

Skagit County Permit Counting Procedures for Determining Water Reservation Usage for Permit Actions Utilizing Permit-Exempt Well Water Supplies

1. Introduction

Per the requirements of the Settlement Agreement (dated May 17, 2006) and the Skagit River Basin Instream Flow Implementation Agreement Between Skagit County and the State of Washington Department of Ecology (Ecology; dated January 22, 2007) related to the recently-amended Skagit Instream Flow Rule (Chapter 173-503 WAC), Skagit County is required to track water usage for land use actions that will rely on water from permit-exempt groundwater withdrawals that require a water availability determination by the County. Per these agreements, Skagit County is required to estimate the amount of water used for each permit decision and report this information to the Ecology. Ecology will use the data provided by the County in conjunction with data compiled by Ecology for water right processing and other relevant data to estimate the amount of water that has been appropriated from April 14, 2001 to determine the status of the water reservations established in Chapter 173-503-074. The purpose of this document is to describe the methods used by the County to estimate water usage for land use actions that relied on water from permit-exempt groundwater withdrawals that required a water availability determination by the County from April 14, 2001 through December 31, 2007.

Water availability determinations in Skagit County are conducted by the Public Health Department (SCPHD). Currently, these determinations fall into four categories:

1. Individual domestic withdrawals using permit-exempt wells
2. Group B domestic or commercial withdrawals using permit-exempt wells (generally systems with 2 to 14 individual connections).
3. Group A domestic withdrawals using permit-exempt wells (generally systems with more than 14 individual connections or for commercial or domestic uses)
4. Withdrawals or diversions requiring a water right (generally systems using any diverted surface water or a groundwater withdrawal using more than 5,000 gallons per day)

The SCPHD makes water availability determinations for Category 1 and simply-designed (in terms of the sophistication of the engineering required) Group B public systems. The Washington State Department of Health (DOH) conducts water availability determinations for Categories 3 and 4 and complexly-designed Group B water systems. DOH, as part of their project submittal or water system plan review process per their agreement with Ecology, requires water system applicants to provide a copy of all necessary water rights for their systems. In addition, SCPHD requires these applicants to submit a signed document that states that they have sufficient water rights to operate their systems.

Water uses established between April 14, 2001 and December 31, 2007 or in which the applicant has shown the intent to establish such a use between April 14, 2001 and December 31, 2007 for Categories 1 through 3 were calculated by SCPHD using different methods for each category, as a result of the differences in the manner in which these water systems are tracked. The following sections describe the methods used for these calculations.

2. Individual Domestic Supply Wells

Before or concurrent with submission of a Building Permit or Land Division an applicant must provide proof of water availability. This proof for a development utilizing an individual well is an approved drinking water evaluation demonstrating adequate water quantity and quality. This demonstration requires that the proposed well be drilled and tested for both quantity and quality. Upon submission of the drinking water evaluation application, it is assigned a file number designated by “WA” followed by the year and a sequential number (e.g WA0x-xxxx). The application information is entered into a database maintained by the Skagit County Planning and Development Services Department (SCPDS). The program currently in use is “Permits Plus” by Accela™.

Step 1

The first step in the water availability determination assessment was to download the following data from the Permits Plus database into an Excel report file:

<u>Permits Plus Data Entry Format-</u>	<u>Excel Report Column</u>	<u>Permits Plus field</u>
All Types	<u>Headings</u>	<u>designators</u>
Parcel No.	PARCEL_NO	PARCEL_NO
Water	Permit Number	NUMBER_KEY
Status	Status	DATA_STATUS
	Permit Composition	TYPE_TITLE
App Type BPDW, LDI	SUB_TYPE	SUB_TYPE
Date	Application	DATE_A
Issued	Approved Date	DATE_F
Date completed (well)	Completed Date	DATE_C
Description	Description	DESCRIPTION
Watershed	In water files, basin and drainage	TEXT_018
Basin		TEXT_019
Number of Lots	Lots	LOTS
	GPS Accuracy	NUM_024
	Latitude	NUM_025
	Longitude	NUM_026
<u>Plats Only</u>		
Lots with well after 4/14/2001	Lots after 2001	NUM_020
Lots with well before 4/14/2001	Lots before 2001	NUM_021
Number lots with public water	Public water	NUM_022
Total developed and undeveloped lots	undeveloped	NUM_023

Step 2

The two application types counted were BPDW (Building Permit Drinking Water) and LDI (Land Division using Individual Wells). The Excel spreadsheet was filtered on the “Permit Composition /TYPE_TITLE” column to reduce clutter and make the data more manageable. Counting was conducted for BPDW’s by filtering on the “Watershed and Basin Columns” (TEXT_018 & TEXT_019), (Well) “Completed Date” (DATE_C) [e.g. >04/14/2001], and “Sub Type” (SUB_TYPE).

Properties within Land Divisions containing new wells and new undeveloped parcels utilizing groundwater were counted at the point they were designated as vested (e.g. Short Plats – notice of complete application & Long Plats – Preliminary Plat approval). The LDI files were counted by filtering on the “Watershed and Basin Columns” (TEXT_018 & TEXT_019), and the file “Sub Type” (SUB_TYPE). Columns designated “Lots after 2001” (NUM_020) and “UNDEVELOPED” (NUM_023) were counted. “Lots after 2001” represents parcels containing new (post 4/14/2001) wells and includes demonstration wells evaluated for water availability for plat approval.

Step 3

Since a program for electronic sorting was not available, the permit records were sorted manually. The manual sorting operation consisted of sorting the columns fields “NUMBER_KEY AND PARCEL_NO.” and highlighting the redundancies to facilitate an accurate manual count to be deducted from the column totals.

Data Quality

The SCPHD believes that the report provided to Ecology for permits relying on individual wells from April 14, 2001 through December 31, 2007 is a conservative estimate because the existing tracking system tends to create excess duplicate records for single water availability determinations. Some of the causes of file duplications include:

- ◆ Duplicate water permit numbers—many projects are associated with multiple parcel numbers, and therefore, the water permit numbers are unavoidably replicated for each occurrence of an associated parcel number. The immediate solution has been to hand count the duplications and debit them from the basin totals.
- ◆ LDI files (water files for land divisions) have also had duplicate files (BPDW’s) created on the same water source, i.e., when staff did not detect the presence of the LDI file, a subsequent building permit water file was created.
- ◆ Some wells have been used on successive land divisions of the same property making it difficult to track parcel lineage.
- ◆ A common problem of the parcel numbering system occurs when parcel numbers are removed from existence or parent parcel number is replaced with another parcel number by the County Assessor’s Office. This lack of continuity can make it difficult for front counter staff to recognize existing files as being associated with parcels for new applications, so new files are created and the old ones are not removed from the count.

3 Group A Systems

The Washington DOH has jurisdiction over all Group A public water systems in Skagit County. Our regional engineer, Nancy Feagin, tracks these systems in her own database entitled “Group A Project and Activity Log database.” DOH does not currently electronically track water right information; however, DOH does keep hard copies of water rights associated with all Group A

systems requiring water rights. Group A applicants are required to provide a copy of their water right as part of the water system project submittal. Per their agreement with Ecology, DOH checks their records to ensure that each system has sufficient water rights prior to approving any new system or any changes to an existing approved system. The method used to calculate water use associated with Group A systems is described below.

Step 1

SCPHD requested and received the DOH Group A Project and Activity Log for all of Skagit County covering the dates from April 14, 2001 to December 31, 2007 from the DOH Regional Engineer for Skagit County, Nancy Feagin.

Step 2

SCPHD compared the DOH Group A water system records with SCPHD records to determine which systems were likely utilizing exempt withdrawals.

Step 3

The location of each post-rule Group A system or additional connection was assigned to the appropriate tributary basin (per Chapter 173-503-074). Group A systems or connections located out of the Skagit Basin were removed from the tabulation.

Step 4

The total number of connections for Group A systems established between April 14, 2001 and December 31, 2007 or in which additional connections were approved between April 14, 2001 and December 31, 2007 were tabulated. Similarly, the total number of Group A systems established between April 14, 2001 and December 31, 2007 for commercial or other domestic purposes was also determined.

4 Group B Systems

This section describes the process used to determine the number of new residential uses utilizing Group B Public Water Systems (PWS) established between April 14, 2001 and December 31, 2007 or in which additional connections were approved between April 14, 2001 and December 31, 2007 were created.

Step 1

The SCPHD Group B PWS files and DOH Excel spreadsheet were reviewed to determine which systems were given some type of approval from April 14, 2001 through December 31, 2007.

Step 2

The Excel spreadsheet was sorted to separate pre-existing water uses from post-rule (April 14, 2001) uses. Existing water uses were determined as follows:

- The water system was either approved for this service prior to April 14, 2001 or for some reason such as for “upgrades” to the system components needed to gain approval.
- Existing System Approval - The water system was never approved but the services had been in use prior to April 14, 2001.

Step 3

The Excel spreadsheet showing only the post-rule systems was further evaluated to determine which of these systems were to be counted as post-rule Group B water systems per the instream flow rule. Group B systems were not counted if one or more of the following conditions were met:

- The PWS had a water right from Ecology.
- The PWS source and service was not located in the Skagit River Basin.
- The PWS received design approval prior to April 14, 2001.
- The increase in service was determined to be equal to the loss in previous service and the previous service was established prior to April 14, 2001.
- The increase in service resulted from the conversion of a single domestic system to a Group B PWS, when the original single domestic system was established prior to April 14, 2001 or if the system had already been counted as a single domestic system in Section 2 above.

Step 4

The location of each post-rule Group B PWS or additional connection was assigned to the appropriate tributary basin (per Chapter 173-503-074).

Step 5

The total number of post-rule residential connections and non-residential connections were determined and tabulated.

5. Compilation of permit data and estimation of water use

A spreadsheet was developed to contain the data derived from Sections 2 through 4 above. The spreadsheet was organized to contain all of the reservation debits in one section and all of the reservation credits in another section. A separate line item was prepared for each tributary sub-basin identified in Chapter 173-503-074, including line items for Upper Skagit tributaries.

Reservation Debits

Separate columns were created that contained the total number of post-rule domestic connections served by individual wells and by Group B PWS. A column was also created that contained the total number of new lots created by post-rule land divisions planned to be served by an in-basin water supply. Each new lot or new residence relying on an in-basin water supply was multiplied by the standard residential water allocation of 350 gallons/day minus the recharge credit of 50 percent or 175 gallons/day/residence per the requirements of Chapter 173-503-073 (7)(c) WAC. An additional column was also created for new commercial connections that are relying on a permit-exempt withdrawal. For the end of year 2007 count, a quantity of 5,000 gallons/day/post-rule commercial connection was entered into the commercial connection column pending the acquisition of more site-specific water use information. The total amount of water to be debited from each tributary basin was summed to determine the total reservation debit. For tributary basins, except Grandy Creek, located in WRIA 4, the total debits of individual tributaries were also subtracted from the Skagit-Upper reservation, per 173-503-074.

Reservation Credits

Chapter 173-503-073 (7)(c) WAC stipulates that 50 percent of post-rule water uses shall be credited back to the appropriate reservation for residential uses utilizing an on-site septic system or an in-basin community sewer system. This credit is applied to residences using an in-basin withdrawal or diversion or a public water system that has an out-of-basin water supply. When applied to a residence that is connected to the Skagit Public Utility District #1 (Skagit PUD's) Judy Reservoir water system and uses an on-site septic system, the result is a 50 percent imported water net credit to the appropriate water reservation (except for residences located within the Nookachamps Creek –East Fork or Skagit-Lower tributaries as these are the tributaries in which Skagit PUD obtains its water). Skagit County currently does not have a mechanism to electronically correlate septic system approvals with parcel numbers and development permits. Subsequently, the number of new groundwater withdrawals that are associated with an on-site septic system or in-basin community system was derived deductively, in which the net number of new exported sewer connections, imported water connections, and new in-basin groundwater systems were derived. The method was used to determine the return flow and imported water credit for each basin is provided below.

Step 1

The County requested from the Skagit Public Utility District #1 (Skagit PUD) the number of post-rule residential and commercial connections have been installed. Skagit PUD was not able to provide that information. Instead, Skagit PUD provided to the County a raw data spreadsheet that listed all of the connections they installed since April 14, 2001 for the entire County. This spreadsheet contained only installation dates, installation locations, and billing addresses. Since the installation locations were not provided using valid street addresses, County GIS staff attempted to use the information in the spreadsheet to correlate the location information to a parcel number. Most, but not all of the installations, were correlated to a parcel. The uncorrelated installations were submitted back to the Skagit PUD for additional location information. At the time of the preparation of this document, Skagit PUD had not provided any additional location information. As a conservative approach for the end of year 2007 count, it was assumed that all new connections were residential.

Step 2

The County requested and received from Skagit County Sewer District #2 (the Big Lake Sewer District) the total number of post-rule sewer connections that have been installed. The Big Lake Sewer District is the only entity that provides community wastewater treatment and disposal in the unincorporated portions of the Skagit River Basin in Skagit County.

Step 3

The total number of post-rule residences that were served by imported water from the Skagit PUD system and on-site septic systems was determined by subtracting the number of post-rule PUD connections calculated in Step 1 above from the number of post-rule Big Lake Sewer District connections calculated in Step 2. This number was multiplied by 50 percent of the 350 gallons/day/residential connections, or 175 gallons/day. No imported water credit was applied to basins that did not have an imported water supply. As state above for the end of year 2007 count, it was assumed that all new connections were residential pending the acquisition of site-specific water use information. This is a conservative approach since the 350 gallons/day

residential allocation for residential connections is much lower than the standard non-residential allocation of 5,000 gallons/day.

Reservation Status

The total reservation debits were subtracted from the reservation quantities identified in Chapter 173-503-074 and the total reservation credits were added to these quantities to calculate the status of the reservations as of January 1, 2008. The reservation quantity status was then divided by 175 gallons/day to determine the number of new residential connections that could be served by the individual groundwater reservations, if these connections were also served by on-site septic systems or an in-basin wastewater treatment system.