Generalized Water Information System (GWIS) Database Utilities User's Manual

Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection
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Introduction

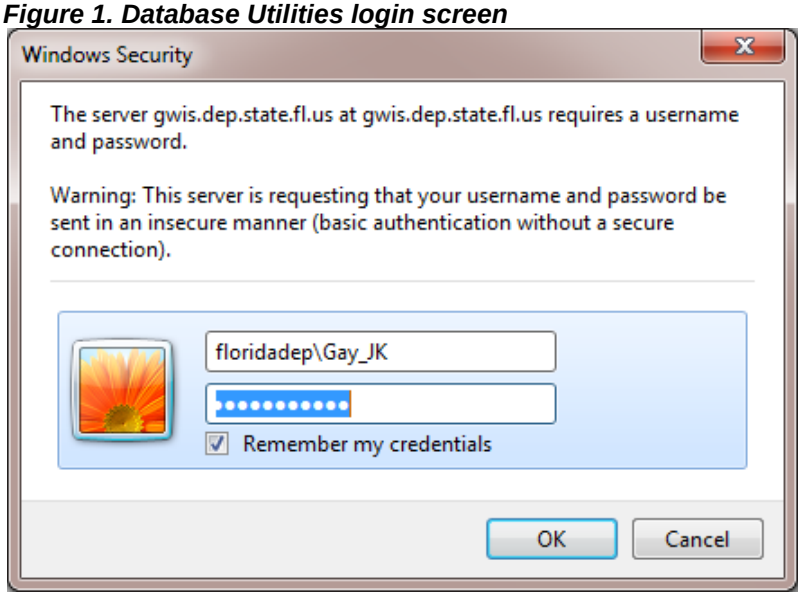
The Florida Department of Environmental Protection's (DEP's) Watershed Monitoring Section (WMS) oversees two statewide water monitoring networks, the Status Network and the Trend Network. In each network, field parameters such as temperature and pH are collected regularly, along with water samples which are analyzed in the laboratory. In the Trend Monitoring Network, the samples are taken from fixed surface and ground water sites, which allows for an assessment of long-term changes in specific waterbodies and wells. In the Status Monitoring Network, the sampling locations are chosen randomly in order to provide a statistically valid estimate of statewide water conditions.

Status and Trend site data (including locations, water resource types, and owners' contact information) are stored in an Oracle database called GWIS (Generalized Water Information System). An Internet application, GWIS Database Utilities, allows online access to the database. This manual guides users through the Database Utilities application and explains how to use it for site reconnaissance (recon), entering recon tracking data, and updating station information.

Accessing the Database Utilities Application

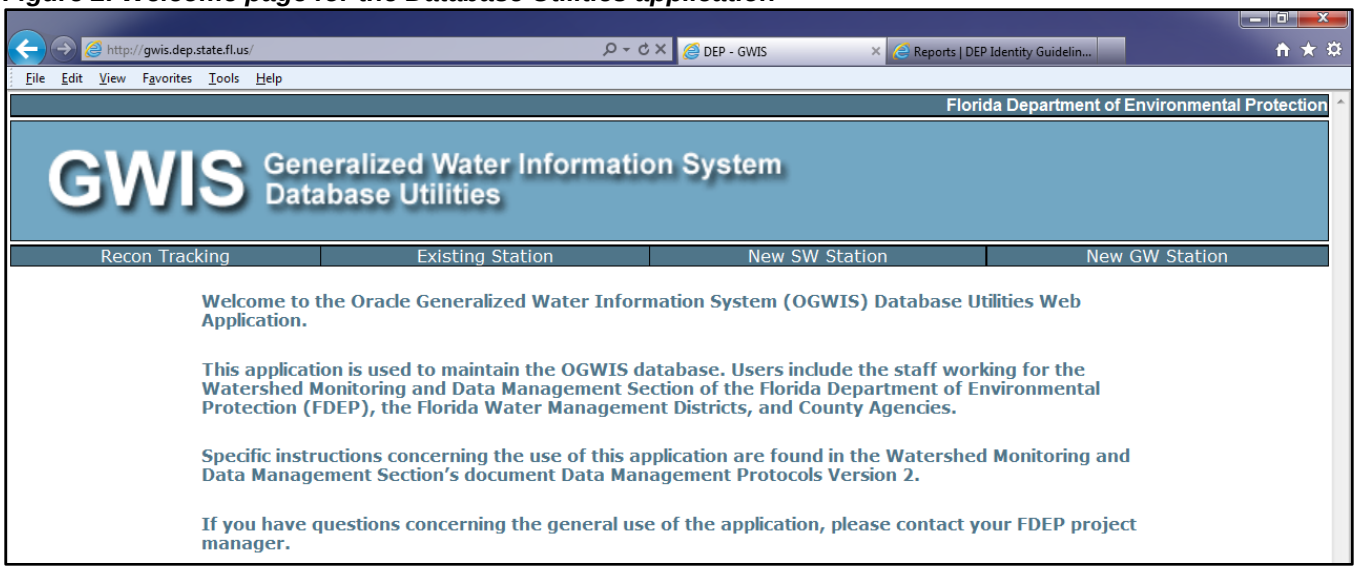
Open Internet Explorer and navigate to https://fldep.dep.state.fl.us/gwis/. If prompted, **DEP employees will log in using "floridadep\" followed by the same username and password as their Outlook account** (*Figure 1*). Other clients should contact Liz Miller, WMS Data and Analysis coordinator, at (850) 245-8512 or Elizabeth.Miller@dep.state.fl.us to obtain login credentials. **Any problems or issues with existing data should be reported to Liz Miller.**

Figure 1. Database Utilities login screen



After login is complete, an introductory screen will appear (*Figure 2*).

Figure 2. Welcome page for the Database Utilities application

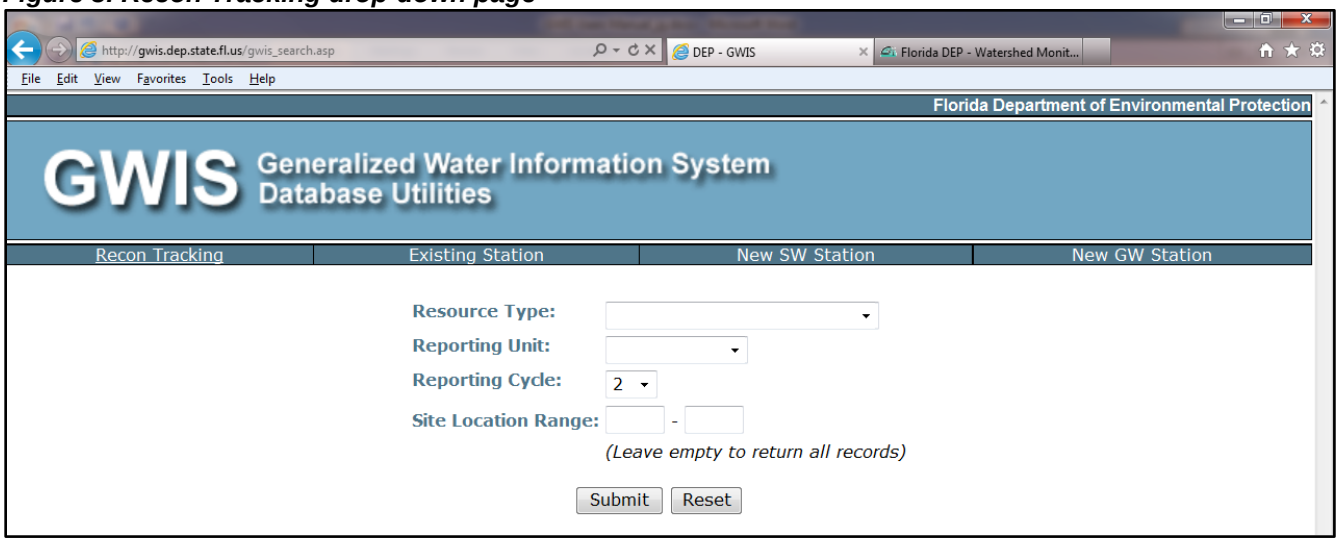


Reconning Sampling Sites

Because the Status Network sampling sites are chosen randomly, it is necessary to conduct reconnaissance ("recon" or "reconning") before collecting samples to ensure that the site is appropriate for sampling. **Recon Tracking** is a feature that allows the user to determine the locations of Status sites, to view aerial imagery and quad maps, and to enter information on whether the site can be sampled. Please see the Status Network Recon Manual at http://publicfiles.dep.state.fl.us/dear/watershed%20monitoring/documents/WMS-ReconManual.pdf for more guidance on conducting recon.

Begin by clicking **Recon Tracking** on the top left. This will bring up a page with several drop-down lists (*Figure 3*).

Figure 3. Recon Tracking drop-down page



Select the water Resource Type, Reporting Unit, Reporting Cycle, and (optional) Site Location Range of interest. These parameters are described below.

Resource Types that are currently sampled are:

Unconfined Aquifer
Confined Aquifer
Large Lake
Small Lake
Large River
Small Stream
Canal

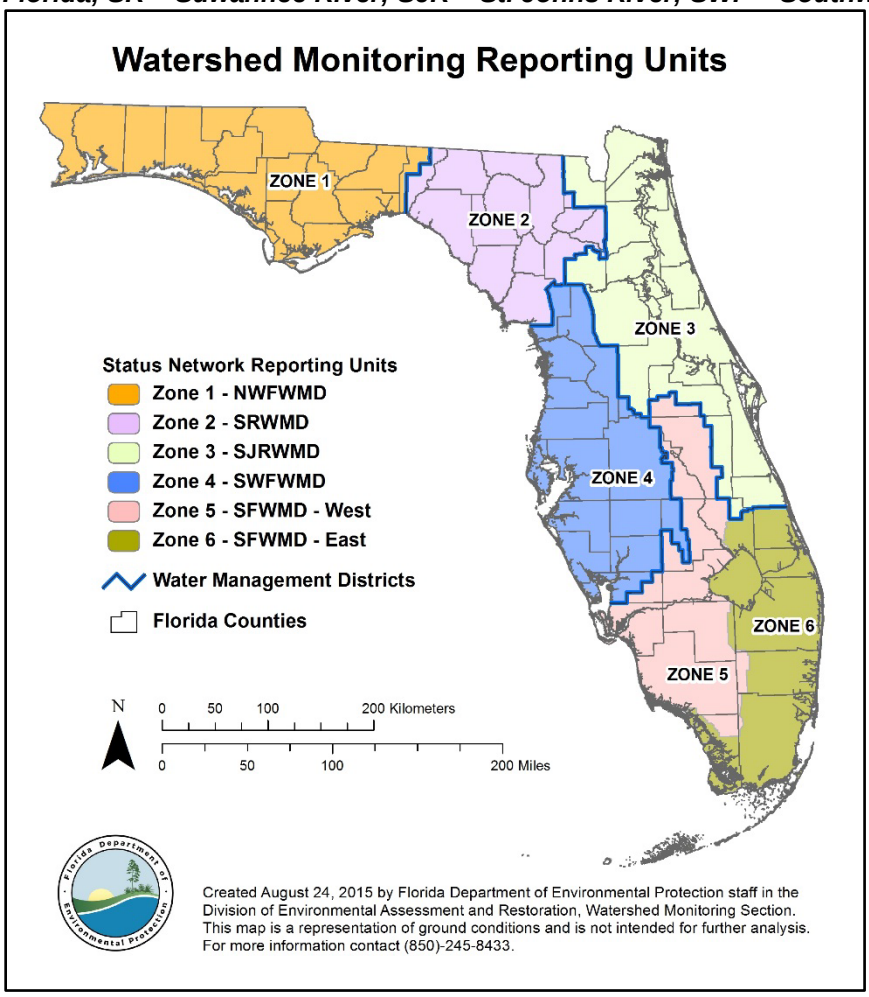
NOTE: The other resource types, such as *spring vent, low-* and *high-order stream,* and *estuary,* are not currently assessed under the Status Network.

Reporting Units are geographical regions of the state (see *Figure 4*). The valid choices are currently:

Zone 1
Zone 2
Zone 3
Zone 4
Zone 5
Zone 6

NOTE: The other reporting units, such as *SFWMD-1,* were used in the years 2000-2008.

Figure 4. WMS Reporting Units (zones). The zones are equivalent to the state's five Water Management Districts (WMDs), with South Florida WMD divided into eastern and western zones. NWF = Northwest Florida; SR = Suwannee River; SJR = St. Johns River; SWF = Southwest Florida; and SF = South Florida.



Reporting Cycle refers to the year(s) in which the samples were collected:

Cycle 1: 2000-2003
Cycle 2: 2004-2008
Cycle 3: 2009
Cycle 4: 2010
Cycle 5: 2011
Cycle 6: 2012
Cycle 7: 2013
Cycle 8: 2014
Cycle 9: 2015
Cycle 10: 2016
Cycle 11: 2017 (and so on)

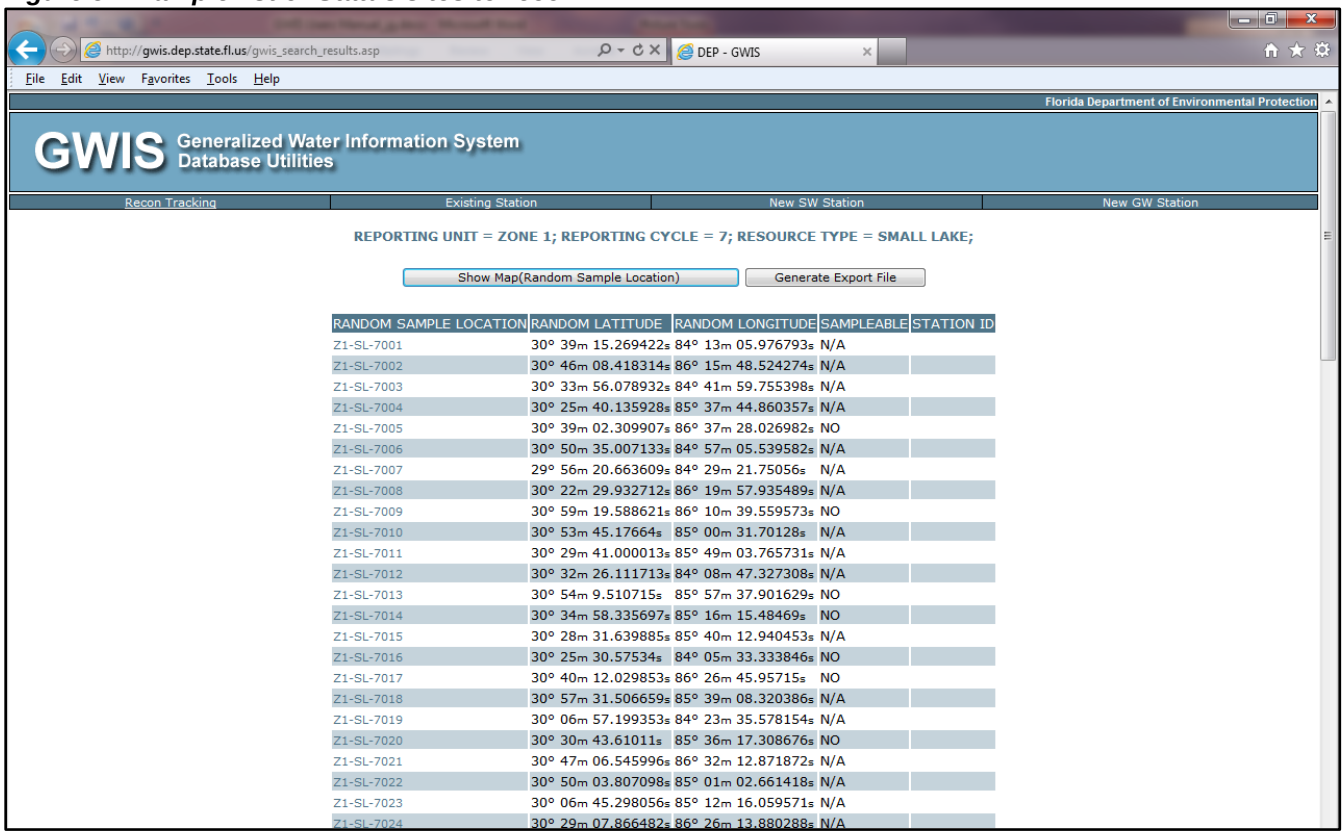
NOTE: The WMS adopted an annual Reporting Cycle in 2009. From 2000-2008, the Reporting Cycles lasted 4-5 years each.

Site Location Range is an optional input that one may enter if interested in a specific site number. If left blank, all Status sites that match the chosen criteria will be listed.

Click **Submit** to accept choices and begin reconnaissance. To clear choices and start again, click **Reset**.

The list of Status sites corresponding to the chosen inputs will appear with the sample location, latitude and longitude (*Figure 5*). The “Sampleable” column will be populated with “N/A”. This column is updated after the site is reconned. In the example shown below, Resource Type = Small Lake, Reporting Unit = Zone 1, and Reporting Cycle = 7 were chosen, and the Site Location Range was left empty.

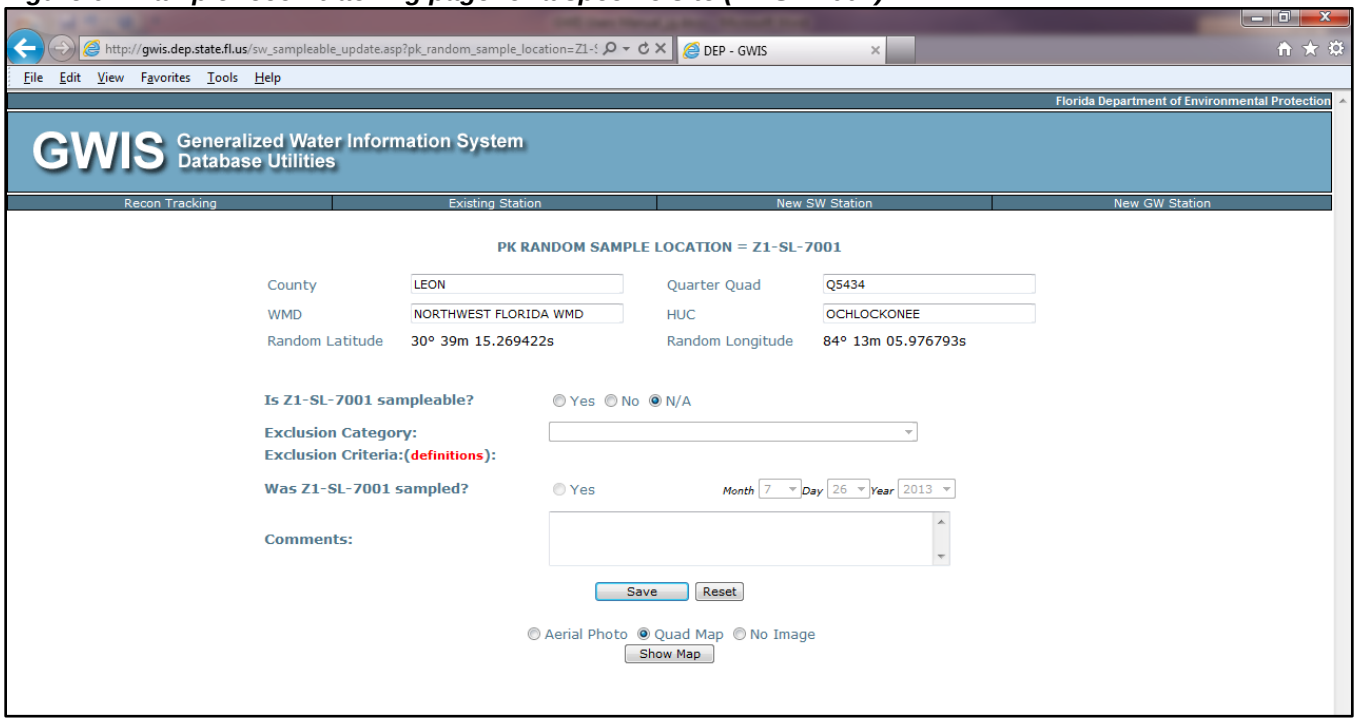
Figure 5. Example list of Status sites to recon



RANDOM SAMPLE LOCATION	RANDOM LATITUDE	RANDOM LONGITUDE	SAMPLEABLE	STATION ID
Z1-SL-7001	30° 39m 15.269422s	84° 13m 05.976793s	N/A	
Z1-SL-7002	30° 46m 08.418314s	86° 15m 48.524274s	N/A	
Z1-SL-7003	30° 33m 56.078932s	84° 41m 59.755398s	N/A	
Z1-SL-7004	30° 25m 40.135928s	85° 37m 44.860357s	N/A	
Z1-SL-7005	30° 39m 02.309907s	86° 37m 28.026982s	NO	
Z1-SL-7006	30° 50m 35.007133s	84° 57m 05.539582s	N/A	
Z1-SL-7007	29° 56m 20.663609s	84° 29m 21.75056s	N/A	
Z1-SL-7008	30° 22m 29.932712s	86° 19m 57.935489s	N/A	
Z1-SL-7009	30° 59m 19.588621s	86° 10m 39.559573s	NO	
Z1-SL-7010	30° 53m 45.17664s	85° 00m 31.70128s	N/A	
Z1-SL-7011	30° 29m 41.000013s	85° 49m 03.765731s	N/A	
Z1-SL-7012	30° 32m 26.111713s	84° 08m 47.327308s	N/A	
Z1-SL-7013	30° 54m 9.510715s	85° 57m 37.901629s	NO	
Z1-SL-7014	30° 34m 58.335697s	85° 16m 15.48469s	NO	
Z1-SL-7015	30° 28m 31.639885s	85° 40m 12.940453s	N/A	
Z1-SL-7016	30° 25m 30.57534s	84° 05m 33.333846s	NO	
Z1-SL-7017	30° 40m 12.029853s	86° 26m 45.95715s	NO	
Z1-SL-7018	30° 57m 31.506659s	85° 39m 08.320386s	N/A	
Z1-SL-7019	30° 06m 57.199353s	84° 23m 35.578154s	N/A	
Z1-SL-7020	30° 30m 43.61011s	85° 36m 17.308676s	NO	
Z1-SL-7021	30° 47m 06.545996s	86° 32m 12.871872s	N/A	
Z1-SL-7022	30° 50m 03.807098s	85° 01m 02.661418s	N/A	
Z1-SL-7023	30° 06m 45.298056s	85° 12m 16.059571s	N/A	
Z1-SL-7024	30° 29m 07.866482s	86° 26m 13.880288s	N/A	

Now, click on the **Random Sample Location** to be reconned (e.g., Z1-SL-7001). A screen with extra information about the site will pop up (*Figure 6*).

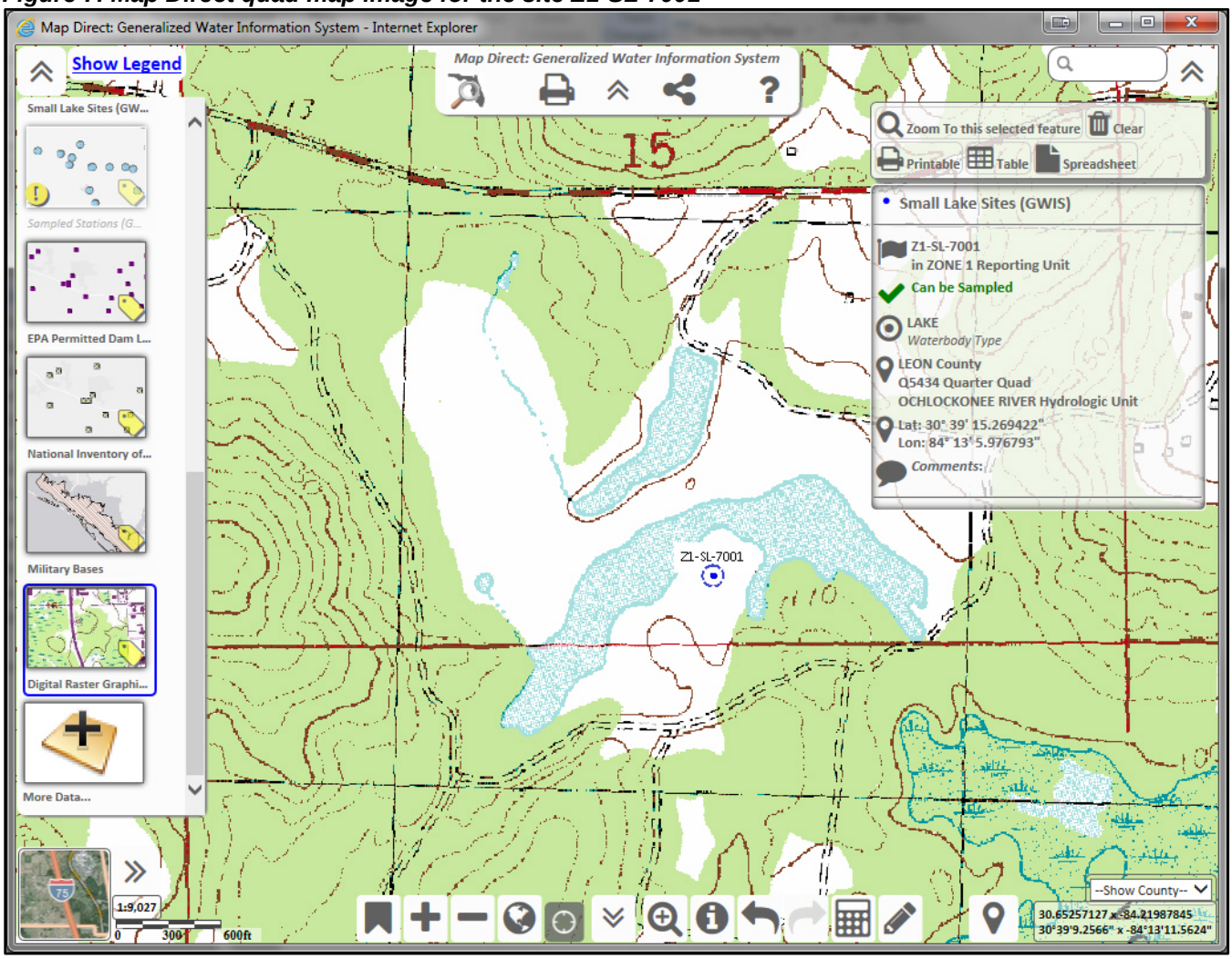
Figure 6. Example recon tracking page for a specific site (Z1-SL-7001)



*****Note: If the user clicks on the back arrow, a screen saying that the "Webpage has expired" may show up. Click Refresh and then "Retry" to return to the original screen (*Figure 5*).**

To recon using a map of the site, click **Show Map**. This feature opens the Map Direct Consolidated Application, which has many viewing options. The Map Direct Application defaults to displaying a basic topographic map as the background (base map). The user can change the base map using the controls at the bottom left of the screen to view the site on top of an aerial photo or no background image. Users can also display the USGS Quad Map (Digital Raster Graphics (24k)) as a map layer using the controls at the top left of the screen. Making the Quad Map layer visible is recommended as it provides a first check in determining whether the site is an established/natural reservoir, or if it is manmade. Waterbodies that are manmade should be excluded from sampling. Please refer to the Recon Manual (http://publicfiles.dep.state.fl.us/dear/watershed%20monitoring/documents/WMS-ReconManual.pdf) and Sampling Manual (http://publicfiles.dep.state.fl.us/DEAR/Watershed%20Monitoring/Documents/WMS-SamplingManual.pdf) for examples of exclusions. *Figure 7* shows an example quad map image in Map Direct.

Figure 7. Map Direct quad map image for the site Z1-SL-7001



Take note of the tools on the left side of the screen. These tools allow users to click on and off Data Layers and labels, or search for additional data layers to display. The buttons on the bottom of the map allow users to zoom in/out to assist in determining the exact location, and measure the distance to other features, such as access roads or potential pollution sources like wastewater treatment plants. Useful tools at the top of the screen include **Help** and **Print to PDF**.

Navigation and the icons that appear on the bottom toolbar are explained on the next page. The functions of these can also be accessed by clicking **Help** at the top of the page. The Help menu contains a Map Direct Tutorial and Quick Start guide.

Pan / Zoom using mouse and keyboard (enabled by default): Use the mouse to drag the image up/down or left/right. Zoom in / out by rolling the mouse wheel forward or backward. Zoom in by double clicking on a location or feature on the map, or by holding the shift key and drawing a box using the mouse and left mouse button.


Bookmark tool: Create bookmarks of map views. Return to previously created bookmarks.


Zoom In tool: Magnifies the image.


Zoom Out tool: Increases the map scale (opposite of Zoom In tool).


Zoom to Florida tool: Increases the map scale so that the entire state of Florida is visible.


Zoom to / Track Current Location tool: Displays the user's current location on the map (for use with GPS enabled devices).


Zoom In by Drawing a Box tool: Zooms to a box drawn using the mouse and left mouse button.


Identify tool: Identifies the layer or point.


Go Back tool: Returns to previous map view.


Go Forward tool: Returns to next map view (for use after Go Back tool).

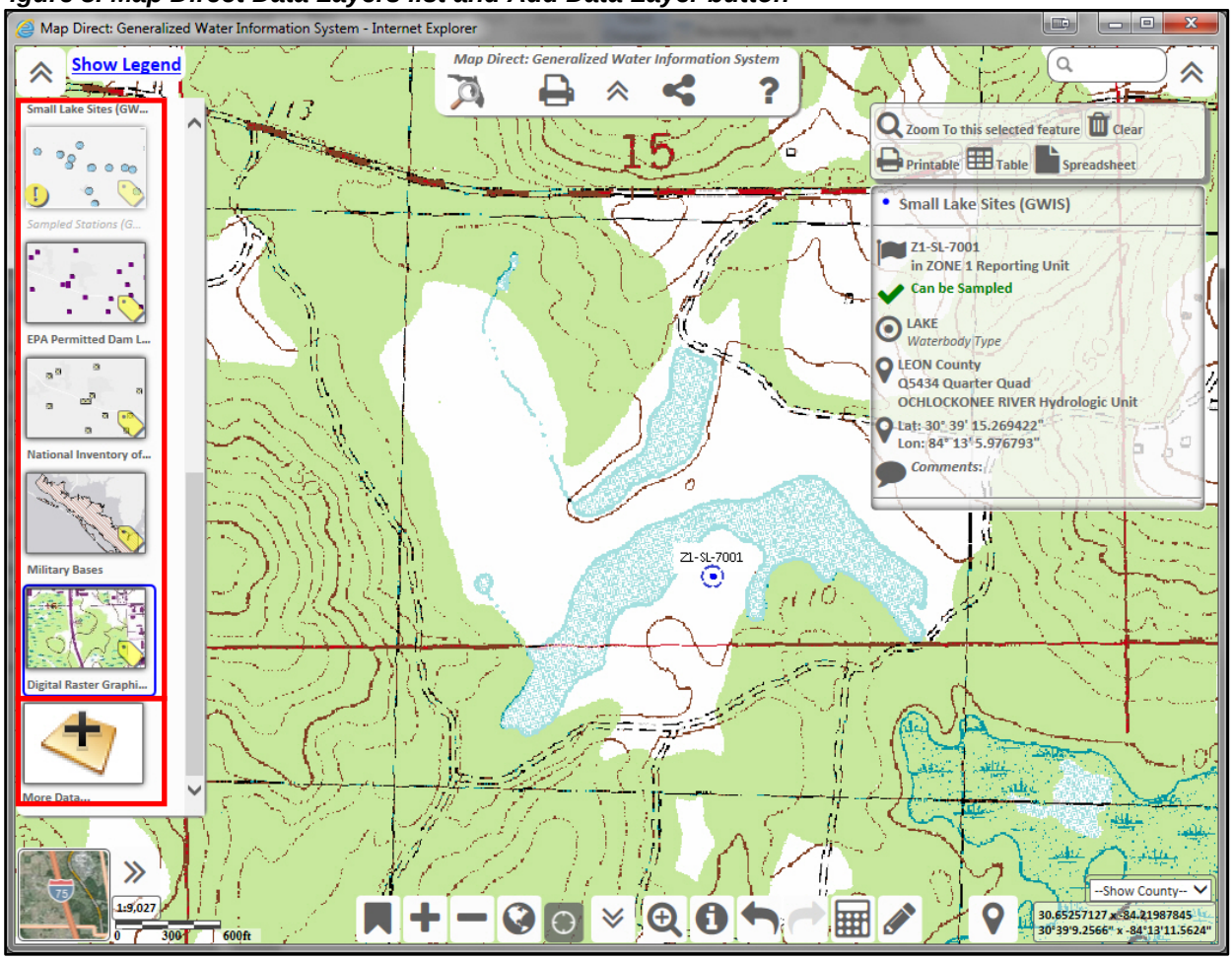

Measure tool: Measures distance and area of lines / polygons drawn by the user.


Draw Graphics tool: Allows user to draw shapes and text boxes on map.

Making Layers Visible

Users can control which layers are displayed by clicking the thumbnails in the **Data Layers** list (*Figure 8*). In addition, users may search for a data layer by clicking **More Data** near the bottom of the list. A commonly used layer is **Cadastral (Property Appraiser Parcels)**, located in the **Quick Topics for GWIS** or **Background Boundaries** categories. Many of the WMS layers can be found by searching for "WMS".

Figure 8. Map Direct Data Layers list and Add Data Layer button



Additional Functionality

To fully explore the functionality of Map Direct, click on the **Welcome** tab, and locate the **Help** block. The Help block contains the Map Direct Tutorial and Map Direct Quick Start.

Entering Recon Information

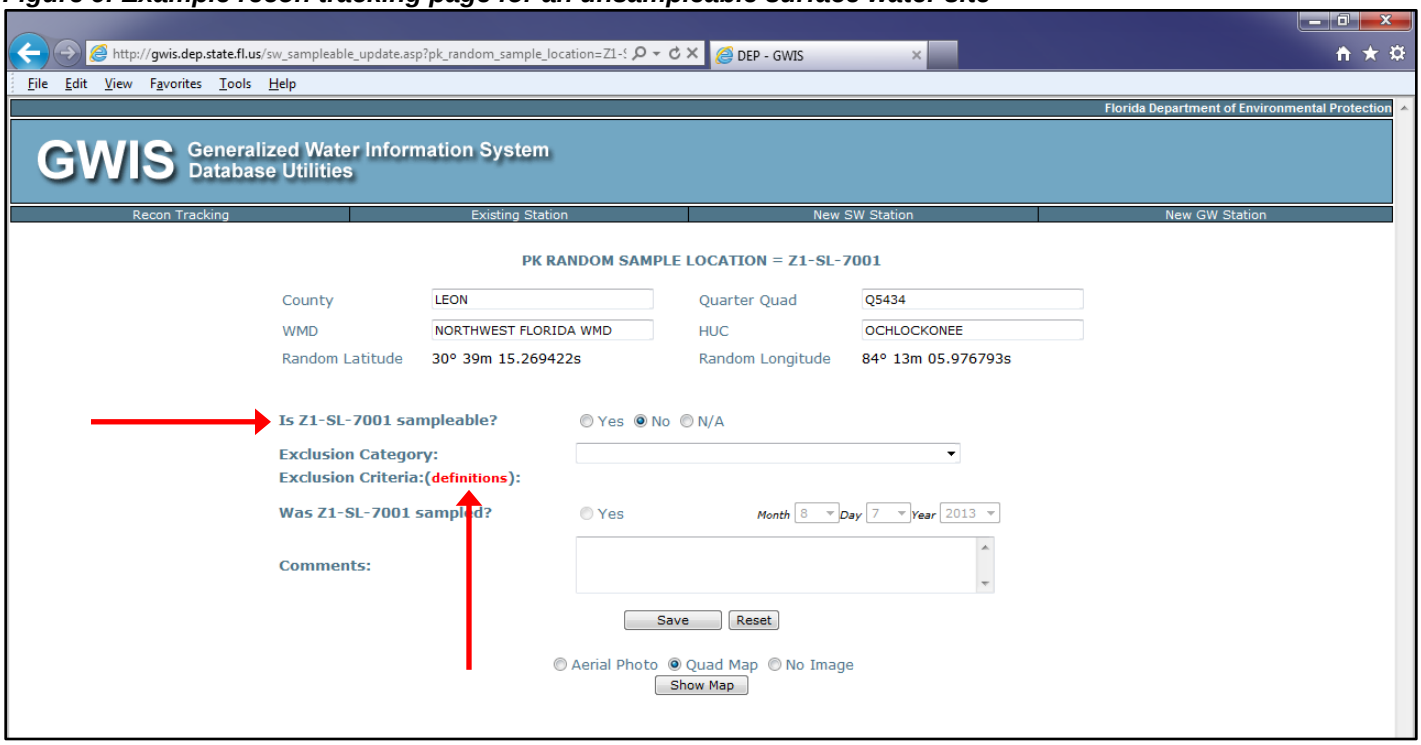
A. Surface Water

After determining whether the site is actually sampleable, information can be updated in the Database Utilities application. Until a station is reconned, the “Is [the site] sampleable?” field is marked “N/A”.

Case 1: Site is Not Sampleable

If the site is not sampleable, click **No** (see *Figure 9*). If a site is marked as unsampleable, a reason must be chosen from the **Exclusion Category** drop-down list. After choosing an Exclusion Category, select the appropriate **Exclusion Criteria**. To ensure that the Exclusion Category and Criterion are correct, click on the word **definitions**.

Figure 9. Example recon tracking page for an unsampleable surface water site



A list of surface/ground water exclusion categories and criteria pops up (*Table 1*). Please see the WMS Sampling Manual for the most up-to-date exclusions list.

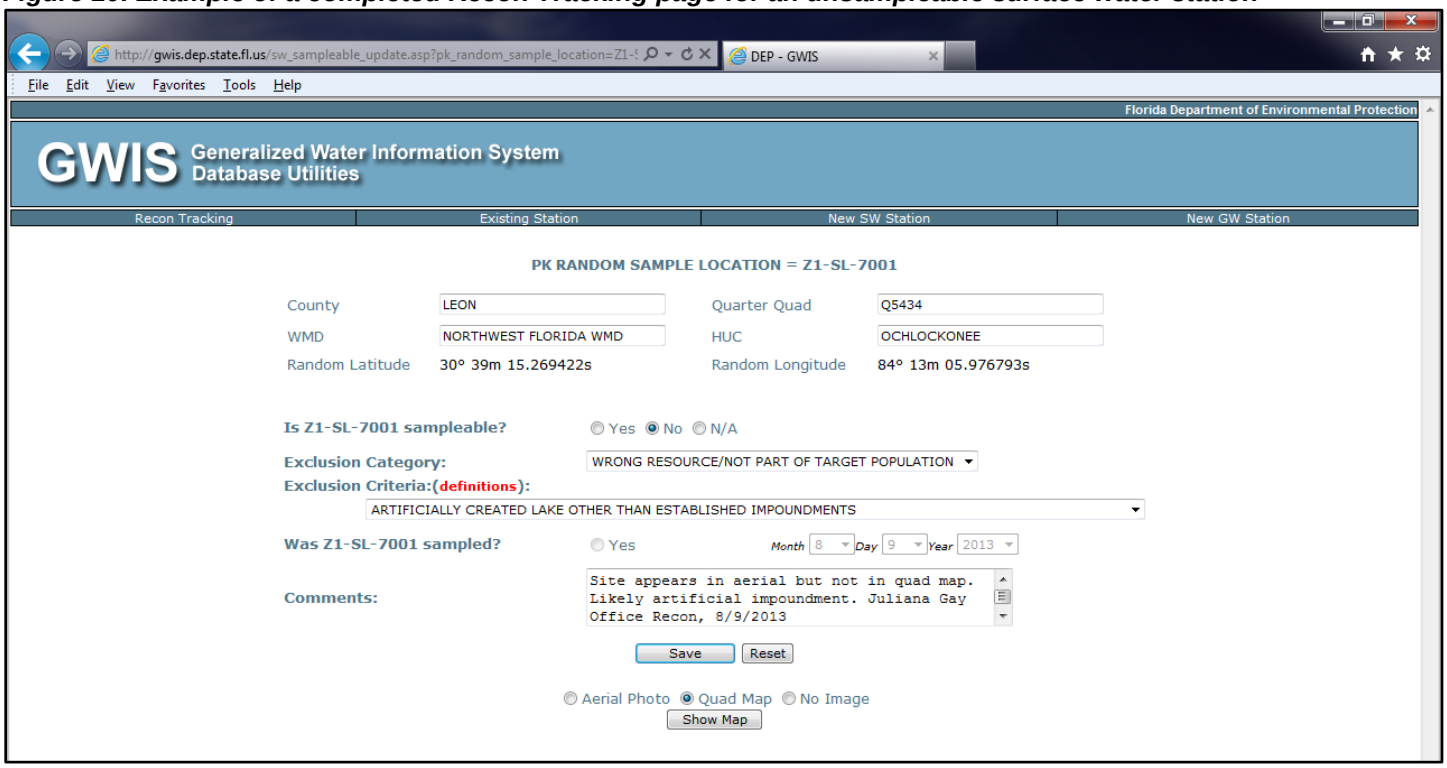
Table 1. Surface Water Exclusion Criteria and Definitions

EXCLUSION CATEGORY	EXCLUSION CRITERIA
DRY	SMALL LAKE OR LARGE LAKE < 1 METER AT DEEPEST POINT
DRY	DRY DURING INDEX PERIOD, INCLUDES SMALL LAKE WATER < 4 HECTARES LARGE LAKE WATER < 10 HECTARES
DRY	STREAM/RIVER/CANAL FLOW POOLED AND DISCONNECTED AT RANDOM LOCATION
DRY	RANDOM LOCATION LESS THAN 10 CM DEEP
NO PERMISSION FROM OWNER	ACCESS DENIED BY PROPERTY OWNER
NO PERMISSION FROM OWNER	UNABLE TO OBTAIN PERMISSION FROM OWNER
OTHERWISE UNSAMPLEABLE	FLOOD CONDITIONS (FLOW OUT OF BANKS) AT STREAM/RIVER/CANAL RANDOM LOCATION
OTHERWISE UNSAMPLEABLE	UNSAFE SAMPLING CONDITIONS
OTHERWISE UNSAMPLEABLE	OPEN WATER IN LAKE LESS THAN 0.1 HECTARE
OTHERWISE UNSAMPLEABLE	LESS THAN 0.5 SQUARE METERS FREE OF ATTACHED VEGETATION AT SAMPLING POINT
UNABLE TO ACCESS	NO OPEN WATER AVAILABLE AT LAKE SAMPLING POINT
UNABLE TO ACCESS	UNABLE TO REACH RANDOM LOCATION WITHIN THREE HOURS FROM ACCESS POINT
UNABLE TO ACCESS	UNABLE TO GET EQUIPMENT TO RANDOM LOCATION (SAMPLER CANNOT GET NECESSARY SAMPLING EQUIPMENT TO SITE)
WRONG RESOURCE/NOT PART OF TARGET POPULATION	ARTIFICIALLY CREATED LAKE OTHER THAN ESTABLISHED IMPOUNDMENTS
WRONG RESOURCE/NOT PART OF TARGET POPULATION	STORMWATER TREATMENT AREAS
WRONG RESOURCE/NOT PART OF TARGET POPULATION	WETLANDS
WRONG RESOURCE/NOT PART OF TARGET POPULATION	ROADSIDE BORROW PIT
WRONG RESOURCE/NOT PART OF TARGET POPULATION	CURRENT OR HISTORIC MINING OPERATION WITHOUT RESTORATION
WRONG RESOURCE/NOT PART OF TARGET POPULATION	STREAM/RIVER ARTIFICIALLY ALTERED WITH LOSS OF SINUOSITY AND BOX CUT BANKS (NOT A PRIMARY CANAL)
WRONG RESOURCE/NOT PART OF TARGET POPULATION	ARTIFICIAL LAKE, LAGOON, OR POND USED FOR AGRICULTURAL OR AQUACULTURE OPERATIONS
WRONG RESOURCE/NOT PART OF TARGET POPULATION	ESTABLISHED LAKE SIZE IS < 4 HECTARES, VIA BEST PROFESSIONAL JUDGEMENT, (NOT “DRY”)
WRONG RESOURCE/NOT PART OF TARGET POPULATION	GIS COVERAGE INCORRECT, WATERBODY NOT PRESENT AT RANDOM LOCATION
WRONG RESOURCE/NOT PART OF TARGET POPULATION	WATERBODY WITHIN FDEP PERMITTED FACILITY BOUNDARY
WRONG RESOURCE/NOT PART OF TARGET POPULATION	RANDOM LOCATION LIES AT OUTFALL OF FDEP PERMITTED FACILITY (SITE LIES AT THE OUTFALL POINT OF EFFLUENT OR IN MIXING ZONE)
WRONG RESOURCE/NOT PART OF TARGET POPULATION	RANDOM LOCATION FALLS OUTSIDE REPORTING ZONE
WRONG RESOURCE/NOT PART OF TARGET POPULATION	ESTUARY
WRONG RESOURCE/NOT PART OF TARGET POPULATION	CHANGING RESOURCE TYPE (INCLUDING RESTORATION AREAS) (RESOURCE TYPE WILL DEFINITELY CHANGE PRIOR TO SCHEDULED SAMPLING. EXAMPLE: IMPOUNDMENT OF A FORMER RIVER TO FORM A LAKE.)
WRONG RESOURCE/NOT PART OF TARGET POPULATION	STREAM SEGMENT IS NOT CONNECTED TO WATERS OF THE STATE
WRONG RESOURCE/NOT PART OF TARGET POPULATION	DRAINAGE/IRRIGATION DITCH INCLUDED IN PRIMARY CANAL COVERAGE

After entering the Exclusion Category and Criterion, please add a short statement to the **Comments** field describing why the site was excluded. Include the word “field” or “office” to denote the type of

recon completed, as well as the name of the person performing the recon and the date (*Figure 10*). Questions should be directed to the appropriate WMS contact.

Figure 10. Example of a completed Recon Tracking page for an unsampleable surface water station



Click **Save** to record the information or **Reset** to clear edits and begin again.

NOTE: If “No” was entered for the question, “Is [the site] sampleable?”, the recon information cannot be saved without entering the Exclusion Category and Criteria.

Case 2: Site is Sampleable

If the recon indicates that the site can be sampled, click **Yes**. After the site has been sampled, be sure to update the sampling date (it defaults to the current date). Add any pertinent comments at this time. Click **Save** to record edits.

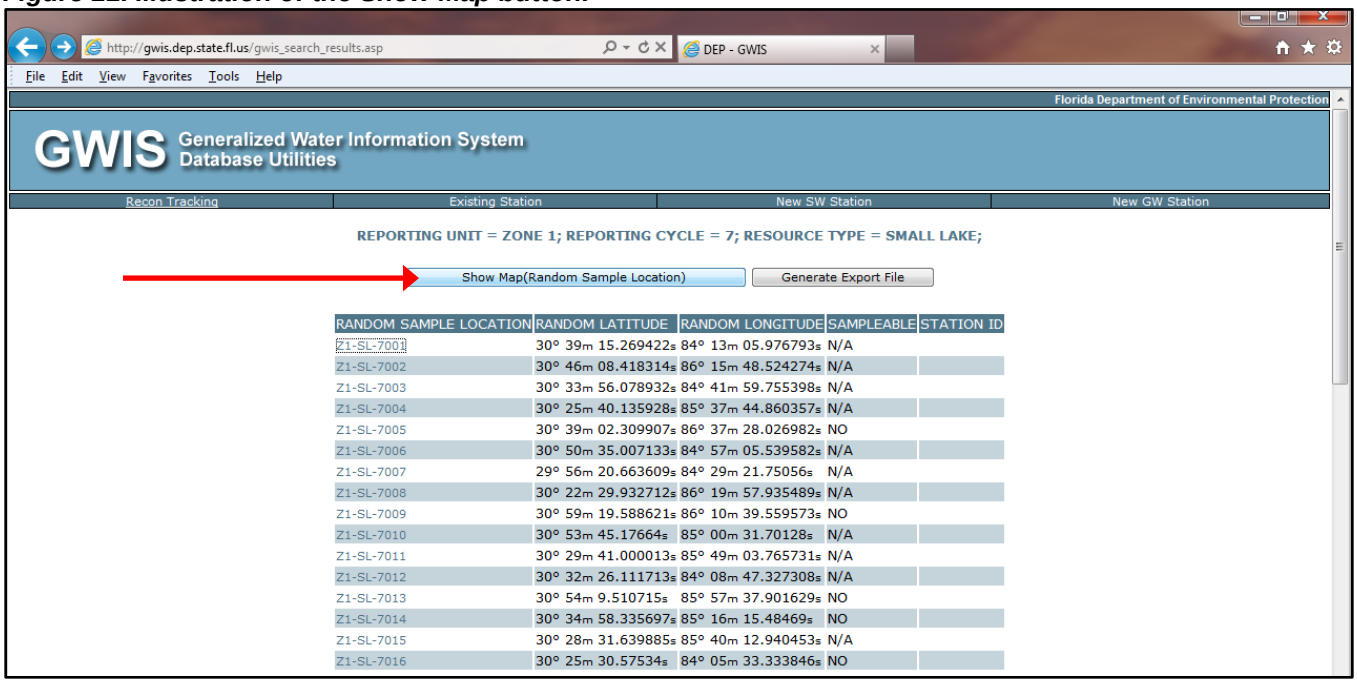
B. Ground Water

When Confined Aquifer or Unconfined Aquifer are selected as the Resource Type, a list of wells that were selected as candidates for sampling will appear. To recon a ground water station, click **Show Map** at the bottom of the station screen, and review as you would for surface water. The Recon Manual provides more details and examples. Be sure to click **Save** to record edits.

Viewing All Sampling Sites in a Reporting Unit

Another feature of the Database Utilities Map Direct application is the ability to view all current site selections along with previously sampled sites. If a waterbody/well was sampled in the past, this may provide evidence that it is sampleable during the current Cycle. To view the past and present sites, go to the list of random sampling sites and click **Show Map (Random Sample Location)** (see *Figure 11*).

Figure 11. Illustration of the Show Map button.



A map appears showing the random sites listed above, along with the past sampling sites from *all* water resources. The current site selections are indicated by solid blue circles surrounded by hollow blue circles when selected  (*Figure 12*). Upon zooming in, one can see the past sampling points for all resources in the Reporting Unit (*Figure 13*). The historical sites are indicated by blue S  icons. The historical sites were sampled under the Status Network, Trend Network, and/or the now-discontinued Background / Very Intense Study Area (VISA) Networks. To display information about a site, click the Identify Point icon  , and then click on the symbol for that site. Users may then click **options** to obtain useful information such as estimated address and driving directions.

Figure 12. Results of clicking the Show Map (Random Sample Location) button. In this case the inputs were: Resource Type= Small Lake, Reporting Unit = Zone 1, and Reporting Cycle = 7.

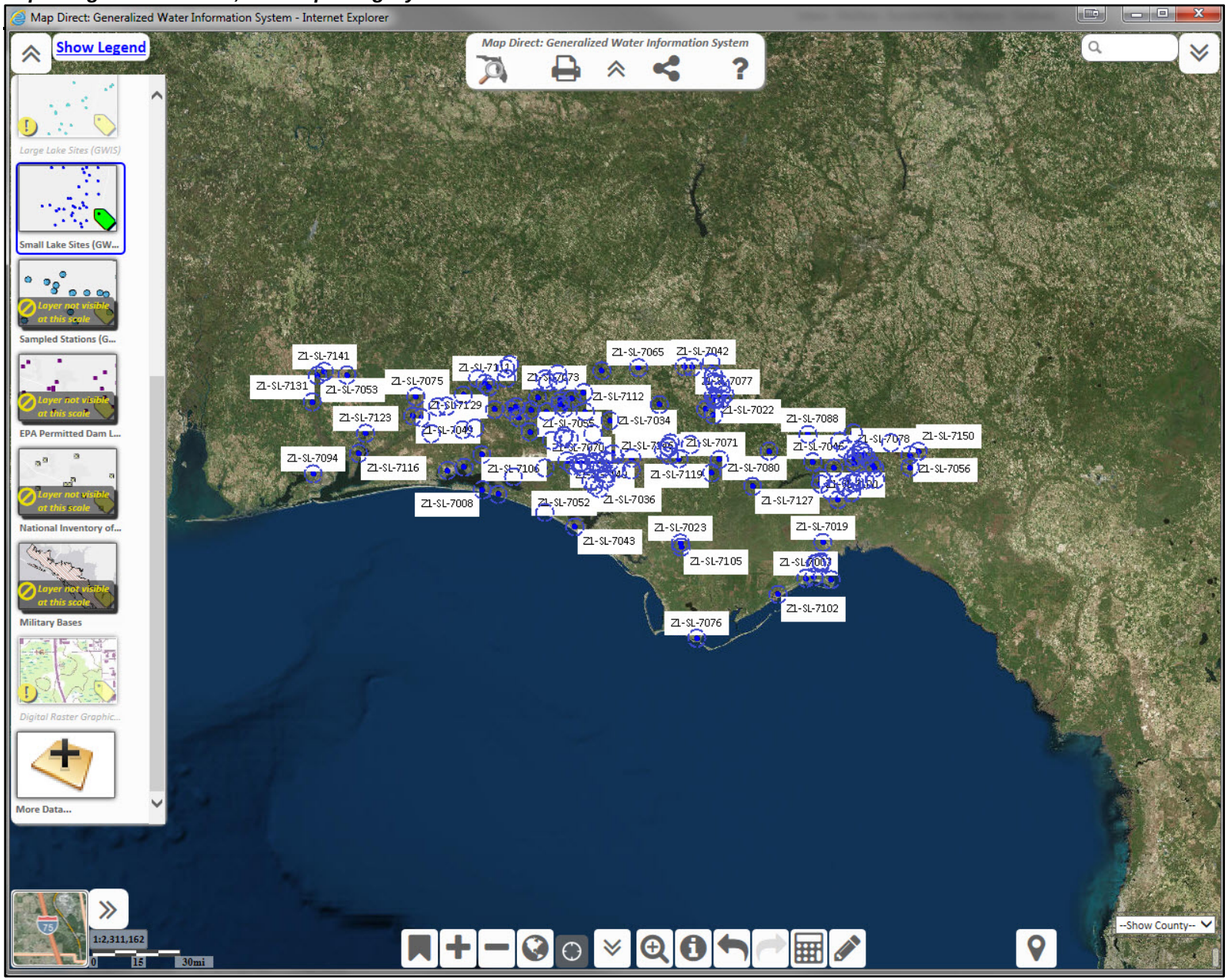
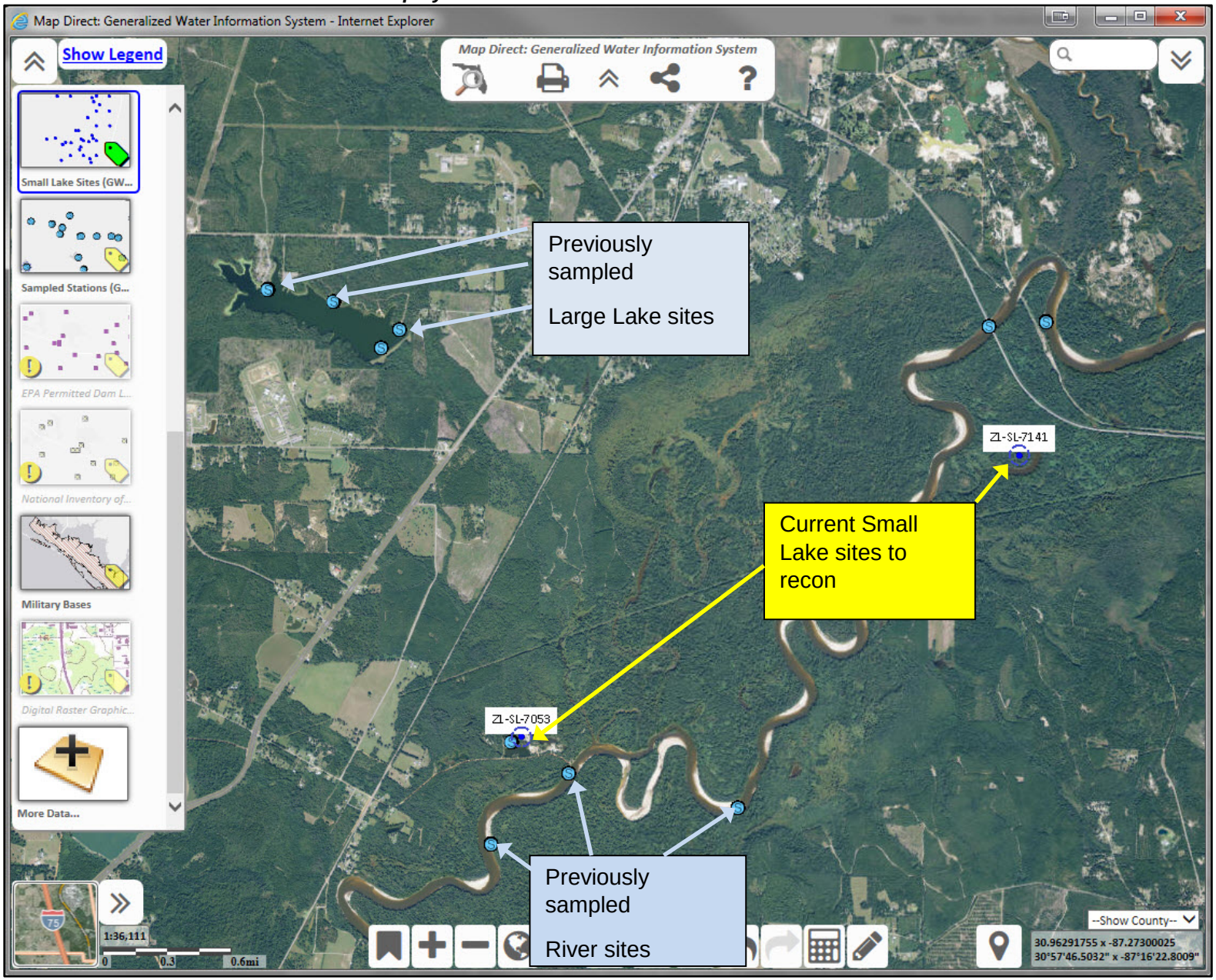


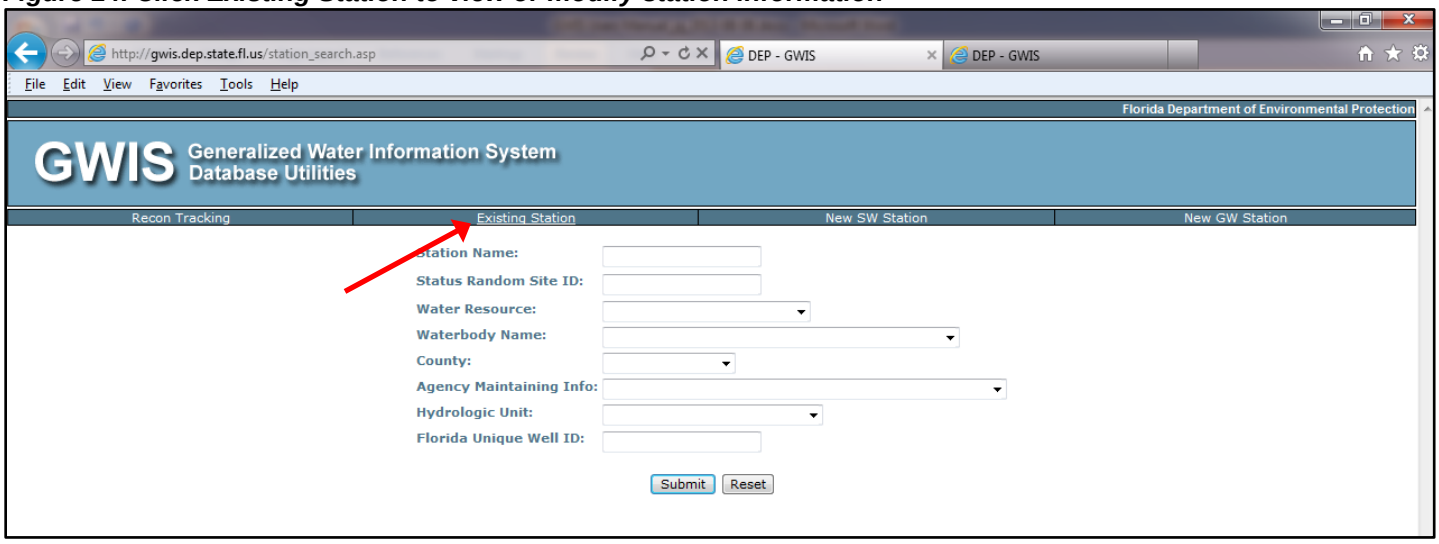
Figure 13. Zoom-in of the previous figure. Cycle 7 Small Lake selections are indicated with blue circles and site names (e.g., Z1-SL-7053). Historical sites from all resources are displayed with "S" icons.



Updating Existing Station Information

Periodically, some of the data for a station may change (e.g., ownership of a well or phone numbers may change). Updates to reflect these changes should be made in a timely manner[1] by either the WMS contact (See Contacts, page 27) or the contracted sampling agency. To update information in the Database Utilities, click on **Existing Station** (*Figure 14*).

Figure 14. Click Existing Station to view or modify station information

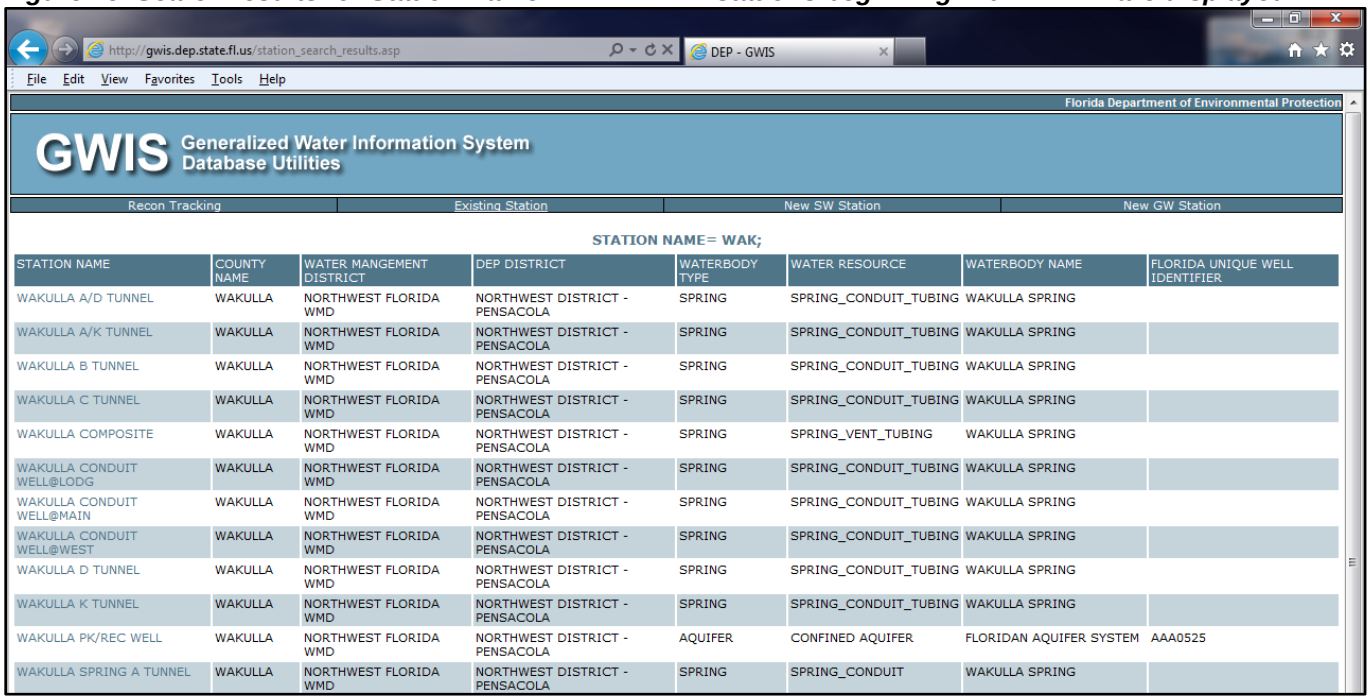


There are several options for accessing site information:

1. If the station name is known, enter it into the **Station Name** field and click **Submit**. A list of stations with similar names will be shown. Click on the appropriate station name.
2. If the first letters or numbers of the Station Name but not the entire name is known, leave the rest of the field blank and the application will search for all stations with the beginning characters identified.
3. As an alternative, select a Water Resource, County, FLUWID number, etc., to search for the site. Click **Submit**, and a list will show up as seen in *Figure 15*.

[1] Ideally, this should be after the Lab and Field data are combined and made available for review, but before the data are released.

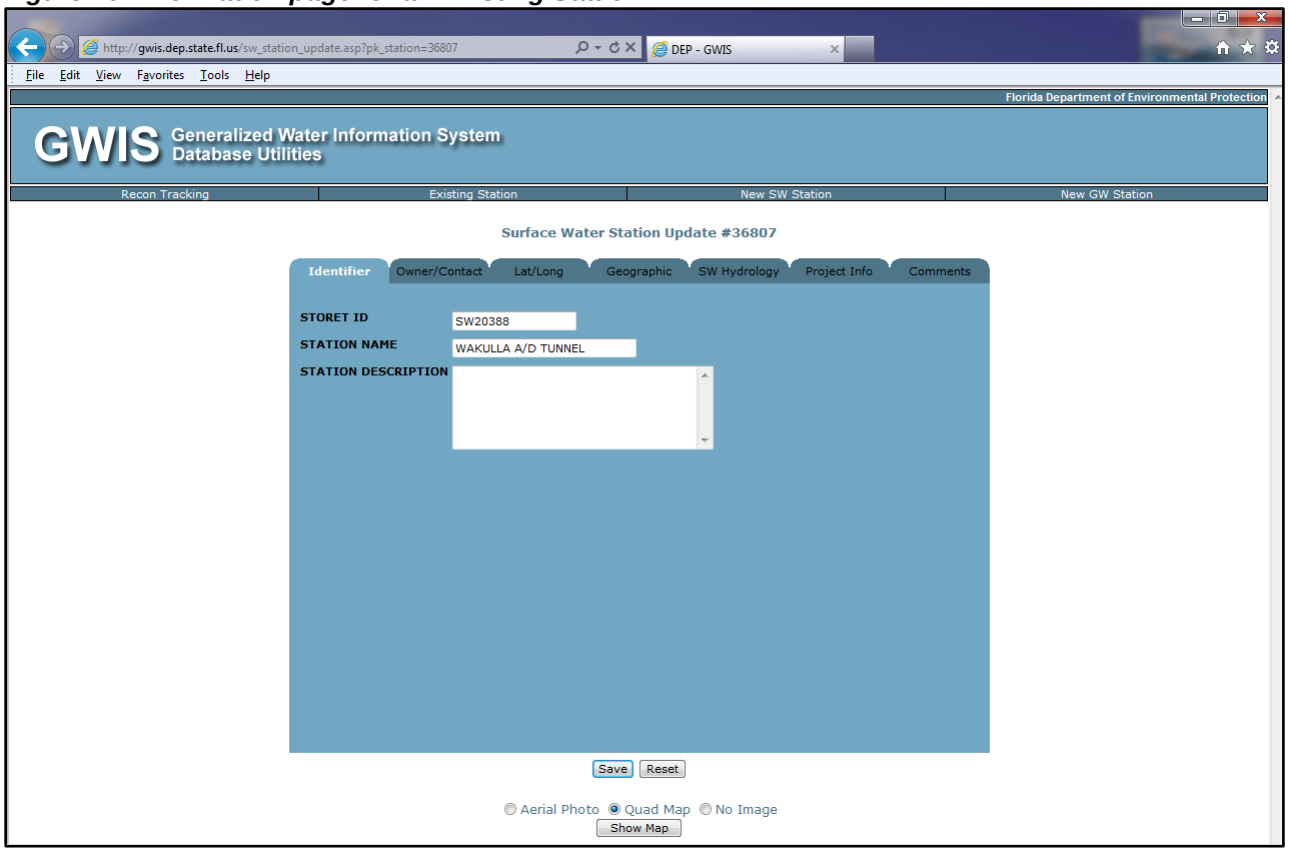
Figure 15. Search results for Station Name = "WAK". All stations beginning with "WAK" are displayed.



STATION NAME	COUNTY NAME	WATER MANGEMENT DISTRICT	DEP DISTRICT	WATERBODY TYPE	WATER RESOURCE	WATERBODY NAME	FLORIDA UNIQUE WELL IDENTIFIER
WAKULLA A/D TUNNEL	WAKULLA	NORTHWEST FLORIDA WMD	NORTHWEST DISTRICT - PENSACOLA	SPRING	SPRING_CONDUIT_TUBING	WAKULLA SPRING	
WAKULLA A/K TUNNEL	WAKULLA	NORTHWEST FLORIDA WMD	NORTHWEST DISTRICT - PENSACOLA	SPRING	SPRING_CONDUIT_TUBING	WAKULLA SPRING	
WAKULLA B TUNNEL	WAKULLA	NORTHWEST FLORIDA WMD	NORTHWEST DISTRICT - PENSACOLA	SPRING	SPRING_CONDUIT_TUBING	WAKULLA SPRING	
WAKULLA C TUNNEL	WAKULLA	NORTHWEST FLORIDA WMD	NORTHWEST DISTRICT - PENSACOLA	SPRING	SPRING_CONDUIT_TUBING	WAKULLA SPRING	
WAKULLA COMPOSITE	WAKULLA	NORTHWEST FLORIDA WMD	NORTHWEST DISTRICT - PENSACOLA	SPRING	SPRING_VENT_TUBING	WAKULLA SPRING	
WAKULLA CONDUIT WELL@LODG	WAKULLA	NORTHWEST FLORIDA WMD	NORTHWEST DISTRICT - PENSACOLA	SPRING	SPRING_CONDUIT_TUBING	WAKULLA SPRING	
WAKULLA CONDUIT WELL@MAIN	WAKULLA	NORTHWEST FLORIDA WMD	NORTHWEST DISTRICT - PENSACOLA	SPRING	SPRING_CONDUIT_TUBING	WAKULLA SPRING	
WAKULLA CONDUIT WELL@WEST	WAKULLA	NORTHWEST FLORIDA WMD	NORTHWEST DISTRICT - PENSACOLA	SPRING	SPRING_CONDUIT_TUBING	WAKULLA SPRING	
WAKULLA D TUNNEL	WAKULLA	NORTHWEST FLORIDA WMD	NORTHWEST DISTRICT - PENSACOLA	SPRING	SPRING_CONDUIT_TUBING	WAKULLA SPRING	
WAKULLA K TUNNEL	WAKULLA	NORTHWEST FLORIDA WMD	NORTHWEST DISTRICT - PENSACOLA	SPRING	SPRING_CONDUIT_TUBING	WAKULLA SPRING	
WAKULLA PK/REC WELL	WAKULLA	NORTHWEST FLORIDA WMD	NORTHWEST DISTRICT - PENSACOLA	AQUIFER	CONFINED AQUIFER	FLORIDAN AQUIFER SYSTEM	AAA0525
WAKULLA SPRING A TUNNEL	WAKULLA	NORTHWEST FLORIDA WMD	NORTHWEST DISTRICT - PENSACOLA	SPRING	SPRING_CONDUIT	WAKULLA SPRING	

When the list appears, click on the appropriate station name. The station information will appear, as seen in *Figure 16*. Fields that are shaded gray cannot be changed.

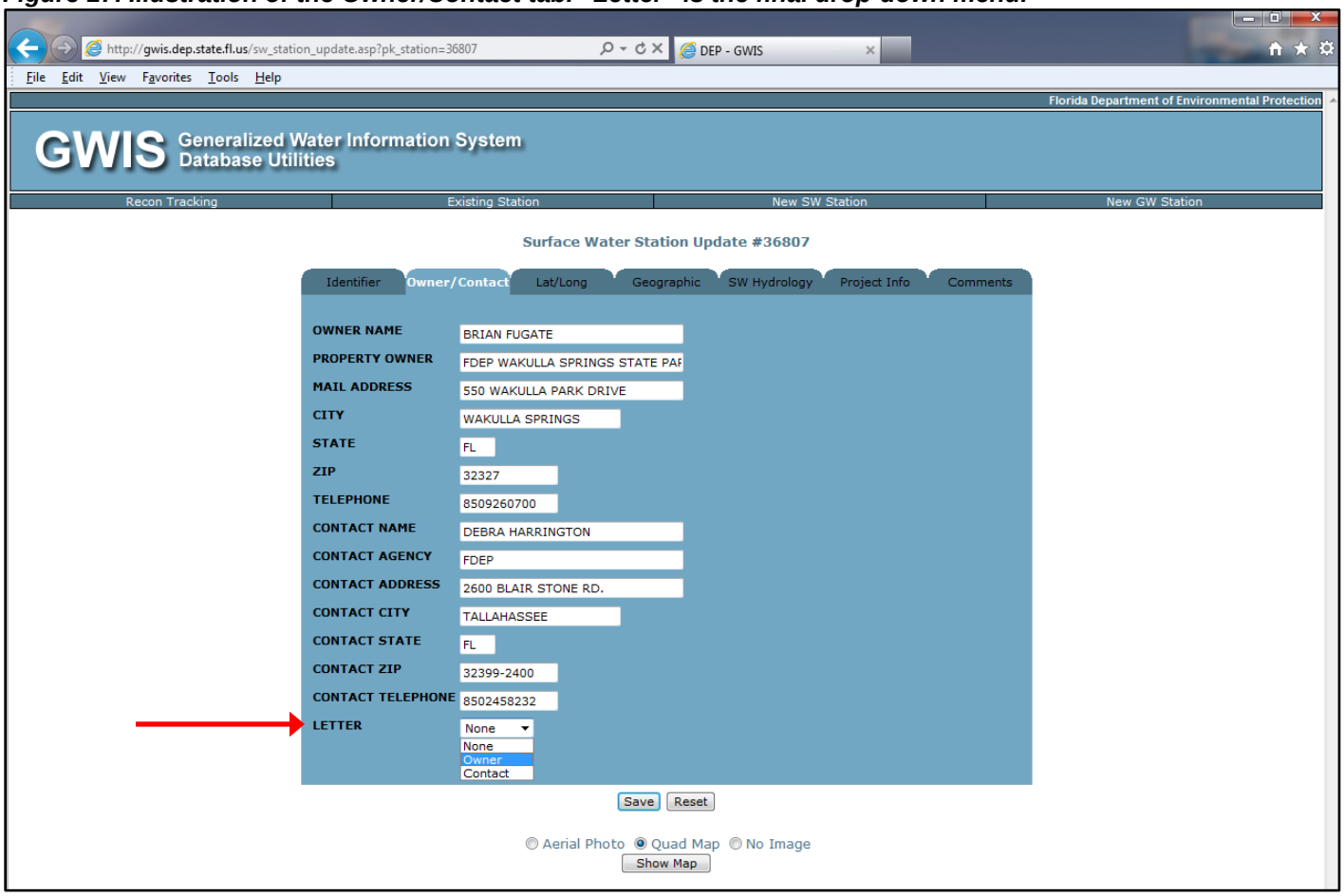
Figure 16. Information page for an Existing Station



To update information in this screen, simply type in the new information over the old or blank field, and click **Save**. Please note that the STORET ID and STATION NAME should not change once a station is established. If for some reason either of these items must be changed on an established station, please contact the WMS Data and Analysis coordinator, Liz Miller, before making the change.

If an owner or contact requests monitoring information, click on the **Letter** drop down menu under the **Owner/Contact** tab (*Figure 17*). Select either Owner or Contact from the drop-down list. Click **Save**. This action lets the WMS contact know (via the Automated Data Management [ADM] interface) that he or she needs to send monitoring information to that person or organization.

Figure 17. Illustration of the Owner/Contact tab. "Letter" is the final drop-down menu.



To change the name of a waterbody from "unnamed lake" or "unnamed river", select the correct waterbody name from the drop-down list under the **SW Hydrology** tab, and click **Save.** For a comprehensive list of the information contained in each tab, see page 28.

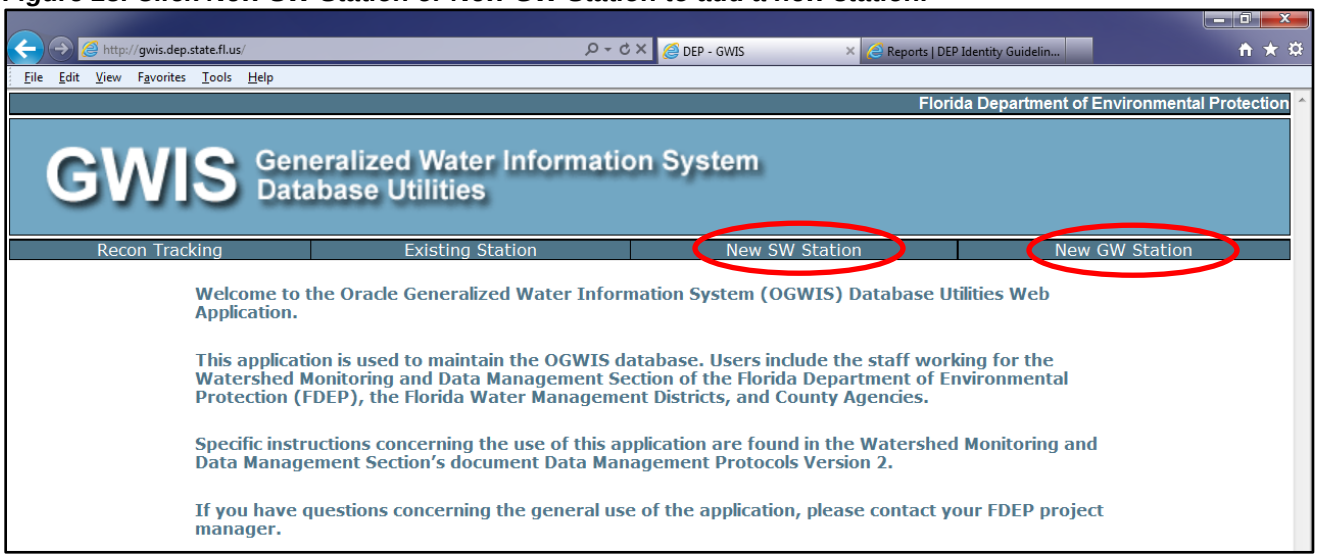
Batch Updates to Existing Station Data

Requests for large-scale updates to station data should be made to the Data and Analysis coordinator, Liz Miller.

Adding a New Station

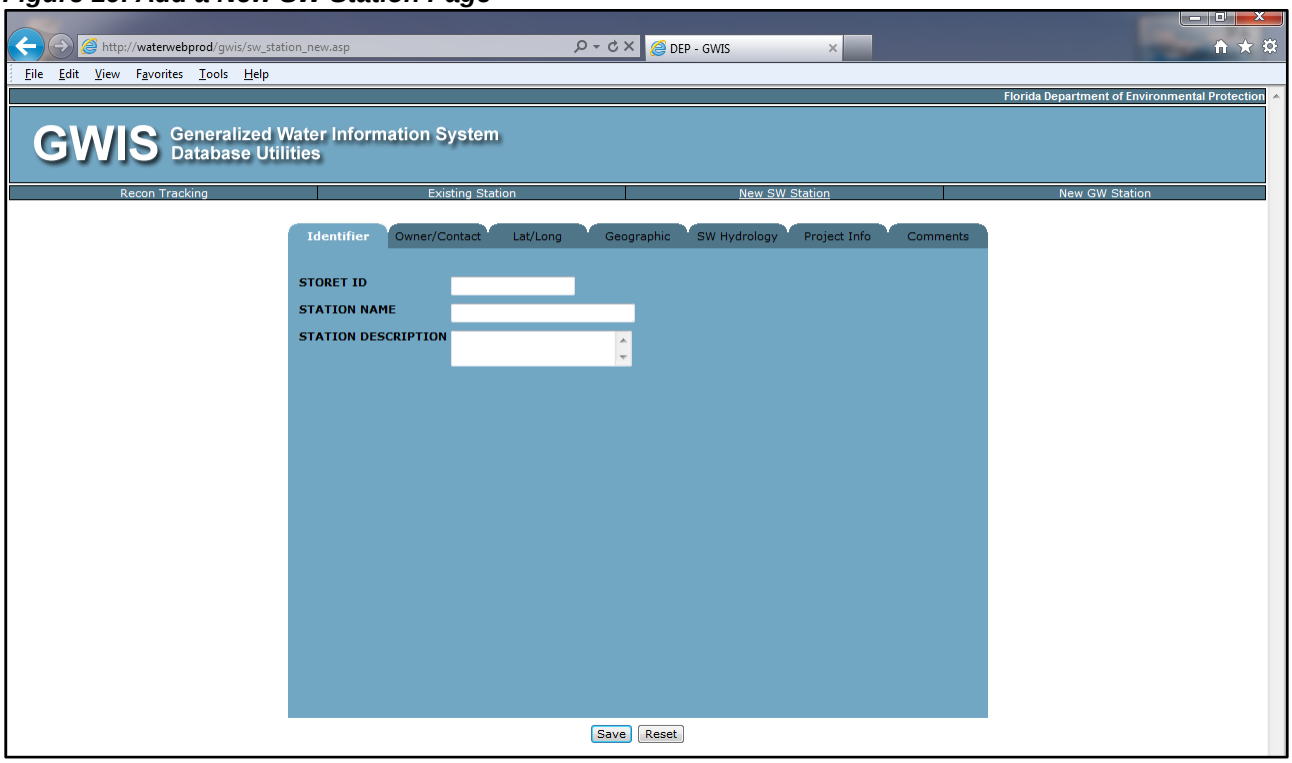
Only WMS staff have the correct permissions to add new stations manually. If a station needs to be added, please check with the appropriate WMS contact. Station addition should be done only with the Data Manager's permission. To add a new surface water (SW) or ground water (GW) station, select **New SW Station** or **New GW Station (***Figure 18***)**.

Figure 18. Click New SW Station or New GW Station to add a new station.



In each case, a tabbed form (*Figure 19*) appears. Enter required data (see next section for list of required fields) and click **Save**.

Figure 19. Add a New SW Station Page



Minimum Data Requirements for Stations

There are certain minimum data requirements for all stations, in order to save them to the database.

1. For a **ground water station (well)**, the following minimum information is required (as defined in the current Stations Table Data Dictionary):

- STATION NAME
- AGENCY
- WATERBODY NAME (aquifer)
- WATER RESOURCE (confined/unconfined)
- LATITUDE
- LONGITUDE
- LOCATION METHOD
- LOCATIONAL DATUM
- CASING DIAMETER (inches)
- CASING MATERIAL
- CASING DEPTH (feet below Land Surface)
- TOTAL DEPTH (feet below Land Surface)
- CONTACT INFORMATION
- DATA SOURCE.

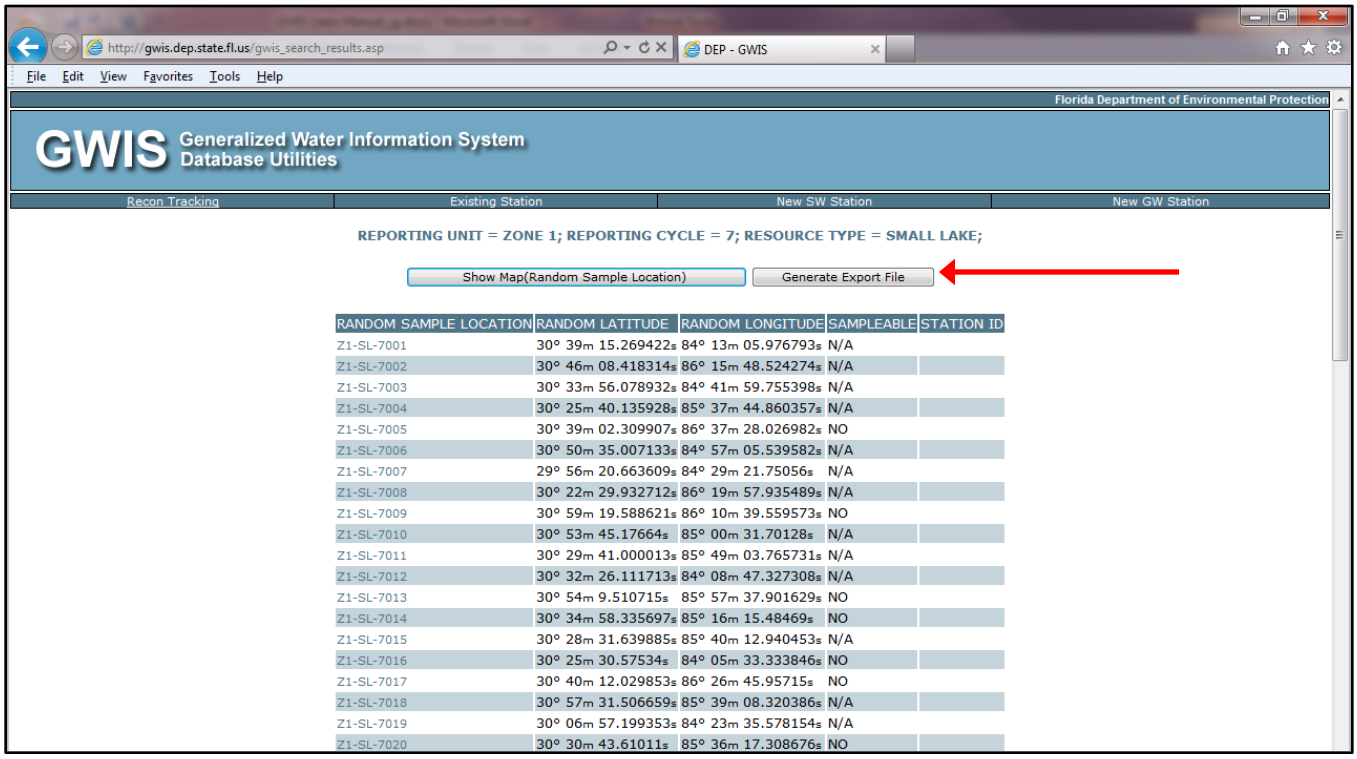
2. For **surface water stations**, the following information is required:
    - STATION NAME
    - AGENCY
    - USGS HYDROLOGIC UNIT
    - WATERBODY TYPE (stream/canal/lake)
    - WATERBODY NAME
    - WATER RESOURCE (small stream/large river/canal/large lake/small lake)
    - LATITUDE
    - LONGITUDE
    - LOCATION METHOD
    - LOCATIONAL DATUM
    - CONTACT INFORMATION
    - DATA SOURCE.

In addition to the above mentioned data elements, the WMS contact or contracted sampling agency should make every effort to fill in as much information about the site as appropriate and possible.

Exporting Station Data

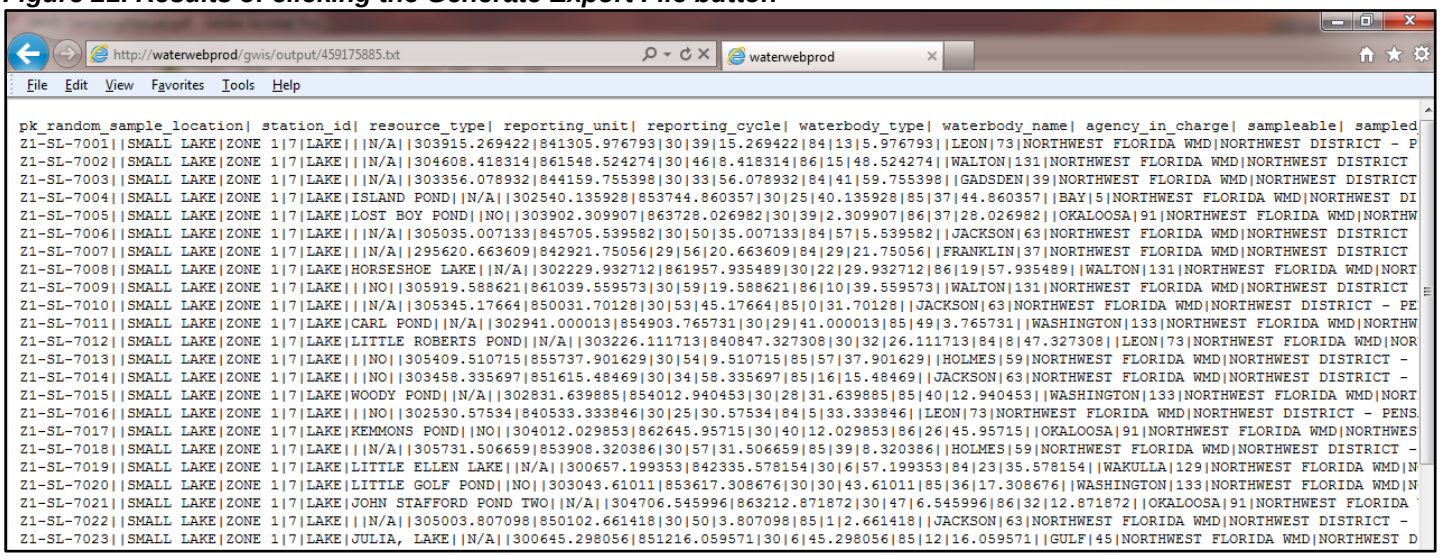
In order to create an Excel file containing the information about each random sample location, click on the **Generate Export File** button (*Figure 20*).

Figure 20. Click the Generate Export File to create the list of station information that can be imported into Excel.



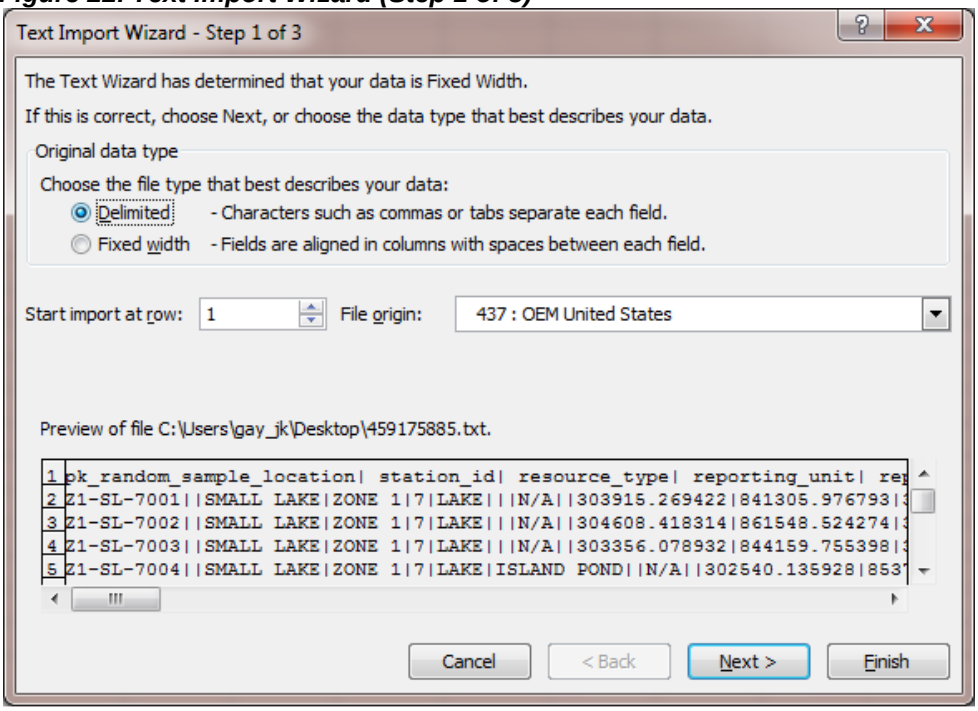
The recon data will display in the web browser in pipe-delimited form (*Figure 21*). From the Internet Explorer Tool bar, click **File → Save As…** and navigate to the desired folder. Change the file name to one that reflects the contents of the file, and click **Save**.

Figure 21. Results of clicking the Generate Export File button



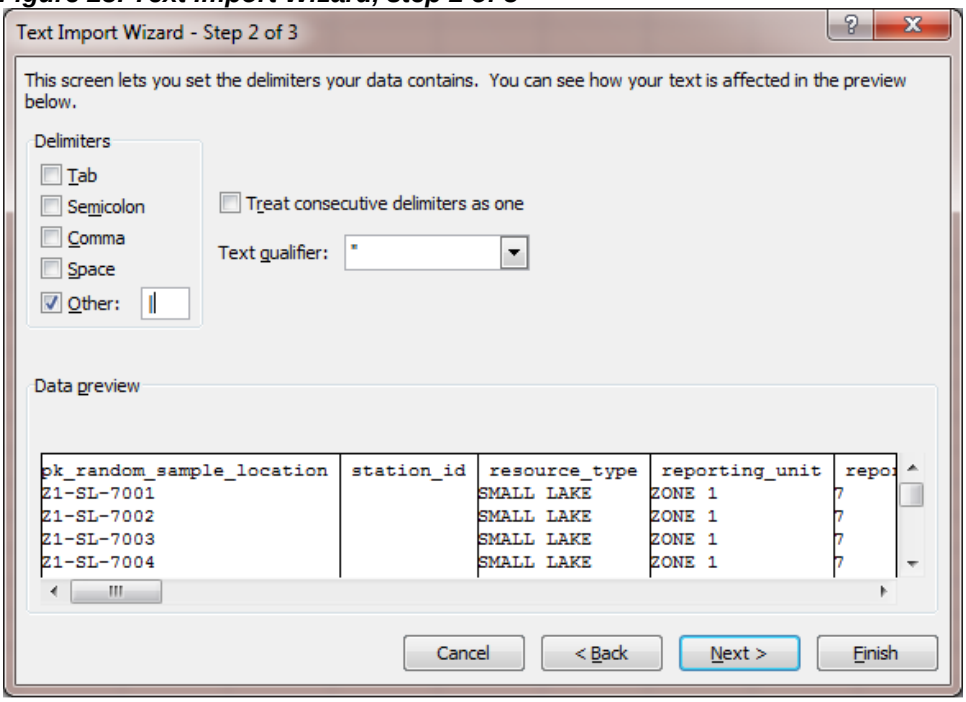
Open Excel, click **Open**, and when the dialog box appears, navigate to folder where the file was saved. Make sure “All Files” is selected, instead of the default, “All Excel Files”. Select file and click **Open**. Excel’s Text Import Wizard will pop up (*Figure 22*). Click on the **Delimited** button and then **Next**.

Figure 22. Text Import Wizard (Step 1 of 3)



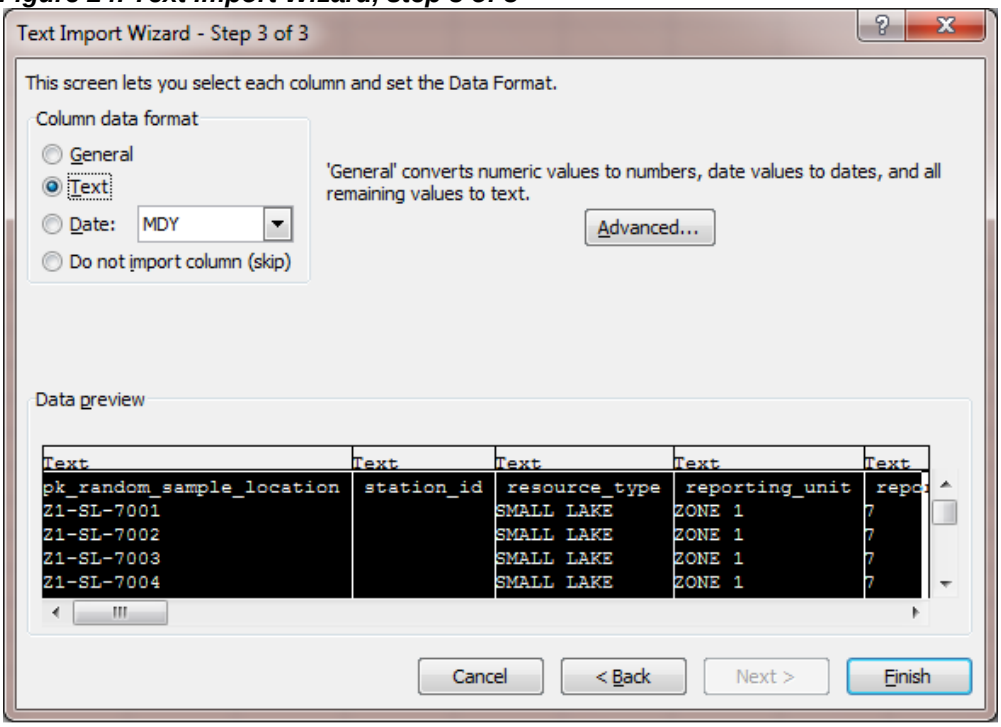
Refer to *Figure 23* for the next step. Deselect the **Tab** button, and select the **Other** button. Press Shift and the pipe (|) key at the same time. This will put a | next to the Other box. Click **Next**.

Figure 23. Text Import Wizard, step 2 of 3



Select all columns by holding the Shift key and clicking on the first column, then scrolling all the way to the right and clicking the last column (all columns should be highlighted, *Figure 24*). Then, click **Text** to format all columns as text.

Figure 24. Text Import Wizard, step 3 of 3



Click **Finish**. A screen will appear with the stations, resource, etc. in columns and rows. Now click **Save As... → Excel Workbook**. Name the file as desired. Examples of data in the export file include:

- Resource type
- Reporting unit
- Waterbody type
- Agency in charge
- Random latitude
- Random longitude
- County name
- Quarter quad map number
- Hydrologic unit code
- Locational datum

NOTE: Please check the first column to ensure that it contains all of the random sample locations. In addition, review the file to determine whether the data are wrapped due to the presence of a carriage return in the data.

Contacts

Title/Description	Name	Phone	Email
Section Administrator (Watershed Monitoring Section)	Jay Silvanima	(850) 245-8507	James.Silvanima@dep.state.fl.us
Data Management & Data Analysis Coordinator (Watershed Monitoring Section)	Liz Miller	(850) 245-8512	Elizabeth.Miller@dep.state.fl.us
Data Manager (Watershed Monitoring Section)	position currently vacant	position currently vacant	position currently vacant
Zone 1 (Northwest Florida Water Management District)	Tom Seal	(850) 245-8514	Thomas.Seal@dep.state.fl.us
Zone 2 (Suwannee River Water Management District)	position currently vacant	position currently vacant	position currently vacant
Zone 3 (St. Johns River Water Management District)	Tom Seal	(850) 245-8514	Thomas.Seal@dep.state.fl.us
Zone 4 (Southwest Florida Water Management District)	Kate Muldoon	(850) 245-8579	Kathryn.Muldoon@dep.state.fl.us
Zone 5 (South Florida Water Management District – West)	Carolyn Voyles	(850) 245-8321	Carolyn.Voyles@dep.state.fl.us
Zone 6 (South Florida Water Management District – East)	Carolyn Voyles	(850) 245-8321	Carolyn.Voyles@dep.state.fl.us

Station Information

(* = required information) (** = Cannot be left blank, must be 'Yes' or 'No')

Station Information Tabs:

1. Identifier:
    - Station ID
    - STORET ID
    - Random Sample Location ID (for Status sites)
    - FL Unique Well ID (for ground water sites)
    - Station Name*
    - Station Description

2. Owner/Contact:
    - Owner Name
    - Property Owner
    - Mailing Address of Owner
    - Telephone Number of Owner
    - Owner E-Mail
    - Contact Name*
    - Contact Agency*
    - Contact Address*
    - Contact Telephone Number*
    - Contact E-Mail
    - Letter (requests for monitoring information)

3. Lat/Long:
    - Latitude (in degrees/minutes/seconds)*
    - Longitude (in degrees/minutes/seconds)*
    - Location Method*
    - Locational Datum*

4. Geographic :
    - County (determined based on lat/long)*
    - Water Management District
    - DEP District Office
    - TMDL Basin
    - Reporting Unit (for Status sites)

For Ground water Wells:

5. Hydro:
    - Water Body Name (name of aquifer)*
    - Water Resource (confined/unconfined)*
    - Hydrologic Unit Name (determined based on lat/long)*
    - Subaquifer
    - Grid cell
    - Top of Aquifer (depth in feet)
    - Bottom of Aquifer (depth in feet)
    - Log Availability

6. Hydro II:
    - Drill Date

Well Status (flowing, non-flowing, plugged, etc.)
Well Type
Construction Method
Lift Type
Total Depth (in feet below land surface)*
Casing Depth (in feet)*
Screen Begin Depth (in feet)
Screen End Depth (in feet)

7. Hydro III:
   Finish
   Screen Material
   Screen Diameter (in inches)
   Casing Material*
   Casing Diameter (in inches)*
   Land Surface Elevation (in feet)
   Measuring Point Elevation (in feet)
   Water Level Recorder
   Lead Weight

8. Project Info:
   Sampled TV**
   Sampled WQAS**
   Sampled Background**
   Sampled VISA**
   Sampled HRSPWS**
   Sampled Status**
   Data Source*
   Agency*

9. Comments

For Surface Water Sites:

5. SW Hydrology
   Water Body Name*
   Other Water Body Name
   Water Body Type*
   Water Resource*
   SW Class
   Hydrologic Unit Name (based on lat/long)*
6. Project Info
   Sampled TV**
   Sampled Status**
   Sampled WQAS**
   Data Source*
   Agency*

7. Comments