State of Oregon
Water Resources Department

Information Services - GIS

Water Rights GIS Compilation Procedures
Version 9

Original Date:	8/1999	Author(s):	Sandy Clark
Modified Date:	1/2008	By:	Meredith Carine
	2/2008		Bob Harmon
	6/2008		Meredith Carine
	4/2012		Meredith Carine, Mary Rohling, Linda Tippett, and Bob Harmon

Summary
This document lays out the process for mapping water right features—Points of Diversion (PODs) & Places of Use (POUs)—in the Oregon Water Resources Department's Geographic Information System (GIS).

NOTE: This document replaces all previous water right procedures documents. OWRD Information Services staff must approve any changes to this document.

Table of Contents

Water Rights ***3***

Water Code **3**

Obtaining a Water Right **4**

Specific Types of Water Rights **4**

Water Right Mapping ***5***

Water Right Mapping Project **5**

Water Rights Compilation Procedures ***6***

Digitizing Water Rights **6**

1. Gather data for digitizing. 6
2. Choose a water right to digitize. 8
3. Run the WR Edit Tool 8
4. Determine whether existing geometry will be utilized or new features will be digitized. 8
5. Scan the appropriate water right map and save the image. 9
6. Georeference the image to the most appropriate target layer. 10
7. Digitize/Edit the Place of Use (POU) Polygon(s). 12
8. Update g_POUs Attribute Table. 25
9. Digitize/Edit the Point(s) of Diversion (PODs). 26
10. Update g_PODs Attribute Table. 31

Digitizing Transfers **32**

The Transfer Process 32

Digitizing the Transfer 33

Appendix A: OWRD Water Rights Geodatabase Structure ***42***

Appendix B: WRIS Code Sheet ***45***

Appendix C: Use Definitions ***51***

Appendix D: Naming Conventions for Water Right Map Images ***57***

Appendix E: ArcMap Water Right Editing Tools (WREdit toolbar) ***58***

Appendix F: Water Right Mapping: Quick Reference ***61***

Appendix G: Remarks Standards ***63***

Appendix H: Feature_quality_code and Delta_size Attributes ***64***

Water Rights

Water Code

In Oregon, all water is publicly owned. With some exceptions, cities, farmers, industrial or other users must obtain a water right from the Oregon Water Resources Department (OWRD) to use water from any source - whether underground, or surface (lakes or streams). Landowners with water flowing past or through their property do not automatically have the right to divert the water without a permit from OWRD.

A water right is a type of property right and is attached to the land where it was established. If land is sold, the water right goes with the land to the new owner, unless it is transferred to new land beforehand. Land with an attached water right may be several miles from the source of water. When property is sold, Oregon law requires sellers of property to tell buyers if a water right is associated with the land being sold.

Oregon's water code contains four fundamental provisions:

- Surface or groundwater may be legally diverted for use only if used for a beneficial purpose.
- Water right priority dates determine who gets water in times of shortage. Older dates have priority over younger dated rights.
- A water right is attached to the land where it was established, unless it is transferred or abandoned.
- A water right must be used at least once every five years for the purpose authorized in the water right. After five consecutive years of non-use, the right is considered forfeited and cannot be reestablished.

Oregon's water laws are based on the principle of prior appropriation. That means, the first person to obtain a water right on a stream is the last to be shut off in times of low stream flows. In water-short times, the water right holder with the oldest date of priority can demand the water specified in his or her water right regardless of the needs of other users. If there is a surplus beyond the needs of the senior water right holder, the person with the next oldest priority date can divert water to satisfy needs under that right and so on down the line until there is no surplus. The date of application for a permit to use water is usually the priority date of the right.

The prior-appropriation doctrine is the basis of water law for most of the states west of the Mississippi River. East of the Mississippi, the riparian doctrine usually applies. Under this doctrine, only landowners with water flowing through their property have claims to the water. In Oregon, the prior appropriation doctrine has been law since 1909 when passage of the first unified water code introduced state control over the right to use water. Before then, water users had to depend on themselves or local courts to defend their rights to water.
Generally, Oregon law does not provide a preference for one kind of use over another. If there is a conflict between users, the date of priority determines who may use the available water. If the rights in conflict have the same date of priority, then the law indicates domestic use and livestock watering have preference over all other uses. However, if the Governor declares a drought, the Department can give preference to stock watering and household consumption purposes, regardless of the priority dates of other users. Groundwater rights for geothermal users, such as heating or air conditioning, are always junior in priority to other uses of water unless the water is also used for another purpose, such as irrigation, or injected back into the groundwater reservoir.

Obtaining a Water Right

Water rights are obtained in a three-step process. The applicant first must submit an application to the Department for a permit to use water. Once a permit is granted, the applicant must construct a water system and begin using water. When water is applied, the permit holder must hire a Certified Water Rights Examiner to complete a survey of water use and submit to the Department a Final Proof Survey map and report detailing how and where water is being applied. If water has been used according to the provisions of the permit, a water right certificate is issued based upon the report findings.

Specific Types of Water Rights

Ground Water Right-A ground water right allows use of water from an underground source. With some exceptions, any person intending to use ground water must obtain a permit from the Water Resources Department before using water from any of these sources: A well, any artificial opening in the ground, an artificially altered natural opening (this may not include development of a natural spring), tile lines placed beneath the surface, a sump.

Ground Water Registration-Ground Water Registrations are undetermined ground water claims that pre-date ground water laws. These registrations have not been adjudicated yet, however water use is allowed.

Reservoir Right-A reservoir right allows construction of a reservoir and storage of water that is surplus to the needs of existing rights. Generally, stream flow will not be available for storage during the irrigation season, so the reservoir must be filled from surplus winter stream flow. A secondary surface water right allows diversion and use of the stored water. This secondary right is not needed if water is stored from an intermittent stream or is intended for use within the reservoir area, such as for livestock or recreation.

Surface Water Right-A surface water right allows use of a stream, spring, lake or other surface water source. It may be a secondary right to a reservoir right, allowing use of the water stored under the terms of the reservoir right. The secondary right can also allow the use of stream flow, when available in excess of existing rights, to maintain the reservoir by offsetting seepage and evaporation losses.

Surface Registrations-If water was used prior to enactment of the 1909 laws and has been used continuously since then, the property owner may have a vested water right. Since a water right is attached to the place of use, this is true even if the ownership of the property has changed. A claim to a vested water right can be determined and made a matter of record only through a legal process known as an adjudication proceeding. The responsibility of the Department in the adjudication process is to gather information about the use of water and present its findings to the circuit court in the county where the water is used. The court then issues a decree which states who has the right to use water, the amount and location of water use and the priority date for each right. The Water Resources Department then issues water right certificates for each decreed right. Legislation passed in 1987 required persons claiming pre-1909 rights in areas not yet adjudicated to file a surface water registration statement before December 31, 1992. Failure to file this registration statement by the deadline creates the rebuttal presumption that the person has no claim to a water right. These statements do not automatically assure that rights will be granted to those who have filed. Each vested right will be determined through the courts in an adjudication proceeding.

Transfer-A transfer involves a change in the point of diversion, rate of use, place of use, or type of use of a water right. Oregon law specifies that a water right remain with the land on which it was established, and that the water must be used as specified in the certificate. It exists only for the amount of water, type of use and place of use described in the water right certificate. State law requires that a transfer application be filed with the Oregon Water Resources Department to

change either the place of use, rate of use, point of diversion, type of water use or any combination of those four.

In-stream Water Right- In-stream water rights are water rights held in trust by the Oregon Water Resources Department to support public uses in streams and lakes. The Department approves in-stream water rights for fish protection, minimizing the effects of pollution or maintaining recreational uses. In-stream water rights establish flow levels to stay in a stream on a month-by-month basis and are usually set for a certain stream reach and measured at a specific point on the stream. In-stream water rights have a priority date and are regulated in the same way as other water rights.

Converted Minimum Flow-Enacted in 1955, Oregon statute provided for the establishment of minimum perennial stream flows. At that time, minimum perennial stream flows were intended as a tool to assist the state in assuring adequate stream flows to support fish life or to minimize pollution. In 1987, the Legislature enacted the In-stream Water Right Act, providing an alternative mechanism to ensure protection for in-stream flows through the Department's water right application process. This 1987 law provided a process for converting the previously established minimum perennial stream flows to in-stream water rights. The priority date for these converted in-stream water rights is the same as the priority date of the minimum perennial stream flows they replaced.

Enlargement-An enlargement of an existing water right.

Decree-A decree is a right that has been adjudicated by the court and usually involves water use pre-dating 1909 water law.

Water Right Mapping

Water Right Mapping Project

The Oregon Water Resources Department is charged with the administration of the laws governing surface and ground water resources. It is also responsible for the conservation, distribution, and regulation of usage of the waters of the state.

In order to accomplish this task, a thorough inventory of existing water-use has been undertaken by the Department. All legally established water rights, whether they are incomplete rights under permits, undetermined claims through ground water registration, vested right statements, or completed rights (those issued certificates) are on record in the Salem office of the Oregon Water Resources Department. Records of water rights are also maintained in the local watermasters' offices. Historically these records have been in the form of paper copies or individual maps pertaining to specific rights.

Advances in computer technology gave OWRD an opportunity to compile a database of the water rights within the state. This database, known as WRIS (Water Right Information System) was developed over a number of years starting in the early 1980's and contains all the water right records and transactions that have occurred within the state of Oregon. There are approximately 200,000 separate water rights in the state of Oregon.

Another development in computer technology, Geographic Information System (GIS) was implemented in 1987. GIS is a system that allows a digital representation of water rights to be entered and "mapped" with a link to a database representing those rights. By 1990, the Department's GIS staff was comprised of three technicians and a supervisor. The primary responsibility of these personnel was to digitally enter current water rights into the GIS. The software obtained for this endeavor was ARC/INFO, a product of Environmental Systems Research Institute (ESRI) of Redlands, California.

GIS staff began digital compilation of water rights in 1989 in the northwest portion of the state. Work progressed to the south and then eastward. While individual rights were the primary focus of this effort, the rights of some irrigation districts and municipalities were also undertaken. Special projects for digitizing rights for court cases and regional dispute settlements were also accomplished in the early 1990's.

By 1994, GIS staff had completed approximately 30 percent of the mapping project statewide. A decision was made to complete the water right mapping by contracting the project to an outside vendor. Funding was authorized by the Legislature and a subsequent pilot project was launched with Unigroup, later known as Engineering Support Unit (ESU), an inmate work program within the Oregon State Prison System. Following a successful pilot project, two contracts were established with ESU. Under these contracts, OWRD provided ESU with pertinent water rights files, maps, base layers and the training necessary to layout and digitize water rights.

The first pass through the state was completed in 2000. In May 1998, the Department began updating the completed basins to reflect new rights or changes in the status of existing rights. Updates are carried out on a basin- by -basin basis. Currently, a subset of basins is kept up to date. More basins will be added to the subset as additional funding and staffing become available.

Water Rights Compilation Procedures

Digitizing Water Rights

Below are the general steps for completing the digitizing of a water right. Detailed instructions for each of these steps are included in the following sections of this procedure manual.

1. Gather data for digitizing.
2. Choose a water right to digitize.
3. Run the WR Edit tool.
4. Determine whether existing geometry will be utilized or new features will be digitized.
5. If applicable, scan the appropriate water right map and save the image.
6. If applicable, georeference the image to the most appropriate target layer.
7. Digitize/Edit the Place of Use (POU) polygon(s).
8. Update g_POUs attribute table.
9. Digitize/Edit the Point (s) of Diversion.
10. Update g_PODs attribute table.
11. Save all edits.
12. Review work.
13. Remove the file geodatabase from the Table of Contents in ArcMap before proceeding with another water right.

1. Gather data for digitizing.

Supply List

You will need to gather together or have access to the following items prior to starting each water right:

- ArcMapTemplate

- Geodatabase (GDB)
- Water Rights Proofing Reports
- Water Right Files
- Water Right Documents: Permits, Certificates, Special Orders, Decree Maps etc.

ArcMap Template

The ArcMap Template is an interface that will provide you with the tools and base data layers to digitize and edit water rights. Base data layers include 1:24000 scale digital data such as PLSS (Public Land Survey System), tax lots, DRGs (digital raster graphics - scanned USGS quads) and digital aerial imagery.

Geodatabase (GDB)

Water right features will be compiled within a file geodatabase generated by the WR Edit tool in ArcMap. Compiled features are then copied into SDE (Spatial Database Engine). The GDB contains two feature classes: g_POUs for places of use and g_PODs for points of diversion. See Appendix A: GDB Data Structure for more detailed information on the GDB.

Water Rights Proofing Reports

Water Rights Proofing Reports are generated from the WRIS** (Water Rights Information System) database and reflect all data pertaining to a particular water right.

The Proofing Report contains links to images of documents relating to the water right. These may include images of certificates, special orders, decrees and maps.

The Proofing Report will aid the technician in determining how features will be digitized for a right. Data from several fields of the report will be copied and pasted from this report into the feature attribute tables.

The reports can be accessed in the following ways:

- Through the Get Wris, WR Edit or WR Audit tools in ArcMap (See Appendix E)
- Directly from the web at http://apps.wrd.state.or.us/apps/wr/wrinfo/wr_proofing.aspx.

  ***The WRIS database is a representation of the information contained in the legal rights of record. It does NOT necessarily reflect actual use because many rights are either not fully exercised each year or may be abandoned but not canceled.*

  The data may not reflect all transfers. For irrigation districts, the database contains the information from the original irrigation district right(s) and may not reflect transfers and the possible loss/reduction of a right.

Water Right Files

The water right file contains all the information associated with a right including a map and a copy of the permit or certificate.

Water Right Documents

Hard copies of water right documents such as permits, certificates and special orders may be found in the water right file. Digital images of these documents may be found through links on the water rights proofing report. Technicians will cross-reference these documents with WRIS data and water right maps to ensure accuracy in digitizing.

In the event that documents cannot be found in the file or online, copies can be made from the original documents located in the vault on the first floor.

2. Choose a water right to digitize.

- Access the Proofing Report. Find the water right by application, permit, certificate or transfer number or Snapshot. Use the “mapped” fields found under the POD and POU sections of the report to determine if you will create a new right or edit an existing right.
- Copy Snap ID

3. Run the WR Edit Tool

Click on WR Edit tool in ArcMap:

- Snap ID may fill in automatically or it can be entered manually.
- Select ‘Create new WR map’ or ‘Edit existing WR map’.
- Click on “Proceed” button.

  If you are creating a new water right map, the program will:
  - Create a file geodatabase named with the snap id (e.g., **s128434.gdb**)
  - Search for parent data in SDE, clone parent features and place them in the file geodatabase. Optionally, you may specify a snap to clone from. This is especially useful when mapping transfers.
  - Load the file geodatabase and base data into ArcMap
  - Open an edit session

  If you are editing an existing water right map, the program will:
  - Create a file geodatabase named with the snap id (e.g., **s128434.gdb**).
  - Copy existing features and attribute data from SDE to the file geodatabase.
  - Load the file geodatabase and base data into ArcMap.
  - Open an edit session.

  Note: File geodatabases are housed at G:\dev\wr\edits\<username> until they are audited and features are committed to SDE. If you are working outside the Salem office your edits are stored at C:\owrd_gis\wr_edits and archived at C:\owrd_gis\wr_edits\archives (both on your computer).

4. Determine whether existing geometry will be utilized or new features will be digitized.

Existing geometry may be used if it meets the following criteria:

- ✓ The correct map was used for digitizing.
- ✓ The shape of the existing polygon generally matches the shape on the water right map.
- ✓ Features are digitized in the correct TRS/QQ.
- ✓ Features are generally placed well when compared to fields, roads etc. visible on base data.
- ✓ Pou/pod ids are accounted for and they correspond to the correct geometry.

When questioning whether to use existing features or digitize new features, consider the following question: *Will digitizing new features provide a significantly improved product?*

5. Scan the appropriate water right map and save the image.

Water right maps are scanned and saved to provide an image that can be rectified and used for digitizing and auditing purposes. Rectified images may be made available to other OWRD staff at a future date.

Locate the Appropriate Map

Rights are digitized from the legally binding map. If a certificate has been issued for a right, the right is digitized from the most current Final Proof Survey (FPS). If the right has not been certificated, the most current application map is used for digitizing the right.

Final Proof Survey Maps (a.ka., Claim of Beneficial Use Maps, Proof of Appropriation Maps)

If a certificate has been issued for a right, use the Final Proof Survey (FPS) map (Figure 1). In most cases use the most current FPS map to digitize from, even if you find another map that may look better. Look for the most current date stamp. If a map is labeled “superceded” look for the more current map.

For many years FPS maps were based on G.L.O. (Government Land Office*)* original layout, ignoring subsequent surveys. Hence, most FPS maps show perfectly square sections, and typically this is not really the case. The purpose of the FPS map is to indicate size, shape, and acreage of the place of use of a given right and is not a property boundary survey.

Final Proof Survey Map

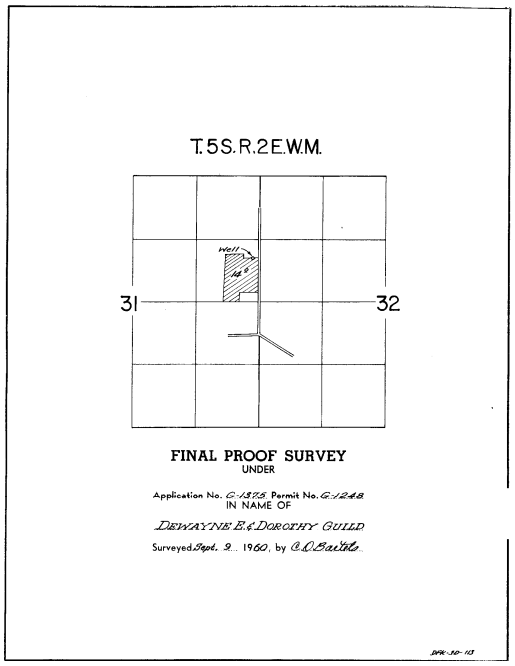


Figure 1

Application Map

If a certificate has not been issued for a right, find the most current application map in the file. Look for the most current date stamp. If a map is labeled “superceded”, look for the more current map.

Exception: The Final Proof Survey map may be used in place of the application map if, and only if, acreage amounts and POU/POD locations correspond with those listed on the permit.

Ground Water Registration Maps
Look for the most current map in the file. If there is not a map in the file, do not assume that a map does not exist. Check WRIS for an image of the map. If no image is available, maps may be found in the Ground Water Registration files located on the first floor in the vault.

Decree Maps
Scanned images of decree maps are housed at ***I:\Decree Map\<Decree name>***. They can also be located from our agency's homepage under **Lookup Information:** Find a Document (Vault) and choosing Water Right Decree as the document type. Most image names contain a township & range i.e. T32SR7-5E_5_1_4.tif. Identify the township and range for the place of use (POU) and/or point of diversion (POD) and view all images associated with this township and range.
Note: PODs may be entered in WRIS without location information. You may need to locate the POU on the decree map and trace a ditch back to the source to determine the POD location. This may involve viewing multiple maps.

Scanning
Scan the water right map(s) and save using the naming conventions outlined in Appendix D.
Output Type = Black & White Drawing or Bilevel. Use "color" only if necessary.
Resolution = 300X300 DPI
Save in PNG format.
Save water right images to I:\wr\<basin>\<username>.
Note: Oversized maps will be scanned using a large format scanner.

Multiple Maps For One Water Right

- Scan each map separately using the snap_id as the primary identifier. However, add _A, _B etc. to the naming convention (12345_A_1.png, 12345_B_1.png) to distinguish each map. These images will be rectified and used for digitizing.

One Map for Multiple Rights
If two or more rights share the same map, scan the map in one time. Save the image for the first right using the naming conventions outlined in Appendix D.
Note: You only need to georeference and rectify one of these maps. You can digitize all the rights from this rectified image.

6. Georeference the image to the most appropriate target layer.
Georeferencing Water Right Map Images [1]

Georeference:
The process of defining how raster data is situated in map coordinates. Georeferencing raster data allows it to be viewed, queried, and analyzed with other geographic data.

The general steps for georeferencing an image are:

1. Add the image you want to georeference to your Arc Map session using the Add Data button on the Standard toolbar.
2. From the Georeferencing toolbar, click the Layer dropdown arrow and click the image you want to georeference.
3. Define the area you want to fit the image to. For example if you will be georeferencing a quarter quarter, zoom into that quarter quarter.

[1] Source for this section is ArcGis Desktop Help. Original text modified for procedures specific to WRD water right mapping.

Guideline: Georeference at a scale of 1:10,000. It may be helpful to zoom in closer than this but it is not necessary and will not make the finished product more accurate. *Do not zoom out to a scale smaller than 1:10,000 when georeferencing.*

4. Click Georeferencing and click Fit to Display. This will display the image in the same area as the target layers (PLS, Taxlots, etc). You can also use the Shift and Rotate tools to move the image as needed.

- Choosing Target Layer (s)
- Georeference to 24K base data whenever possible. This data includes digital data such as 24K PLSS (Public Land Survey system), tax lots, DRGs (digital raster graphics – scanned USGS quads) and imagery.
- If necessary, images may be georeferenced to 100K data but only after 24K data has been exhausted. Example: A 100K DLC layer is available as a target layer but the DLC lines also appear on the DRG. Use the DRG because it is 24K data.
- When choosing between two target layers of the same scale, such as the tax lots and PLSS, start with the base layer that was used to create the water rights map. Example: If the application map was based on a tax lot map, start with the tax lot layer. However, do not limit yourself to this layer if another base layer map provides a better fit.
- An image may need to be georeferenced to more than one target layer to get enough control points and/or a good fit. For instance, two links may be made using the tax lot layer and two made using the aerial photo. When using multiple layers, be sure the scale is the same, preferably 24K.
- If necessary, features on a water right map may be georeferenced to existing polygons (migrated and legacy data). This should be a rare occurrence and will most likely involve a remaining right for a transfer.

5. Click the Control Points button to add control points. To add a link, click the mouse pointer over a known location on the image, then over a known location on the target data.

- You may find it useful to use a Magnification window (From the Menu bar: Window→Magnifier)
- Press the Esc key to remove a link while you're in the process of creating it.

6. Add a minimum of four links distributed evenly around the perimeter of the area containing the water right. Note: Do not register the entire map if the water right covers more than one square mile. Register smaller portions of the map.

- You may view the Link Table dialog box to evaluate the transformation. Click the View Link Table button on the Georeferencing toolbar.
- You can examine the residual error for each link and the RMS error. If you're satisfied with the registration, you can stop entering links.
- Links can be removed from the Link Table dialog box if the error is particularly large, and more points can be added.

7. You can permanently transform your image after georeferencing by using the Rectify command. Click Georeferencing and click Rectify. Save in PNG format and name according to guidance provided in Appendix D.

7. Digitize/Edit the Place of Use (POU) Polygon(s).

Definition of the Place of Use

The place of use is the location where the water is beneficially used.

General Instructions

- If there is a usable map in the water right file, digitize the right entirely from the application / FPS map. Do not piece the right together from multiple data sources i.e. the map and the imagery. *Exceptions to this rule are reservoirs and ponds, which may be mapped from base layers. Check all base layers to determine which base layer best represents the right.*

- If a map is not available or is of poor quality and you can identify POU or POD features off of the base materials, map them from those layers. Make sure the scale is 1:15,840 or larger. Enter appropriate remarks as outlined in Appendix G.

- If the map is of poor quality and you can't identify POU or POD features off of the base layers, you may still be able to approximate placement of water right features by cross-referencing the map with the base layers. Look for items such as streams, roads etc. that are visible on both the water right map and the base layers. If possible, use these items to approximate placement of water right features. Enter appropriate remarks as outlined in Appendix G.

- Wherever possible, if POU polygons from different rights share a segment of a boundary, use the Trace tool from the Tool palette of the Editor toolbar to trace existing segments. However, do not compromise the integrity of the application / FPS map to make a right fit with adjacent rights or base data. In other words, do not change the boundary, shape or size of the polygon mapped on the application / FPS map.

- Once a polygon has been digitized from the application / FPS map, base data such as imagery may be helpful in more accurately placing the polygon. Digitized polygons may be shifted north, south, east, west etc. to better line up with the imagery. However, do not change the boundary, shape or size of the polygon mapped on the application / FPS map to match the imagery.

- To determine whether to shift a polygon, view the polygon at a 1:10,000 scale. In ArcMap, click on the Map Scale dropdown arrow in the Standard toolbar. Choose 1:10,000. If the polygon appears to line up fairly well with the aerial photo do not shift it. *If polygons are adjusted to the imagery enter appropriate remarks as outlined in Appendix G.*

- When digitizing the place of use for a right, first digitize fields etc. as separate polygons. Next, before attributing, select all polygons that share the same pou_use_id and merge them within ArcMap. Finally, enter the appropriate data into the attribute table.

- There are times when it will be more feasible and accurate to copy an existing polygon than to re-digitize the same boundary. The following examples outline instances in which you will need to copy a polygon.

  1. There is existing migrated and/or legacy data for the water right*. Note: Do not assume that all existing data is correct as it stands. The polygons or attribute data may need adjustment.* Use your judgment to determine if the data can be utilized or if it would be more feasible to re-digitize the right.

     If existing data is available, make the layer you want to copy *from* selectable. Then select the polygon you want to copy. Use the copy and paste buttons on the Arcmap standard toolbar to copy the existing polygon. Follow guidelines for updating attribute data on page 27.

  2. There is both primary irrigation (IR) and supplemental irrigation (IS) use under one right. The POU for both uses is the same field.

     OR

     There are two separate rights. One right is for primary irrigation; the other is for supplemental irrigation. The POU for both rights is the same field.

     In these cases, digitize the polygon for the first use/right. Use the Edit tool and the Copy and Paste buttons on the ArcMap standard toolbar to copy the existing polygon. Since this function also copies the attribute data of the original polygon, be sure to update the attribute values of the new polygon to correctly reflect the added use or right.

- Account for unmappable or partially mapped features and overages or underages as outlined in the following sections.

Determine how the POU is represented on the Water Right Map
Cross reference the proofing report and the permit or certificate to help you determine how the POU for the right is represented on the map. The POU can be represented in several ways depending on the use and type of right. Maps for irrigation (Figure 2) will indicate the number of acres irrigated and include shading or cross-hatching of the POU. The POU for a domestic or industrial right (Figure 3) may be a house or other building(s) that is usually represented by a solid black square on the map. The POU for a reservoir right (Figure 4) is the reservoir itself since the right is to store water in the reservoir.

Irrigation Right

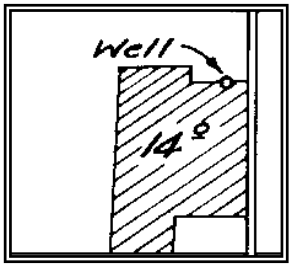


Figure 2

Domestic Right
'Ho' = House

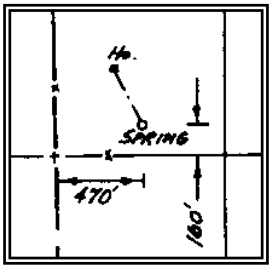


Figure 3

Reservoir Right

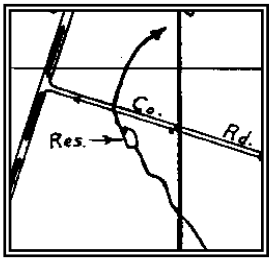


Figure 4

Determine the Number of Polygons to Digitize
The POU will be digitized as polygons. You may be digitizing multiple polygons for a single right. Polygons can cross quarter-quarter, section, DLC and township boundaries but they cannot cross roads. If the map shows a road running through the POU (Figure 5), the POU will be divided into two or more polygons. Streams may or may not divide a single polygon into multiple polygons. It depends on how they are shown on the map. If the map shows multiple polygons (Figure 6), digitize multiple polygons. If the map doesn't show multiple polygons (Figure 7), digitize a polygon around the stream. Within ArcMap, merge all polygons for a right that share the same pou_use_id.

For domestic and industrial type rights, be sure to digitize all houses and buildings that are indicated to be part of the place of use.

If houses or other buildings are not part of the right, (i.e. the right is for irrigation only), digitize outages as described in the following section.

Two Polygons

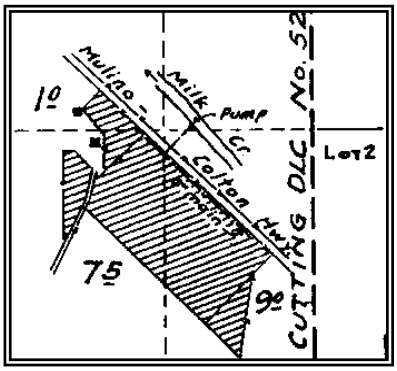


Figure 5

Two Polygons

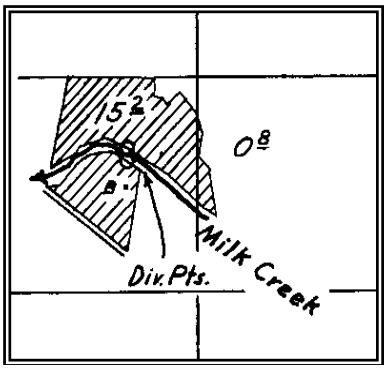


Figure 6

One Polygon

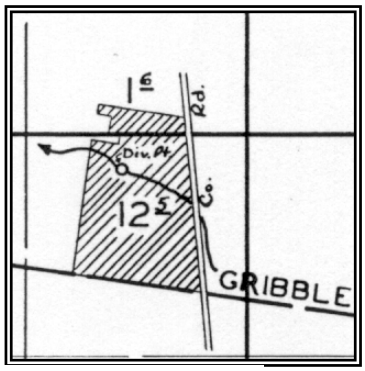


Figure 7

Outages
Be sure to digitize outages. An outage occurs when a right has a polygon of **non-use** within it, a polygon within a polygon. This non-use polygon is not part of the actual right. For example, Figure 8 shows a map that represents an irrigation right only. The house, barn and shed polygons are not part of the right and should be digitized as outages (Figure 9).

Digitize the outage *after* the surrounding polygon has been completed. Use the clip command to clip the outage from the larger polygon. This area should not be attributed.

To Digitize an Outage:

3. Digitize surrounding polygon first.
4. Digitize outage next.
5. Select the outage.
6. From the Editor dropdown menu select Clip.
7. Make sure Buffer Distance = 0.0000
8. Under “When clipping features”, choose ‘Discard the area that intersects’
9. Click OK
10. Press the Delete on the keyboard

Final Proof Survey Map of Irrigation Right

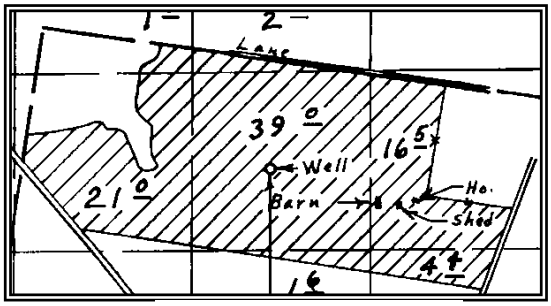


Figure 8

Digitized Polygon with Three Outages

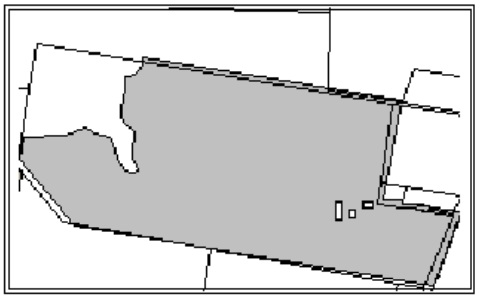


Figure 9

Overages/Underages

When there is a difference, in acres, between the features as they are mapped on the water right and as they are recorded in WRIS, it is known as an overage or an underage. An overage means that the mapped acreage is greater than the acreage listed on the proofing report. An underage means that the mapped acreage is less than the acreage listed on the proofing report. Determine the total overage or underage for the feature and enter this amount in the delta_size field of the attribute table. *Enter overages as a positive number (5.0) and underages as a negative number (-3.0). If the overages and underages total zero, enter ‘0’. If there is no overage or underage, leave the field null. If possible, describe the location of the overage/underage in the remarks field.* The feature_ quality_ code will be “Best representation of available water right map”.

Examples:

- According to the water right map there are 2.5 acres in the NWNW and 10.0 acres in the NENW. WRIS shows 3.0 acres in the NWNW and 9.0 acres in the NENW. You have a total overage of 0.5 acres. Select “Best representation of available water right map” as the feature_quality_code and enter 0.5 in the delta_size field.

- According to the water right map there are 6.0 acres in the SESE and 4.0 acres in the SWSE. WRIS shows 6.0 acres in the SESE and 7.0 acres in the SWSE. You have a total underage of 3.0 acres. You would choose “Best representation of available water right map” as the feature_quality_code and enter –3.0 in the delta_size field. Enter ‘UNDERAGE IN SWSE’ in the remarks field.

Note: If the water right map reflects acreage that is greater than the acreage on the certificate by more than 100%, the right will be represented by poly- point(s) and "Unable to locate" will be entered for the feature_quality_code. For example: The certificate lists 50.0 acres but 100.0 acres are mapped. It is unknown where the 50.0 acres is within the 100.0.

“Unable to Locate” POUs
“Unable to locate” POUs include, for example, the POUs for rights where there isn’t a map available in the file, the map doesn’t give sufficient information to locate the feature, the POU isn’t well defined and the POU can’t be approximated.

- First, determine if there is a corresponding supplemental or associated right referenced on the water right file. Pull this file and look for a map or other information that will help you determine POU placement.

- If the POU still cannot be located, digitize a poly-point for the POU in the center of the smallest area consistent with the water right document and/or map. Select “Unable to locate” as the feature_quality_code.

Examples:
The smallest area described on the water right document is the NWNW. There is no other information on the map or base layers that can further narrow down the location. Place a poly-point in the center of the NWNW and select “Unable to locate” as the feature_quality_ code.

For an industrial right, the smallest area described on the water right document is the NENE. However, the application map shows the use is in a tax lot within the NENE. It is still unclear where in the tax lot the use is. If the tax lot is visible on the tax lot layer, place your poly-point in the center of the tax lot. Select “Unable to locate” as the feature_quality_code.

The water right lists several quarter quarters for an irrigation right. Acreage cannot be located for any of the quarter quarters. Place a poly-point in the center of each quarter quarter. Merge these poly-points and select “Unable to locate” as the feature_quality_code.

Sometimes a right has multiple uses but not all uses can be mapped. Map the uses you can. For the other uses, digitize a poly-point for the POU and select “Unable to locate” as the feature_quality_code.

Example: The right lists irrigation and domestic use. The map shows a field being irrigated but does not reflect the domestic use. Digitize the polygon(s) for the irrigation portion of the right and attribute the polygon. For the domestic use, digitize a poly-point for the POU and attribute the poly-point. Select “Unable to locate” as the feature_quality_code.

Partially Mapped POUs
Sometimes only a portion of a POU feature can be located. Map a polygon for the locatable portion. For the portion of the POU that cannot be located, digitize a poly-point in the center of the smallest area consistent with the water right document and/or map. Merge the polygon and poly-point together under the appropriate pou_use_id. Select “Partially mapped” as the feature_quality_code. If possible, in the Remarks field of the attribute table, identify the portion that could not be located.

Examples:

- The water right document shows there are 10.0 acres in the NENE and 5.0 acres in the NWNE. The map in the file reflects the acreage in the NENE but you cannot determine where the acreage is in the NWNE. Map a polygon for the NENE acreage and put a poly point in the center of the NWNE. Merge the polygon and the poly point together and select “Partially mapped” as the feature_quality_code. Record the difference in acres (5.0) in the delta_size field of the attribute table. Enter ‘UTL NWNE ACRES’ in the Remarks field.

- There are ten reservoirs under one pou_use_id and you can only locate nine of them. Digitize the nine and for the missing one, digitize a poly-point in the center of the smallest area described on the water right document and/or map. Merge all polygons and the poly-point and select “Partially mapped” as the feature_quality_code. Enter ‘UTL <RESERVOIR NAME>’ in the remarks field.

When it is Difficult to Distinguish Primary and Supplemental Acres

It is often difficult to determine from the map which irrigated acres are primary (IR) and which acres are supplemental (IS). Notice the map in Figures 10 and 11. In the SENE of section 3, it is impossible to determine which acres are primary and which are supplemental.

- For the supplemental use, digitize a polygon covering the entire area (Figure 10). Select “Best representation of available water right map” as the feature_quality_code. Enter ‘5.0’ in the delta_size field and enter ‘CANNOT SPLIT IR AND IS IN SENE’ in the Remarks field of the attribute table.
- For the primary use, digitize a polygon covering only the area in the SENE (Figure 11). Select “Best representation of available water right map” as the feature_quality_code. Enter ‘4.0’ in the delta_size field and enter ‘CANNOT SPLIT IR AND IS’ in the Remarks field of the attribute table. *Note: The Trace tool can be utilized for digitizing two sides of this polygon.*

Supplemental Acres

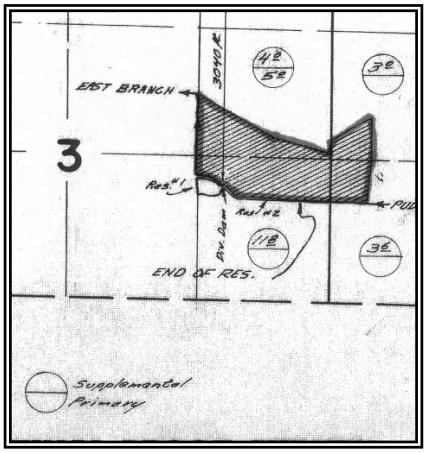


Figure 10

Primary Acres

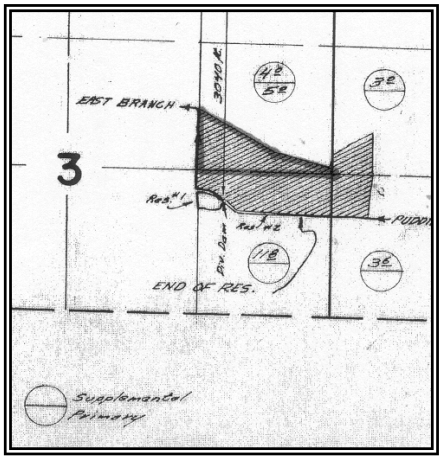


Figure 11

Municipal, and Quasi-Municipal Rights

Municipal (MU) and Quasi-Municipal (QM) rights usually have an extensive place of use such as a service area for a city or water district. The water right document may list specific place of use locations such as quarter quarters or sections or may simply indicate that use is within a designated boundary (service area, city limits, and urban growth boundary).

- If the water right document indicates the place of use is the ‘city limits’ or ‘service area’ of a city, the place of use may be digitized by copying the current city limits theme. Enter ‘PLACED USING CITY LIMITS’ in the Remarks field of the attribute table. *Do not look for a service map in the file.*

- If the water right document indicates the place of use is the ‘service area’ but there is no city limits boundary, georeference the map and map the service area boundary. If, for any reason, the map cannot be used, a last resort for mapping the service boundary would be to map the sections that are entered in WRIS.

- If the water right document lists specific locations, limit the mapping to the specific locations. This applies even if there is a map in the file that shows a larger area of use. For example: The water right document lists a single quarter quarter. However, the map in the file shows the city boundary. Map the quarter quarter boundary only. Retain the integrity of the water right document, which is the legal right of record.

- If the specific locations listed on the water right document appear to match up with the city limits boundary, copy from the City Limits theme. Enter 'PLACED USING CITY LIMITS' in the Remarks field of the attribute table.

- If the specific locations listed on the water right document appear to match up with the city limits boundary with the exception of a small area, the city limits theme may be used. For example, a quarter quarter may be added to the city limits boundary or a section may be cut out of the city limits boundary. Enter 'MODIFIED CITY LIMITS' in the Remarks field of the attribute table.

- If the water right document states that the place of use is the urban growth boundary, the place of use may be digitized from the Urban Growth Boundary (found in "Theme Manager"). Enter 'PLACED USING URBAN GROWTH BOUNDARY' in the Remarks field of the attribute table.

- If the place of use is ambiguous to any degree, error on the side of defaulting to the city limits. Ask yourself, "Is there any reason I shouldn't use the city limits theme?".

Group Domestic Rights
Large domestics and group domestic rights (i.e. subdivisions, housing projects, water districts etc.) may be digitized as the outline of the entire area instead of individual polygons.

When the Use is Operation of a Water Wheel
To represent a water wheel, digitize a circle with a 20' radius.

To Digitize a Circle With A Specified Radius
1. Click on the Circle Tool on the Advanced Tool Bar
2. Click to begin the circle.
3. Press "R" on the keyboard.
4. Enter the radius.
5. Press "Enter" on the keyboard.

When the Use is Livestock Drinking From a Spring
Locate the spring and digitize a point for the POD. For the place of use polygon, create a 20-foot buffer around the POD point. Enter 'PLACED BY BUFFERING POD' in the Remarks field of the attribute table.

To buffer a point:
1. Digitize the POD point
2. Change the target layer to g_POUs
3. From the Editor dropdown menu, select Buffer
4. In the Buffer window, enter 20.
5. Press Enter on the keyboard.

When the Use is Stock Drinking From Stream/Ditch
If the water right document indicates “stock drinking from the source” or similar language, check to see how this source is represented on the water right map and on available hydrographic base layers.

Single-line Stream

- If the stream shown on the map is a single-line stream (Figure 12), buffer existing stream data to create a single polygon (Figure 13) around the stream. *Refer to the buffering procedures on page 24.* Enter ‘PLACED BY BUFFERING EXISTING 24K STREAM DATA’ in the Remarks field of the attribute table.
- If existing stream data is unavailable and the stream is visible on the DRG/imagery, digitize stream arcs into the temp_arcs feature class and then buffer the arcs to create a polygon. *Refer to the buffering procedures on page 24.* Enter ‘PLACED USING DRG’ or ‘PLACED USING <*year*> IMAGERY’ in the Remarks field of the attribute table. For example, if you digitized from 2011 imagery the comment would be “PLACED USING 2011 IMAGERY”.
- If the stream is not visible on the DRG/imagery, georeference the water right map and digitize stream arcs into the temp_arcs feature class. Next, buffer the arcs to create a polygon. *Refer to the buffering procedures on page 24.*
- If you have no source data for the stream, place a poly-point in the center of the smallest area consistent with the water right document and/or map and select “Unable to locate” as the feature_quality_code.

Single-Line Stream

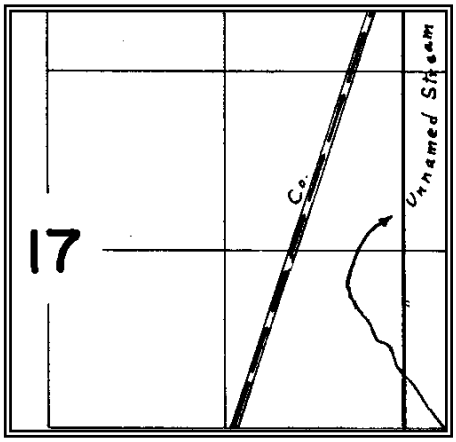


Figure 12

Single Polygon

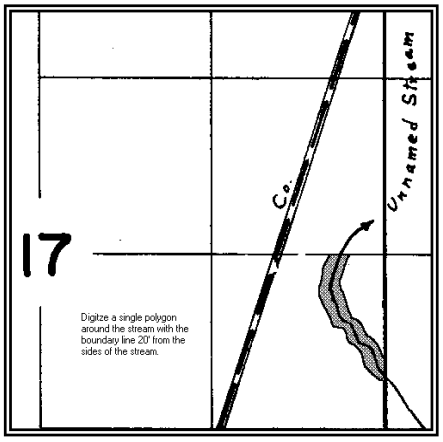


Figure 13

Double-banked Stream

- If the stream shown on the map is a double-banked stream (Figure 14), create a polygon by tracing the stream arcs from existing stream data and adding arcs at both ends of the reach. (Figure 15). Enter ‘PLACED USING EXISTING 24K STREAM DATA’ in the Remarks field of the attribute table.
- If existing stream data is unavailable and the double-banked stream is visible on the DRG/imagery, digitize a polygon from the DRG/imagery. Enter ‘PLACED USING DRG’ or ‘PLACED USING <*year*> IMAGERY’ in the Remarks field of the attribute table.
- If the stream is not visible on the DRG/imagery, georeference the water right map and digitize a polygon from the map.
- If you have no source data for the stream, place a poly-point in the center of the smallest area consistent with the water right document and/or map. Select “Unable to locate” as the feature_quality_code.

Double-banked Stream

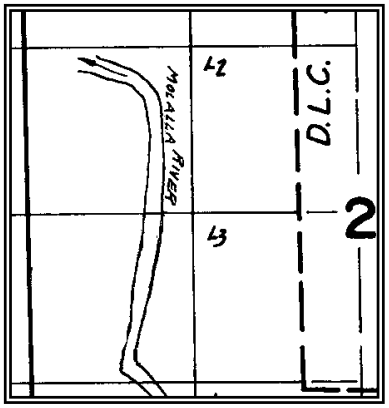


Figure 14

Polygon

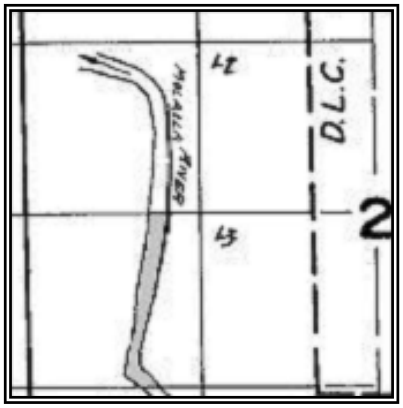


Figure 15

When the Use is Road Watering, Log Road Sprinkling Etc.

- If the water right file has information that clearly identifies the road to be watered, a polygon representing the road may be created by buffering existing 24K roads data. Copy existing road arcs into the temp_arcs layer and create a 20-foot buffer around them. *Refer to the buffering procedures on page 24.* Enter 'PLACED BY BUFFERING EXISTING ROADS DATA' in the Remarks field of the attribute table.

- If there is no existing data, check to see if the road is visible on the DRG or imagery. In the temp-arcs layer, digitize the centerline of the road. Create a 20-foot buffer around the road arcs. *Refer to the buffering procedures on page 24.* Enter 'PLACED USING DRG' or 'PLACED USING <*year*> IMAGERY' in the Remarks field of the attribute table.

- If the stream is not visible on the DRG/imagery, georeference the water right map and digitize the centerline of the road into the temp_arcs layer. Next, buffer the arcs to create a polygon. *Refer to the buffering procedures on page 24.*

- If there is no map, a poor map or it is not clear as to which roads are being watered, place a poly-point in the center of the smallest area consistent with the water right document and/or map. Select "Unable to locate" as the feature_quality_code.

If the permit/certificate states, "the filling of tank trucks for road watering" and the POD and POU location are the same, digitize a point for the POD. For the place of use polygon, create a 20-foot buffer around the POD point. If necessary, move the point and polygon to match the hydrography.

The above procedure for the tank trucks also applies to rights where the map or correspondence indicates a similar situation. **Example: Permit S-81241 was issued for fire protection and road construction. The POU and POD on the map were represented by an asterisk and wording on the map seemed to indicate that POU and POD locations were at that point. In addition, correspondence in the file indicated that WRD staff requested that the POU location be the location of a fire hydrant.**

When the Place of Use is a Stock Trough
For each stock trough, digitize a circle with a 20' radius.

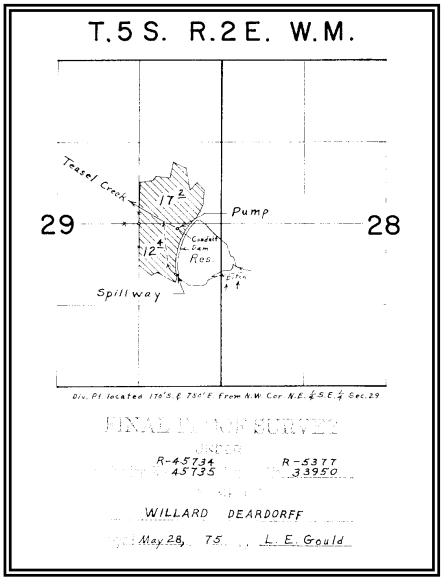
Decreed Rights with Irrigation, Livestock & Domestic Uses (Formerly Use Code I*)
If the uses for a decreed right are IR, LV and DO (Irrigation, Livestock and Domestic) and only the irrigated acres can be mapped:

1. Digitize the polygons for the IR use from the decree map. Select ‘Best representation of available water right map’ as the feature_quality_code. Enter ‘DECREE MAP’ in the Remarks field.

2. Copy the irrigation polygons for both the livestock and domestic uses. Update the pou_use_ids in the g_POUs attribute table. Select “Unable to locate” as the feature _quality_ code. Enter ‘DECREE MAP’ in the Remarks field.

Reservoir With Associated Surface Water Rights
A reservoir right that is not associated with a House Bill (HB2153, HB2376) will usually have an associated surface water right (meaning a secondary application for the use of the stored water). An associated surface water right to a reservoir will usually, but not always, have a consecutive application number to that of the reservoir right. Usually on the front of the file for the reservoir right there will be a reference, i.e. See File ####, to the surface water right and vice versa.

Digitize these rights together**. Often there will be a map (Figure 16) in one or both of the files that reflects both rights. You can use this map for digitizing both rights. Digitize the polygon for the reservoir and the polygon(s) for the surface water right.



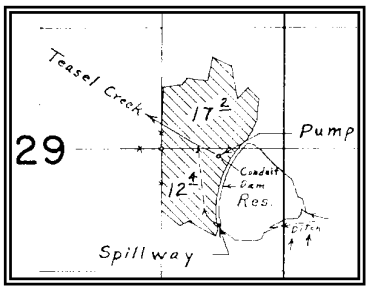


Figure 16 (enlarged)

Figure 16
Final Proof Survey Map
For a Reservoir and
Associated Surface
Water Right.

****** If digitizing the surface or reservoir separately use the following guidelines:

- If digitizing the reservoir only, the hierarchy is 24K hydrography, DRG, imagery, FPS. Do not worry about overlapping the surface right in SDE.
- If digitizing the surface right only, use the FPS. Do not worry about overlapping the reservoir right in SDE.

HB2153 and HB2376 Reservoirs
HB2153 and HB2376 (Alternative Review Process) rights historically were not digitized due to time constraints and poor map quality. However, as of July 2002, these rights are being digitized as part of the update process.

For reservoirs associated with HB 2153, HB 2376 (Alternative Review Process), cross-reference the map in the file with available base layers. Reservoirs will be digitized from base layers when

possible. The hierarchy is DRG, imagery, Water Right Map as described below. ***Enter the reservoir type in the Remarks field of the attribute table (i.e. HB2153, HB2376).***

1. Note the location and name of the reservoir as listed on the permit/certificate. The reservoir name may appear on the corresponding DRG. If the location and reservoir name are the same on the permit/certificate and the DRG, digitize the reservoir from the DRG. If an unnamed reservoir appears on the DRG and it can reasonably be determined that it is the correct reservoir, digitize the reservoir from the DRG. Enter 'PLACED USING DRG' in the Remarks field of the attribute table. **Note: Compare the DRG to the imagery. In *some* cases, the imagery better represents the right. However, the majority of reservoirs will be digitized from the DRG.**

2. If the reservoir is not on the DRG and can be *clearly* seen on the imagery, digitize the reservoir from the imagery. Enter 'PLACED USING <*YEAR*> IMAGERY' in the Remarks field of the attribute table.

3. If the reservoir is not clear on the DRG or imagery but you are able to place the POD by the legal description, the POU may be placed relative to the POD.

    - For reservoirs where the source is runoff or a stream, a circle with a 40' radius may be digitized on the upstream side of the POD. Enter 'APPROX; PLACED BY POD MEASURED DISTANCE' or 'APPROX; PLACED BY POD B&D' in the Remarks field of the attribute table.

    - For reservoirs where the source is a spring or the upstream side cannot be determined, create a 40' buffer around the POD point. Enter 'PLACED BY BUFFERING POD' in the Remarks field of the attribute table.

4. If the reservoir itself is not clear on the DRG or imagery, but you can approximately place the reservoir by cross-referencing items on the application map (roads, streams etc.) with the DRG or imagery, digitize a circle with a 40' radius and enter the appropriate Remarks:
    APPROX; PLACED BY CROSS-REFERENCING MAP WITH DRG
    APPROX; PLACED BY CROSS-REFERENCING MAP WITH <*year*> IMAGERY'

5. If the reservoir cannot be mapped from the base layers, geo-reference the map to determine placement of the reservoir. If the map is of poor quality (scale appears to be way off etc.), consider digitizing poly-points for the right as described below under #7.

6. For rights with multiple reservoirs under one pou_use_id: If you cannot locate all the reservoirs on the map or base data, digitize polygons for the reservoirs you can locate. For the reservoirs you can't locate, digitize a poly-point for each unique location. Merge the polygons and poly-points under appropriate pou_use_ids. Select "Partially mapped" as the feature_quality_code. Note the reservoirs that could not be located in the Remarks field of the attribute table (i.e. UTL RES 1, 5 & 7; UTL JONES RES).

7. If the right absolutely cannot be mapped, digitize poly-points for each unique location. Merge poly-points under appropriate pou_use_ids. Select "Unable to locate" as the feature_quality_code. Enter the reservoir type i.e. 'HB2153', 'HB2376' in the Remarks field.

Note: If necessary, move the reservoir POU polygon and POD point to match the hydrography. Example: The map is poor but clearly shows the reservoir is in the channel of a stream. The reservoir is digitized based on the above guidelines but appears to be off-channel based on the location of a stream on the DRG or imagery. Move the reservoir to the stream.

BLM Reservoirs
The Bureau of Land Management has constructed many small reservoirs for livestock and wildlife. Some maps for these reservoirs are of poor quality. Other BLM maps utilize a reservoir symbol that does not reflect the actual size or shape of the reservoir. Many BLM reservoirs are associated with HB2153 or HB2376.

For BLM reservoirs, cross-reference the map in the file with available base layers. Then digitize the reservoir according to the guidelines in the previous section.

Decrees
A decree is a right that pre-dates the 1909 water right laws. If water was used prior to enactment of the 1909 laws and had been used continuously since then, a property owner could declare a claim to a vested water right. A claim to a vested water right was determined and made a matter of record only through a legal process known as an adjudication proceeding. The court then issued a decree, which stated who had the right to use water, the amount and location of water use and the priority date for each right.

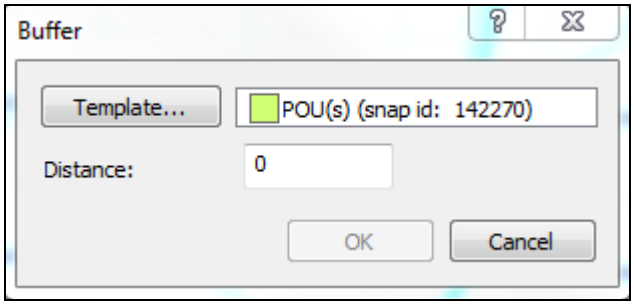
Decreed rights are digitized from the decree maps. However, these maps rarely depict what was actually allowed in the decree. Decree maps were drawn prior to the court proceedings and reflect the original claim of water and not the court findings. The decree maps were not corrected following the court proceedings to reflect the allowed uses and acreage. In addition, the decree certificate is often difficult to interpret and may lack specific point of diversion or place of use location information. Therefore, decrees are difficult to represent accurately and are digitized using a “best judgment” philosophy. For decrees that do not have a map, use your best judgment from the certificate to map out the right. Many decree POUs can be partially mapped, some cannot be mapped. For these decrees, digitize poly-points for each unique location. Merge poly-points under appropriate pou_use_ids. Select “Unable to locate” or “Partially mapped” as the feature_quality_code. For all decreed rights where the source data is a decree map, enter ‘DECREE MAP’ in the Remarks field.

Instream Rights
For the g_POUs feature class, create a polygon based on the description of the reach in the PODs info of the Proofing Report. Use 1:24,000K hydrography data and the buffer tool in ArcMap to place a 10- foot buffer around the entire stream segment and use the “cut polygon” tool to trim the ends to fit the beginning and end of the specified reach. Attribute the table with the pou_use_id. Enter ‘PLACED BY BUFFERING EXISTING 24K STREAM DATA’ in the Remarks field of the attribute table.The point of diversion should be placed at the upstream reach of the polygon and the g_pods table attributed with the pod_location_id.

Buffering to Create a POU for In-stream/Road Watering Use

Select the stream/road you wish to buffer.

To create a 10-foot buffer on a stream or a 20-foot buffer on a road, click on the “Editor” button and select “Buffer…”. Make sure that the POU target theme is listed to the right of the “Template…” button. Below the target theme type in the distance to buffer and hit “OK”.



Now that the buffered poly has been added to your POU(s) layer, you will need to use the “cut polygon” task to define your instream reach. Make sure the Target layer is POU(s).
Click the sketch tool. (If the tool isn’t lit it could be because there are too many selected features. Make only the POU(s) layer selectable.)

Save your edits.

8. Update g_POUs Attribute Table.

Attribute data should be entered in uppercase letters.

New POUs

When you have finished digitizing a new POU, fill in the following fields of the attribute table: pou_use_id, snp_id, technician_initials, agency, date_added, feature_quality_code, delta_size and remarks. The pou_use_id and snp_id can be cut and pasted from the Water Rights Proofing Report.

Existing POUs

If you copy an existing POU and you make a change to any existing attribute, update the technician_initials, agency, and date_added fields. Enter the feature_quality_code and enter 'COPIED FROM EXISTING DATA' in remarks.

Example:

Pod_use_id	Snp_id	Technician_initials	Agency	Date_added	Date_reviewed	Feature_quality_code	Delta_size	Remarks
1854	17890	AB	OWRD	02/19/2003		Best representation of available water right map	2.5	OVERAGE IN NENW

Pou_use_id – The unique number assigned to a POU use within the WRIS database. This number may be cut from the Water Rights Proofing Report and pasted into the attribute table.

Snp_id – The unique number representing a snapshot within the WRIS database. A snapshot represents the state of a water right in a point and time. This number may be cut from the Water Rights Proofing Report and pasted into the attribute table.

Technician_initials– The initials of the technician who digitized the right.

Agency – The agency responsible for digitizing the right.

Date_added – The date the right is added to the geodatabase.

Date_reviewed – The date the right is reviewed and committed to SDE. Automatically populated when a right is committed to SDE.

Feature_quality_code – A field to record the quality of a mapped feature. See Appendix H, page 67.

Delta_size – A field to record the difference, in acres, between features as they are mapped on the water right map and as they are recorded in WRIS. This field is also used to record unmapped acreage amounts. See Appendix H, page 64.

Remarks- A field to record clarifying information as outlined in the procedures. See Appendix G, page 66 for Remarks standards.

9. Digitize/Edit the Point(s) of Diversion (PODs).

Definition of the Point of Diversion
The point of diversion is the point at which the water for the right is being appropriated from the source for beneficial use.

General Instructions

- If using the water right map for placement, locate the POD(s) on the map. Use the description of the source of water from the corresponding permit or certificate to help you find the PODs. For surface water rights, the point of diversion may be on a stream, spring, lake or other surface water source (Figures 17 & 18). Generally the POD will be clearly labeled on the map as 'POD' or 'Point of Diversion'. The point of diversion for a groundwater right will be either a well or a sump (Figure 19) and is usually labeled as such. Generally a reservoir's point of diversion will be at the dam (Figure 20). *For more information regarding digitizing reservoir PODs see reservoir section below*.

Surface Water Spring POD

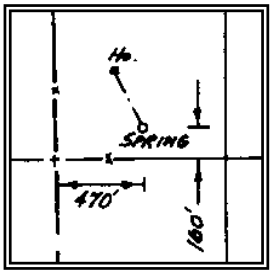


Figure 17

Surface Water Stream POD

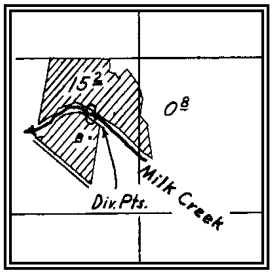


Figure 18

Groundwater

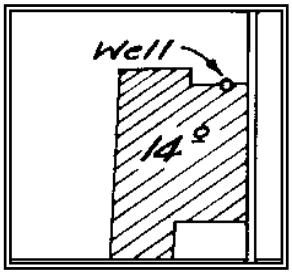


Figure 19

Reservoir

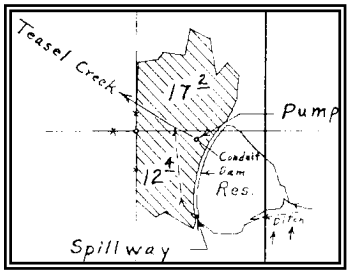


Figure 20

- There may be multiple points of diversion for a right. Make sure each digitized POD point is assigned the correct pod_location_id in the g_PODs attribute table. See Figures 21 & 22 which show two PODs on the map and their corresponding records in WRIS. For the diversion point in the NWSE of section 29,a pod_location_id of 71012 would be entered in the g_PODs attribute table. For the diversion point in the SWSE, a pod_location_id of 71013 would be entered in the g_PODs attribute table.

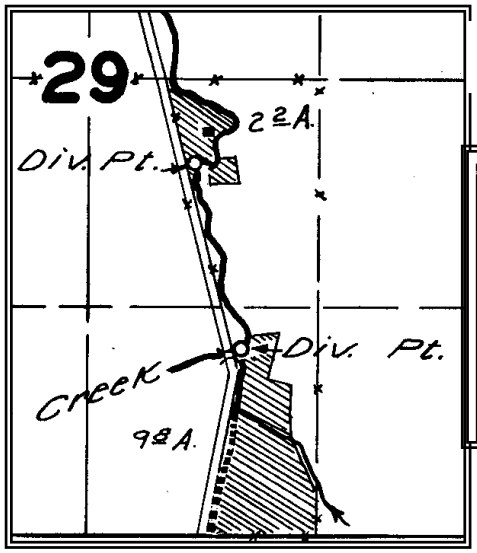


Figure 21

PODs

POD Loc ID	POD Nbr	POD Name	Source Type	Source	Tributary to	Location (T-R-S-QQ)	DLC/Lot	River Mile	Lat	Long	GPS Hrztl Err	Legal Description	P/S	Storage Flow	Max Rate	Rate	Max Acre Feet	Acre Feet	Surface Elevation	Status	Remarks
71012	1		ST	ROCK CR	PUDDING R	5.0S-2.0E-29-NWSE WM							P		0.15	0.15				NC	

Uses from this Point of Diversion

Use	P/S	Priority Date	Start Date	End Date	Duty	Limit	Max Rate	Rate	Max Acre Feet	Acre Feet	Surface Elevation	Households	Status	Remarks
IR	P	07/29/1944	1/1	12/31	1/80	2.5	0.15	0.15					NC	

POD Loc ID	POD Nbr	POD Name	Source Type	Source	Tributary to	Location (T-R-S-QQ)	DLC/Lot	River Mile	Lat	Long	GPS Hrztl Err	Legal Description	P/S	Storage Flow	Max Rate	Rate	Max Acre Feet	Acre Feet	Surface Elevation	Status	Remarks
71013	2		ST	ROCK CR	PUDDING R	5.0S-2.0E-29-SWSE WM							P		0.15					NC	

Uses from this Point of Diversion

Use	P/S	Priority Date	Start Date	End Date	Duty	Limit	Max Rate	Rate	Max Acre Feet	Acre Feet	Surface Elevation	Households	Status	Remarks
IR	P	07/29/1944	1/1	12/31	1/80	2.5	0.15	0.0 (est)					NC	

Figure 22

- If the POD is not on the water right map but bearing and distance information for the POD is listed on the permit or certificate, use the legal description and the g_PODs Traverse tool to place the POD. Note: If a surface water POD is placed by the legal description and does not appear to be on the source, the POD may be moved to match 24K hydrography. To determine whether to move a POD to match 24K hydrography, view the POD at a 1:10,000 scale. In ArcMap, click on the Map Scale dropdown arrow in the Standard toolbar. Choose 1:10,000. If the POD appears to be on the source, do not move it. *If PODs are adjusted to base layers, enter appropriate remarks as outlined in Appendix G.*

  Placing a POD With a Measured Distance From a Corner

  1. Click on POD(s) in the Table of Contents. This activates the g_PODs Traverse Tool.
  2. Click on the Traverse tool. ( )
  3. In the Display Area, left-click on the desired corner.
  1. Enter values into the Distance Offset Tool window.
  2. Click OK.
  3. The tool places the point in the g_PODs feature class, activates the Attributes window for entry of attribute data and populates the Remarks field with 'MEASURED DISTANCE'.
  4. Enter attribute data as described on page 33.
  5. Save your work

  Placing a POD With an Angle Bearing and Distance

  2. Click on POD(s) in the Table of Contents. This activates the g_PODs Traverse Tool.
  3. Click on the Traverse tool. ( )
  4. In the Display Area, right-click on the desired corner.
  5. In the Bearing and Distance Tool window, enter bearing and distance data.
  6. Click OK.
  7. The tool places the point in the g_PODs feature class, activates the Attributes window for entry of attribute data and populates the Remarks field with 'B&D'.
  8. Enter attribute data as described on page 33.
  9. Save your work.

- There are times when it will be more feasible and accurate to copy existing points than to digitize new points. The following examples outline instances in which you will need to copy a point:

  1) There is existing migrated and/or legacy data for the water right*. Note: Do not assume that all existing data is correct as it stands. The points or attribute data may need adjustment.* Use your judgment to determine if the data can be utilized or if it would be more feasible to re-digitize the feature.

     If there is existing data available, make the layer you want to copy *from* selectable. Then select the point you want to copy. Use the copy and paste buttons on the ArcMap standard toolbar to copy the existing point. Follow guidelines for updating attribute data on page 33.

  2) It is clear that multiple PODs from a single water right share the exact same location.

     OR

Multiple rights, such as a reservoir right and associated surface water right, share the exact same POD.

In these cases, digitize the first point. Use the Edit tool and the Copy and Paste buttons on the ArcMap standard toolbar to copy the digitized point. Since this function also copies the attribute data of the original point, be sure to update the attribute values as needed.

"Unable to Locate" PODs

"Unable to locate" PODs include, for example, the PODs for rights where there isn't a map available in the file, the map doesn't give sufficient information to locate the feature, there is no legal description in WRIS or on the water right document and the POD can't be approximated.

- First, determine if there is a file for a corresponding supplemental or associated right referenced on the water right file. This file may contain a map or other information that will help you determine POD placement.

  - If the POD still cannot be located, place a point in the center of the smallest area consistent with the water right document and/or map. For surface water rights, place the point on the stream whenever possible. Select "Unable to locate" as the feature_quality_code.

Examples:

- The smallest area described on a surface water right document is the NENE. The source is Mill Creek. If Mill Creek is visible in that quarter quarter on the base layers, place the point at the midpoint of the stream within the quarter quarter. If no hydro is available, place the point in the center of the quarter quarter. Select "Unable to locate" as the feature_quality_code.

- The smallest area described on a groundwater right document is a section. There is no other information on the map or base layers that can further narrow down the location. Place the point in the center of the section. Select "Unable to locate" as the feature_quality_code.

When the Source is Portable Pumping

If the water right defines the source as portable pumping, digitize the POD at the midpoint of the stretch of stream affected and enter 'PORTABLE PUMPING' in the Remarks field of the g_PODs attribute table.

When the Source is a Sump

If the water right defines the source as a sump, the POD is generally placed in the middle of the sump/reservoir. Enter 'SUMP' in the Remarks field of the g_PODs attribute table.

When the Use is Stock Drinking from Stream

If the place of use for livestock is within the stream, and there is no POD location specifically identified for the livestock use on the permit or certificate, place the POD at the upstream reach of the stream-buffered area.

Instream Rights

The point of diversion should be placed at the upstream reach of the polygon and the g_PODs table attributed with the pod_location_id.

Reservoirs
If a reservoir is on a stream, then the POD is almost always on the downstream side of the reservoir at the dam location. The POD point should be placed at the base of the dam where the stream exits the reservoir. If no stream is visible or it is difficult to make a determination, the POD point should be placed at the center of the dam. Enter 'APPROX; PLACED BY CROSS-REFERENCING MAP WITH <*year*> IMAGERY'.

- If a legal description for the POD is on the map or water right document, use the legal description and Traverse tool to place the POD. If it appears the POD should be moved to match other base layers for a better visual representation, move the POD and note in the Remarks field of the attribute table. Record the base layer the POD was matched to. Example: 'MEASURED DISTANCE; MOVED TO MATCH DRG'

- For larger reservoirs, the POD should be placed in the center of the 'dam', or on the 'dam' at the stream centerline, unless otherwise specifically designated.

Use the following guidelines to help you determine the downstream side of a reservoir:

- **Contour lines on the DRG** - where contour lines form a point that is pointing upstream
- **Elevation** - Some contour lines are marked with the elevation i.e. 4900 = 4900 ft above sea level. Compare elevations in the area around the reservoir to determine a downhill slope of the land.
- **Stream flow** -Tributaries usually form a sort of arrow pointing downstream.

- If a reservoir is off-channel the POD may be located where a ditch or canal takes off from a stream. If the permit or certificate lists POD locations at the stream *and* at the dam, digitize both points.

- The Department of the Interior (Bureau of Land Management) and the Department of Agriculture (Forest Service) has constructed many small reservoirs for the use of wildlife and stock. If the reservoirs are spring fed, the POD can be placed anywhere within the reservoir. If runoff is the source for a small reservoir, determine the direction of flow and place the POD on the downstream side of the reservoir. If the downstream side cannot be determined, the POD may be placed in the center of the reservoir.

Surface Water Rights Where the Source Includes a BLM/BOR Project Reservoir
Sometimes the source for a surface water right is stored water from a BLM/BOR Project reservoir. Water is released from the reservoir and re-diverted downstream from the reservoir. Names and location information for these reservoirs are often omitted from the water right document. Use the BOR/BLM Project Lakes tool to help you determine which reservoirs are feeding the re-diversions and to facilitate placement of the stored water POD.

- In ArcMap, load your snapshot with the WR Edit tool.
- Make sure the Streams (24K) and the Lakes (24K) layers are visible. If the layers are checked in the table of contents but you are unable to view them, you may need to adjust the scale range. Right-click on the layer in the Table of Contents. Click on Properties. Click on the General tab. Under Scale Range, choose 'Show layer at all scales'.
- Place the re-diversion point (live flow POD).
- Click on the Locate BOR/BLM Project Lakes tool. ( )

- Click on the Streams (24K) layer at the re-diversion point. The tool will highlight all reservoirs that are possible sources of the stored water and will place a red X at the re-diversion point.
- Trace the stream from the re-diversion point to highlighted reservoirs that are ***upstream*** from this POD.
- **Determine which reservoirs are actual sources.**
- **Place the stored water POD(s) at the base of the dam(s) using the BLM/BOR location sheet in conjunction with a DRG.** *See S:\groups\ts\is\datatech\NewWris\BLM BOR Project Reservoirs.doc for BLM/BOR sheets.*

Reservoirs with Associated Surface Water Rights
Reservoirs and their associated surface water rights may have different PODs. Use the description of the source of water from the permit or certificate to determine the location of the POD.

If the description of the source of water, for the associated surface water right, is the STORED WATERS of a reservoir, then the POD should be placed at the base of the reservoir (usually a dam). If the description calls for the same source as the reservoir (i.e. Big Creek) then both rights will use the same POD.

Stacking PODS
Sometimes, when placing a new POD, you will notice that there are existing PODs in SDE that, based on locational information, are the same POD as the new one. The new and existing PODs should be stacked according to the following guidelines.

- The new POD should be placed in the most accurate location regardless of the placement of the existing pods.
- If there are three or less existing PODs that share the same locational info as the newly - placed POD, the existing PODs should be moved. Notify a staff person with edit privileges in SDE (lead worker or GIS staff person). They will move the existing PODs in SDE and update the date_added, date_reviewed, and technician_initials fields in the attribute table.
- If there are more than three existing PODs, place the new POD in the correct location and do not move the existing PODs.

10. Update g_PODs Attribute Table.

Attribute data should be entered in uppercase letters.

New PODs

When you have finished digitizing a new POD, fill in the following fields of the attribute table: pod_location_id, snp_id, technician_initials, agency, date_added, feature_quality_code and remarks. The pod_location_id and snp_id can be cut and pasted from the Water Rights Proofing Report.

Existing PODs

If you copy an existing POD and you make a change to any existing attribute, update the technician_initials, agency, and date_added fields. Enter the feature_quality_code and enter 'COPIED FROM EXISTING DATA' in remarks.

Example:

Pod_location_id	Snp_id	Technician_initials	Agency	Date_added	Date_reviewed	Feature_quality_code	Remarks
1854	17890	AB	OWRD	02/19/2003		Best representation of available water right map	COPIED FROM EXISTING DATA

Pod_location_id – The unique number assigned to a pod within the WRIS database. This number may be cut from the Water Rights Proofing Report and pasted into the attribute table.

Snp_id – The unique number representing a snapshot within the WRIS database. A snapshot represents the state of a water right in a point and time. This number may be cut from the Water Rights Proofing Report and pasted into the attribute table.

Technician_initials– the initials of the technician who digitized the right.

Agency – the agency responsible for digitizing the right.

Date_added – the date the right is added to the geodatabase.

Date_reviewed – the date the right is reviewed and committed to SDE. Automatically populated when right is committed.

Feature_quality_code – A field to record the quality of a mapped feature. See Appendix H, page 67.

Remarks- a field to record clarifying information as outlined in the procedures. See Appendix G, page 66 for Remarks standards.

Digitizing Transfers

Definition of a Transfer
A transfer involves a change in the point of diversion, rate of use, place of use, or type of use of a water right. Oregon law specifies that a water right remain with the land on which it was established, and that the water must be used as specified in the certificate. It exists only for the amount of water, type of use and place of use described in the water right certificate. State law requires that a transfer application be filed with the Oregon Water Resources Department to change either the rate of use, place of use, point of diversion, type of water use or any combination of these four.

The Transfer Process

An application for a permanent transfer requires a map prepared by a Certified Water Rights Examiner (CWRE). The applicant must fill out an application form describing the current water right and the proposed change. The application must also provide evidence of water use, land ownership, and in most cases, compliance with local land use plans. The water must continue to be used in accordance with the current water right until the transfer is approved.

Part of the approval process (Figure 23) is determining if the proposed change will injure other water rights. The public is offered a chance to comment and protest if an existing water right would be injured. Only protests that claim injury to another water right can be accepted. The Department may attach conditions to an approval order to eliminate potential injury to other water rights. If conditional approval will not eliminate injury, the application is denied.

After the transfer is approved, the applicant must make the change within a specific time period. In the case of a change in use or place of use, any portion of the water right involved in the transfer that is not changed, within the specified time, is lost.

The order approving the transfer may cancel the original certificate. If any part of the original right is left over, a remaining right certificate will be issued for that portion.

Following completion of the change, the CWRE must prepare a final proof map and a report to be submitted with the applicant's claim of beneficial use describing the completed change and the extent of the modified water right. A new water right certificate will be issued to confirm the modified water right.

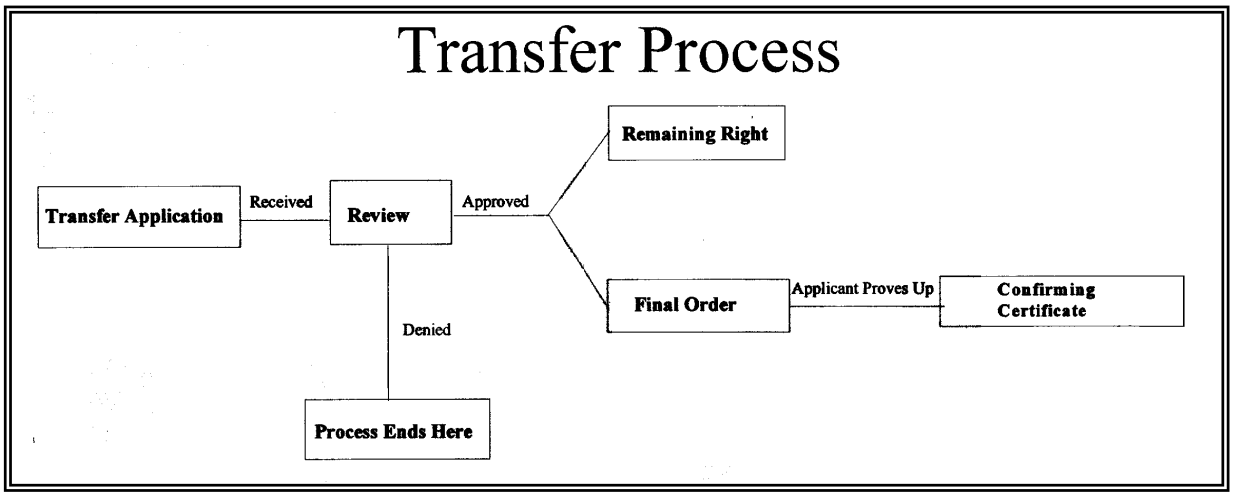


Figure 23

Digitizing the Transfer

The proofing report does not portray the sequential steps of a transfer, but merely the current status. Therefore it will take some research to determine what the original right was, how the transfer affected it and how to digitize the current status of the right. Multiple transfers may exist from the same right.

Transfers vary in complexity. Therefore it is difficult to provide specific instructions and examples for every type of transfer. This section will provide general steps in digitizing a transfer as well as an example of how one transfer was handled. The intent is to provide a general look at the resources that can be used to determine how to digitize the right.

1. Locate the Special Order Approving the Transfer

The transfer file should contain a copy of the signed 'Special Order' (Figure 25) approving the transfer. The front of the file will list the date this order was signed. If the file doesn't contain a copy of the Special Order, you may be able to access an image of the order through the water rights proofing report. Hard copies of the orders are located in the vault on the first floor.

The special order will describe the original right, the portion of the right being modified and the type of change(s) being made. If the special order doesn’t fully describe the original right, check the FPS map for the transfer to see if it records the original right as well as the change being made. Also check associated files as described below. They may provide copies of the original certificate or maps of the original right. (Figures 26&27)

2. Locate Associated Files

The front of the transfer file may reference associated files necessary to process the transfer. Check to make sure that you have these files. If any of these files are missing, notify OWRD. These files may provide maps or copies of the original certificates that would be helpful in digitizing the right.

3. Locate Transfer Map(s)

Locate the transfer map (Figure 24) in the file. Check the map for the transfer to see if it records the original right as well as the change(s) being made. If the map does not reflect the original right, use the special order, associated files, copies of the original right, and maps of the original right to determine POU and or POD placement. For example, in the figure below, the map only shows the new point of diversion. It does not show where the water is being used or what the use is. Further research of the original right is needed in order to digitize the current right.

Final Proof Survey Map

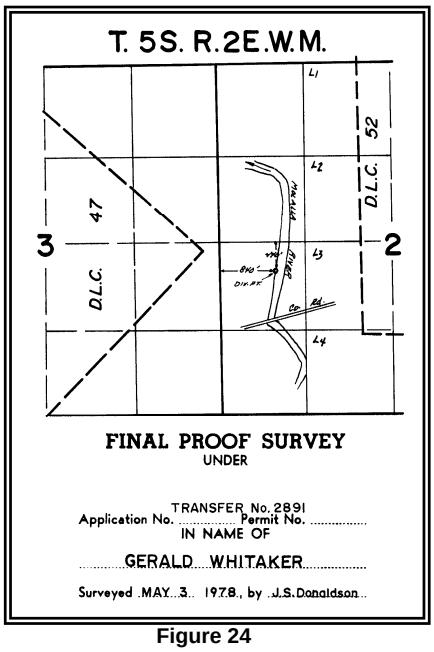


Figure 24

4. Digitize the Place of Use
Once the place of use has been determined, digitize the POU polygons and record attribute data.

If the transfer involves modifying only a portion of the original right, make sure the portion of the right not involved in the transfer is accounted for.

- For example: The original right's place of use is 8.0 acres. A transfer is moving 3.0 acres to a new location. A confirming right will be issued for those 3.0 acres. A remaining right certificate will be issued for the 5.0 acres left over from the original right. Make sure all acreage for both the confirming and remaining rights is accounted for when digitizing the POU.

5. Digitize the Point(s) of Diversion
Digitize the point(s) of diversion and record attribute data.

If the transfer involves adding a new point of diversion, make sure the existing points of diversion are digitized as well as the new POD.

- For example: The original right had three PODs. The transfer added one POD. Four PODs need to be digitized to reflect the current status of the right.

If WRIS and the permit/certificate contain no location or only reference a ditch *but* the map or order lists an authorized POD location, digitize the authorized POD and note "AUTHORIZED POD" in the Remarks field of the g_PODs attribute table.

Example
The following example is for Transfer 2891 and provides a general look at resources that were used to determine how to digitize the rights involved in the transfer.

Transfer 2891 modified three different rights, certificates 20659, 24639 and 24784. However, the final proof survey map for the transfer only reflected the new point of diversion that services these rights. It did not reflect the location or acreage of the place of use.

Since the transfer involved a change in point of diversion only, the original place of use was not modified as a result of the transfer. Therefore, the place of use could be digitized from copies of final proof survey maps of the original right that were found in the transfer file. To determine the place of use, these maps were compared with copies of the original certificates. Once it was verified that these maps correctly reflected the place of use listed on the certificates, the place of use polygons were digitized using these maps. The new point of diversion was digitized from the final proof survey map for the transfer.

Figures 25, 26 and 27 are graphics of the special order, original certificates, and maps used to digitize this transfer.

- Figure 25: This is the special order approving the transfer. The order approved a change in the point of diversion. Compare the information contained in this order against the original and confirming certificates and maps in Figures 26 & 27.

- Figure 26: These are the confirming certificates compared against the original certificates. Note the change in point of diversion as approved by the transfer order. The place of use remains the same.

- Figure 27: These are the maps used to digitize the transfer. Also included in this figure is the digitized right.

  The new point of diversion was digitized from the final proof survey of the transfer. Since this pod services all three rights, it should be digitized once and copied twice. Attribute

records should be updated to reflect pod_location_ids and snp_ids for each of the three rights.
The place of use for each confirming right was digitized from the final proof survey maps of the original rights.

Figure 25: Special Order Approving a Transfer- Pg. 1 of 2

BEFORE THE STATE ENGINEER OF OREGON

Clackamas County

IN THE MATTER OF THE APPLICATION)
OF GERALD WHITAKER FOR THE APPROVAL)
OF A CHANGE IN POINT OF DIVERSION OF)
WATER FROM MOLALLA RIVER)

ORDER APPROVING
TRANSFER NO. 2891

Transfer Number

On August 24, 1973, Gerald Whitaker filed an application in the office of the State Engineer for the approval of a change in point of diversion of water from Molalla River, pursuant to the provisions of ORS 540.510 to 540.530.

Type of change involved in the transfer.

Certificate of water right issued to Gerald Whitaker and recorded at Page 20659, Volume 15, State Record of Water Right Certificates, confirms a right to the use of not to exceed 0.11 cubic foot per second of water from Molalla River for the irrigation of 8.8 acres in NW¼ SW¼, Section 2, Township 5 South, Range 2 East, W.M., with a date of priority of April 18, 1949.

Certificate of water right issued to Gerald and Caroline E. Whitaker and recorded at Page 24639, Volume 17, State Record of Water Right Certificates, confirms a right to the use of not to exceed 0.17 cubic foot per second of water from Molalla River for the irrigation of 13.2 acres in SW¼ NW¼, Section 2, and 0.8 acre in SE¼ NE¼, Section 3, Township 5 South, Range 2 East, W.M., with a date of priority of August 14, 1950.

Certificate of water right issued to Gerald Whitaker and recorded at Page 24784, Volume 17, State Record of Water Right Certificates, confirms a right to the use of not to exceed 0.12 cubic foot per second of water from Molalla River for the irrigation of 12.0 acres in NW¼ SW¼, Section 2, Township 5 South, Range 2 East, W.M., with a date of priority of June 3, 1955.

Original certificate data including certificate number, rate, use, source, acreage, location and priority date.

Figure 25: Special Order Approving a Transfer-Page 2 of 2

All of the above described lands are irrigated from a point of diversion located 600 feet South and 900 feet East from the West quarter-corner of Section 2, being within the NW¼ SW¼ of Section 2, Township 5 South, Range 2 East, W.M.

The applicant herein, owner of the lands above described, proposes to irrigate these lands from a point of diversion to be located 500 feet South and 900 feet East from the West quarter-corner of Section 2, being within the NW¼ SW¼, Section 2, Township 5 South, Range 2 East, W.M.

Mr. E. Michael Ricks, Watermaster of District No. 16, has filed a statement to the effect that the proposed change in point of diversion may be made without injury to existing rights.

No objection having been filed and it appearing that the proposed change in point of diversion may be made without injury to existing rights, the application should be approved.

NOW, THEREFORE, it hereby is ORDERED that the requested change in point of diversion from Molalla River as described herein, without loss of priority, is approved.

It is FURTHER ORDERED that the quantity of water diverted at the new point of diversion shall not exceed the quantity of water available at the old point of diversion under the rights involved herein.

It is FURTHER ORDERED that the following provisions shall be effective when in the judgement of the watermaster it becomes necessary to install headgates and measuring devices:

> That the diversion works shall include an in line flow meter, a weir, or other suitable device for measuring the water to which the applicant is entitled;
>
> That the type and plans of the measuring device be approved by the watermaster before the beginning of construction work and that the weir or measuring device be installed under the general supervision of said watermaster.

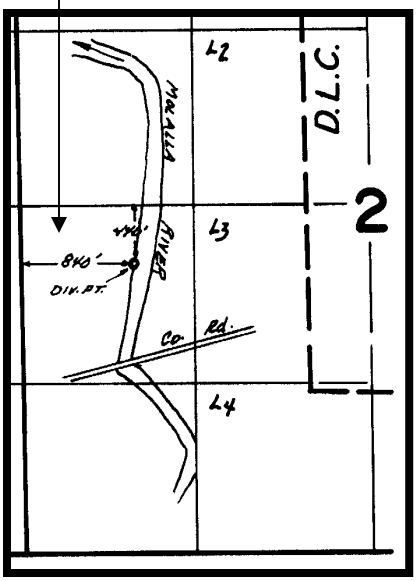
It is FURTHER ORDERED that the construction work shall be completed and the change in point of diversion of water made on or before October 1, 1974.

It is FURTHER ORDERED that the certificate of water right heretofore issued to Gerald Whitaker and Caroline E. Whitaker and recorded at Page 20659, Volume 15, and Pages 24639 and 24784, Volume 17, State Record of Water Right Certificates, are canceled, and upon proof satisfactory to the State Engineer of completion of works and beneficial use of water to the extent intended under the provisions of this order, confirming certificates of water right shall be issued to Gerald Whitaker.

Dated at Salem, Oregon, this 14th day of December, 1973.

/s/ CHRIS L. WHEELER
State Engineer

Original point of diversion



Final Proof Survey Map

Order for confirming certificates to be issued. Certificates 49649, 49650 and 49651 have since been issued.

STATUS OF APPLICATION

Change in Point of Diversion
Date filed August 24, 1973
Date of hearing
Place of hearing
Date of order 12-14-73 Vol. 23, page 444
Date for application of water 10-1-74
Proof mailed
Proof received
Certificate issued OCT 28 1980 Vol. 43, page 49649 49650 49651
2-4-74 Files

Date of Order

Transfer File

Original certificates are canceled.

Figure 26: Original & Confirming Certificates-Page 1 of 3

Superseded by Cert. No. 49651

STATE OF OREGON

COUNTY OF CLACKAMAS

CERTIFICATE OF WATER RIGHT

This Is to Certify, *That* GERALD and CAROLINE E. WHITAKER

of Route 2, Box 410, Molalla *, State of* Oregon *, has made proof to the satisfaction of the STATE ENGINEER of Oregon, of a right to the use of the waters of* Molalla River

a tributary of Willamette River *for the purpose of* irrigation of 14.0 acres

under Permit No. 19775 *of the State Engineer, and that said right to the use of said waters has been perfected in accordance with the laws of Oregon; that the priority of the right hereby confirmed dates from* August 14, 1950.

that the amount of water to which such right is entitled and hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 0.17 cubic foot per second,

or its equivalent in case of rotation, measured at the point of diversion from the stream. The point of diversion is located in the NW¼ SW¼, Section 2, Township 5 South, Range 2 East, W.M.

The amount of water used for irrigation, together with the amount secured under any other right existing for the same lands, shall be limited to one-eightieth *of one cubic foot per second per acre,* or its equivalent for each acre irrigated and shall be further limited to a diversion of not to exceed 2½ acre feet per acre for each acre irrigated during the irrigation season of each year,

and shall conform to such reasonable rotation system as may be ordered by the proper state officer.

A description of the place of use under the right hereby confirmed, and to which such right is appurtenant, is as follows:

13.2 acres SW¼ NW¼
Section 2
0.8 acres SE¼ NE¼
Section 3
Township 5 South, Range 2 East, W.M.

The right to the use of the water for the purposes aforesaid is restricted to the lands or place of use herein described.

WITNESS the signature of the State Engineer, affixed

this 15th *day of* April *, 19* 59.

Lewis A. Stanley
State Engineer

Recorded in State Record of Water Right Certificates, Volume 17 *, page* 24639

STATE OF OREGON

COUNTY OF CLACKAMAS

CERTIFICATE OF WATER RIGHT

This Is to Certify, *That* GERALD AND CAROLINE E. WHITAKER

of Route 2, Box 10, Molalla *, State of* Oregon 97038 *, has made proof to the satisfaction of the Water Resources Director, of a right to the use of the waters of* Molalla River

a tributary of Willamette River *for the purpose of* irrigation of 14.0 acres

under Permit No. 19775 *and that said right to the use of said waters has been perfected in accordance with the laws of Oregon; that the priority of the right hereby confirmed dates from* August 14, 1950

that the amount of water to which such right is entitled and hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 0.17 cubic foot per second, if available at the original point of diversion; NW¼ SW¼, Section 2, T. 5 S., R. 2 E., W.M.; 600 feet South and 900 feet East from W¼ Corner, Section 2

or its equivalent in case of rotation, measured at the point of diversion from the stream. The point of diversion is located in the NW¼ SW¼, Section 2, T. 5 S., R. 2 E., W.M.; 440 feet South and 840 feet East from W¼ Corner, Section 2

The amount of water used for irrigation, together with the amount secured under any other right existing for the same lands, shall be limited to one-eightieth *of one cubic foot per second per acre,* or its equivalent for each acre irrigated and shall be further limited to a diversion of not to exceed 2½ acre feet per acre for each acre irrigated during the irrigation season of each year

and shall conform to such reasonable rotation system as may be ordered by the proper state officer.

A description of the place of use under the right hereby confirmed, and to which such right is appurtenant, is as follows:

13.2 acres SW¼ NW¼
Section 2
0.8 acres SE¼ NE¼
Section 3
T. 5 S., R. 2 E., W.M.

This certificate is issued to confirm a change in point of diversion approved by an order of the Water Resources Director entered December 14, 1973 and supersedes certificate of water right recorded at page 24639, Volume 17, State Record of Water Right Certificates.

The issuance of this superseding certificate does not confirm the status of the water right in reference to ORS 540.610.

The right to the use of the water for the purposes aforesaid is restricted to the lands or place of use herein described and is subject to the existing minimum flow policies established by the Water Policy Review Board.

WITNESS the signature of the Water Resources Director, affixed

this date. October 28, 1980

Deputy *Water Resources Director*

Recorded in State Record of Water Right Certificates, Volume 43 *, page* 49651

Confirming Certificate: The transfer involved a change in point of diversion only. The place of use remains the same.

Figure 26: Original & Confirming Certificates-Page 2 of 3

Superseded by Cert. No. 49649

STATE OF OREGON

COUNTY OF CLACKAMAS

CERTIFICATE OF WATER RIGHT

This Is to Certify, *That* GERALD WHITAKER

of Route 2, Box 410, Molalla *, State of* Oregon *, has made proof to the satisfaction of the STATE ENGINEER of Oregon, of a right to the use of the waters of* Molalla River *a tributary of* Willamette River *for the purpose of* irrigation of 12.0 acres *under Permit No.* 23645 *of the State Engineer, and that said right to the use of said waters has been perfected in accordance with the laws of Oregon; that the priority of the right hereby confirmed dates from* June 3, 1955.

that the amount of water to which such right is entitled and hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 0.12 cubic foot per second,

or its equivalent in case of rotation, measured at the point of diversion from the stream. The point of diversion is located in the NE¼ NW¼ SW¼, Section 2, Township 5 South, Range 2 East, W.M.

The amount of water used for irrigation, together with the amount secured under any other right existing for the same lands, shall be limited to one-eightieth *of one cubic foot per second per acre,* or its equivalent for each acre irrigated and shall be further limited to a diversion of not to exceed 2½ acre feet per acre for each acre irrigated during the irrigation season of each year,

and shall conform to such reasonable rotation system as may be ordered by the proper state officer.

A description of the place of use under the right hereby confirmed, and to which such right is appurtenant, is as follows:

12.0 acres NW¼ SW¼
Section 2
Township 5 South, Range 2 East, W.M.

The right to the use of the water for the purposes aforesaid is restricted to the lands or place of use herein described.

WITNESS the signature of the State Engineer, affixed

this 1st *day of* May *, 19* 59 .

Lewis A. Stanley
State Engineer

Recorded in State Record of Water Right Certificates, Volume 17 *, page* 24784

STATE OF OREGON

COUNTY OF CLACKAMAS

CERTIFICATE OF WATER RIGHT

This Is to Certify, *That* GERALD AND CAROLINE E. WHITAKER

of Route 2, Box 410, Molalla *, State of* Oregon 97038 *, has made proof to the satisfaction of the Water Resources Director, of a right to the use of the waters of* Molalla River

a tributary of Willamette River *for the purpose of* irrigation of 12.0 acres

under Permit No. 23645 *and that said right to the use of said waters has been perfected in accordance with the laws of Oregon; that the priority of the right hereby confirmed dates from* June 3, 1955

that the amount of water to which such right is entitled and hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 0.12 cubic foot per second, if available at the original point of diversion; NW¼ SW¼, Section 2, T. 5 S., R. 2 E., W.M.; 600 feet South and 900 feet East from W¼ Corner, Section 2

or its equivalent in case of rotation, measured at the point of diversion from the stream. The point of diversion is located in the NW¼ SW¼, Section 2, T. 5 S., R. 2 E., W.M.; 440 feet South and 840 feet East from W¼ Corner, Section 2

The amount of water used for irrigation, together with the amount secured under any other right existing for the same lands, shall be limited to one-eightieth *of one cubic foot per second per acre,* or its equivalent for each acre irrigated and shall be further limited to a diversion of not to exceed 2½ acre feet per acre for each acre irrigated during the irrigation season of each year

and shall conform to such reasonable rotation system as may be ordered by the proper state officer.

A description of the place of use under the right hereby confirmed, and to which such right is appurtenant, is as follows:

12.0 acres NW¼ SW¼
Section 2
T. 5 S., R. 2 E., W.M.

This certificate is issued to confirm a change in point of diversion approved by an order of the Water Resources Director entered on December 14, 1973 and supersedes certificate of water right recorded at page 24784, Volume 17, State Record of Water Right Certificates.

The issuance of this superseding certificate does not confirm the status of the water right in reference to ORS 540.610.

The right to the use of the water for the purposes aforesaid is restricted to the lands or place of use herein described and is subject to the existing minimum flow policies established by the Water Policy Review Board.

WITNESS the signature of the Water Resources Director, affixed

this date. October 28, 1980

Deputy *Water Resources Director*

Recorded in State Record of Water Right Certificates, Volume 43 *, page* 49649

Confirming Certificate: The transfer involved a change in point of diversion only. The place of use remains the same.

Superseded by Cert. No. 49650

STATE OF OREGON

COUNTY OF CLACKAMAS

CERTIFICATE OF WATER RIGHT

This Is to Certify, *That* GERALD WHITAKER

of Route 2, Box 410, Molalla *, State of* Oregon 97038 *, has made proof to the satisfaction of the STATE ENGINEER of Oregon, of a right to the use of the waters of* Molalla River *a tributary of* Willamette River *for the purpose of* irrigation *under Permit No.* 18724 *of the State Engineer, and that said right to the use of said waters has been perfected in accordance with the laws of Oregon; that the priority of the right hereby confirmed dates from* April 18, 1949 *;*

that the amount of water to which such right is entitled and hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 0.11 cubic foot per second,

or its equivalent in case of rotation, measured at the point of diversion from the stream. The point of diversion is located in the NW¼ SW¼, Section 2, Township 5 South, Range 2 East, W. M.

The amount of water used for irrigation, together with the amount secured under any other right existing for the same lands, shall be limited to one-eightieth *of one cubic foot per second per acre,* or its equivalent for each acre irrigated and shall be further limited to a diversion of not to exceed 2½ acre feet per acre for each acre irrigated during the irrigation season of each year,

and shall conform to such reasonable rotation system as may be ordered by the proper state officer.

A description of the place of use under the right hereby confirmed, and to which such right is appurtenant, is as follows:

8.8 acres in NW¼ SW¼
Section 2
Township 5 South, Range 2 East, W. M.

Land on which water is to be used is a part of that more explicitly described by appropriator as follows:

Part of the Northwest Quarter of the Southwest quarter of Section 2, T. 5 S., R. 2 E., of W.M., described as: Beginning at a point on the quarter section line running east and west thru said Section 2, a distance of 30 rods east of the quarter section corner on the west line of said Sec. 2, thence east along said quarter section line to the center of the Molalla River; thence following the meanders of said river up stream till it intersects the south line of the northwest quarter of the southwest quarter of said Section 2; thence west along 1/16 section line to a point 26 rods east of the southeast corner of the northwest quarter of the Southwest quarter of said section 2; thence North in a straight line 80 rods, more or less, to the place of beginning, containing 16.00 acres, more or less, excepting those tracts conveyed to Clackamas County in Book 196 of deeds at page 560 and book 203 of deeds at page 378.

The right to the use of the water for the purposes aforesaid is restricted to the lands or place of use herein described.

WITNESS the signature of the State Engineer, affixed

this 31st *day of* December *,* 19 54 .

LEWIS A. STANLEY
State Engineer

Recorded in State Record of Water Right Certificates, Volume 15 *, page* 20659.

Original Certificate: This certificate was canceled by the transfer order and is superceded by the confirming certificate.

STATE OF OREGON

COUNTY OF CLACKAMAS

CERTIFICATE OF WATER RIGHT

This Is to Certify, *That* GERALD & CAROLINE E. WHITAKER

of Route 2, Box 410, Molalla *, State of* Oregon 97038 *, has made proof to the satisfaction of the Water Resources Director, of a right to the use of the waters of* Molalla River

a tributary of Willamette River *for the purpose of* irrigation of 8.8 acres

under Permit No. 18724 *and that said right to the use of said waters has been perfected in accordance with the laws of Oregon; that the priority of the right hereby confirmed dates from* April 18, 1949

that the amount of water to which such right is entitled and hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 0.11 cubic foot per second, if available at the original point of diversion; NW¼ SW¼, Section 2, T. 5 S., R. 2 E., W. M.; 600 feet South and 900 feet East from W¼ corner, Section 2

or its equivalent in case of rotation, measured at the point of diversion from the stream. The point of diversion is located in the NW¼ SW¼, Section 2, T. 5 S., R. 2 E., W. M.; 440 feet South and 840 feet East from W¼ corner, Section 2.

The amount of water used for irrigation, together with the amount secured under any other right existing for the same lands, shall be limited to one-eightieth *of one cubic foot per second per acre,* or its equivalent for each acre irrigated and shall be further limited to a diversion of not to exceed 2½ acre feet per acre for each acre irrigated during the irrigation season of each year

and shall conform to such reasonable rotation system as may be ordered by the proper state officer.

A description of the place of use under the right hereby confirmed, and to which such right is appurtenant, is as follows:

8.8 acres NW¼ SW¼
Section 2
T. 5 S., R. 2 E., W. M.

Land on which water is to be used is a part of that more explicitly described as follows:

Part of the NW¼ SW¼, Section 2, T. 5 S., R. 2 E., W.M., described as: Beginning at a point on the quarter section line running east and west through said Section 2, a distance of 30 rods east of the quarter section corner of West line of said Section 2; thence East along said quarter section line to the Center of the Molalla River; thence following the meanders of said river up stream till it intersects the South line of the NW¼ SW¼, Section 2; thence West along 1/16 section line to a point 26 rods East of the SW¼ NW¼ SW¼, Section 2; thence North in a straight line 80 rods, more or less, to the place of beginning, containing 16.00 acres, more or less, excepting those tracts conveyed to Clackamas County in Book 196 of deeds at page 560 and Book 203 of deeds at page 378.

This certificate is issued to confirm a change in point of diversion approved by an order of the Water Resources Director entered on December 14, 1973 and supersedes certificate of water right recorded at page 20659, Volume 15, State Record of Water Right Certificates.

The issuance of this superseding certificate does not confirm the status of the water right in reference to ORS 540.610.

The right to the use of the water for the purposes aforesaid is restricted to the lands or place of use herein described, and is subject to the existing minimum flow policies established by the Water Policy Review Board.

WITNESS the signature of the Water Resources Director, affixed

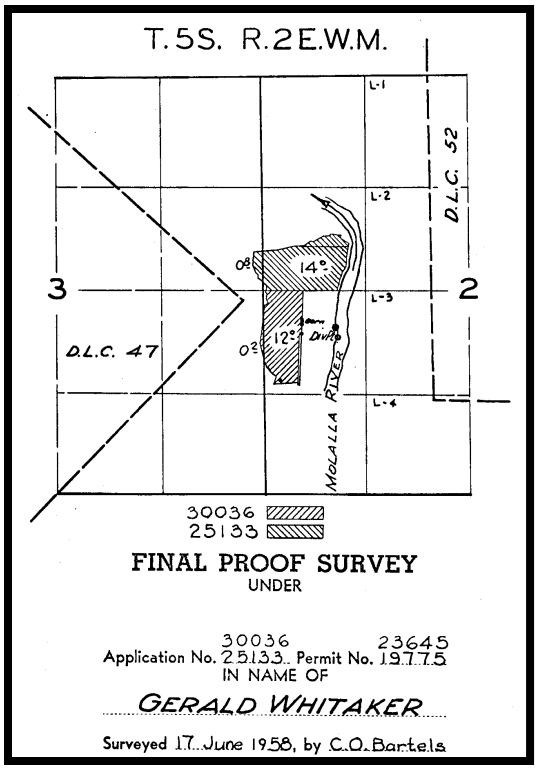
this date. October 28, 1980

Deputy *Water Resources Director*

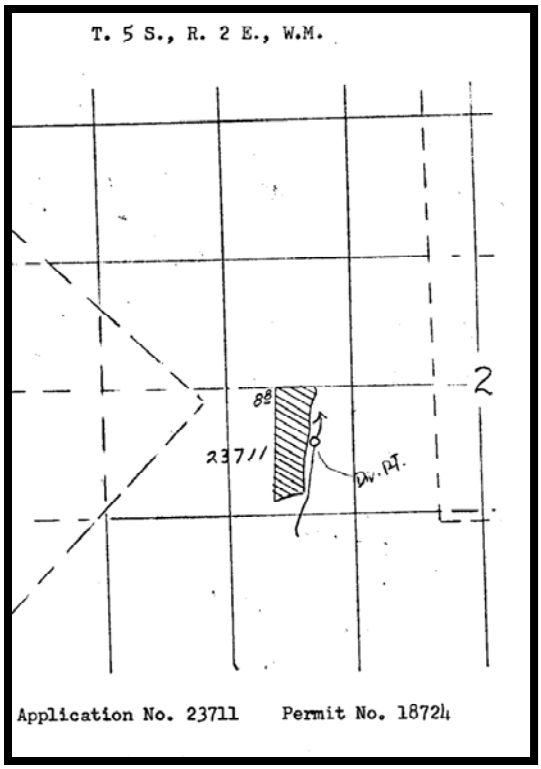
Recorded in State Record of Water Right Certificates, Volume 43 *, page* 49650

Confirming Certificate: The transfer involved a change in the point of diversion only. The place of use remains the same.

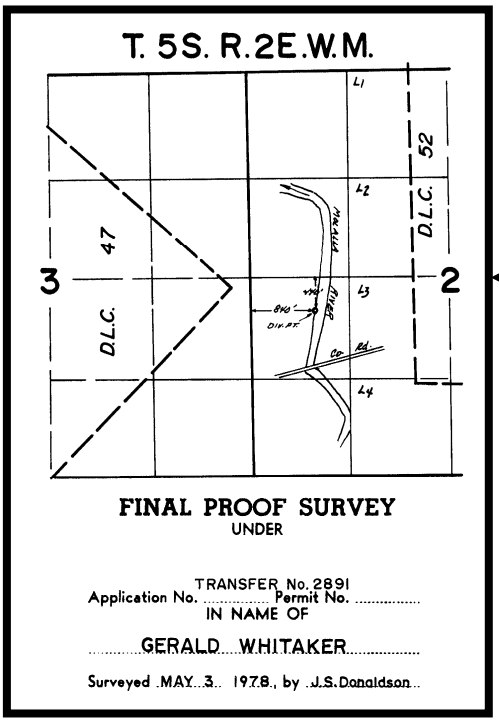
Figure 27: Maps Used to Digitize Transfer 2891 & The Digitized Right



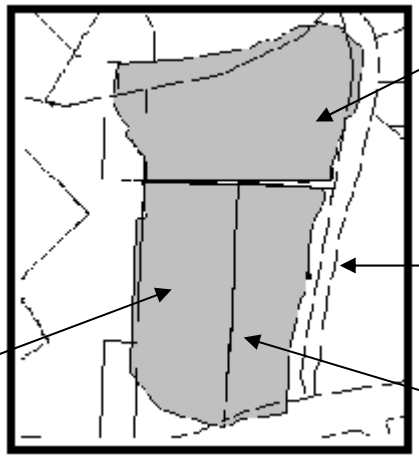
Final Proof Survey Map of Original Rights



Final Proof Survey Map of Original Right



Final Proof Survey of Transfer



Polygon for Certificate 49651 (Snap_id 102052) with overage of 0.8 acres.

POD for all three rights

Polygon for Certificate 49649 (Snap_id 102050)

Polygon for Certificate 49650 (Snap_id 102051)

Digitized Transfer

Appendix A: OWRD Water Rights Geodatabase Structure

- **Feature Dataset: water_rights**
  - **Coordinate system[2]:**
    NAD_1983_Oregon_Statewide_Lambert_Feet_Intl
  - **X/Y Domain[3]:**
    - Min X: 0
    - Min Y: -1000000
    - Max X: 17895697.04167
    - Max Y: 16895697.04167
    - Precision: 120
  - **Feature class[4]: g_pod**
    - **Attributes:**
      - SHAPE
        - Data type: Geometry (point)
      - pod_location_id
        - Data type: Long integer
      - snp_id
        - Data type: Long integer
      - technician_initials
        - Data type: Text
        - Length: 5
      - agency
        - Data type: Text
        - Length: 5
      - date_added
        - Data type: Date
      - date_reviewed
        - Data type: Date
      - feature_quality_code (domain defined later in this document)
        - Data type: Small integer
      - remarks

[2] It's very important to use the same projection parameter file for all of our GDBs. The file is called "NAD_1983_Oregon_Statewide_Lambert_Feet_Intl.prj" (EPSG code 2992).
[3] This defines the coordinate extent of the dataset. The Min X and Y values are set by the user (out in the Pacific off of California). The precision (parts per foot) is set to 120 (1/10 of an inch), which puts the extent way beyond northeastern Oregon.
[4] For all of the feature class attributes (except the "remarks" and "delta_size" attributes), the "allow NULL values" flag is set to "No".

        - Data type: Text
        - Length: 100

- **Feature class[4]: g_pou**
    - **Attributes:**
        - SHAPE
            - Data type: Geometry (polygon)
        - pou_use_id
            - Data type: Long integer
        - snp_id
            - Data type: Long integer
        - technician_initials
            - Data type: Text
            - Length: 5
        - agency
            - Data type: Text
            - Length: 5
        - date_added
            - Data type: Date
        - date_reviewed
            - Data type: Date
        - feature_quality_code (domain defined later in this document)
            - Data type: Small integer
        - delta_size
            - Data type: Double
        - remarks
            - Data type: Text
            - Length: 100

- **Feature class[4]: g_pou_location**
    - **Attributes:**
        - SHAPE
            - Data type: Geometry (polygon)
        - pou_location_id
            - Data type: Long integer
        - pou_use_id
            - Data type: Long integer

- snp_id
  - Data type: Long integer
- technician_initials
  - Data type: Text
  - Length: 5
- agency
  - Data type: Text
  - Length: 5
- date_added
  - Data type: Date
- date_reviewed
  - Data type: Date
- feature_quality_code (domain defined later in this document)
  - Data type: Small integer
- delta_size
  - Data type: Double
- remarks
  - Data type: Text
  - Length: 100

feature_quality_code domain:

10	Unable to locate
20	Partially mapped
30	Best representation of available water right map
40	Water right of record

Appendix B: WRIS Code Sheet

Application Characters

E	Enlargement
G	Groundwater
HE	Hydroelectric
IS	Instream
MF	Minimum Flow (converted)
P	Pond
R	Reservoir
RW	Road Watering
S	Surface
U	Underground

Permit Characters

E	Enlargement
G	Groundwater
HE	Hydroelectric
IS	Instream
MF	Minimum Flow (converted)
P	Pond
R	Reservoir
RW	Road Watering
R	Reservoir
S	Surface
U	Underground

Claim Characters

GR	Groundwater Registrations
KL	Klamath Adjudications
SW	Surface Water Registrations
PC	Power Claims

Transfer Characters

A – Z Transfer

Meridian

BM	Boise – Idaho
HM	Humbolt – north coast of California
MDM	Mount Diablo – Northern California
WM	Willamette – Oregon & Washington

Transfer Type

311	HB3111
ALT	District Temporary Transfers
AMN	Permit Amendment
DRO	Drought Transfer
DST	Irrigation District Permit
EXC	Exchange Transfer
GVT	Government Action POD
HST	Historic Pod
IS	Instream Transfer
REG	Normal Division 15
SUB	Substitution Transfer
TLI	Time Limited Instream Transfer
TMP	Temporary Transfer

Status

Application

CN	Canceled
MF	Misfiled
NC	Non Canceled
RJ	Rejected
SU	Superceded
WD	Withdrawn

Permit

CN	Canceled
NC	Non Canceled
SU	Superceded

Certificate

CN	Canceled
NC	Non Canceled
SP	Suspended
SU	Superceded

Status continued

Point of Diversion

CN	Canceled
MF	Misfiled
NC	Non Canceled
RJ	Rejected
SP	Suspended
SU	Superceded
UK	Unknown
UN	Unused
WD	Withdrawn

Place of use

CN	Canceled
MF	Misfiled
NC	Non Canceled
RJ	Rejected
SP	Suspended
SU	Superceded
UK	Unknown
UN	Unused
WD	Withdrawn

Transfer

IC	Inchoate
MF	Misfiled
OD	Order
PN	Pending
RJ	Rejected
WD	Withdrawn
XS	Exit System

Use Codes

Mining (0)

MI	Mining

Agriculture (1)

AG	Agriculture
CF	Supplemental Flood Harvesting
CH	Harvesting of Cranberries
CR	Cranberries
DB	Dairy Barn
FR	Frost Protection
GH	Greenhouse
MS	Mint Still
NU	Nursery Uses
TC	Temperature Control

Domestic (2)

DI	Domestic Including Lawn & Garden
DN	Domestic Expanded Including Non-Commercial Garden
DO	Domestic
DS	Domestic & Livestock
GD	Group Domestic
HC	Human Consumption
RR	Restroom
SC	School

Irrigation (3)

CI	Irrigation of Cranberries
I*	Irrigation, Livestock & Domestic
IC	Primary & Supplemental Irrigation
ID	Irrigation & Domestic
IL	Irrigation & Livestock
IR	Irrigation
IS	Supplemental Irrigation
OI	Out of Season Irrigation

Commercial (4)

CM	Commercial Uses
GT	Geo-Thermal (Heating & Cooling)
IM	Manufacturing
LA	Laboratory
LD	Log Deck Sprinkling
SH	Shop
SM	Sawmill

Recreation (5)

CS	Campsite
RC	Recreation
SW	Swimming

Power (6)

PW	Power Development

Fish (7)

AQ	Aquaculture
FI	Fish Culture
FW	Fish & Wildlife

Livestock (8)

LV	Livestock
LW	Livestock & Wildlife

Municipal (9)

MU	Municipal
QM	Quasi-Municipal

Instream (I)

F1	Supporting Aquatic Life
F2	Best Use of Waters from Storage
F3	Anadromous & Resident Fish Habitat
F4	Instream
F5	Instream Fishery Enhancement
F6	Fisheries Enhancement
F7	Flow Augmentation for Fish Enhancement
F8	Anadromous & Resident Fish Rearing
FE	Fish Habitat for Resident Borax Lake Chub
PF	Supporting Aquatic & Minimizing Pollution
R1	Anadromous & Recreation Fish & Recreation
R2	Supporting Aquatic Life, Recreation & Aesthetics
R3	Supporting Recreation & Aesthetic Benefits
RA	Supporting Recreational Boating
RF	Supporting Aquatic Life & Recreation

Miscellaneous (M)

AH	Air Conditioning or Heating
AS	Aesthetics
FM	Forest Management
FP	Fire Protection
GR	Groundwater Recharge
MP	Multiple Purpose
PA	Pollution Abatement
PM	Pond Maintenance
RW	Road Construction
ST	Storage

Wildlife (W)

WI	Wildlife

Appendix C: Use Definitions

1. **AESTHETIC USE** means the use of water for scenic, beautification, and enhancing the appeal of an area.

2. **AGRICULTURAL WATER USE** means the use of water related to the production of agricultural products. These used include, but are not limited to, construction, operation and maintenance of agricultural facilities and livestock sanitation at farms, ranches, dairies and nurseries. Examples of these uses include, but are not limited to, dust control, temperature control, animal waste management, barn or farm sanitation, dairy operation, and fire control. Such use shall not include irrigation.

3. **BENEFICIAL USE** means the reasonably efficient use of water without waste for a purpose consistent with the laws, rules and the best interests of the people of the state.

4. **COMBINED USE –** Has both primary and supplemental water uses on the same water right

5. **COMMERCIAL WATER USE** means the use of water related to the production, sale or delivery of goods, services or commodities by a public or private entity. These uses include, but are not limited to, construction, operation and maintenance of commercial facilities. Examples of commercial facilities include, but are not limited to, an office, resort, recreational facility, motel, hotel, gas station, kennel, store, medical facility, and veterinary hospital. Examples of water uses in such facilities include, but are not limited to, human consumption, sanitation, food processing, and fire protection. Such uses shall not include the irrigation or landscape maintenance of more than ½ acre.

6. **COMMENT** means a written statement concerning a particular proposed water use. The comment may identify elements of the application which, in the opinion of the commenter, would conflict with an existing water right or would impair or be detrimental to the public interest.

7. **CRANBERRY USE** means all necessary beneficial uses of water for growing, protecting and harvesting cranberries. Examples of these uses include, but are not limited to, irrigation of cranberries or other crops in rotation, chemical application, flooding for harvesting or pest control, and temperature control.

8. **DEFICIENCY OF RATE RIGHT** means an additional right allowed from the same source for the same use at the same place of use when an earlier right does not allow a full duty or rate of flow of water.

9. **DEPARTMENT** means the Water Resources Department.

10. **DIRECTOR** means the Director of the Department.

11. **DOMESTIC WATER USE** means the use of water for human consumption, household purposes and domestic animal consumption that is ancillary to residential use of the property or related accessory uses.

12. **DOMESTIC USE EXPANDED** means the use of water, in addition to that allowed for domestic use, for watering up to ½-acre of lawn or noncommercial garden.

13. **DRAINAGE BASIN**, as used in OAR 690-340-020, 690-340-030 and 690-340-050, means hydrologic unit delineated as a cataloging unit by the US Geological Survey Office of Water Data Coordination on the State Hydrologic Unit map.

14. **FIRE PROTECTION WATER USE** means the use and storage of water for the purpose of extinguishing fires or reducing the potential outbreak of fires.

15. **FISH BYPASS STRUCTURE**, as used in OAR 690-340-010, means any pipe, flume, open channel or other means of conveyance that transports fish that have entered a water diversion structure back to the body of water from which the fish were diverted.

16. **FISH SCREEN**, as used on OAR 690-340-010, means a screen, bar, rack trap or other barrier at a water diversion to entrap or provide adequate protection for fish populations, including related improvements necessary to insure its effective operation.

17. **FISHWAY,** as used in OAR 690-340-010, means any structure, facility or device used to facilitate upstream or downstream passage of fish through, over or around any man-made or natural barrier to free movement.

18. **FORESTLAND AND RANGELAND MANAGEMENT**, as used in Chapter 595, Oregon Laws 1993, means water used for operations conducted on or pertaining to forestlands and rangelands. Such uses may include, but are not limited to, reforestation, road construction and maintenance, harvesting, vegetation management, and disposal of slash. Such use shall not include irrigation.

19. **GEOTHERMAL USE** means the use of hot springs or wells to provide for domestic or industrial use heating (digitize both take-out location and the groundwater recharge or injection wells.)

20. **GROUNDWATER RESERVOIR** means a designated body of standing or moving groundwater as defined in ORS 537.515(5).

21. **GROUP DOMESTIC WATER USE** means the use of water for domestic water use by more than one residence or dwelling unit.

22. **HUMAN CONSUMPTION** means the use of water for the purposes of drinking, cooking, and sanitation. Uses Domestic use code.

23. **INDUSTRIAL WATER USE** means the use of water associated with the processing or manufacture of a product. These uses include, but are not limited to, construction, operation and maintenance of an industrial site, facilities and buildings and related uses. Examples of these uses include, but are not limited to, general construction; road construction; non-hydroelectric power production, including down-hole heat exchange and geothermal; agricultural or forest product processing; and fire protection. Such use shall not include irrigation or landscape maintenance of more than ½ acre.

24. **INSTREAM RIGHTS-** rights reserved in the stream channel for fish propagation, temperature control, or fisheries enhancement

25. **IRRIGATION** means the artificial application of water to crops or plants by controlled means to promote growth or nourish crops or plants. Examples of these uses include, but are not limited to, watering of an agricultural crop, commercial garden, tree farm, orchard, park, golf course, play field or vineyard and alkali abatement.

26. **MINING WATER USE** means the use of water for extraction, preliminary grading, or processing of minerals or aggregate at a mining site or construction, operation and maintenance of a mining site. These uses include, but are not limited to, general construction, road construction, and dust control. Examples of mining include, but are not limited to, aggregate, hard rock, heap leach and placer mining.

27. **MUNICIPAL CORPORATION** means any county, city, town or district as defined in ORS 198.010 or 198.180(5) that is authorized by law to supply water for usual and ordinary municipal water uses.

28. **MUNICIPAL WATER USE** means the delivery and use of water through the water service system of a municipal corporation for all water uses usual and ordinary to such systems. Examples of these water uses shall include, but are not limited to domestic water use, irrigation of lawns and gardens, commercial water use, industrial water use, fire protection, irrigation and other water uses in park and recreation facilities, and street washing. Such uses shall not include generation of hydroelectric power.

29. **NURSERY OPERATIONS USE** means the use of water for operation of a commercial nursery which may include temperature control, watering of containerized stock, soil preparation, application of chemicals or fertilizers, watering within greenhouses and uses to construct, operate and maintain nursery facilities. The use of water within plant nursery operations constitutes a different use from field irrigation, although that may be a part of nursery use. If used for field irrigation or nursery stock, such use is not restricted to the defined agricultural irrigation season.

30. **OFF-CHANNEL** means outside a natural waterway of perceptible extent, which during average water years, seasonally or continuously contains moving water that flows off the property owned by the applicant and has a definite bed and banks that serve to confine the water. 'Off-channel' may include the collection of storm water run-off, snow melt or seepage which, during average water years, does not flow through a defined channel and does not flow off the property owned by the applicant.

31. **PLANNED** means a determination has been made for a specific course of action either by a legislative, administrative or budgetary action of a public body, or by engineering, design work, or other investment toward approved construction by both the public and private sector.

32. **PLANNED USES** means the use or uses of water or land which has/have been planned as defined in this section. Such uses include, but are not limited to, the uses approved in the policies, provisions, and maps contained in acknowledged city and county comprehensive plans and land use regulations.

33. **POLLUTION ABATEMENT OR POLLUTION PREVENTION WATER USE** means the use of water to dilute, transport or prevent pollution.

34. **POWER DEVELOPMENT WATER USE** means the use of the flow of water to develop electrical or mechanical power. Examples of these uses include, but are not limited to, the use of water for the operation of a hydraulic ram or water wheel and hydroelectric power production.

35. **PRIMARY RIGHT** means the right to store water in a reservoir or the water right designated by the commission as the principle water supply for the authorized use, or if no designation has been made, the first in time or initial appropriation.

36. **PROPOSED CERTIFICATE** means a draft version of a water right certificate describing the elements and extent of the water right developed under the terms of a permit or transfer approval order, as determined by field investigation.

37. **PROTEST** means a written statement expressing disagreement with a proposed final order that is filed in the manner and has the content described in ORS 537.145 to 537.240.

38. **PUBLIC CORPORATION** means a corporation which operates subject to control by a local government entity or officers of a local government and which, at least in part, is organized to serve a public purpose of, and receives public funds or other support having monetary value, from such government.

39. **QUASI-MUNICIPAL WATER USE** means the delivery and use of water through the water service system of a corporation other than a public corporation created for the purpose of operating a water supply system, for those uses usual and ordinary to municipal water use. A quasi-municipal water right shall not be granted the statutory municipal preferences given to a municipality under ORS 537.190(2), 537.230(1),537.352,537.410(2),540.510(3),540.610(2),(3), or those preferences over minimum streamflows designated in a basin program.

40. **RATE AND DUTY OF WATER FOR IRRIGATION** means the maximum flow of water in cubic feet per second or gallons per minute (instantaneous rate) and the total volume of water in acre-feet per acre per year that may be diverted for irrigation.

41. **RECHARGE PERMIT** means a permit for the appropriation of water for the purpose of artificial groundwater recharge.

42. **RECREATION WATER USE** means the use of water for play, relaxation or amusement. Examples of these uses include, but are not limited to boating, fishing, wading, swimming, and scenic values.

43. **RIPARIAN AREA** means a zone of transition from an aquatic ecosystem to a terrestrial ecosystem, dependent upon surface or subsurface water, which reveals through the zone's existing or potential soil-vegetation complex, the influence of such surface or subsurface water. A riparian area may be located adjacent to a lake, reservoir, estuary, pothole, spring, bog, wet meadow, or ephemeral, intermittent or perennial stream.

44. **SECONDARY GROUNDWATER PERMIT** means a permit for the appropriation of groundwater, which was stored through the exercise of a recharge permit or certificate.

45. **STOCKWATER USE** means the use of water for consumption by domesticated animals and wild animals held in captivity as pets or for profit.

46. **STORAGE** means the retention or impoundment of surface or groundwater by artificial means for public or private uses and benefits.

47. **STORED RECHARGE WATER** means groundwater, which results from artificial groundwater recharge.

48. **STORAGE ACCOUNT** means a net volume of artificially recharged groundwater which is calculated for a single recharge activity from a formula specified in a single recharge permit which records additions to a groundwater reservoir by artificial recharge and depletions from a groundwater reservoir by pumping and natural losses.

49. **STORM WATER MANAGEMENT WATER USE** means the use or storage of water, in any structure or drainage way that is designed, constructed, and maintained to collect, filter, retain, or detain surface water runoff during and after a storm event for the purpose of water quality improvement, flood control or property protection. It may also include, but is not limited to, existing features such as wetlands, water quality swales, and ponds, which are maintained as storm water quality facilities.

50. **STREAM OR RIPARIAN AREA ENHANCEMENT WATER USE** means the use of water to restore or enhance a stream or riparian area.

51. **SUPPLEMENTAL WATER RIGHT OR SUPPLEMENTAL WATER USE PERMIT** means an additional appropriation of water to make up a deficiency in supply from an existing water right. A supplemental water right is used in conjunction with a primary water right.

52. **SURPLUS WATERS** means all waters in excess of those needed to satisfy current existing rights and minimum streamflows established by the Commission.

53. **TEMPERATURE CONTROL** means the use of water to protect a growing crop from damage from extreme temperatures.

54. **TRANSFER** means a change of use, rate of use, place of use or point of diversion of a water right.

55. **WASTEWATER** means water that has been diverted under an authorized water right after it is beyond the control of the owner, or that right, but has not yet returned to the channel of a natural stream. In an irrigation district, the wastewater of an individual user is not subject to appropriation until it leaves the boundaries of the district. Wastewater abandoned to the channel of a natural stream becomes a part of that stream and is subject to appropriation.

56. **WATER IS AVAILABLE**, when used in OAR 690-310-080, 690-310-110 and 690-310-130, means:
    (a) (A) The requested source is not over-appropriated under OAR 690-400-010 and 690-410-070 during any period of the proposed use; or
        (B) If the requested source is already over-appropriated for any portion of the period of use proposed in a new application:
            (i) The applicant can show the proposed use requires water only during the period of time in which the requested source is not already over-appropriated;
            (ii) The applicant has obtained authorization to use water from an alternate source to provide water needed during any period of use in which the source is over-appropriated; or
            (iii) If the applicant has shown they can obtain authorization to use water from an alternate source during any period of use in which the source is over-appropriated and if the department conditions the approval of the application to require that prior to diversion of water the applicant obtains authorization for use of water from the alternate source.
    (b) For surface water applications received before July 17, 1992, the provisions of subsection (a) of this section shall apply except that the determination of whether a requested source is over-appropriated under OAR 690-400-010 and 690-410-070 shall be based upon whether the quantity of water available during a specified period is not sufficient to meet the expected demands for all water rights at least 50 percent of the time during that period.

57. **WATER AVAILABILITY ANALYSIS** means the investigation of stream flow or groundwater measurement records, watermaster distribution records, flow requirements of existing water rights, stream flow modeling in ungaged basins, minimum perennial streamflows, or scenic waterway flow requirements to determine if water is available to support the proposed water use.

58. **WATERMASTER - Local** / regional representative of OWRD that is responsible for enforcement and distribution of the water resource.

59. **WATER RIGHT SUBJECT TO A TRANSFER** means a right established by a court decree, or evidenced by a valid water right certificate, or a right for which proof of beneficial use of water, under a water right permit or transfer has been submitted to and approved by the Director but for which a certificate has not yet been issued.

60. **WETLAND** means an area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

61. **WETLAND ENHANCEMENT WATER USE** means the use of water to restore, create, or enhance or maintain wetland resources.

62. **WILDLIFE WATER USE** means the use of water by or for sustaining wildlife species and their habitat. Sometimes combined with livestock.

Appendix D: Naming Conventions for Water Right Map Images

- *Save water right map images to I:\wr\<basin>\<username>.*
- *The naming convention utilizes the **snap_id** as the primary identifier.*
- *Multiple maps for one right will be distinguished by adding _A, _B, etc. to the naming convention*
- *Multiple rectifications of one map will be distinguished by adding _1, _2 etc. to the naming convention.*

I changed the image type from .tif to .png below.

Scenario	Naming Convention
One right, one map, one rectification	Scanned image: 10895__A_1.png Rectified image: rectify10895_A_1.png
One right, one map, multiple rectifications	Scanned image: 54678_A_1.png Rectified image: rectify54678_A_1.png rectify54678_A_2.png
One right, multiple maps, one rectification of each map	Scanned images: 10346_A_1.png 10346_B_1.png Rectified images: rectify10346_A_1.png rectify10346_B_1.png
One right, multiple maps, multiple rectifications	Scanned images: 67890_A_1.png 67890_B_1.png Rectified images: rectify67890_A_1.png rectify67890_B_1.png rectify67890_A_2.png rectify67890_B_2.png

Appendix E: ArcMap Water Right Editing Tools (WREdit toolbar)

1. 2. 3. 4. 5. 6. 7. 8.

1. WR Edit ( )

Purpose: Enables the user to create or edit an existing WR map. The tool also enables the user to review a WR map they have recently created or edited. The user enters the snap id of the WR to be mapped and chooses one of the above tasks.

If the user is creating a new water right map, the program will:

- Create a file geodatabase named with the snap id (**s128434.gdb**)
- Search for parent data in SDE, clone parent features and place them in the file geodatabase. **Optionally,** the user may specify another snap that the program will attempt to clone.
- Load the file geodatabase and base data into ArcMap
- Open a proofing report for the water right (optional)
- Open an edit session

If the user is editing an existing water right map, the program will:

- Create a file geodatabase named with the snap id (**s128434.gdb**)
- Copy existing features and attribute data from SDE to the file geodatabase.
- Load the file geodatabase and base data into ArcMap
- Open a proofing report for the water right (optional)
- Open an edit session.

If the user is reviewing a “checked out” water right, a right they have recently created or edited, the program will:

- Load the file geodatabase and base data into ArcMap
- Open a proofing report for the water right (optional)
- Open an edit session.

To use the tool:

- Copy Snap ID + Township from Master Index
- Click on WR Edit tool.
- Select ‘Create new WR map’, ‘Edit existing WR map’ or ‘Review “checked out” WR map.
- Optionally, if creating a new WR map, you may specify another snap (other than the parent) to clone from (#3 on input form).
- Optionally, for all cases, you may choose to view the proofing report after the file geodatabase and base data have been loaded by the program. To view, click on the checkbox next to “Open proofing report?”.
- Click on Proceed

2. WR Audit ( )

Purpose: Enables a user to audit a WR map. The user enters the snap id of the WR to be audited. A window appears displaying water right edit information. The user has the option of viewing the water right features and attributes by prompting the program to load a file

geodatabase, along with base data, into ArcMap. The user can also open a proofing report to facilitate auditing. Upon completion of the audit, the user commits the WR map to SDE. The program copies the features to SDE, overwriting any existing data for a snap_id.

To use the tool:

- Copy Snap ID from Master Index
- Click on WR Audit tool.
- Click OK.
- Click on Open Proofing Report button.
- When audit is complete, click on Commit to SDE button. Data will <u>not</u> be committed to SDE if the following occurs:
    - Snap id is missing or incorrect
    - Feature id (pou_use/pod_location) is missing, incorrect, or duplicated

3. Consistency Report ( )

Purpose: Provides the user with a report that identifies inconsistencies between attribute data (pou_use_id and pod_location_id) and WRIS data. The report also identifies POD location differences between WRIS and GIS, and flags suspect values in other attribute fields.

To use the tool:

- Click on the Consistency Report tool.
- The tool generates a report and displays it in your web browser.
- To view the report, click OK.

4. g_PODs Traverse Tool ( )

Purpose: Enables the user to add a point to g_PODs by entering an angle bearing and distance from a specified corner or a measured distance from a corner.

To use the tool:

Measured Distance (left click)

- Click on the Traverse tool.
- In the Display Area, left-click on the desired corner.
- Enter values into the Distance Offset Tool window.
- Click OK.
- The tool places the point in the g_PODs feature class and activates the Attributes window for entry of g_PODs attribute data.
- Enter attribute data.
- Save

Bearing & Distance (right click)

- Click on the Traverse tool.
- In the Display Area, right-click on the desired corner.
- In the Bearing and Distance Tool window, enter bearing and distance data.
- Click OK.
- The tool places the point in the g_PODs feature class and activates the Attributes window for entry of g_PODs attribute data.
- Enter attribute data.
- Save

5. Create 'Poly –Point' ( )

Purpose: Enables the user to add a diamond-shaped polygon (poly-point) representing an unmapped portion of a POU or the unmapped POU in its entirety.

To use the tool:

- Click on the Create 'Poly-Point' tool.
- In the Display Area, click where you want to place the poly-point.
- Enter attribute data.
- If necessary, merge with other polygons.
- Save.

6. Locate Project Lakes ( )

Purpose: Enables the user to identify all BLM and BOR reservoirs that potentially feed a re-diversion point (live flow).

To use the tool:

- Click on the Locate Project Lakes tool.
- Click on the Streams layer at the re-diversion point.

7. Delete snap ( )

Purpose: Removes a snap record from the 'g_audit' table.

To use the tool:

- Only OWRD GIS staff may use this tool. Contact one of them in the event that a snap needs to be removed from the 'g_audit' table.

8. Toolbar info ( )

Purpose: Displays version and support info about the tool.

To use the tool:

- Click on the 'Toolbar info' button.

Appendix F: Water Right Mapping: Quick Reference

Pou Polygons -Target layer = g_POUs

To Merge Polygons:

1. Digitize individual polygons.
2. Click on the Edit tool.
3. Select the polygons you want to merge.
4. From the Editor dropdown menu select Merge.
5. In the Merge window, choose the feature with which other features will be merged (click on feature). Note: If each individual polygon was attributed with different data, this step would be choosing the attribute data you want associated with the merged record. If polygons have not been attributed, accept the default.
6. Click OK.

To Explode a Multipart feature:

1. Click on the Edit tool.
2. Select the multipart feature you want to explode.
3. Click the Explode tool on the Advanced Editor toolbar.
   The parts of the multipart feature become independent features.

To Digitize an Outage:

1. Digitize surrounding polygon first.
2. Digitize outage next.
3. If necessary, select the outage. (You may need to do this from the attribute table.)
4. From the Editor dropdown menu select Clip.
5. Make sure Buffer Distance = 0.0000
6. Under “When clipping features”, choose ‘Discard the area that intersects’
7. Click OK
8. Press the Delete on the keyboard.

To Buffer a Point:

1. Change target layer to g_PODs.
2. Digitize the POD point in the g_PODs layer.
3. Change the target layer to g_POUs
4. From the Editor dropdown menu, select Buffer
5. In the Buffer window, enter 20. If buffering to create a reservoir, enter 40.
6. Press Enter on the keyboard.

To Digitize A Circle With A Specified Radius:

1. Click on the Circle Tool on the Advanced Tool Bar
2. Click to begin the circle.
3. Press ”R” on the keyboard.
4. Enter the radius.
5. Press “Enter” on the keyboard.

To Trace Existing Features:

1. Be sure target layer is g_POUs.
2. In the Selection tab of the Table of Contents, select the layer you want to trace (quarter quarters, tax lots etc.)
3. Click on the Edit tool or Select Features tool.
4. Select the feature(s) you want to trace. (To select multiple features, use the Shift key.)
5. Click on the Trace tool.
6. Click on selected feature(s) at the point you want to start tracing.
7. Move your mouse to guide trace tool. Click at the point you want to stop tracing. Continue with another tool or right-click and Finish Sketch if your new polygon is complete.

POD Points – Target Layer = g_PODs

Placing a POD With a Distance From a Corner

1. Click on POD(s) in the Table of Contents. This activates the g_PODs Traverse tool on the OWRD_programs toolbar.
2. Click on the Traverse tool.
3. In the Display Area, left-click on the desired corner.
4. Enter values in the Enter Offset Tool window.
5. Click OK.
6. The tool places the point in the g_PODs feature class and activates the Attributes window for entry of attribute data.
7. Enter attribute data.
8. Save.

Placing a POD With an Angle Bearing and Distance

1. Click on POD(s) in the Table of Contents. This activates the g_PODs Traverse tool on the OWRD_programs toolbar.
2. Click on the Traverse tool.
3. In the Display Area, right-click on the desired corner.
4. Enter values in the Bearing and Distance Tool window.
5. Click OK.
6. The tool places the point in the g_PODs feature class and activates the Attributes window for entry of attribute data.
7. Enter attribute data.
8. Save.

MISC.

Downloading Taxlot Maps From ORMAP

1. Go to http://www.ormap.org
2. Click on the link *Maps Online* in the left pane.
3. Click on the county that you are interested in obtaining taxlots for.
4. Click on the township/range that you want.
5. Open up the .pdf of the taxlot map for that township/range.
6. Save it to the Images folder of the I:\<basin>\wr directory that you are working in.
7. Open up the .pdf file in the Images folder and from the File pulldown menu, use the Save As command to save the image as a PNG image.
8. Add the .png image to your Layers themes and follow the instructions for georeferencing an image as outlined on pages 11-12.

Appendix G: Remarks Standards

Note: Remarks standards should be entered in uppercase letters.

Scenario	Standard
Less than four control points are established for georeferencing	UNABLE TO ESTABLISH NUMBER OF CONTROL POINTS FOR ACCURATE GEOREFERENCING
Features to be mapped are visible on the DRG (Quad map) and the DRG is used for digitizing	PLACED USING DRG
Features to be mapped are visible on the imagery (Aerial photo) and the imagery is used for digitizing	PLACED USING < YEAR > IMAGERY
Water right map is a copy of the DRG Or Features to be mapped are not visible on the DRG but items on the water right map such as streams, roads etc. are visible on the DRG and can be used to approximate placement of water right features	APPROX; PLACED BY CROSS-REFERENCING MAP WITH DRG
Water right map is a copy of the imagery Or Features to be mapped are not visible on the imagery but items on the water right map such as streams, roads etc. are visible on the imagery and can be used to approximate placement of water right features.	APPROX; PLACED BY CROSS-REFERENCING MAP WITH < YEAR > IMAGERY
Existing/cloned data used for digitizing	COPIED FROM EXISTING DATA
Existing/cloned data used for digitizing but modified. A further explanation of the modification or reason for modification may be included.	MODIFIED EXISTING DATA MODIFIED EXISTING DATA TO < > EXAMPLE: MODIFIED EXISTING DATA TO REFLECT TRANSFER
POD/POU location unclear but attempt is made to approximate the location	APPROX
POU/POD is digitized from water right map but moved to match DRG or imagery	MOVED TO MATCH DRG MOVED TO MATCH< YEAR > IMAGERY
POD plotted by measured distance but moved to match hydro on DRG or imagery	MEASURED DISTANCE; MOVED TO MATCH DRG MEASURED DISTANCE; MOVED TO MATCH< YEAR > IMAGERY
POD plotted by bearing and distance but moved to match hydro on DRG or imagery	B&D; MOVED TO MATCH DRG B&D; MOVED TO MATCH< YEAR > IMAGERY
POD moved to match existing stream data	MOVED TO MATCH EXISTING 24K STREAM DATA
POU placed by buffering POD point	PLACED BY BUFFERING POD
POD source defined as portable pumping	PORTABLE PUMPING
Authorized POD (transfer order or map) is digitized	AUTHORIZED POD
Existing roads data used for digitizing road watering rights	PLACED BY BUFFERING ROADS DATA
Existing stream data used for digitizing stock drinking from the source or some instream uses	PLACED BY BUFFERING 24K STREAM DATA
Instream right	INSTREAM
City Limits shapefile used for digitizing	PLACED USING CITY LIMITS
City Limits shapefile used for digitizing but modified	MODIFED CITY LIMITS
Urban Growth Boundary coverage used for digitizing	PLACED USING UGB
Overage	OVERAGE IN NENW OVERAGE IN NWNW, SEC 7
Underage	UNDERAGE IN SWSW UNDERAGE IN SWSW, SEC 10
Partially mapped rights	UTL ACRES IN NENE UTL ACRES IN NENE & NENW, SEC 7
Primary and supplemental irrigation can't be distinguished within a polygon	CANNOT SPLIT IR AND IS
Decree map used for digitizing	DECREE MAP
Decreed right, no certificate issued	DECREE NO CERTIFICATE
Reservoirs associated with House Bills 2153 or 2376	HB2153; HB2376
Reservoir placed relative to a POD when the POD was placed by a measured distance from a corner or by an angle bearing and distance	APPROX; PLACED BY POD MEASURED DISTANCE APPROX; PLACED BY POD B&D
Multiple reservoirs are associated with one pou_use_id but not all reservoirs can be located	UTL <RESERVOIR NAME> EXAMPLES: UTL JONES RES; UTL RES 1, 5 & 7
Digital Water Right Transfer Application (DWRTA)	DWRTA
Well (POD) location confirmed from wells theme.	PLACED USING OWRD GW WELLS LAYER

Appendix H: Feature_quality_code and Delta_size Attributes

Feature_quality code

feature_quality_code	feature_quality_definition
10	Unable to locate
20	Partially mapped
30	Best representation of available water right map
40	Water right of record

10-Unable to locate
This code will be selected when a feature cannot be located.

POUs
Cross-reference the location information in WRIS with the map and base layers. Place a poly-point in the center of the smallest area consistent with the water right document and/or map.

Examples:

- The smallest area described on the water right document is the NWNW. There is no other information on the map or base layers that can further narrow down the location. Place a poly-point in the center of the NWNW and select “Unable to locate” as the feature_quality_code.

- For an industrial right, the smallest area described on the water right document is the NENE. However, the application map shows the use is in a tax lot within the NENE. It is still unclear where in the tax lot the use is. If the tax lot is visible on the tax lot layer, place your poly-point in the center of the tax lot. Select “Unable to locate” as the feature_ quality_code.

- The water right lists several quarter quarters for an irrigation right. Acreage cannot be located for any of the quarter quarters. Place a poly-point in the center of each quarter quarter. Merge these poly-points and select “Unable to locate” as the feature_quality_code.

PODs
Cross-reference the location information in WRIS with the map and base layers. Place a point in the center of the smallest area consistent with the water right document and/or map. For surface water rights, if the source is a stream, place the point on the stream whenever possible.

Examples:

- The smallest area described on a surface water right document is the NENE. The source is Mill Creek. If Mill Creek is visible in that quarter quarter on the base layers, place the point at the midpoint of the stream within the quarter quarter. If no hydro is available, place the point in the center of the quarter quarter. Select “Unable to locate” as the feature_quality_code.

- The smallest area described on a groundwater right document is a section. There is no other information on the map or base layers that can further narrow down the location. Place the point in the center of the section. Select “Unable to locate” as the feature_ quality_code.

20-Partially mapped (POUs only)
This code will be selected when only a portion of a feature can be mapped. If possible, describe the location of the unmapped portion in the remarks field.

Examples:

- The water right document shows there are 10.0 acres in the NENE and 5.0 acres in the NWNE. The map in the file reflects the acreage in the NENE but you cannot determine where the acreage is in the NWNE. Map a polygon for the NENE acreage and put a poly point in the center of the NWNE. Merge the polygon and the poly point together and select "Partially mapped" as the feature_quality_code. Record the difference in acres (5.0) in the delta_size field of the attribute table. Enter 'UTL NWNE ACRES' in the remarks field.

- There are ten reservoirs under one pou_use_id and you can only locate nine of them. Digitize the nine and for the missing one, digitize a poly point in the center of the smallest area described on the water right document and/or map. Merge all polygons and the poly point and select "Partially mapped" as the feature_quality_code. Enter 'UTL <RESERVOIR NAME>' in the remarks field.

30-Best representation of available water right map
This code will be selected when an application or final proof survey map is in the file and can be referenced to locate a feature. This applies even if the map is of poor quality.

Examples:

- The water right map is georeferenced and used for digitizing features.
- Existing data appears to be a decent representation of the water right map.
- Features on the water right map are digitized off of the base layers.
- Features to be mapped are not visible on the base layers but items on the water right map such as streams, roads etc. are visible on the base layers and can be used to approximate placement of water right features.
- A POD is added with the traverse tool, based on the legal description from the map or WRIS.

40-Water right of record
This code will be used when digital data for a right is received from outside the agency, usually from a CWRE or an irrigation district. It will be extremely rare to use this code.

Delta_size (POUs only)

This attribute stores the calculation of the difference, in acres, between the features as they are mapped on the water right map and as they are recorded in WRIS (a representation of the water right document). This value was previously recorded in the Remarks field as an overage or underage. *Enter overages as a positive number and underages as a negative number. If the total of overages and underages total zero, enter '0'. If there is no overage or underage, leave the field null.* If possible, describe the location of the underage/overage in the Remarks field.

Examples:

- According to the water right map there are 2.5 acres in the NWNW and 10.0 acres in the NENW. WRIS shows 3.0 acres in the NWNW and 9.0 acres in the NENW. You have a total overage of 0.5 acres. Select "Best representation of available water right map" as the feature_quality_code and enter 0.5 in the delta_size field.

- According to the water right map there are 6.0 acres in the SESE and 4.0 acres in the SWSE. WRIS shows 6.0 acres in the SESE and 7.0 acres in the SWSE. You have a total underage of 3.0 acres. You would choose “Best representation of available water right map” as the feature_quality_code and enter –3.0 in the delta_size field. Enter ‘UNDERAGE IN SWSE’ in the Remarks field.

- According to the water right map there are 5.0 acres in the SWSW. WRIS shows 10.0 acres. There is an underage of 5.0 acres. Choose “Best representation of available water right map” as the feature_quality_code and enter –5.0 in the delta_size field.

This attribute also stores unmapped acreage amounts when a right is partially mapped. If possible, describe the location of the unmapped portion in the Remarks field.

Example:

- The water right document shows there are 10.0 acres in the NENE and 5.0 acres in the NWNE. The map in the file reflects the acreage in the NENE but you cannot determine where the acreage is in the NWNE. Map a polygon for the NENE acreage and put a poly point in the center of the NWNE. Merge the polygons and the poly point together and select “Partially mapped” as the feature_quality_code. Record the difference in acres (5.0) in the delta_size field of the attribute table. Enter ‘UTL NWNE ACRES’ in the Remarks field.