```
Append c:\sde_connect_ions\prod_hydro_spatial_default.sde\HYDRO_SPATIAL.WCHYDRO_SV
c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO_TEST ##
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-09-05 22:15:05

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures

## COMMAND ISSUED

```
DeleteFeatures c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-09-05 22:33:37

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

```
Append c:\sde_connect_ions\prod_hydro_spatial_default.sde\HYDRO_SPATIAL.WCHYDRO_SV
c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO_TEST ##
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-09-12 22:15:29

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures

## COMMAND ISSUED

```
DeleteFeatures c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-09-12 22:33:27

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

```
Append c:\sde_connect_ions\prod_hydro_spatial_default.sde\HYDRO_SPATIAL.WCHYDRO_SV
c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO_TEST ##
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-09-20 13:08:54

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures

## COMMAND ISSUED

```
DeleteFeatures c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-09-20 13:29:23

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

Append c:\sde\_connect\_i ons\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connect\_i ons\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-09-26 22:14:49

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx&gt;DeleteFeatures

## COMMAND ISSUED

DeleteFeatures c:\sde\_connect\_i ons\ropa\_ropa.sde\ROPA.WCHYDRO

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-09-26 22:32:55

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

Append c:\sde\_connect\_i ons\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connect\_i ons\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-10-03 22:21:26

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx&gt;DeleteFeatures

## COMMAND ISSUED

DeleteFeatures c:\sde\_connect\_i ons\ropa\_ropa.sde\ROPA.WCHYDRO

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-10-03 22:40:49

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

Append c:\sde\_connect\_i ons\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connect\_i ons\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-10-10 22:20:15

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx&gt;DeleteFeatures

## COMMAND ISSUED

DeleteFeatures c:\sde\_connect\_i ons\ropa\_ropa.sde\ROPA.WCHYDRO

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-10-10 22:39:17

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

Append c:\sde\_connect\_i ons\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connect\_i ons\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-10-17 22:16:42  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures  
COMMAND ISSUED  
DeleteFeatures c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-10-17 22:35:59  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append  
COMMAND ISSUED  
Append c:\sde\_connections\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-10-24 22:16:00  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures  
COMMAND ISSUED  
DeleteFeatures c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-10-24 22:34:32  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append  
COMMAND ISSUED  
Append c:\sde\_connections\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-10-31 22:16:03  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures  
COMMAND ISSUED  
DeleteFeatures c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-10-31 22:34:40  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append  
COMMAND ISSUED  
Append c:\sde\_connections\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-11-03 22:15:46  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures  
COMMAND ISSUED  
DeleteFeatures c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-11-03 22:33:42  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

```
Append c:\sde_connect_ions\prod_hydro_spatial_default.sde\HYDRO_SPATIAL.WCHYDRO_SV
c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO_TEST # #
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-11-07 22:18:07

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures

## COMMAND ISSUED

```
DeleteFeatures c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-11-07 22:36:32

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

```
Append c:\sde_connect_ions\prod_hydro_spatial_default.sde\HYDRO_SPATIAL.WCHYDRO_SV
c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO_TEST # #
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-11-14 22:14:36

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures

## COMMAND ISSUED

```
DeleteFeatures c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-11-14 22:33:10

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

```
Append c:\sde_connect_ions\prod_hydro_spatial_default.sde\HYDRO_SPATIAL.WCHYDRO_SV
c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO_TEST # #
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-11-21 22:14:28

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures

## COMMAND ISSUED

```
DeleteFeatures c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-11-21 22:32:53

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

```
Append c:\sde_connect_ions\prod_hydro_spatial_default.sde\HYDRO_SPATIAL.WCHYDRO_SV
c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO_TEST # #
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-11-28 22:16:29

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures

## COMMAND ISSUED

```
DeleteFeatures c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-11-28 22:35:14

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

Append c:\sde\_connect\_ions\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-12-05 22:14:52

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx&gt;DeleteFeatures

## COMMAND ISSUED

DeleteFeatures c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-12-05 22:33:35

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

Append c:\sde\_connect\_ions\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-12-12 22:15:33

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx&gt;DeleteFeatures

## COMMAND ISSUED

DeleteFeatures c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-12-12 22:35:03

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

Append c:\sde\_connect\_ions\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-12-19 22:26:42

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx&gt;DeleteFeatures

## COMMAND ISSUED

DeleteFeatures c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-12-19 22:45:18

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

Append c:\sde\_connect\_ions\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-12-26 22:17:33  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures  
COMMAND ISSUED  
DeleteFeatures c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2014-12-26 22:36:12  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append  
COMMAND ISSUED  
Append c:\sde\_connections\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-01-02 22:18:53  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures  
COMMAND ISSUED  
DeleteFeatures c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-01-02 22:37:56  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append  
COMMAND ISSUED  
Append c:\sde\_connections\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-01-09 22:14:54  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures  
COMMAND ISSUED  
DeleteFeatures c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-01-09 22:33:29  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append  
COMMAND ISSUED  
Append c:\sde\_connections\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-01-16 22:15:18  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures  
COMMAND ISSUED  
DeleteFeatures c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-01-16 22:33:52  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

```
Append c:\sde_connect_ions\prod_hydro_spatial_default.sde\HYDRO_SPATIAL.WCHYDRO_SV
c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO_TEST # #
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-01-23 22:16:21

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures

## COMMAND ISSUED

```
DeleteFeatures c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-01-23 22:35:11

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

```
Append c:\sde_connect_ions\prod_hydro_spatial_default.sde\HYDRO_SPATIAL.WCHYDRO_SV
c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO_TEST # #
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-01-30 22:18:36

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures

## COMMAND ISSUED

```
DeleteFeatures c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-01-30 22:37:43

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

```
Append c:\sde_connect_ions\prod_hydro_spatial_default.sde\HYDRO_SPATIAL.WCHYDRO_SV
c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO_TEST # #
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-02-06 22:14:33

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures

## COMMAND ISSUED

```
DeleteFeatures c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-02-06 22:32:47

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

```
Append c:\sde_connect_ions\prod_hydro_spatial_default.sde\HYDRO_SPATIAL.WCHYDRO_SV
c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO_TEST # #
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-02-13 22:14:55

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures

## COMMAND ISSUED

```
DeleteFeatures c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No



## PROCESS

DATE 2015-02-13 22:33:38

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

Append c:\sde\_connect\_ions\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-02-20 22:14:40

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx&gt;DeleteFeatures

## COMMAND ISSUED

DeleteFeatures c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-02-20 22:33:20

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

Append c:\sde\_connect\_ions\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-02-27 22:16:07

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx&gt;DeleteFeatures

## COMMAND ISSUED

DeleteFeatures c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-02-27 22:37:59

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

Append c:\sde\_connect\_ions\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-03-06 22:16:06

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx&gt;DeleteFeatures

## COMMAND ISSUED

DeleteFeatures c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-03-06 22:34:36

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

Append c:\sde\_connect\_ions\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-03-13 22:15:22  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures  
COMMAND ISSUED  
DeleteFeatures c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-03-13 22:34:50  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append  
COMMAND ISSUED  
Append c:\sde\_connections\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-03-20 22:17:17  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures  
COMMAND ISSUED  
DeleteFeatures c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-03-20 22:37:49  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append  
COMMAND ISSUED  
Append c:\sde\_connections\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-03-27 22:19:15  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures  
COMMAND ISSUED  
DeleteFeatures c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-03-27 22:39:19  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append  
COMMAND ISSUED  
Append c:\sde\_connections\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-04-03 22:16:07  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx>DeleteFeatures  
COMMAND ISSUED  
DeleteFeatures c:\sde\_connections\ropa\_ropa.sde\ROPA.WCHYDRO  
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

DATE 2015-04-03 22:36:47  
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

## COMMAND ISSUED

```
Append c:\sde_connect_ions\prod_hydro_spatial_default.sde\HYDRO_SPATIAL.WCHYDRO_SV
c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO TEST # #
```

```
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

## PROCESS

```
DATE 2015-04-10 22:18:46
```

```
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management
Tools.tbx>DeleteFeatures
```

## COMMAND ISSUED

```
DeleteFeatures c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO
```

```
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

## PROCESS

```
DATE 2015-04-10 22:39:27
```

```
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management
Tools.tbx\Append
```

## COMMAND ISSUED

```
Append c:\sde_connect_ions\prod_hydro_spatial_default.sde\HYDRO_SPATIAL.WCHYDRO_SV
c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO TEST # #
```

```
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

## PROCESS

```
DATE 2015-04-17 22:15:49
```

```
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management
Tools.tbx>DeleteFeatures
```

## COMMAND ISSUED

```
DeleteFeatures c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO
```

```
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

## PROCESS

```
DATE 2015-04-17 22:36:48
```

```
TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management
Tools.tbx\Append
```

## COMMAND ISSUED

```
Append c:\sde_connect_ions\prod_hydro_spatial_default.sde\HYDRO_SPATIAL.WCHYDRO_SV
c:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO TEST # #
```

```
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

## PROCESS

```
DATE 2015-04-25 06:06:37
```

```
TOOL LOCATION z:\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\TruncateTable
```

## COMMAND ISSUED

```
TruncateTable Z:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO
```

```
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

## PROCESS

```
DATE 2015-04-25 06:49:10
```

```
TOOL LOCATION z:\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append
```

## COMMAND ISSUED

```
Append Z:\sde_connect_ions\prod_hydro_spatial_default.sde\HYDRO_SPATIAL.WCHYDRO_SV
Z:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO TEST # #
```

```
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

## PROCESS

```
DATE 2015-05-02 06:05:21
```

```
TOOL LOCATION z:\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\TruncateTable
```

## COMMAND ISSUED

```
TruncateTable Z:\sde_connect_ions\ropa_ropa.sde\ROPA.WCHYDRO
```

```
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

## PROCESS

```
DATE 2015-05-02 06:42:04
```

TOOL LOCATION z:\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\Append

COMMAND ISSUED

Append Z:\sde\_connect\_ions\prod\_hydro\_spatial\_default.sde\HYDRO\_SPATIAL.WCHYDRO\_SV  
Z:\sde\_connect\_ions\ropa\_ropa.sde\ROPA.WCHYDRO TEST # #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

*Hide Geoprocessing history ▲*

## Distribution ►

DISTRIBUTOR ►

ORDERING PROCESS

INSTRUCTIONS

Data set can be downloaded free of charge from the DNR GIS Data Center web page [http://www.dnr.wa.gov/BusinessPermits/Topics/Data/Pages/gis\\_data\\_center.aspx](http://www.dnr.wa.gov/BusinessPermits/Topics/Data/Pages/gis_data_center.aspx), click on Available GIS Data.

TRANSFER OPTIONS

ONLINE SOURCE

**DESCRIPTION** Within DNR the HYDRO data sets are refreshed weekly. The data sets are available on ROPA as WCHYDRO, WBHYDRO, and WSHYDRO feature classes, on /database/covers as WC and WBWS ARC/INFO arc/node topology statewide coverages, and on /database/wrias as arc/node coverages tiled by WRIA. Externally, a zip file containing ARC/INFO export files (.e00) of the WC and WBWS coverages, and metadata is available for download. Data is available for the entire state and/or clipped to each county boundary. Data set can be downloaded free of charge from the DNR GIS Data Center web page [http://www.dnr.wa.gov/BusinessPermits/Topics/Data/Pages/gis\\_data\\_center.aspx](http://www.dnr.wa.gov/BusinessPermits/Topics/Data/Pages/gis_data_center.aspx), click on Available GIS Data.

*Hide Distributor ▲*

DISTRIBUTION FORMAT

\* NAME SDE Feature Class

*Hide Distribution ▲*

## Fields ►

DETAILS FOR OBJECT ROPA.WCHYDRO ►

\* TYPE Feature Class

\* ROW COUNT 0

FIELD OBJECTID ►

\* ALIAS OBJECTID

\* DATA TYPE OID

\* WIDTH 4

\* PRECISION 10

\* SCALE 0

FIELD DESCRIPTION

Internal feature number.

DESCRIPTION SOURCE

ESRI

DESCRIPTION OF VALUES Sequential unique whole numbers that are automatically generated.

*Hide Field OBJECTID ▲*

FIELD WC\_ID ►

- \* ALIAS WC\_ID
- \* DATA TYPE Integer
- \* WIDTH 4
- \* PRECISION 8
- \* SCALE 0

## FIELD DESCRIPTION

A unique, persistent number identifying each record.

[Hide Field WC\\_ID ▲](#)

## FIELD SHAPE ►

- \* ALIAS SHAPE
- \* DATA TYPE Geometry
- \* WIDTH 4
- \* PRECISION 0
- \* SCALE 0

## FIELD DESCRIPTION

Feature geometry.

## DESCRIPTION SOURCE

ESRI

DESCRIPTION OF VALUES Coordinates defining the features.

[Hide Field SHAPE ▲](#)

## FIELD WC\_LLID\_NR ►

- \* ALIAS WC\_LLID\_NR
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 13
- \* SCALE 0

## FIELD DESCRIPTION

The watercourse longitude/latitude identifier number (LLID) is a whole stream identifier. The LLID has 13 characters, is unique to each stream from headwaters to confluence. Routes can be built using the LLID. The LLID is based on the position of the downstream point (mouth or confluence) of the watercourse, and is created by concatenating the decimal degree values (to four places of precision) of the coordinates (without the decimal points). There is no valid default value for this field and it must be populated.

## ACCURACY INFORMATION

ACCURACY see definition

## EXPLANATION

see definition

MEASUREMENT FREQUENCY n/a

[Hide Field WC\\_LLID\\_NR ▲](#)

## FIELD WC\_LN\_TYPE\_LABEL\_NM ►

- \* ALIAS WC\_LN\_TYPE\_LABEL\_NM
- \* DATA TYPE String
- \* WIDTH 12
- \* PRECISION 0
- \* SCALE 0

## FIELD DESCRIPTION

Watercourse line type label. Identifies the primary GIS database function of the watercourse line regardless of the hydrographic feature or hydrologic function it may represent.

LIST OF VALUES

**VALUE** Artificial

**DESCRIPTION** Artificial connector. A watercourse line projected for connectivity purposes. For example, a stream not connected by an above-ground channel system to a shoreline or downstream network due to infiltration may be connected to the larger network by segments with WC\_LN\_TYPE\_CD = 5 in order to maintain network connectivity for modeling or future linear referencing purposes. An artificial connector is called a subsurface connector when field information provided on a WTMF specifically describes a stream as being "subsurface". Subsurface connectors shall have WC\_LN\_TYPE\_CD = 5, WC\_CONTU\_CD = 'sub'.

**VALUE** Single strm

**DESCRIPTION** A single line watercourse segment. A natural, well-defined or not-well defined channel produced wholly or in part by a definite flow of water, continuous or intermittent. May include: pipelines, actively maintained irrigation ditches, seasonal streams not physically connected by an above ground channel system to Forest Practices typed water (S, F, or Np), dry-draws, or swales. May be "Trust Forestland HCP Water Typing System" type 5 water. All watercourses represent features that exist on-the-ground.

**VALUE** Inter lake

**DESCRIPTION** Watercourse interior line within a polygonal water body (lake or reservoir). An artificial path.

**VALUE** Inter stream

**DESCRIPTION** Watercourse interior line within a double-banked polygonal watercourse (for example, the Columbia River). An artificial path.

**VALUE** Perim stream

**DESCRIPTION** Watercourse segment coincident with a water body perimeter (for example, when a stream shoreline and wet area boundary share the same line). A defined channel.

[Hide Field WC\\_LN\\_TYPE\\_LABEL\\_NM ▲](#)

**FIELD** WC\_CART\_FTR\_CD ►

- \* ALIAS WC\_CART\_FTR\_CD
- \* DATA TYPE SmallInteger
- \* WIDTH 2
- \* PRECISION 3
- \* SCALE 0

**FIELD DESCRIPTION**

Watercourse cartographic feature code. Identifies the surface water feature that the watercourse line represents. These codes developed initially by the USGS.

**DESCRIPTION SOURCE**

Derived from the USGS digital line graph (DLG) hydrographic classification code. This is the DNR Hydro WTR.BDY.TY code in pre-Conversion Project (2003) DNR HYDRO.

**LIST OF VALUES**

**VALUE** 100

**DESCRIPTION** Alkali flat

**VALUE** 101

**DESCRIPTION** Reservoir

**VALUE** 105

**DESCRIPTION** (NO LONGER USED) Area subject to inundation. This is the area that would be covered by water if the reservoir or impoundment was filled.

**VALUE** 106

**DESCRIPTION** Fish hatchery or farm

**VALUE** 107

**DESCRIPTION** Industrial water impoundment

VALUE	109
DESCRIPTION	Sewage disposal pond or filtration bed
VALUE	110
DESCRIPTION	Tailings pond
VALUE	111
DESCRIPTION	Marsh, wet area, swamp, bog. These generally originated as swamps and marshes scanned from the USGS 1:24,000 topographic maps. Wet areas are not classified by the WAC 222-16-035 wetland typing system; they have no regulatory significance.
VALUE	114
DESCRIPTION	Cranberry bog. In the dataset these are found only near the southwest Washington coast.
VALUE	400
DESCRIPTION	Rapids
VALUE	401
DESCRIPTION	Water falls
VALUE	402
DESCRIPTION	Gravel pit or quarry filled with water
VALUE	406
DESCRIPTION	(NO LONGER USED) Dam or weir
VALUE	407
DESCRIPTION	Canal lock or sluice gate
VALUE	408
DESCRIPTION	Spillway
VALUE	410
DESCRIPTION	Exposed rock
VALUE	412
DESCRIPTION	Stream or river
VALUE	414
DESCRIPTION	Ditch or canal
VALUE	415
DESCRIPTION	Aqueduct
VALUE	417
DESCRIPTION	Penstock
VALUE	418
DESCRIPTION	Siphon
VALUE	419
DESCRIPTION	Channel in water area
VALUE	420
DESCRIPTION	Wash or ephemeral drain. These flow water only as a result of storm precipitation.
VALUE	421
DESCRIPTION	Lake or pond
VALUE	422

DESCRIPTION (NO LONGER USED) Reef

VALUE 423

DESCRIPTION (NO LONGER USED) Sand or gravel in open water

VALUE 425

DESCRIPTION (NO LONGER USED) Fish ladder

VALUE 466

DESCRIPTION Pier, jetty, breakwater, dock, wharf or causeway

VALUE 902

DESCRIPTION (NO LONGER USED) Island (Code is still used in wbhydro)

VALUE 999

DESCRIPTION Unknown/Unclassified

VALUE 103

DESCRIPTION Glacier or permanent snowfield

VALUE 115

DESCRIPTION (NO LONGER USED) Flats (tidal, mud, sand, gravel)

VALUE 116

DESCRIPTION (NO LONGER USED) Bay, estuary, gulf, ocean or sea

VALUE 117

DESCRIPTION (NO LONGER USED) Shoal

#### ACCURACY INFORMATION

ACCURACY n/a

EXPLANATION

n/a

MEASUREMENT FREQUENCY n/a

*Hide Field WC\_CART\_FTR\_CD ▲*

#### FIELD WC\_CART\_FTR\_LABEL\_NM ►

\* ALIAS WC\_CART\_FTR\_LABEL\_NM

\* DATA TYPE String

\* WIDTH 12

\* PRECISION 0

\* SCALE 0

#### FIELD DESCRIPTION

Watercourse cartographic feature code. Identifies the surface water feature that the watercourse line represents. These codes developed initially by the USGS.

#### LIST OF VALUES

VALUE Alkali flat

DESCRIPTION Alkali flat

VALUE Reservoir

DESCRIPTION Reservoir

VALUE Inundation

DESCRIPTION (NO LONGER USED) Inundation area

VALUE hatchery

DESCRIPTION Fish hatchery or farm



VALUE Industrial  
DESCRIPTION Industrial water impoundment

VALUE Sewage pond  
DESCRIPTION Sewage pond or filtration bed

VALUE Tailing pond  
DESCRIPTION Tailing pond

VALUE Marsh  
DESCRIPTION Marsh, wet area, swamp, bog

VALUE Bog  
DESCRIPTION Cranberry bog

VALUE Rapids  
DESCRIPTION Rapids

VALUE Falls  
DESCRIPTION Water Falls

VALUE Flooded pit  
DESCRIPTION Gravel pit or quarry filled with water

VALUE Dam/weir  
DESCRIPTION (NO LONGER USED) Dam or weir

VALUE Canal/locks  
DESCRIPTION Canal lock or sluice gate

VALUE Spillway  
DESCRIPTION Spillway

VALUE Exposed rock  
DESCRIPTION Exposed rock

VALUE Stream/river  
DESCRIPTION Stream or river

VALUE Ditch/canal  
DESCRIPTION Ditch or canal

VALUE Aqueduct  
DESCRIPTION Aqueduct

VALUE Penstock  
DESCRIPTION Penstock

VALUE Siphon  
DESCRIPTION Siphon

VALUE Channel  
DESCRIPTION Channel in water

VALUE Wash  
DESCRIPTION Wash or ephemeral drain

VALUE Lake/pond  
DESCRIPTION Lake or pond

VALUE Reef  
DESCRIPTION (NO LONGER USED) Reef

VALUE Sand/gravel  
DESCRIPTION (NO LONGER USED) Sand or gravel in open water

VALUE Fish ladder  
DESCRIPTION (NO LONGER USED) Fish ladder

VALUE Pier/jetty  
DESCRIPTION Pier or jetty

VALUE Impoundment  
DESCRIPTION Impoundment (non-reservoir)

VALUE Unknown  
DESCRIPTION Unknown or Unclassified

VALUE Glacier  
DESCRIPTION Glacier or permanent snowfield

VALUE Flats  
DESCRIPTION (NO LONGER USED) Flats (tidal, mud, sand, gravel)

VALUE Bay/estuary  
DESCRIPTION (NO LONGER USED) Bay, estuary, gulf, ocean or sea

VALUE Shoal  
DESCRIPTION (NO LONGER USED) Shoal

*Hide Field WC\_CART\_FTR\_LABEL\_NM ▲*

FIELD WC\_LN\_TYPE\_CD ►

- \* ALIAS WC\_LN\_TYPE\_CD
- \* DATA TYPE SmallInteger
- \* WIDTH 2
- \* PRECISION 2
- \* SCALE 0

FIELD DESCRIPTION

Watercourse line type code. Identifies the primary GIS database function of the watercourse line regardless of the hydrographic feature or hydrologic function it may represent.

LIST OF VALUES

VALUE 5

DESCRIPTION Artificial connector used outside water bodies only. A watercourse line projected for connectivity purposes. For example, a stream not connected by an above-ground channel system to a shoreline or downstream network due to infiltration may be connected to the larger network by segments with WC\_LN\_TYPE\_CD = 5 in order to maintain network connectivity for modeling or future linear referencing purposes. An artificial connector is called a subsurface connector when field information provided on a WTMF specifically describes a stream as being 'subsurface'. Subsurface connectors shall have WC\_LN\_TYPE\_CD = 5, WC\_CONTU\_CD = 'sub'.

VALUE 10

DESCRIPTION A single line watercourse segment; A natural, well-defined or not-well defined channel produced wholly or in part by a definite flow of water, continuous or intermittent. May include: pipelines, actively maintained irrigation ditches, seasonal streams not physically connected by an above ground channel system to Forest Practices typed water (S, F, or Np), dry-draws, or swales. May be 'Trust Forestland HCP Water Typing System' type 5 water. All watercourses represent features that exist on-the-ground

VALUE 20

DESCRIPTION Watercourse interior line within a polygonal water body (lake or reservoir). An artificial path.

VALUE 21

DESCRIPTION Watercourse interior line within a double-banked polygonal watercourse (for example, the Columbia River), wet area, impounded wet area, double-banked ditch or pipeline. An artificial path.

VALUE 30

DESCRIPTION Watercourse segment coincident with a water body perimeter (for example, when a stream shoreline and wet area boundary share the same line). A defined channel.

[Hide Field WC\\_LN\\_TYPE\\_CD ▲](#)

FIELD WC\_HYDR\_FTR\_LABEL\_NM ►

\* ALIAS WC\_HYDR\_FTR\_LABEL\_NM

\* DATA TYPE String

\* WIDTH 12

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Watercourse hydrographic feature label. Identifies the hydrographic category in which the watercourse line belongs.

LIST OF VALUES

VALUE Ditches

DESCRIPTION Ditches, canals, flumes

VALUE Impoundments

DESCRIPTION Impoundments or areas subject to inundation

VALUE Impound wet

DESCRIPTION Impounded wet areas. In the dataset these are found only near the southwest Washington coast.

VALUE Lakes/ponds

DESCRIPTION Lakes and ponds

VALUE Pipelines

DESCRIPTION Pipelines and water conveyance structures

VALUE Side channel

DESCRIPTION Side channels to rivers or streams

VALUE Streams

DESCRIPTION Streams and rivers

VALUE Unknown

DESCRIPTION Unknown or Unclassified

VALUE Wet areas

DESCRIPTION Wet Area. These generally originated as swamps and marshes scanned from the USGS 1:24,000 topographic maps. Wet areas are not classified by the WAC 222-16-035 wetland typing system; they have no regulatory significance.

[Hide Field WC\\_HYDR\\_FTR\\_LABEL\\_NM ▲](#)

FIELD WC\_GNIS\_NM ►

\* ALIAS WC\_GNIS\_NM

\* DATA TYPE String

\* WIDTH 50

\* PRECISION 0

\* SCALE 0

INDEXED 1

FIELD DESCRIPTION

Watercourse Geographic Names Information System (GNIS) name. The name of the represented feature in the USGS GNIS database (<http://geonames.usgs.gov/domestic/index.html>). Not all features will have a GNIS name and number, but all features with GNIS names will have GNIS numbers and vice versa. The WC\_GNIS\_NM applies to the surface water feature, often a whole stream. Each arc composing the named feature will have the same GNIS name and number. Names entered into GNIS have been approved by the US Board on Geographic Names. When the Washington State Board on Geographic Names approves a name, the proposal is forwarded on to the US Board for their review. There are rare cases where the WA and US Board disagree, and in that case, the Washington name is not entered into GNIS. DNR is aware of one such disagreement: Crater Glacier (US Board) vs. Tulutson Glacier (WA Board).

[Hide Field WC\\_GNIS\\_NM ▲](#)

FIELD WC\_FLOW\_PATH\_LABEL\_NM ►

\* ALIAS WC\_FLOW\_PATH\_LABEL\_NM

\* DATA TYPE String

\* WIDTH 12

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Watercourse flow path label. A classification of the flow pathway within polygonal water body features. Where water body interior lines do not represent defined channels WC\_FLOW\_PATH\_CD = 1 or 2 and WC\_LN\_TYPE\_CD = 20 or 21; these are artificial paths. Where watercourse lines represent defined channels WC\_FLOW\_PATH\_CD = 3 and WC\_LN\_TYPE\_CD = 10 or 30.

LIST OF VALUES

VALUE Primary

DESCRIPTION Primary path of a watercourse centerline that flows through a water body as an interior line and artificial path. Represents the flow of water from the main inlet to the main outlet of a polygonal water body.

VALUE Secondary

DESCRIPTION Secondary path of a watercourse that flows through a water body as an interior line and artificial path. The linear path that represent additional flow paths of water, usually from secondary tributaries entering the water body and connecting to the primary path. Also called "laterals".

VALUE Single line

DESCRIPTION A single line watercourse segment usually representing a defined channel (WC\_LN\_TYPE\_CD = 10 or 30). May flow through a water body with WB\_HYDR\_FTR\_CD = WT (wet area), GL (glacier), etc. May also be a single-line water course artificial connector (WC\_LN\_TYPE\_CD = 5).

[Hide Field WC\\_FLOW\\_PATH\\_LABEL\\_NM ▲](#)

FIELD FP\_WTRTY\_1975\_CD ►

\* ALIAS FP\_WTRTY\_1975\_CD

\* DATA TYPE SmallInteger

\* WIDTH 2

\* PRECISION 1

\* SCALE 0

FIELD DESCRIPTION

Forest Practices water type legacy code. The original water type classifications used in conjunction with DNR Forest Practices regulations between 1975 and (1) March 1, 2005 for Western Washington and (2) March 1, 2006 for Eastern Washington. DNR will neither keep

the FP\_WTRTY\_1975\_CD current nor synchronized with on-going changes to the new water typing system. The new system was implemented March 1, 2005 for Western Washington and March 1, 2006 for Eastern Washington. Generally, the FP\_WTRTY\_1975\_CD and FP\_WTRTY\_1975\_DT fields are not edited under the new water typing system. Neither FP\_WTRTY\_1975\_CD nor FP\_WTRTY\_1975\_DT are edited for new system spatial adds or tabular only database changes. For new system spatial updates these fields are edited only to transfer existing values to an arc that is added as part of a spatial update to an existing stream (a realign). Basically, once the new scheme was turned "on" the FP\_WTRTY\_1975\_CD was frozen. Except as noted above, FP\_WTRTY\_1975\_CD will be blank or 0 for any new arc added since the implementation dates. The water typing system was developed solely for the regulation of forest practices (WAC 222).

#### LIST OF VALUES

##### VALUE 1

**DESCRIPTION** All waters, within their ordinary high-water mark, inventoried as "shorelines of the state" under Chapter 90.58 RCW.

##### VALUE 2

**DESCRIPTION** Segments of natural waters which are not classified as Type 1 Water and have a high fish, wildlife or human use (for example, campgrounds).

##### VALUE 3

**DESCRIPTION** Segments of natural waters which are not classified as Type 1 or Type 2 Waters and have a moderate to slight fish, wildlife, or human use.

##### VALUE 4

**DESCRIPTION** All segments of natural waters within the bankfull width of defined channels that are perennial non-fish habitat streams.

##### VALUE 5

**DESCRIPTION** All segments of natural waters within the bankfull width of defined channels that are not Type 1, 2, 3, or 4 Waters.

##### VALUE 9

**DESCRIPTION** Unclassified water segment.

##### VALUE 0

**DESCRIPTION** Water segment added after implementation of the new habitat based Water Type codes on March 1, 2005 for Western Washington and March 1, 2006 for Eastern Washington.

[Hide Field FP\\_WTRTY\\_1975\\_CD ▲](#)

#### FIELD WC\_CONTU\_LABEL\_NM ►

\* **ALIAS** WC\_CONTU\_LABEL\_NM

\* **DATA TYPE** String

\* **WIDTH** 12

\* **PRECISION** 0

\* **SCALE** 0

#### FIELD DESCRIPTION

Watercourse continuity label. This is the classification of stream flow in relation to its expression at the earth's surface. The most common condition is that a stream is continuous. An example of using WC\_CONTU\_CD with WC\_PERIOD\_CD: If areas of perennial, intermittent or ephemeral flow exist along a stream reach they are not separated out; the hydrologist chooses the dominant periodicity and calls the continuity "interrupted". If the reach is not continuously perennial or intermittent it is described as "interrupted". This attribute describes the physical characteristics of a stream. The scale at which the data are captured or displayed may also be a factor to consider.

#### LIST OF VALUES

##### VALUE Continuous

**DESCRIPTION** Continuous. A channel with no interruptions in space.

VALUE Interrupted

DESCRIPTION Interrupted. A perennial flow with intervening intermittent or ephemeral segments or intermittent flow with intervening ephemeral segments

VALUE Sub-surface

DESCRIPTION Sub-surface. Watercourse reach that represents a sub-surface flow.

VALUE Unknown

DESCRIPTION Unknown or Unclassified

[Hide Field WC\\_CONTU\\_LABEL\\_NM ▲](#)

FIELD [FP\\_WTRTY\\_1975\\_DT ▶](#)

\* ALIAS FP\_WTRTY\_1975\_DT

\* DATA TYPE Date

\* WIDTH 36

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Forest Practices water type legacy date. The most recent date between 1992 and 11 January 2007 that a water type classification of a stream segment was officially approved by DNR, Forest Practices. DNR will neither keep the FP\_WTRTY\_1975\_DT current nor synchronized with on-going changes to the new water typing system. The new system was implemented March 1, 2005 for Western Washington and March 1, 2006 for Eastern Washington. Generally, the FP\_WTRTY\_1975\_CD and FP\_WTRTY\_1975\_DT fields are not edited under the new water typing system. Neither FP\_WTRTY\_1975\_CD nor FP\_WTRTY\_1975\_DT are edited for new system spatial adds or tabular only database changes. For new system spatial updates these fields are edited ONLY to transfer existing values to an arc that is added as part of a spatial update to an existing stream (a realign). Basically, once the new scheme was turned 'on' the FP\_WTRTY\_1975\_DT was frozen. Except as noted above, FP\_WTRTY\_1975\_DT will be blank or 0 for any new arc added since the implementation dates. The water typing system was developed solely for the regulation of forest practices (WAC 222).

[Hide Field FP\\_WTRTY\\_1975\\_DT ▲](#)

FIELD [WC\\_PERIOD\\_LABEL\\_NM ▶](#)

\* ALIAS WC\_PERIOD\_LABEL\_NM

\* DATA TYPE String

\* WIDTH 12

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Watercourse periodicity code. This is a classification for watercourses in terms of the seasonal behavior of the feature or in terms of its surface flow.

LIST OF VALUES

VALUE Ephemeral

DESCRIPTION Ephemeral. Watercourse that exist only as a result of storm precipitation.

VALUE Intermittent

DESCRIPTION Intermittent or seasonal. Watercourse that is dry during certain times of the year.

VALUE Perennial

DESCRIPTION Perennial. Watercourse that essentially exist year round

VALUE Unknown

DESCRIPTION Unknown or unclassified. Used when condition information is unknown or unclassified

[Hide Field WC\\_PERIOD\\_LABEL\\_NM ▲](#)

## FIELD FP\_WTRTY\_EDIT\_DT ►

- \* ALIAS FP\_WTRTY\_EDIT\_DT
- \* DATA TYPE Date
- \* WIDTH 36
- \* PRECISION 0
- \* SCALE 0

## FIELD DESCRIPTION

Forest Practices water type edit date. The date the Forest Practices water type was last edited. Used only in conjunction with the water typing system implemented 3/1/2005 western and 3/1/2006 eastern Washington. These are the earliest dates possible for this field for western Washington and eastern Washington. This field will be updated whenever a water type modification form is processed, but not for edits outside of the form. (yet to be determined)

*Hide Field FP\_WTRTY\_EDIT\_DT ▲*

## FIELD FP\_WTRTY\_CD ►

- \* ALIAS FP\_WTRTY\_CD
- \* DATA TYPE String
- \* WIDTH 1
- \* PRECISION 0
- \* SCALE 0

## FIELD DESCRIPTION

Forest Practices water type code. DNR Forest Practices water type codes as described in WAC 222-16-031, interim water typing system. This water typing system was implemented in Western Washington March 1, 2005 and in Eastern Washington March 1, 2006. The water type code is based on the Forest Practices Rules, Forest Practices Board Manual Section 13 field surveys, and a multi-parameter, field verified geographic information system (GIS) logistic regression model. The water typing model is based on thousands of field surveys of fish presence and fish habitat. Other model parameters are gradient, elevation, basin size and average annual precipitation derived from the US Geological Survey's digital elevation model (DEM) for the state of Washington. Technical considerations required that the model be developed on a 'virtual' stream network system derived from the DEM database. The DEM-based model results were then transferred to the DNR's hydrographic GIS 'map' (WCHYDRO) (also known as the water type map) in order to implement the new letter water type codes. Qualifying field observations over-ride model results. DNR water types are intended solely for the implementation of the forest practice rules (WAC 222).

## LIST OF VALUES

VALUE S

DESCRIPTION Type S water as defined in WAC 222-16-031 (1).

VALUE F

DESCRIPTION Type F water as defined in WAC 222-16-031 (2) and (3).

VALUE N

DESCRIPTION Type N water as defined in WAC 222-16-031 (4) and (5). The FP\_WTRTY\_CD (N) combined with the FP\_PERIOD\_CD (p or s) make up the 'Np' and 'Ns' water types. Note that the Np / Ns break is determined by on-the-ground observation only. There has been no direct translation of the former type 4 and 5 to the new types Np and Ns. When a forest practice activity is proposed the applicant must identify the perennial (Np) and seasonal (Ns) streams on their Forest Practice Activity Map.

VALUE U

DESCRIPTION Letter 'U' indicates that the Forest Practices water type is unknown. May be one of the following: (1) Un-modeled stream that was formerly untyped/unknown (former 'type 9') and remains unverified (FP\_EXP\_CD = U1). Stream may or may not exist on ground, and water type has not been assigned. (2) Reserved for Conversion Project contractor added connectors that are unverified. Cartographic stream link that connects a typed stream or stream network to a

hydrographic source feature. No apparent surface flow; may or may not be a subsurface flow. (FP\_EXP\_CD = U2). (3) Verified stream addition, or confirmation of former untyped/unknown (former 'type 9') mapped stream. Stream exists on ground, but water type has not been assigned. (FP\_EXP\_CD = U3). (4) Outside of modeled area. Classified previously as untyped/unknown (former 'type 9'). (For use in Eastern Washington only; FP\_EXP\_CD = U4).

VALUE X

DESCRIPTION Letter 'X' indicates that the feature cannot be assigned a Forest Practices water type. 'X' indicates non-typed water per WAC 222-16-031. One of the following: (1) mapped feature (field verified or verified by other means) not meeting the definition of a typed water as set forth in WAC 222-16-031 and, therefore, having no Forest Practices water type designation. These may include seasonal streams that are not physically connected by an above-ground channel system to Forest Practices type S, F, or Np waters; dry draws; swales; ditches and canals designed solely for irrigation purposes (but not portions of channelized natural streams that may be also used for irrigation purposes) (WC\_LN\_TYPE\_CD = 10); or (2) used to indicate stream deleted from the water type map but remaining in the database to maintain network connectivity (WC\_LN\_TYPE\_CD = 5); or (3) verified subsurface connector (WC\_LN\_TYPE\_CD = 5); or (4) an artificial connector (WC\_LN\_TYPE\_CD = 5).

[Hide Field FP\\_WTRTY\\_CD ▲](#)

FIELD FP\_PERIOD\_CD ►

- \* ALIAS FP\_PERIOD\_CD
- \* DATA TYPE String
- \* WIDTH 1
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Forest Practices periodicity code. Indicates stream periodicity as defined in WAC 222-16-031 (4) and (5). Used only with the Forest Practices WAC 222-16-031, interim water typing system where FP\_WTRTY\_CD = N. The FP\_WTRTY\_CD (N) combined with the FP\_PERIOD\_CD (p or s) make up the "Np" and "Ns" water types. Note that the Np / Ns break is determined by on-the-ground observation only. There has been no direct translation of the former type 4 and 5 to the new types Np and Ns. When a forest practice activity is proposed the applicant should identify the perennial (Np) and seasonal (Ns) streams on their Forest Practice Activity Map when possible. Np and Ns are shown on the FPARS maps wherever they have been determined. Most FP\_PERIOD\_CD values are "u" (unknown) because the Np / Ns determination has not been made.

LIST OF VALUES

VALUE p

DESCRIPTION Perennial. Waters that do not go dry during any time of a year of normal rainfall. This value combined with the FP\_WTRTY\_CD (N) makes up the water type Np. 'p' only shown on the water type map when submitted on a WTMF since the adoption of the letter water type codes. WAC 222-16-031(4) and WAC 222-16-030(3)

VALUE s

DESCRIPTION Seasonal. Waters where surface flow is not present for at least some portion of a normal year of rain. This value combined with the FP\_WTRTY\_CD (N) make up the water type Ns. 's' only shown on the water type map when submitted on a WTMF since the adoption of the letter water type codes.

VALUE u

DESCRIPTION Unknown or unclassified.

[Hide Field FP\\_PERIOD\\_CD ▲](#)

FIELD FP\_EXP\_CD ►

- \* ALIAS FP\_EXP\_CD
- \* DATA TYPE String



- \* WIDTH 2
- \* PRECISION 0
- \* SCALE 0

#### FIELD DESCRIPTION

Forest Practices water type explanation code. Explains how each stream segment or hydrographic feature within WCHYDRO has been assigned its current water type (FP\_WTRTY\_CD) value. It is a supplemental Forest Practices Water Type Coding system to be used in conjunction with the FP\_WTRTY\_CD, providing a more in-depth explanation of the assigned water type code of each stream segment and hydrographic feature.

Historical Background. The Forest Practices water typing system is based on a multi-parameter, field-verified geographic information system (GIS) logistic regression model and allows for water type changes and modifications by water typing surveys as administered by DNR Forest Practices and reviewed by the Timber/Fish/Wildlife Agreement cooperators. The new system became operational for Western Washington on March 1, 2005, and for Eastern Washington on March 1, 2006. This system uses WAC 222-16-031's S, F, and N water type codes with two additional water type codes assigned to un-typed/unknown waters (U) and other non-typed hydrographic features (X). Not all streams and hydrographic features were typed directly as a result of the modeling process, so the FP\_EXP\_CD was created, in part, to distinguish modeled from non-modeled streams and provide the means to track model performance over time by coding water type changes to modeled streams. It was also created to provide additional information concerning the typing of watercourse features and cartographic elements outside of the model environment.

#### LIST OF VALUES

VALUE F0

DESCRIPTION Artificial interior line segment within a double-banked stream, side channel or ditch (WBHYDRO) polygon, connecting a lateral watercourse to a type F centerline. This segment exists for stream network connectivity purposes and will have a WC\_FLOW\_PATH\_CD = 2 and WC\_LN\_TYP\_CD = 21.

VALUE F1

DESCRIPTION Modeled as fish habitat, occurring downstream of a modeled end of fish habitat point.

VALUE F2

DESCRIPTION Un-modeled fish stream. Watercourse existed prior to the "fish model" within the designated model area but match could not be found between this stream segment and DEM-generated stream model. DNR approved field survey data and/or former water type indicates fish use/fish habitat.

VALUE F3

DESCRIPTION An artificial interior watercourse segment representing the flow of water through a type F lake, pond or reservoir WBHYDRO polygon. Exists for stream network connectivity purposes and will have a WC\_FLOW\_PATH\_CD = 1 or 2 and WC\_LN\_TYP\_CD = 20.

VALUE F4

DESCRIPTION (NO LONGER IN USE) Mapping anomaly prevented normal model or coding implementation. Former water type indicated 'fish use' or is associated with other fish use/fish habitat waters. Most common occurrences were in channelized streams (e.g. irrigation ditches, canals) or un-modeled streams with former water typing inconsistencies. No longer needed. Post-model water type updates on these features are to be assigned an FP\_EXP\_CD of F2.

VALUE F5

DESCRIPTION Fish hatchery, public diversion waters or other former type 2 waters as defined by WAC 222-16-031 (2). May or may not have been modeled as fish habitat.

VALUE F6

DESCRIPTION Fish bearing/fish habitat stream added after water type model implementation.

VALUE F7

DESCRIPTION Model Override: Approved post 1996 hydro updates from field surveys submitted on

Water Type Modification Forms or other approved field survey data place fish-bearing/fish habitat waters upstream of modeled end of fish habitat point.

**VALUE F8**

**DESCRIPTION** (NO LONGER IN USE) Classified previously as having fish use (e.g. former type 3) outside of designated Forest and Fish modeled area in Eastern Washington only. No longer needed. Post-model water type updates on these features are to be assigned an FP\_EXP\_CD of F2.

**VALUE N0**

**DESCRIPTION** Artificial interior line within a double-banked stream, side channel or ditch connecting a lateral watercourse to a type N centerline. Exists for stream connectivity purposes and will have a WC\_FLOW\_PATH\_CD = 2 and WC\_LN\_TYP\_CD = 21.

**VALUE N1**

**DESCRIPTION** Modeled as non-fish habitat, occurring upstream of a modeled end of fish habitat point.

**VALUE N2**

**DESCRIPTION** Un-modeled non-fish stream. Watercourse existed prior to the “fish model” within the designated model area but match could not be found between this stream segment and DEM-generated stream model. DNR approved field survey data and/or former water type classification indicates non-fish use/non-fish habitat.

**VALUE N3**

**DESCRIPTION** An artificial interior watercourse segment representing the flow of water through a type N lake, pond or reservoir (WBHYDRO) polygon. Exists for stream network connectivity purposes and will have a WC\_FLOW\_PATH\_CD = 1 or 2 and WC\_LN\_TYP\_CD = 20.

**VALUE N4**

**DESCRIPTION** (NO LONGER IN USE) Mapping anomaly prevented normal model/coding implementation. Former water type indicated ‘no fish use’ or is associated with other non-fish waters. Most common occurrences were in channelized streams (e.g. irrigation ditches, canals) or unmodeled streams with former water typing inconsistencies. No longer needed. Post-model water type updates on these features are to be assigned an FP\_EXP\_CD of N2.

**VALUE N5**

**DESCRIPTION** Non-fish bearing/non-fish habitat stream added after model implementation.

**VALUE N6**

**DESCRIPTION** Former untyped/unknown hydrographic stream feature (former ‘type 9’) occurring upstream of a modeled end point. May or may not have had a matching DEM-modeled stream.

**VALUE N7**

**DESCRIPTION** Model Override: Approved post 1996 survey/hydro update submitted on Water Type Modification Forms or other approved surveys indicate end of fish-bearing/fish habitat waters downstream of modeled end of habitat point.

**VALUE N8**

**DESCRIPTION** (NO LONGER IN USE) Classified previously as having no fish use (former type 4, 5) outside of designated Forest and Fish modeled area in Eastern Washington only. No longer needed. Post-model water type updates on these features are to be assigned an FP\_EXP\_CD of N2.

**VALUE S0**

**DESCRIPTION** Artificial interior line within a double-banked stream, side channel or ditch connecting a lateral watercourse to a type S centerline. Exists for stream network connectivity purposes and will have a WC\_FLOW\_PATH\_CD = 2 and WC\_LN\_TYP\_CD = 21.

**VALUE S1**

**DESCRIPTION** Shorelines of the State as designated by the “Shoreline Management Act” (SMA), Chapter 90.58 RCW.

**VALUE S2**

**DESCRIPTION** Shorelines of Statewide Significance ('S+' Waters) as designated by the Shoreline Management Act (SMA), Chapter 90.58 RCW.

**VALUE S3**

**DESCRIPTION** An artificial interior watercourse segment representing the flow of water through a type S lake, pond or reservoir (WBHYDRO) polygon. Exists for stream network connectivity purposes and will have a WC\_FLOW\_PATH\_CD = 2 and WC\_LN\_TYP\_CD = 20.

**VALUE U1**

**DESCRIPTION** Non-modeled or un-modeled stream that was formerly untyped/unknown and remains unverified (former 'type 9'). Stream may or may not exist on the ground and water type has not been assigned.

**VALUE U2**

**DESCRIPTION** Cartographic stream link that connects a typed stream or stream network to a hydrographic source feature. Reserved for vendor-added (sewall) surface connectors that remain unverified. May or may not exist on the ground or be a subsurface flow.

**VALUE U3**

**DESCRIPTION** Verified stream addition or confirmation of former untyped/unknown mapped stream (former 'type 9'). Stream exists on ground, but water type has not been assigned.

**VALUE U4**

**DESCRIPTION** Classified previously as untyped/unknown (former 'type 9') outside of designated Forest and Fish modeled area in Eastern Washington only. Stream may or may not exist on the ground and water type has not been assigned. No longer needed. Post-model water type updates on these features are to be assigned an FP\_EXP\_CD of N2.

**VALUE X1**

**DESCRIPTION** Non-typed water per WAC 222-16-031. A mapped feature (field verified or verified by other means) that does not meet the definition of a typed water as set forth in WAC 222-16-031 and, therefore, has no Forest Practices water type designation. These include: 1) seasonal streams that are not located downstream of Np waters and are not physically connected by an above-ground channel system to Forest Practices type S, F, or Np waters. (WC\_LN\_TYP\_CD = 10, 30); 2) dry draws, swales or other ephemeral drains (WC\_LN\_TYP\_CD = 10, 30); Manmade water conveyances not associated with fish use such as pipelines, ditches and canals used for irrigation purposes. (WC\_LN\_TYP\_CD = 10, 21); artificial interior segment within industrial, sewage and tailings pond impoundments (WC\_LN\_TYP\_CD = 20).

**VALUE X2**

**DESCRIPTION** An artificial connector existing on the map to maintain stream connectivity for the following reasons: 1) A previously mapped portion of a watercourse "deleted" from the water type map where no channel is found by surveyors in a limited survey area, but is retained in the database to maintain network connectivity between upstream and downstream watercourses; 2) a link connecting seasonal (e.g. X1 streams) to typed waters downstream, representing flow where no channel is detected by surveyors on the ground where the surface channel ends within ½ mile from typed waters.

**VALUE X3**

**DESCRIPTION** Non-typed water per WAC 222-16-031. A verified subsurface connector (WC\_LN\_TYPE\_CD = 5, WC\_FLOW\_PATH\_CD = 3).

[Hide Field FP\\_EXP\\_CD ▲](#)

**FIELD FP\_WTRTY\_NM ►**

- \* **ALIAS** FP\_WTRTY\_NM
- \* **DATA TYPE** String
- \* **WIDTH** 50
- \* **PRECISION** 0
- \* **SCALE** 0

[Hide Field FP\\_WTRTY\\_NM ▲](#)

FIELD FP\_VER\_CD ►

\* ALIAS FP\_VER\_CD  
 \* DATA TYPE String  
 \* WIDTH 1  
 \* PRECISION 0  
 \* SCALE 0

FIELD DESCRIPTION

Forest Practices verification code. Identifies the water typing survey method used when assigning a water type to a stream segment. All such surveys are documented by an approved water type modification form (WTMF). For use only with the Forest Practices water typing system. See FP\_WTRTY\_SRC\_DESC for source of water types not assigned by a survey method. FP\_VER\_CD codes 'B', 'P', or 'N' only apply to streams surveyed since 3/1/2005.

LIST OF VALUES

VALUE P

DESCRIPTION Water type based upon physical criteria only. This means only the physical characteristics specifically listed in WAC 222-16-031 (3) (b). Waters meeting these listed characteristics are presumed to have fish use. FP\_VER\_CD codes 'B', 'P', or 'N' only apply to streams surveyed since 3/1/2005.

VALUE B

DESCRIPTION Water type based upon biological assessment. This may be one or more of the following: 1. fish observed, 2. the survey followed the Guidelines for Determining Fish Use (Board Manual, Section 13, Part 4), ie. "protocol", 3. the survey followed the Guidelines for Determining Fish Use (Board Manual, Section 13, Part 6), ie. an "alternative protocol" that was documented prior to the survey was used, 4. as part of an ID Team, a WDFW or tribal biologist agreement with the proposal is documented, 5. If the stream does not meet the minimum pool requirements for a protocol survey (Board Manual, Section 13, Part 4), and this is documented, then the survey is following protocol and is considered a "biological assessment." FP\_VER\_CD codes 'B', 'P', or 'N' only apply to streams surveyed since 3/1/2005.

VALUE N

DESCRIPTION Water type not verified by either physical criteria or biological assessment. FP\_VER\_CD codes 'B', 'P', or 'N' only apply to streams surveyed since 3/1/2005.

VALUE U

DESCRIPTION Method of water type determination is unknown.

[Hide Field FP\\_VER\\_CD ▲](#)

FIELD SL\_WTRTY\_CD ►

\* ALIAS SL\_WTRTY\_CD  
 \* DATA TYPE SmallInteger  
 \* WIDTH 2  
 \* PRECISION 1  
 \* SCALE 0

FIELD DESCRIPTION

State Lands water type code. A classification code used to support the DNR State Trust Lands Habitat Conservation Plan (HCP), effective September 1997. See <http://www.dnr.wa.gov/hcp/index.html>. Used in conjunction with the SL\_WTRTY\_EDIT\_DT.

LIST OF VALUES

VALUE 1

DESCRIPTION Shorelines of the state. Type 1 water as defined by the DNR State Lands HCP. All waters, within their ordinary high-water mark, as inventoried as "shorelines of the state" under chapter 90.58 RCW.

**VALUE 2**

**DESCRIPTION** Waters with high fish, wildlife, or human use. Type 2 water as defined by the DNR State Lands HCP. Segments of natural waters which are not classified as Type 1 Water and have a high fish, wildlife or human use.

**VALUE 3**

**DESCRIPTION** Waters with moderate fish, wildlife, or human use. Type 3 water as defined by the DNR State Lands HCP. Segments of natural waters which are not classified as Type 1 or Type 2 Waters and have a moderate to slight fish, wildlife, or human use.

**VALUE 4**

**DESCRIPTION** Perennial non-fish habitat stream. Type 4 water as defined by the DNR State Lands HCP. All segments of natural waters within the bankfull width of defined channels that are perennial nonfish habitat streams.

**VALUE 5**

**DESCRIPTION** Seasonal non-fish habitat stream. Type 5 water as defined by the DNR State Lands HCP. All segments of natural waters within the bankfull width of defined channels that are not Type 1, 2, 3, or 4 Waters.

**VALUE 9**

**DESCRIPTION** Unclassified water feature.

[Hide Field SL\\_WTRTY\\_CD ▲](#)

**FIELD SL\_WTRTY\_EDIT\_DT ►**

- \* **ALIAS** SL\_WTRTY\_EDIT\_DT
- \* **DATA TYPE** Date
- \* **WIDTH** 36
- \* **PRECISION** 0
- \* **SCALE** 0

**FIELD DESCRIPTION**

State Lands water type edit date. The date the State Trust Lands Habitat Conservation Plan (HCP) Water Type was last edited. Used in conjunction with the SL\_WTRTY\_CD.

[Hide Field SL\\_WTRTY\\_EDIT\\_DT ▲](#)

**FIELD FP\_PERIOD\_LABEL\_NM ►**

- \* **ALIAS** FP\_PERIOD\_LABEL\_NM
- \* **DATA TYPE** String
- \* **WIDTH** 12
- \* **PRECISION** 0
- \* **SCALE** 0

**FIELD DESCRIPTION**

Forest Practices periodicity label. Indicates stream periodicity as defined in WAC 222-16-031 (4) and (5). Used only with the Forest Practices WAC 222-16-031, interim water typing system where FP\_WTRTY\_CD = N. The FP\_WTRTY\_CD (N) combined with the FP\_PERIOD\_CD (p or s) make up the "Np" and "Ns" water types. Note that the Np / Ns break is determined by on-the-ground observation only. There has been no direct translation of the former type 4 and 5 to the new types Np and Ns. When a forest practice activity is proposed the applicant must identify the perennial (Np) and seasonal (Ns) streams on their Forest Practice Activity Map. Np and Ns are shown on the FPARS maps wherever they have been determined. Most FP\_PERIOD\_CD values are "u" (unknown) because the Np / Ns determination has not been made.

**LIST OF VALUES**

**VALUE** Perennial

**DESCRIPTION** Perennial. Waters that do not go dry during any time of a year of normal rainfall. This value combined with the FP\_WTRTY\_CD (N) makes up the water type Np. 'p' only shown on the

water type map when submitted on a WTMF since the adoption of the letter water type codes. WAC 222-16-031(4) and WAC 222-16-030(3)

VALUE Seasonal

DESCRIPTION Seasonal. Waters where surface flow is not present for at least some portion of a normal year of rain. This value combined with the FP\_WTRTY\_CD (N) make up the water type Ns. 's' only shown on the water type map when submitted on a WTMF since the adoption of the letter water type codes.

VALUE Unknown

DESCRIPTION Unknown or unclassified.

[Hide Field FP\\_PERIOD\\_LABEL\\_NM ▲](#)

FIELD FP\_WTRTY\_APPR\_DT ►

\* ALIAS FP\_WTRTY\_APPR\_DT

\* DATA TYPE Date

\* WIDTH 36

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Forest Practices approval date. The date of Forest Practices approval of the Water Type Modification Form associated with the stream segment. Water Type Modification Forms are the means by which changes to the database are proposed.

[Hide Field FP\\_WTRTY\\_APPR\\_DT ▲](#)

FIELD FP\_VER\_LABEL\_NM ►

\* ALIAS FP\_VER\_LABEL\_NM

\* DATA TYPE String

\* WIDTH 12

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Forest Practices verification label. Identifies the water typing survey method used when assigning a water type to a stream segment. All such surveys are documented by an approved water type modification form (WTMF). For use only with the Forest Practices water typing system. See FP\_WTRTY\_SRC\_DESC for source of water types not assigned by a survey method. FP\_VER\_CD codes 'B', 'P', or 'N' only apply to streams surveyed since 3/1/2005.

LIST OF VALUES

VALUE Physical

DESCRIPTION Water type based upon physical criteria only. This means only the physical characteristics specifically listed in WAC 222-16-031 (3) (b). Waters meeting these listed characteristics are presumed to have fish use. FP\_VER\_CD codes 'B', 'P', or 'N' only apply to streams surveyed since 3/1/2005.

VALUE Biological

DESCRIPTION Water type based upon biological assessment. This may be one or more of the following: 1. fish observed, 2. the survey followed the Guidelines for Determining Fish Use (Board Manual, Section 13, Part 4), ie. "protocol", 3. the survey followed the Guidelines for Determining Fish Use (Board Manual, Section 13, Part 6), ie. an "alternative protocol" that was documented prior to the survey was used, 4. as part of an ID Team, a WDFW or tribal biologist agreement with the proposal is documented, 5. If the stream does not meet the minimum pool requirements for a protocol survey (Board Manual, Section 13, Part 4), and this is documented, then the survey is following protocol and is considered a "biological assessment." FP\_VER\_CD codes 'B', 'P', or 'N' only apply to streams surveyed since 3/1/2005.

VALUE Not Verified

**DESCRIPTION** Water type not verified by either physical criteria or biological assessment. FP\_VER\_CD codes 'B', 'P', or 'N' only apply to streams surveyed since 3/1/2005.

**VALUE** Unknown

**DESCRIPTION** Method of water type determination is unknown.

*Hide Field FP\_VER\_LABEL\_NM ▲*

**FIELD WC\_HYDR\_FTR\_CD ►**

\* **ALIAS** WC\_HYDR\_FTR\_CD

\* **DATA TYPE** String

\* **WIDTH** 2

\* **PRECISION** 0

\* **SCALE** 0

**FIELD DESCRIPTION**

Watercourse hydrographic feature code. Identifies the hydrographic category in which the watercourse line belongs.

**LIST OF VALUES**

**VALUE** DC

**DESCRIPTION** Ditches, canals, flumes

**VALUE** IM

**DESCRIPTION** Impoundments or areas subject to inundation

**VALUE** IW

**DESCRIPTION** Impounded wet areas. In the dataset these are found only near the southwest Washington coast.

**VALUE** LA

**DESCRIPTION** Lakes and ponds

**VALUE** PP

**DESCRIPTION** Pipelines and water conveyance structures

**VALUE** SC

**DESCRIPTION** Side channels to rivers or streams

**VALUE** ST

**DESCRIPTION** Streams and rivers

**VALUE** UN

**DESCRIPTION** Unknown or Unclassified

**VALUE** WT

**DESCRIPTION** Wet Area. These generally originated as swamps and marshes scanned from the USGS 1:24,000 topographic maps. Wet areas are not classified by the WAC 222-16-035 wetland typing system; they have no regulatory significance.

*Hide Field WC\_HYDR\_FTR\_CD ▲*

**FIELD WC\_FLOW\_PATH\_CD ►**

\* **ALIAS** WC\_FLOW\_PATH\_CD

\* **DATA TYPE** SmallInteger

\* **WIDTH** 2

\* **PRECISION** 1

\* **SCALE** 0

**FIELD DESCRIPTION**

Watercourse flow path code. Used to define the flow pathways of streams and artificial connectors.

## LIST OF VALUES

## VALUE 1

**DESCRIPTION** Primary path of a watercourse centerline that flows through a water body as an interior line and artificial path. Represents the flow of water from the main inlet to the main outlet of a polygonal water body.

## VALUE 2

**DESCRIPTION** Secondary path of a watercourse that flows through a water body as an interior line and artificial path. The linear path that represent additional flow paths of water, usually from secondary tributaries entering the water body and connecting to the primary path. Also called "laterals".

## VALUE 3

**DESCRIPTION** A single line watercourse segment usually representing a defined channel (WC\_LN\_TYPE\_CD = 10 or 30). May flow through a water body with WB\_HYDR\_FTR\_CD = WT (wet area), GL (glacier), etc. May also be a single-line water course artificial connector (WC\_LN\_TYPE\_CD = 5).

*Hide Field WC\_FLOW\_PATH\_CD ▲*

## FIELD WC\_GNIS\_NR ►

- \* ALIAS WC\_GNIS\_NR
- \* DATA TYPE Integer
- \* WIDTH 4
- \* PRECISION 7
- \* SCALE 0

## FIELD DESCRIPTION

Watercourse Geographic Names Information System (GNIS) number. The identifier number assigned to each named feature in the USGS GNIS database (<http://geonames.usgs.gov/domestic/index.html>). This number is used to insert and/or update water body names stored in the framework hydrography database. Not all features will have a GNIS name and number, but all features with GNIS names will have GNIS numbers and vice versa. WC\_GNIS\_NR are unique to each named surface water feature, not to each individual line segment.

*Hide Field WC\_GNIS\_NR ▲*

## FIELD WC\_CONTU\_CD ►

- \* ALIAS WC\_CONTU\_CD
- \* DATA TYPE String
- \* WIDTH 3
- \* PRECISION 0
- \* SCALE 0

## FIELD DESCRIPTION

Watercourse continuity code. This is the classification of stream flow in relation to its expression at the earth's surface. The most common condition is that a stream is continuous. An example of using WC\_CONTU\_CD with WC\_PERIOD\_CD: If areas of perennial, intermittent or ephemeral flow exist along a stream reach they are not separated out; the hydrologist chooses the dominant periodicity and calls the continuity "interrupted". If the reach is not continuously perennial or intermittent it is described as "interrupted". This attribute describes the physical characteristics of a stream. The scale at which the data are captured or displayed may also be a factor to consider.

## LIST OF VALUES

## VALUE CON

**DESCRIPTION** Continuous. A channel with no interruptions in space.

## VALUE INT

**DESCRIPTION** Interrupted. A watercourse with a perennial flow with intervening intermittent or ephemeral segments or intermittent flow with intervening ephemeral segments.



VALUE SUB  
DESCRIPTION Sub-surface. Watercourse reach that represents a sub-surface flow.

VALUE UNK  
DESCRIPTION Unknown or unclassified

[Hide Field WC\\_CONTU\\_CD ▲](#)

FIELD FTR\_MOD\_LABEL\_NM ►

\* ALIAS FTR\_MOD\_LABEL\_NM  
\* DATA TYPE String  
\* WIDTH 12  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

Feature modification label. Identifies the type of change that occurred to the hydrography water shoreline feature. Tracks the type of modification performed on the database. Intended to distinguish those features that would be updated in the Framework dataset during a transaction if an update process was in place.

LIST OF VALUES

VALUE Addition  
DESCRIPTION Addition of spatial feature

VALUE Deletion  
DESCRIPTION Deletion of existing spatial feature. Documents the historical ID, which maybe referenced in an orphaned event row that will have no matching spatial record. (Code value only valid with PNW Hydrography Framework Data Model in ESRI Dynamic Segmentation format)

VALUE Update  
DESCRIPTION Update of existing spatial feature

[Hide Field FTR\\_MOD\\_LABEL\\_NM ▲](#)

FIELD WC\_PERIOD\_CD ►

\* ALIAS WC\_PERIOD\_CD  
\* DATA TYPE String  
\* WIDTH 3  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

Watercourse periodicity code. This is a classification for watercourses in terms of the seasonal behavior of the feature or in terms of its surface flow.

LIST OF VALUES

VALUE EPH  
DESCRIPTION Ephemeral. Watercourse that exist only as a result of storm precipitation.

VALUE INT  
DESCRIPTION Intermittent or seasonal. Watercourse that is dry during certain times of the year.

VALUE PER  
DESCRIPTION Perennial. Watercourse that essentially exist year round

VALUE UNK  
DESCRIPTION Unknown or Unclassified. Used when condition information is unknown or unclassified

[Hide Field WC\\_PERIOD\\_CD ▲](#)

## FIELD FTR\_INPUT\_LABEL\_NM ►

- \* ALIAS FTR\_INPUT\_LABEL\_NM
- \* DATA TYPE String
- \* WIDTH 12
- \* PRECISION 0
- \* SCALE 0

## FIELD DESCRIPTION

Feature input label. The manner in which the hydrography watercourse data is entered or updated in the spatial database. These codes can be found in the associated lookup table.

## LIST OF VALUES

VALUE Automatic

DESCRIPTION Automatic via computer software

VALUE Scan

DESCRIPTION Scanning

VALUE Digitize

DESCRIPTION Tablet digitizing

VALUE Coord File

DESCRIPTION Digital spatial or coordinate file

VALUE Auto

DESCRIPTION Automatic line tracing

VALUE Heads-up

DESCRIPTION Heads-up (on-screen) digitizing

VALUE Unknown

DESCRIPTION Unknown or unspecified map feature input method

*Hide Field FTR\_INPUT\_LABEL\_NM ▲*

## FIELD FTR\_INPUT\_CD ►

- \* ALIAS FTR\_INPUT\_CD
- \* DATA TYPE SmallInteger
- \* WIDTH 2
- \* PRECISION 2
- \* SCALE 0

## FIELD DESCRIPTION

Feature input code. The manner in which the hydrography watercourse data is entered or updated in the spatial database. These codes can be found in the associated lookup table.

## LIST OF VALUES

VALUE 1

DESCRIPTION Automatic via computer software

VALUE 2

DESCRIPTION Scanning

VALUE 3

DESCRIPTION Tablet digitizing

VALUE 4

DESCRIPTION Digital spatial or coordinate file

VALUE 5

DESCRIPTION Automatic line tracing

VALUE 6

DESCRIPTION Heads-up (on-screen) digitizing

VALUE 99

DESCRIPTION Unknown or unspecified map feature input method

*Hide Field FTR\_INPUT\_CD ▲*

FIELD **FTR\_INTRP\_LABEL\_NM ▶**

\* ALIAS FTR\_INTRP\_LABEL\_NM

\* DATA TYPE String

\* WIDTH 12

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Feature interpretation label. The methodology used to compose the hydrography watercourse information and how it was derived prior to data entry into the spatial coverage

LIST OF VALUES

VALUE Photogram

DESCRIPTION Photogrammetric interpretation

VALUE GPS

DESCRIPTION Global Position System (GPS)

VALUE Photos

DESCRIPTION Photointerpretation

VALUE Crenulation

DESCRIPTION Interpretation of streams from contour crenulation

VALUE Modeling

DESCRIPTION Surface flow modeling

VALUE Transect

DESCRIPTION Transect along a stream channel

VALUE Source map

DESCRIPTION Existing line work on source map

VALUE Best guess

DESCRIPTION Stream not directly observable so stream location is estimated

VALUE Combination

DESCRIPTION Combination of 3,4,5 and sometimes 8

VALUE Unspecified

DESCRIPTION Unspecified/Unknown

*Hide Field FTR\_INTRP\_LABEL\_NM ▲*

FIELD **FTR\_INTRP\_CD ▶**

\* ALIAS FTR\_INTRP\_CD

\* DATA TYPE SmallInteger

\* WIDTH 2

\* PRECISION 2

\* SCALE 0

FIELD DESCRIPTION

Feature interpretation code. The methodology used to compose the hydrography watercourse information and how it was derived prior to data entry into the spatial coverage

## LIST OF VALUES

VALUE 1	DESCRIPTION	Photogrammetric interpretation
VALUE 2	DESCRIPTION	Global Position System (GPS)
VALUE 3	DESCRIPTION	Photo-interpretation
VALUE 4	DESCRIPTION	Interpretation of streams from contour crenulation
VALUE 5	DESCRIPTION	Surface flow modeling
VALUE 6	DESCRIPTION	Transect along a stream channel
VALUE 7	DESCRIPTION	Existing line work on source map
VALUE 8	DESCRIPTION	Stream not directly observable so stream location is estimated
VALUE 99	DESCRIPTION	Unknown or Unclassified
VALUE 9	DESCRIPTION	Combination of 3, 4, 5, and sometimes 8.

[Hide Field FTR\\_INTRP\\_CD ▲](#)

## FIELD FTR\_SRC\_LABEL\_NM ►

* ALIAS	FTR_SRC_LABEL_NM
* DATA TYPE	String
* WIDTH	12
* PRECISION	0
* SCALE	0

## FIELD DESCRIPTION

Feature source label. The compilation map or image source used when adding or updating hydrography data.

## LIST OF VALUES

VALUE	USGS Map	DESCRIPTION	USGS Topographic Map
VALUE	Orthophoto	DESCRIPTION	Orthophotography
VALUE	Aerial photo	DESCRIPTION	Aerial Photograph
VALUE	MSS Imagery	DESCRIPTION	Multi-Spectral Satellite Imagery
VALUE	Field Survey	DESCRIPTION	Field Survey of on the ground observation
VALUE	County/City	DESCRIPTION	County or City Planning Map

VALUE Field Map  
DESCRIPTION Field Map

VALUE DEM  
DESCRIPTION Digital Elevation Model (DEM)

VALUE Radar Image  
DESCRIPTION Radar Imagery

VALUE Laser Image  
DESCRIPTION Laser Imagery

VALUE CFF  
DESCRIPTION Cartographic Feature File (CFF)

VALUE NWI Map  
DESCRIPTION National Wetlands Inventory (NWI) Map

VALUE Imagery  
DESCRIPTION Imagery - Unspecified Source

VALUE Combination  
DESCRIPTION Combination of Lidar and Photo

VALUE NED/Photo  
DESCRIPTION NED/Photo

VALUE Interpret  
DESCRIPTION Intuitive Interpretation

VALUE Unknown  
DESCRIPTION Unknown or Unclassified

*Hide Field FTR\_SRC\_LABEL\_NM ▲*

FIELD FTR\_SRC\_CD ►

- \* ALIAS FTR\_SRC\_CD
- \* DATA TYPE SmallInteger
- \* WIDTH 2
- \* PRECISION 2
- \* SCALE 0

FIELD DESCRIPTION

Feature source code. The compilation map or image source used when adding or updating hydrography data.

LIST OF VALUES

- VALUE 1  
DESCRIPTION USGS Topographic Map
- VALUE 2  
DESCRIPTION Orthophotography
- VALUE 3  
DESCRIPTION Aerial Photograph
- VALUE 4  
DESCRIPTION Multi-Spectral Satellite Imagery
- VALUE 5  
DESCRIPTION Field survey or on-the-ground observation

VALUE	6
DESCRIPTION	Planning Map
VALUE	7
DESCRIPTION	Field Map, Forest Practices Water Type Map
VALUE	8
DESCRIPTION	Digital Elevation Model (DEM), NED
VALUE	9
DESCRIPTION	Radar Imagery
VALUE	10
DESCRIPTION	Laser Imagery, LiDAR
VALUE	11
DESCRIPTION	Cartographic Feature File (CFF)
VALUE	12
DESCRIPTION	National Wetlands Inventory (NWI) Map
VALUE	13
DESCRIPTION	Imagery - Unspecified
VALUE	99
DESCRIPTION	Unknown or Unclassified
VALUE	15
DESCRIPTION	Combination of LiDAR and orthophoto
VALUE	16
DESCRIPTION	Combination of NED and orthophoto
VALUE	17
DESCRIPTION	Intuitive interpretation

[Hide Field FTR\\_SRC\\_CD ▲](#)

FIELD [FTR\\_SRC\\_DT ►](#)

\* ALIAS FTR\_SRC\_DT  
 \* DATA TYPE Date  
 \* WIDTH 36  
 \* PRECISION 0  
 \* SCALE 0

FIELD DESCRIPTION

Feature source date. The date of the compilation map or image source used when adding or updating hydrography data. January 1, 1753 is used when source date is unknown or unavailable. If the source year is known, but month and date are unknown then January 1 is used as a default.

[Hide Field FTR\\_SRC\\_DT ▲](#)

FIELD [FTR\\_SRCSCALE\\_CD ►](#)

\* ALIAS FTR\_SRCSCALE\_CD  
 \* DATA TYPE Integer  
 \* WIDTH 4  
 \* PRECISION 5  
 \* SCALE 0

FIELD DESCRIPTION

Feature source scale code.

LIST OF VALUES

VALUE 0  
DESCRIPTION Scale of data source is unknown

VALUE 4800  
DESCRIPTION Scale of data source is 1:4,800

VALUE 12000  
DESCRIPTION Scale of data source is 1:12,000

VALUE 24000  
DESCRIPTION Scale of data source is 1:24,000

*Hide Field FTR\_SRCSCALE\_CD ▲*

FIELD FTR\_ORG\_CD ►

\* ALIAS FTR\_ORG\_CD  
\* DATA TYPE String  
\* WIDTH 12  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

Feature organization code. The organization that compiled, entered, updated or deleted the hydrography watercourse data. This list will grow as new organizations begin to add or update information and are certified by the clearinghouse. Contact the Clearinghouse Manager will maintain a list of organizations. All additions or corrections should be submitted to the Clearinghouse Manager.

LIST OF VALUES

VALUE BCMELP  
DESCRIPTION British Columbia Ministry of Environment, Lands and Parks

VALUE CoClrkWa  
DESCRIPTION Clark County, WA

VALUE CoKingWa  
DESCRIPTION King County, WA

VALUE CoPierWa  
DESCRIPTION Pierce County, WA

VALUE CoSnohWa  
DESCRIPTION Snohomish County, WA

VALUE CoSpokWa  
DESCRIPTION Spokane County, WA

VALUE CoThursWa  
DESCRIPTION Thurston County, WA

VALUE CoYakWa  
DESCRIPTION Yakima County, WA

VALUE CtySeaWa  
DESCRIPTION City of Seattle, WA

VALUE CtyOlyWa  
DESCRIPTION City of Olympia, WA

VALUE CtyVanWa  
DESCRIPTION City of Vancouver, WA

VALUE IRICC  
DESCRIPTION Intergovernmental Resource Information Coordinating Council

VALUE LvwFbr  
DESCRIPTION Longview Fiber Company

VALUE NMFS  
DESCRIPTION National Marine Fisheries Service

VALUE NRCS  
DESCRIPTION Natural Resources Conservation Service

VALUE NWIFC  
DESCRIPTION Northwest Indian Fisheries Commission

VALUE OrDEQ  
DESCRIPTION OR Dept. of Environmental Quality

VALUE PSRC  
DESCRIPTION Puget Sound Regional Council

VALUE Raynr  
DESCRIPTION Rayonier Timber Company

VALUE Smpsn  
DESCRIPTION Simpson Timber Company

VALUE USACE  
DESCRIPTION U.S. Army Corps of Engineers

VALUE USBLM  
DESCRIPTION U.S. Bureau of Land Management

VALUE USBOR  
DESCRIPTION U.S. Bureau of Reclamation

VALUE USBPA  
DESCRIPTION U.S. Bonneville Power Administration

VALUE USEPA  
DESCRIPTION U.S. Environmental Protection Agency

VALUE USEPA-r10  
DESCRIPTION U.S. Environmental Protection Agency - Region 10

VALUE USFS  
DESCRIPTION U.S. Forest Service

VALUE USFS-Oly  
DESCRIPTION U.S. Forest Service - Olympic

VALUE USFWS  
DESCRIPTION U.S. Fish and Wildlife Service

VALUE USGS  
DESCRIPTION U.S. Geological Survey

VALUE USGS-NMD  
DESCRIPTION U.S. Geological Survey - National Mapping Division



VALUE USNPS  
DESCRIPTION U.S. National Park Service

VALUE WaDFW  
DESCRIPTION Washington Department of Fish and Wildlife

VALUE WaDNR  
DESCRIPTION Washington State Department of Natural Resources

VALUE WaDOT  
DESCRIPTION Washington Department of Transportation

VALUE WaECY  
DESCRIPTION Washington Department of Ecology

VALUE Weyhsr  
DESCRIPTION Weyerhaeuser Company

VALUE Sewall  
DESCRIPTION James W. Sewall Company, Old Town, ME. Sewall is the conversion project vendor (2003-2004).

VALUE CoClalWa  
DESCRIPTION Clallam County, Washington

VALUE WildFishCons  
DESCRIPTION Wild Fish Conservancy

VALUE CtySpokWa  
DESCRIPTION city of Spokane

Hide Field FTR\_ORG\_CD ▲

FIELD SL\_WTRTY\_LABEL\_NM ►

\* ALIAS SL\_WTRTY\_LABEL\_NM  
\* DATA TYPE String  
\* WIDTH 12  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

State Lands water type label. A classification code used to support the DNR State Trust Lands Habitat Conservation Plan (HCP), effective September 1997. See <http://www.dnr.wa.gov/hcp/index.html>. Used in conjunction with the SL\_WTRTY\_EDIT\_DT.

LIST OF VALUES

VALUE Type 1  
DESCRIPTION Shorelines of the state. Type 1 water as defined by the DNR State Lands HCP. All waters, within their ordinary high-water mark, as inventoried as "shorelines of the state" under chapter 90.58 RCW.

VALUE Type 2  
DESCRIPTION Waters with high fish, wildlife, or human use. Type 2 water as defined by the DNR State Lands HCP. Segments of natural waters which are not classified as Type 1 Water and have a high fish, wildlife or human use.

VALUE Type 3  
DESCRIPTION Waters with moderate fish, wildlife, or human use. Type 3 water as defined by the DNR State Lands HCP. Segments of natural waters which are not classified as Type 1 or Type 2 Waters and have a moderate to slight fish, wildlife, or human use.

VALUE Type 4

DESCRIPTION Perennial non-fish habitat stream. Type 4 water as defined by the DNR State Lands HCP. All segments of natural waters within the bankfull width of defined channels that are perennial nonfish habitat streams.

VALUE Type 5

DESCRIPTION Seasonal non-fish habitat stream. Type 5 water as defined by the DNR State Lands HCP. All segments of natural waters within the bankfull width of defined channels that are not Type 1, 2, 3, or 4 Waters.

VALUE Type 9

DESCRIPTION Unclassified water feature.

[Hide Field SL\\_WTRTY\\_LABEL\\_NM ▲](#)

FIELD FP\_REF\_ID ►

- \* ALIAS FP\_REF\_ID
- \* DATA TYPE String
- \* WIDTH 10
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Forest Practices Reference Identification number. Jurisdiction Reference Number. Used as the water type modification form (WTMF) document number. This is the tracking number used to uniquely identify WTMF entered into the database since the Fall of 2000. WTMF are the means by which changes to the DNR HYDRO GIS database (also known as the water type map) are proposed. There has been an approved water type modification form (WTMF) if FP\_REF\_ID has a value in one of the following three formats: FP\_REF\_ID = '0000WW1234' where 0000 is a placeholder in the database, WW is two digit WRIA#, and 1234 is sequential number. This format used Fall 2000 to Spring 2008. (2) FP\_REF\_ID = 'RRWWYY1234' where RR is two letter Jurisdiction abbreviation, WW is two digit WRIA#, YY is two digit year, and 1234 is sequential number (starting at 0001 at start of each year). This is the Jurisdiction Reference Number which is assigned to all WTMF beginning Spring 2008. (3) If FP\_REF\_ID is in format '0000WW0000' or there is no value, then there is no WTMF and has been no water typing survey or hydro update unless FP\_WTRTY\_1975\_DT is greater than 1992.

[Hide Field FP\\_REF\\_ID ▲](#)

FIELD DNR\_OUTPUT\_SCL\_CD ►

- \* ALIAS DNR\_OUTPUT\_SCL\_CD
- \* DATA TYPE Integer
- \* WIDTH 4
- \* PRECISION 6
- \* SCALE 0

FIELD DESCRIPTION

DNR Output scale code. This attribute may be used as a visual, cartographic tool to display an appropriate 'density' of linework at a given map scale. Due to the compilation history of DNR HYDRO it has inconsistent stream density across the state; it is 'mixed-scale'. For example, if creating a map at a scale of 1:100,000 the data that are appropriate to display at 1:24,000 map scale may appear too dense and therefore the map may not be legible. Some features included are too small to display at a scale smaller than 1:24,000. This attribute uses the scale denominator to indicate the largest scale at which the feature should be displayed. Select all values to display all data. Select 24000, 100000, and 750000 to display data appropriate for 1:24,000 map scale. Select 100000 and 750000 to display data appropriate for 1:100,000 map scale. Select 750000 to display data appropriate for 1:750,000 map scale.

LIST OF VALUES

VALUE 24000

DESCRIPTION Data appropriate to display at 1:24,000 scale

VALUE 100000

DESCRIPTION Data appropriate to display at 1:100,000 scale

VALUE 750000

DESCRIPTION Data appropriate to display at 1:750,000 scale

*Hide Field DNR\_OUTPUT\_SCL\_CD ▲*

FIELD FP\_WTRTY\_SRC\_DESC ►

\* ALIAS FP\_WTRTY\_SRC\_DESC

\* DATA TYPE String

\* WIDTH 8

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Forest Practices water type source description. Programmatically derived identification of the source of the Forest Practices water type code (FP\_WTRTY\_CD). See "binary enclosures" below for trigger code. Code applied on transfer to ROPA.

LIST OF VALUES

VALUE WTMF

DESCRIPTION Water typing survey. A Water Type Modification Form (WTMF) has been entered into the database since 1/1/1997. For a finer classification of surveys since March 1, 2005 (western Washington) and/or March 1, 2006 (eastern Washington) see FP\_VER\_CD. If a surveyed stream segment is associated with a model override, then the segment will show OVERRIDE rather than WTMF. If there is a FP\_REF\_ID on the segment, then the segment was surveyed.

VALUE MODEL

DESCRIPTION The water type was assigned by the Fish Habitat Water Typing Model; there has been no water typing survey recorded in the database since 1/1/1997.

VALUE OVERRIDE

DESCRIPTION The model assigned type was overridden by a qualifying water typing survey. This falls into two categories: (1) Either modeled N was overridden to become F because waters downstream of a known fish location are assumed to have fish use (Board Manual Section 13, Part 4), or (2) a modeled F was overridden to become N because a survey established the F/N break downstream. If a record has an FP\_REF\_ID, then the override is due to the survey. If there is no FP\_REF\_ID, then the override is up or downstream of the survey. For this reason there will be surveyed stream segments with OVERRIDE rather than WTMF.

VALUE LEGACY

DESCRIPTION Streams not modeled inherited their water type from the water typing system prior to the model - either from an older water typing survey or from the Water Type Map prior to the creation of the GIS database. For older water typing surveys: A survey may have been conducted, using protocols in place at the time, between 1992 and Fall 2000 if the following are true: 1. FP\_WTRTY\_SRC\_DESC = "LEGACY", and 2. FP\_WTRTY\_1975\_DT greater than 1/1/1992 and less than approximately 11/1/2000, and 3. FP\_WTRTY\_1975\_CD not equal to 9.

VALUE blank

DESCRIPTION No value is assigned to water bodies to reduce map clutter.

*Hide Field FP\_WTRTY\_SRC\_DESC ▲*

FIELD PDF\_LOCATION ►

\* ALIAS PDF\_LOCATION

\* DATA TYPE String

\* WIDTH 62

\* PRECISION 0

\* SCALE 0

## FIELD DESCRIPTION

PDF Location Hyperlink. A hyperlink field with url to the location of the PDF of completed Water Type Modification Form (WTMF). Hyperlinks function within DNR only.

*Hide Field PDF\_LOCATION ▲*

## FIELD EDIT\_NM\_CD ►

- \* ALIAS EDIT\_NM\_CD
- \* DATA TYPE String
- \* WIDTH 7
- \* PRECISION 0
- \* SCALE 0

## FIELD DESCRIPTION

Editor name code. Internal DNR user identification code. Identifies which DNR employee last edited the database spatial and/or tabular record. For internal DNR use only.

*Hide Field EDIT\_NM\_CD ▲*

## FIELD EDIT\_DT ►

- \* ALIAS EDIT\_DT
- \* DATA TYPE Date
- \* WIDTH 36
- \* PRECISION 0
- \* SCALE 0

## FIELD DESCRIPTION

Edit date. The date of the last edit either to the linework, or to the attributes

*Hide Field EDIT\_DT ▲*

## FIELD WC\_SUBTYPE\_CD ►

- \* ALIAS WC\_SUBTYPE\_CD
- \* DATA TYPE SmallInteger
- \* WIDTH 2
- \* PRECISION 4
- \* SCALE 0

## FIELD DESCRIPTION

Water course subtype code. A number representing a category of water features containing a specific set of parameters. For example, all water features of subtype 1001 have a WC\_HYDR\_FTR\_CD = ST, WC\_CART\_FTR\_CD = 412, WC\_LN\_TYPE\_CD = 10, and WC\_FLOW\_PATH\_CD = 3. These categories or subtypes are based on physical characteristics or for GIS representation requirements.

## LIST OF VALUES

VALUE	501
DESCRIPTION	Artificial stream
VALUE	1001
DESCRIPTION	Stream
VALUE	1002
DESCRIPTION	Side channel
VALUE	1003
DESCRIPTION	Ditch, canal, flume
VALUE	1004
DESCRIPTION	Pipeline
VALUE	2001
DESCRIPTION	Lake interior line

VALUE 2002  
DESCRIPTION Impoundment - int. line

VALUE 2003  
DESCRIPTION Fish hatchery int. line

VALUE 2004  
DESCRIPTION Alkali flat - int. line

VALUE 2101  
DESCRIPTION Double-banked stream interior line

VALUE 2102  
DESCRIPTION Double-banked side channel interior line

VALUE 2103  
DESCRIPTION Double-banked ditch interior line

VALUE 2104  
DESCRIPTION Double-banked pipeline interior line

VALUE 2105  
DESCRIPTION Reservoir - interior line

VALUE 2106  
DESCRIPTION Wet area interior line

VALUE 2107  
DESCRIPTION Impounded wet area interior line

VALUE 3001  
DESCRIPTION Perimeter stream

VALUE 3002  
DESCRIPTION Perimeter side channel

VALUE 3003  
DESCRIPTION Perimeter ditch

VALUE 9001  
DESCRIPTION Miscellaneous watercourse

*Hide Field WC\_SUBTYPE\_CD ▲*

FIELD WC\_SUBTYPE\_LABEL\_NM ►

- \* ALIAS WC\_SUBTYPE\_LABEL\_NM
- \* DATA TYPE String
- \* WIDTH 12
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Water course subtype label. A label representing a category of water features containing a specific set of parameters. For example, all water features of subtype 1001 have a WC\_HYDR\_FTR\_CD = ST, WC\_CART\_FTR\_CD = 412, WC\_LN\_TYPE\_CD = 10, and WC\_FLOW\_PATH\_CD = 3. These categories or subtypes are based on physical characteristics or for GIS representation requirements.

LIST OF VALUES

VALUE Artificial  
DESCRIPTION Artificial stream

VALUE Stream  
DESCRIPTION Stream

VALUE Side channel  
DESCRIPTION Side channel

VALUE Ditch/canal  
DESCRIPTION Ditch, canal, flume

VALUE Pipeline  
DESCRIPTION Pipeline

VALUE Lake-inter  
DESCRIPTION Lake interior line

VALUE Imp-interior  
DESCRIPTION Impoundment - int. line

VALUE Hatchery int  
DESCRIPTION Fish hatchery int. line

VALUE Alk flt-int  
DESCRIPTION Alkali flat - int. line

VALUE Dbl bnk-int  
DESCRIPTION Double-banked stream interior line

VALUE Db sc-int  
DESCRIPTION Double-banked side channel interior line

VALUE Db dc-int  
DESCRIPTION Double-banked ditch interior line

VALUE Db pp-int  
DESCRIPTION Double-banked pipeline interior line

VALUE Res-interior  
DESCRIPTION Reservoir - interior line

VALUE Wet area-int  
DESCRIPTION Wet area interior line

VALUE Imp wt-int  
DESCRIPTION Impounded wet area interior line

VALUE Perim stream  
DESCRIPTION Perimeter stream

VALUE Perim sc  
DESCRIPTION Perimeter side channel

VALUE Perim dc  
DESCRIPTION Perimeter ditch

VALUE Misc stream  
DESCRIPTION Miscellaneous watercourse

*Hide Field WC\_SUBTYPE\_LABEL\_NM ▲*

FIELD FTR\_MOD\_CD ►

\* ALIAS FTR\_MOD\_CD  
 \* DATA TYPE String  
 \* WIDTH 3  
 \* PRECISION 0  
 \* SCALE 0

## FIELD DESCRIPTION

Feature modification code. Identifies the type of change that occurred to the water feature.

## LIST OF VALUES

VALUE ADD

DESCRIPTION Addition of spatial feature

VALUE DEL

DESCRIPTION Deletion of existing spatial feature. Documents the historical ID, which maybe referenced in an orphaned event row that will have no matching spatial record. (Code value only valid with PNW Hydrography Framework Data Model in ESRI Dynamic Segmentation format)

VALUE UPD

DESCRIPTION Update of existing spatial feature

[Hide Field FTR\\_MOD\\_CD ▲](#)

## FIELD SHAPE.LEN ►

\* ALIAS SHAPE.LEN  
 \* DATA TYPE Double  
 \* WIDTH 0  
 \* PRECISION 0  
 \* SCALE 0

[Hide Field SHAPE.LEN ▲](#)

[Hide Details for object ROPA.WCHYDRO ▲](#)

[Hide Fields ▲](#)

**Metadata Details ►**

METADATA LANGUAGE English (UNITED STATES)  
 METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format

SCOPE OF THE DATA DESCRIBED BY THE METADATA dataset  
 SCOPE NAME \* dataset

\* LAST UPDATE 2014-06-20

## ARCGIS METADATA PROPERTIES

METADATA FORMAT ArcGIS 1.0  
 METADATA STYLE FGDC CSDGM Metadata

CREATED IN ARCGIS FOR THE ITEM 2014-06-20 17:52:23  
 LAST MODIFIED IN ARCGIS FOR THE ITEM 2014-06-20 18:14:52

## AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes  
 LAST UPDATE 2014-06-20 17:54:33

[Hide Metadata Details ▲](#)

## Metadata Contacts ▶

### METADATA CONTACT

INDIVIDUAL'S NAME Forest Practices Hydro/Trans Data Steward  
ORGANIZATION'S NAME Washington State Department of Natural Resources, Forest Practices Division  
CONTACT'S POSITION Hydrography and Transportation Data Steward  
CONTACT'S ROLE point of contact

### CONTACT INFORMATION ▶

#### PHONE

VOICE 360.902.1400  
FAX 360.902.1428

#### ADDRESS

TYPE both  
DELIVERY POINT PO BOX 47012  
DELIVERY POINT 1111 WASHINGTON STREET S.E.  
CITY OLYMPIA  
ADMINISTRATIVE AREA WA  
POSTAL CODE 98504-7012  
COUNTRY US  
E-MAIL ADDRESS fpd@dnr.wa.gov

[Hide Contact information ▲](#)

[Hide Metadata Contacts ▲](#)

## Metadata Maintenance ▶

### MAINTENANCE

UPDATE FREQUENCY as needed

[Hide Metadata Maintenance ▲](#)

## Thumbnail and Enclosures ▶

### THUMBNAIL

THUMBNAIL TYPE JPG

[Hide Thumbnail and Enclosures ▲](#)

## FGDC Metadata (read-only) ▼