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Version 2

310 Permit Database
User's Guide and Documentation

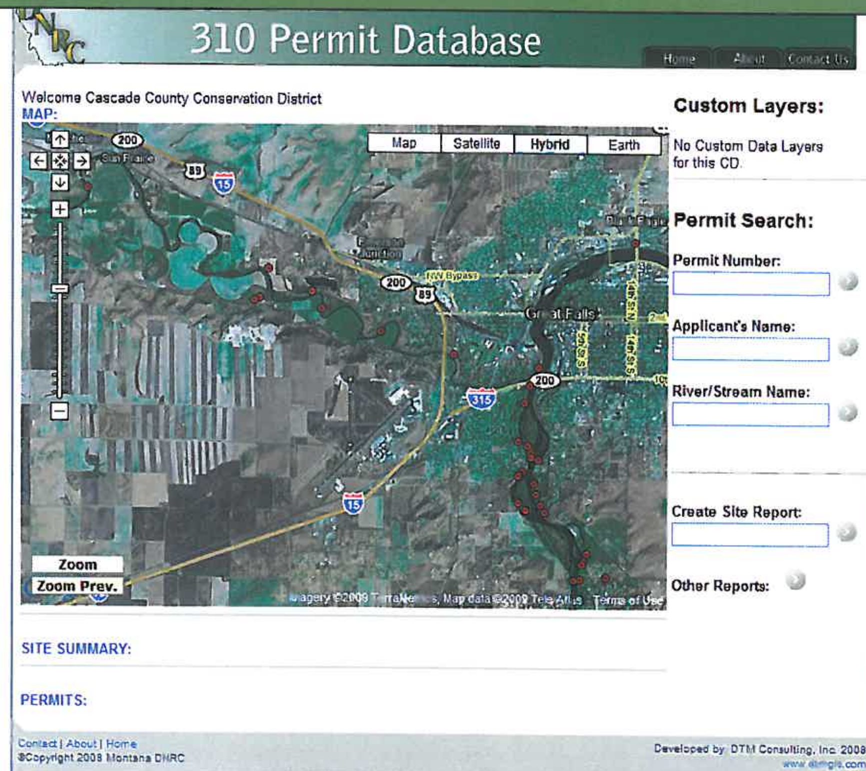

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Table of Contents

List of Figures

1. Introduction

This document serves as a User's Guide and resource for working with the 310 Permit Database.

1.1. Overview 310 Permit Database

The 310 Permit Database is designed to provide an intuitive, centralized database for 310 permit information. These permits are administered by the local Conservation District offices. Each office is in charge of maintaining its own system for tracking and archiving the permit applications. As such, there is no standard for maintaining this information, or making it available to other land use managers. The goal of the 310 Permit Database system is to standardize the basics of storing and retrieving 310 permit information. It relies on a centralized database for archiving permit information such as location, applicant, type, dimensions, etc. Additionally, it provides a system for storing digital photos and other scanned image materials such as maps or historical photos. The interface is Web-based, so no specialized software is required.

1.2. Requirements

The following requirements are necessary for using the 310 Permit Database:

1) A Microsoft Windows based computer with access to the Internet.
2) A web browser. The application is thoroughly tested with Microsoft Internet Explorer 6 and 7, though some limited testing has been performed with Firefox. The application will not work on any Macintosh or UNIX operating systems.
3) A user name and password is required to make changes to the database and to see complete permit records. A guest access is provided to view general permit information.

Additional useful tools:

1) A scanner or digital camera will allow the user to create digital images in ***JPEG*** format that can be uploaded to the database. Other images formats such as TIFF, GIF and BMP are ***not*** supported at this time.

1.3. Finding the 310 Permit Database

Open your web browser and navigate to:

http://dnrc.mt.gov/permits/streampermitting/310google/

A secure login page will be displayed.

1.4. Where to Go for Help

For information on accessing the 310 Permit Database, contact:

Warren Kellogg
DNRC
wkellogg@mt.gov

For technical information, contact:

Tony Thatcher
DTM Consulting, Inc.
406-585-5322
tony@dtmgis.com

2. Using the 310 Permit Database

2.1. Understanding the Database Structure

Before we dive into the database, it is important to understand how the data is organized in the database. This application is focused on 310 Permits, but it does have the ability to store other site and permit types such as 404 Permits or unpermitted actions. In many areas, a given location may have several permits associated with it. For example, a river bendway may have several bank protection permits associated with the installation, repair, and extension of the bank protection. Rather than displaying a point on the map for each of these permits (many of which would be overlapping), it is convenient to use a single point to mark the location, and have the various permits for that site associated with that single point.

This single point container is referred to as a 'Site' in this application. Each Site may have one or more 'Permits' associated with it. As such, a Site is a container for Permits.

Note: It is very important not to create a Site to store each Permit at a location. Remember that Sites store one or more Permits! If you do not follow this protocol, your map may become extremely crowded as sites start to overlap each other.

Each Site can have various attributes, such as:

- River/Stream
- Original Construction Date
- Current Owner
- PLSS location (TRS)
- Latitude/Longitude (Decimal Degrees, WGS84)
- Bank
- Site Characterization

A Site can also have photographs or other scanned documents (JPG format only) associated with it.

Each Permit can also have a series of attributes associated with it:

- Permit Type
- Application Number
- Structure Type
- Decision Date
- Date Received
- Onsite Inspection Date
- Date Accepted
- Current Owner
- Applicant
- Secondary Applicant
- Activity
- Dimensions
- Comments
- Emergency Permit
- Maintenance Permit
- Permit Expiration Date

A Permit can also have photographs or other scanned documents (JPG format only) associated with it.

2.2. Logging In

All approved users are assigned a User Name and Password. If you do not have this information, please contact Warren Kellogg (wkellogg@mt.gov) to request your login information. Note: Some users, as well as guests, will only have 'read' permissions on the database. This is to prevent unauthorized users from modifying the database records. If you are unable to edit the data and you feel you should have that capability, please contact Warren Kellogg.

Users are associated with only one Conservation District. This prevents unauthorized users from modifying information in areas that are outside their jurisdiction.

Open the 310 Database site in your web browser:

http://dnrc.mt.gov/permits/streampermitting/310google/

The home page will have a section for your User Name and Password (Figure 2-1).

Figure 2-1. The login screen.

Enter your information and click the Login button. A 'Login Accepted' message should be displayed. Accept the message, and a new browser window should open showing a map and the rest of the application interface. If you do not see this window, then you may have popups blocked in your browser (See Notes section below). You can also click the 'HERE' link at the top of the page to open the new window, though you should still address the blocked popups prior to working with the rest of the application.

Note: Popups Blocked! – If you are using a pop up blocker, then it must be turned off for the application to function properly. Usually a message bar will appear at the top of the browser window informing you that popups are being blocked. Click on this bar to access the various options for dealing with popups. The easiest option is to allow popups from the current domain (http://dnrc.mt.gov). If you have the Google Toolbar, or other toolbar installed that has its own popup blocker, be sure to turn this off also.

2.3. The User Interface

Once you have successfully logged into the web site you should see a map of your Conservation District boundary, along with a general road map of the area (Figure 2-2). Additional information controls on the page allow you to perform searches, create reports and display permit information.

The application allows you to take advantage of a variety of standard GoogleMaps controls, as well as a suite of tools developed to help manage the 310 Permit information. For those of you familiar with similar maps seen on countless web sites, the map interface will be very familiar. The other tools all follow similar rules for interaction, so they should be easy to master. The following sections will lead you through the various functions.

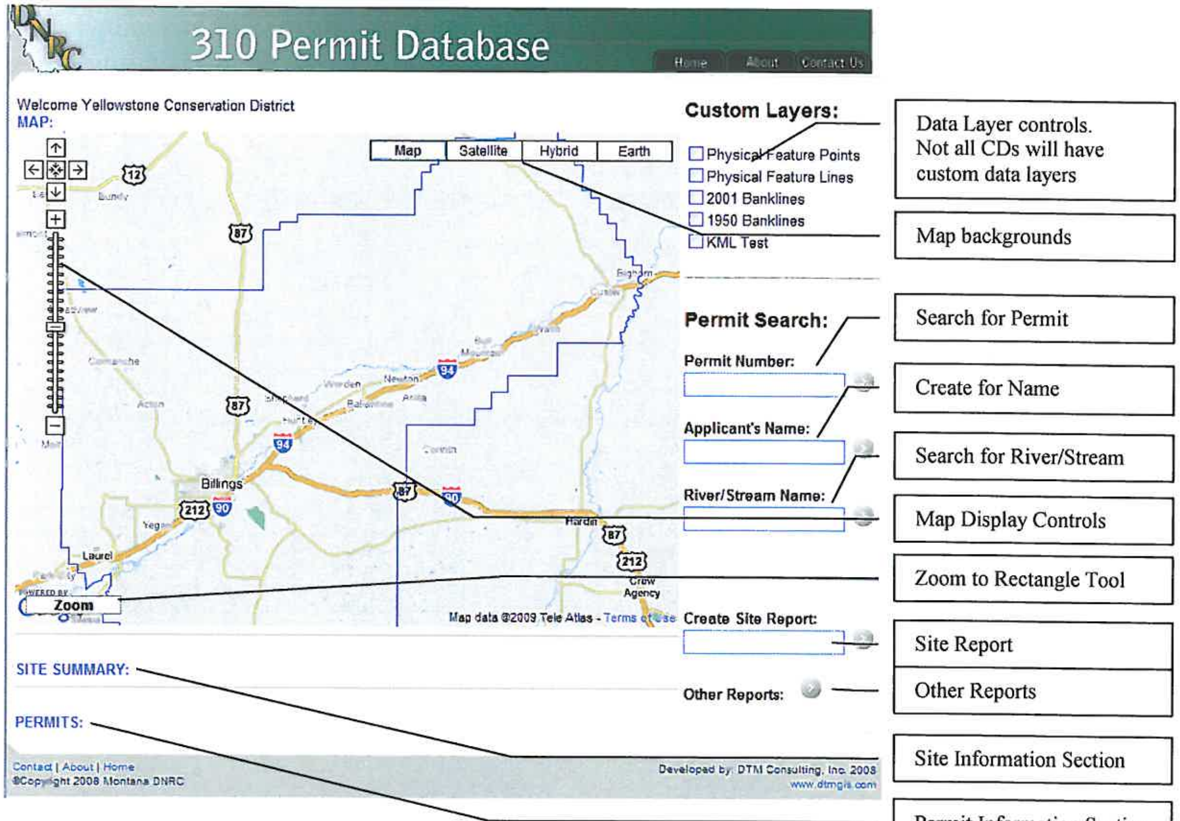


Figure 2-2. The 310 Database main window with the various parts labeled.

2.4. Exploring the Data

Figure 2-2 above displays the core of the user interface. The map section is the key to most of your interactions with the database. It allows you to display the locations of permits on road maps or aerial photography, display Site and Permit information, add new permits, and relocated Sites. For starters, we will go over how to work with the map display.

2.4.1. Zoom and Pan

The Map Display Controls along the left side of the map allow you to navigate the map window. The slider bar will zoom the map in and out. Click on the bar itself, or the + and – buttons to zoom the map display. Zooming all the way out (-) will display a map of the world, while zooming in (+) will take you to an area of about a couple of city blocks!

The second way to Zoom the display is to click the **Zoom to Rectangle** tool in the lower left corner of the map. Your cursor will turn into a cross. Now click and drag a rectangle in covering the area you want to zoom in to. A blue box will appear with the extent of the zoom area, and then the display will zoom to that area. Click the Zoom Prev. button that appears in the lower left corner of the map to step backwards. You can zoom in using the Zoom to Rectangle tool as many times as you like. Each successive zoom level is saved and you can step backwards to previous zoom extents. Additionally, the Zoom to rectangle tool saves the background display type at each zoom level. Thus, if you zoom in while viewing the roads, switch to the Satellite view, then zoom in again, when you step backwards the view will switch back to the road map as well as changing to the previous extent.

Figure 2-3. The Zoom to Rectangle tool.

There are two ways to Pan, or move around, on the map display. First, the arrow buttons at the top/left corner of the map allow you to move left, right, up and down by a fixed amount. The other, more convenient method is to click and drag on the map. Be sure to actually 'drag' because a click alone will try to add a new Site to the database. Do not worry if you accidentally do this. Simply click the 'Undo' button to exit without saving the new Site.

You will likely notice that as you zoom in, red icons representing sites will become visible (only if you have data entered in the database). This scale-dependency feature keeps the map from becoming too cluttered with Site locations when zoomed out to a large area. This also helps with keeping the map display from slowing down as it draws hundreds of Site locations.

2.4.2. Background Types

At this time, there are three background types available in the map display. These are seen in the top right corner of the map display: Map, Satellite and Hybrid. Click on these buttons to change the content of the background. *A fourth background type, Earth, has limited functionality and will be discussed separately.*

- Map – The Map refers to a standard road map. As you zoom in and out, the level of detail on the roads will change.

- Satellite - The Satellite background will display aerial imagery for the map area. When displaying large areas, the imagery will likely be satellite-based, but as you zoom in, available aerial photography will be displayed. The GoogleMaps group is very active in gathering and using the best imagery they can find for any given area. Figure 2-3, above, shows a section of the Yellowstone River with 2005 NAIP photography on the top and bottom of the image (darker in color), while 1 foot resolution 2004 imagery (lighter in color) is used for the river corridor.
- The Hybrid background combines the Map and Satellite background types, displaying roads on top of the aerial images.

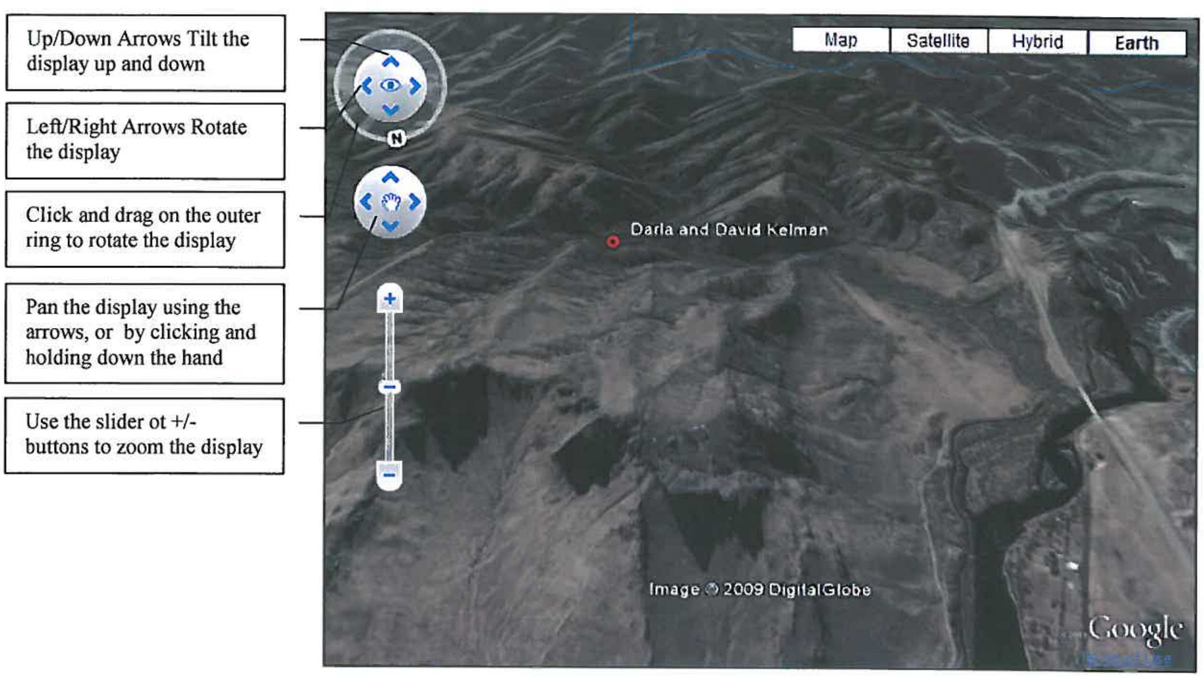
In the future, it is likely that additional map types will become available such as shaded relief maps and contours.

2.4.3. The 'Earth' Background Type

The Earth button in the Background Types actually opens an entirely new map interface that utilizes the 3D viewing functionality of Google Earth. Selecting this Type will switch the user interface to the 3D viewing mode. Any information available in the display such as Site locations or additional layers will be available in the new interface, though they will not be updated as you navigate the map interface. Additionally, you will not have the ability to add or edit any data when you are in the Earth interface.

Note: It may take a minute or two for the Earth interface to load and become active.

The first time you select Earth, you will be required to install an ActiveX module. This information us usually displayed in an information bar at the top of the Explorer window. Right click on the information bar and follow the instructions for installing the module. This only needs to be performed once per computer.



2.4.4. Viewing Site and Permit Information

As you zoom in on the map display, red Site icons will become visible. As a reminder, each Site is a container for one or more Permits. If you click on a Site icon, an information window will appear on the map containing general information for both the Site and its associated Structures (Figure 2-4). There are two tabs on the information window, one for the Site information, the other shows a list of Permits for the Site.

Figure 2-4. The Site information window. The Permits tab shows a list of Permits for the site.

The Site information window only shows a limited set of Site and Permit attributes. To view all of the available attributes you must expand the Site and/or Permit information sections below the map. To expand these sections, simply click on the 'Site Summary' or 'Permits' text. The web page will expand to display the detailed sections (Figure 2-5).

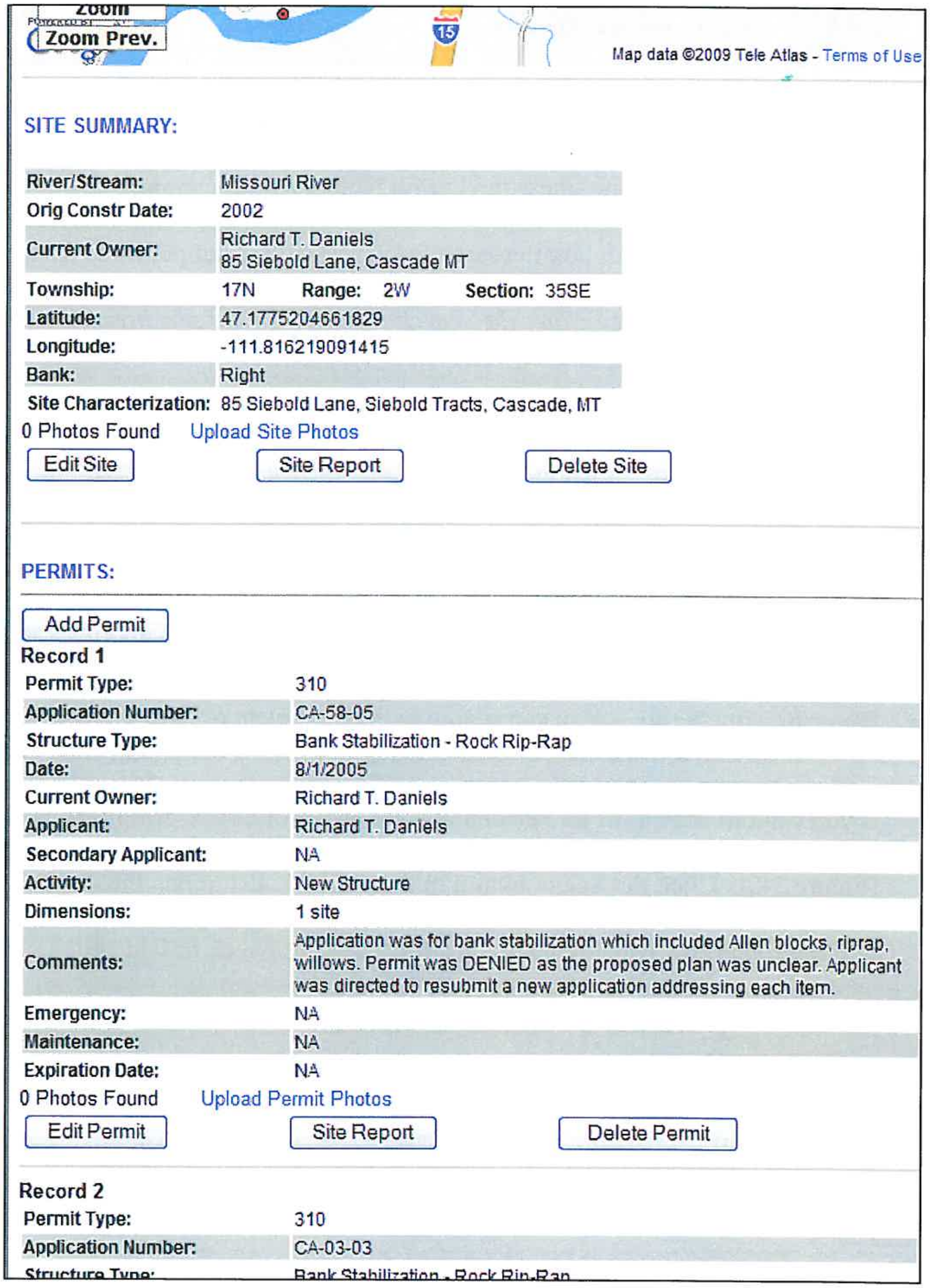


Figure 2-5. The Site and Permit information sections. These sections display detailed information on the selected Site and its associated Permits. Note that there two Permits for this Site.

Clicking on a different Site icon will cause the Site Summary and Permits sections to update and display the information for the new Site. Click on the Site Summary or Permits text to collapse this section down and hide it.

2.4.5. Using Permit Search

There are currently three ways to search for permits that are in the database: by Permit Number, by Applicant's Name and by River/Stream Name. Each of these search options are available in the Permit Search area of the application window.

- **Permit Number** – If you know the Permit Number for the permit of interest, simply enter it in the Permit Number box to the right of the map. Click the arrow to the right of the search box to search for the Permit. If no permit is found, an information message will be displayed. Otherwise, the map will Pan to and Zoom into the selected Permit. *Note: the search function is case sensitive, so ensure that you have entered the permit number correctly.*
- **Applicant's Name** – You can search by the complete or partial name of the applicant by entering the search string in the Applicant's Name box and clicking the arrow to the right of the box. This is not case sensitive. For example if you want to search for all Permits that have an applicant with the name 'Jones' (first or last name), simply enter 'jones' in the text box and click the search button. A list of matching permits will pop up (Figure 2-6). Click the Select button in the resulting list to pan the display to the selected permit. Similarly, you can search for a partial string such as 'smi'. This will return permits with applicant names such as Smith, Smithers, or Jasmine.
- **River/Stream Name** – You can search by the complete or partial name of the River or Stream by entering the search string in the River/Stream Name box and clicking the arrow to the right of the box. This is not case sensitive. For example if you want to search for all Permits that are on Pryor Creek, simply enter 'pryor' in the text box and click the search button. A list of matching permits will pop up (Figure 2-6). Click the Select button in the resulting list to pan the display to the selected permit. Similarly, you can search for a partial string such as 'old'. This will return permits with stream names such as Gold Creek or Old Mill Creek.

Search Permits:

The following Permits were found:

	Permit ID	Permit Type	Structure Type	Date
Select	CA-17-01	310	Bank Stabilization - Flow Deflectors (Jetties)	4/3/2001
Select	CA-39-04	310	Bank Stabilization - Log/Tree Revetments	11/8/2004
Select	CA-35-01	310	Bank Stabilization - Rock Rip-Rap	1/14/2002
Select	CAV-53-01	310	Other	8/12/2002

Figure 2-6. An example list of permits returned from the Applicant and River/Stream search functions.

2.4.6. Viewing Site and Permit Photos

The 310 Permit Database has the capability of storing and displaying photographs and other scanned documents, as long as they are in JPEG (.jpg) format. At the bottom of both the Site Summary and Permits sections the number of photos is displayed. Figure 2-7 below shows a Site with 4 available photos.

Figure 2-7. An example site showing 4 available photos and the link for displaying those images.

Click on the 'Show/Hide' photos link to display the photos in the browser window. Available photos display as thumbnail images along with its photo caption. To view a full size photo, simply click on the thumbnail image.

Note: viewing a full-size photo requires popups be allowed.

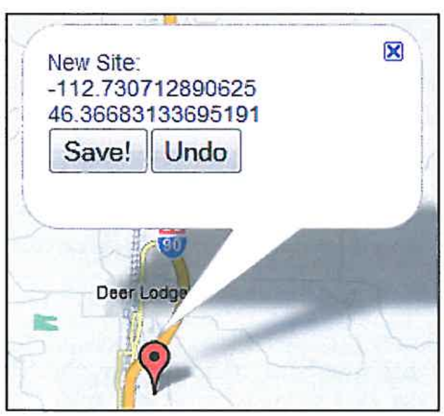
2.5. Entering New Records

Entering new records is a simple process, but varies a little depending on whether you are using an existing Site or creating a new Site. The process for adding a New Site, then adding Permits to that Site contains all the steps for working with an existing Site, so we will concentrate on that process.

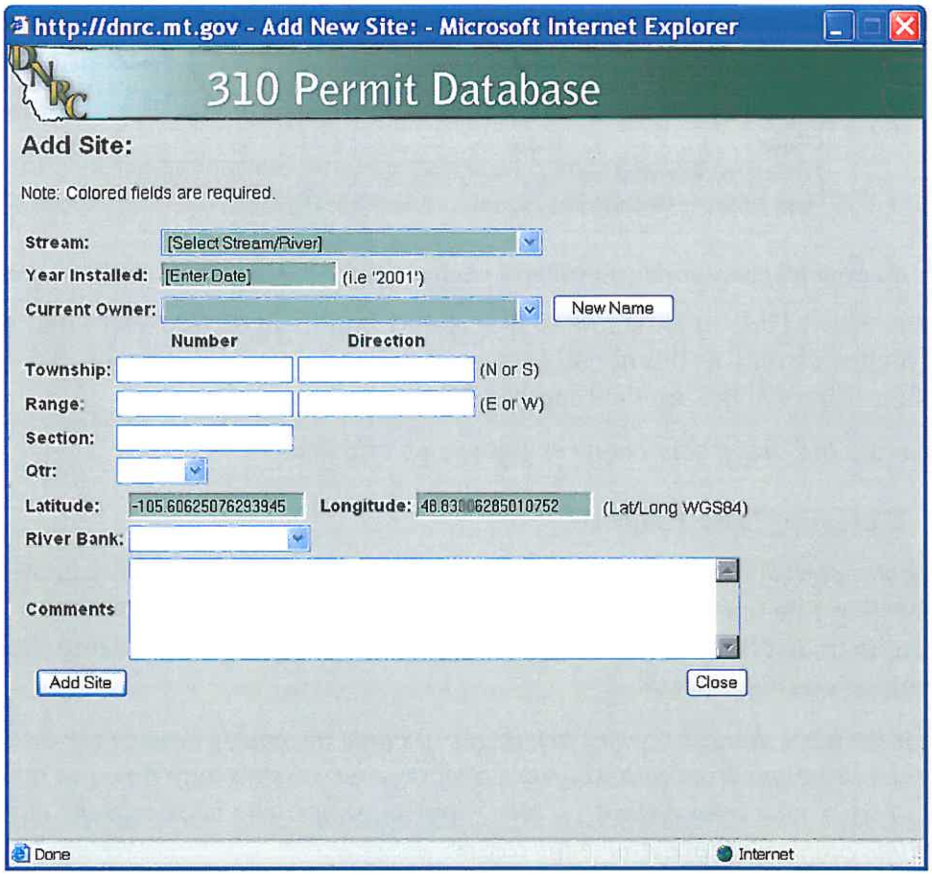
Note: You must have database write privileges to enter or modify data in the database. To protect the database from unauthorized access, your session may time out and not allow you to enter new information. If this happens, simply log back into the database from the home page and start your edits again.

2.5.1. Adding a New Site

1) Use the map navigation and display controls to zoom into the area of the *New* Site. Zoom in close so you can accurately click on the correct location.
2) Click on the map where the new Site should be positioned. A new marker will be placed where you clicked and an information box will appear asking you if you want to Save the location. Click on the 'Save' button if you are comfortable with the location, otherwise click 'Undo' to remove the new Site and try again.



3) If you elected to save the Site, a new browser window will open allowing you to enter information about the new Site.



4) Fill in the appropriate information in the Add Site form. Some fields are required and are colored. Optional fields are white. Start by selecting the Owner's name from the drop down list. If the Owner is not listed, then click the New Name button and fill in the resulting form. The new name should now be available in the list. When you are satisfied with the information, click the 'Add Site' button to save your edits to the database. A message should be displayed indicating that the site was successfully added. If you forgot to include information in a required field, you will be prompted to enter data in the field. Use the Back button or click on the Back link to step back and add the required information.

Hint: Start by selecting the Current Owner. If the owner is not on the list, then you will have to add the Name to the list with the New Name button. This will reset your form, erasing any input you have already made.

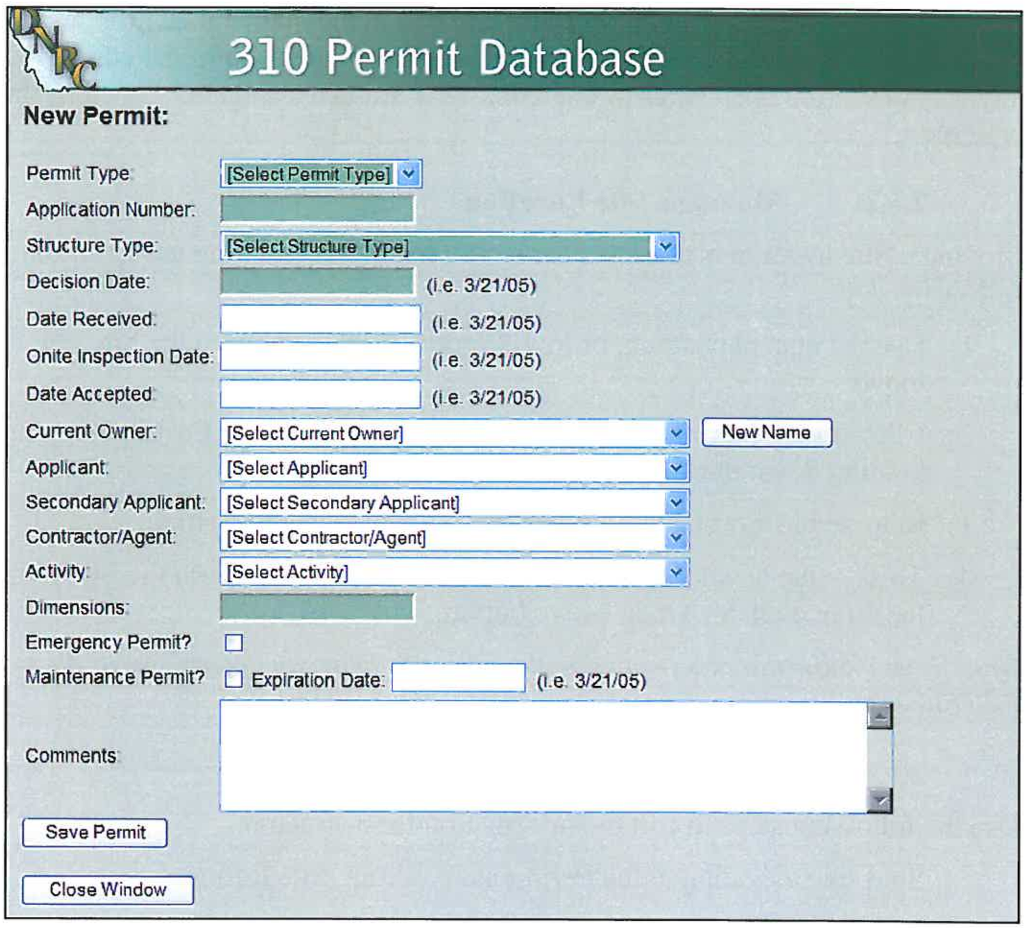
Note: The Latitude and Longitude fields are already filled in for you. Do not change these values unless you are sure of the actual values (decimal degrees, WGS84).

You have now successfully added a Site. Remember, the Site is just a container to hold Permit records. Now it is time to add Permits to the Site.

2.5.2. Adding Permits to a Site

You must have a Site selected in the map prior to adding Permits to the database. Use the navigation and data exploration tools discussed in Section 2.4 to navigate to and select a Site. The steps below discuss how to enter a new Permit into the database once a Site is selected:

1) Expand the Site Summary section of the application window and confirm that you have the correct Site selected. If you do not have the correct Site, then return to the map and select again.
2) Expand the Permits section of the application window to display the permits associated with the Site. If no permits are currently associated with the Site, then the "No Permits found for the Selected site!" message will be displayed.
3) If you have permission to write to the database, then you will see an "Add Permit" button. Click on this to display the Add Permits form. The following form will be displayed.



310 Permit Database

New Permit:

Permit Type: [Select Permit Type]
Application Number:
Structure Type: [Select Structure Type]
Decision Date: (i.e. 3/21/05)
Date Received: (i.e. 3/21/05)
Onite Inspection Date: (i.e. 3/21/05)
Date Accepted: (i.e. 3/21/05)
Current Owner: [Select Current Owner] New Name
Applicant: [Select Applicant]
Secondary Applicant: [Select Secondary Applicant]
Contractor/Agent: [Select Contractor/Agent]
Activity: [Select Activity]
Dimensions:
Emergency Permit?
Maintenance Permit? Expiration Date: (i.e. 3/21/05)
Comments:
Save Permit
Close Window

4) Fill in the required fields (colored) and click the 'Save Permit' button.
5) You have now successfully added a Permit to a Site. The new Permit should be visible in the Permits Section of the application window.

2.6. Editing Existing Records

After creating new Site and Permit records, editing existing records should be very familiar.

2.6.1. Editing Site Information

If you are logged in as an approved user, you can edit all site information. Use the following steps:

1) Use the map navigation, or Find Permit, tools to zoom to the required permit. Select the Site by clicking on it.
2) Expand the Site Summary section below the map.
3) Click on the Edit Site button to open the Edit Site window. This looks the same as the New Site window and has the same requirements.
4) Make the required edits, then click the Save Edits button.

Your edits are saved to the database and updated in the main application window. The edit window will remain open until you close it. To make additional edits, simply make any changes in the open window and click Save Edits once again. Or, close the edit window.

2.6.2. Moving a Site Location

Moving a Site location is as easy as dragging the Site icon to the new position. Use the following step:

1) Use the map navigation, or Find Permit, tools to zoom to the Site you need to move.
2) Click on the Site and drag the icon to its new location. Ensure that you are holding down the left mouse button while you drag.
3) Release the mouse button when the 'x' is at the new location.
4) To save the new location, click the Save button. To return the Site to the previous location, click the Undo Move button.

Note: If you know the exact coordinates for a site, you can enter them in the standard Edit Site tool.

2.6.3. Editing Permit Information

Use the following steps to edit the information for a structure.

5) Start by navigating to the Permit as in Editing Site Information, above.
6) Expand the Permits section below the map.
7) Click on the Edit Permit button for the appropriate permit.
8) Make the required edits, and then click the Save Edits button.

Your edits are saved to the database and updated in the main application window. The edit window will remain open until you close it. To make additional edits, simply make any changes in the open window and click Save Edits once again. Or, close the edit window.

2.6.1. Deleting a Site

Use the following steps to delete an existing Site from the database.

1) Start by navigation to the Permit as in Editing Site Information, above.
2) Expand the Site section below the map.
3) Click on the Delete Site button. You will be asked to confirm the deletion. Keep in mind that Permits may be associated with the Site. All Permits associated with the Site will also be deleted.

2.6.2. Deleting a Permit

Use the following steps to delete an existing Permit from the database.

4) Start by navigation to the Permit as in Editing Site Information, above.
5) Expand the Permits section below the map.
6) Click on the Delete text link at the beginning of the record details. You will be asked to confirm the deletion.

2.7. Uploading and Editing Images

A key feature of the 310 Permit Database is its ability to store and display photos and other digital images of Site or Permit features. These can include any type of scanned document, maps, site drawings, design plans, notes, etc. that are scanned and saved as a JPEG (jpg) image. Most digital cameras save the images as JPEG files.

If you are scanning older paper photographs, maps, or other documents, you should use the following guidelines.

- In general, new scans should be made at 300 dpi. This will result in images of appropriate detail for the web, without creating large data files.
- Your scanned files should not be larger than 1 MB (megabyte) in size.
- If the photos come from a digital camera, they may need to be resized prior to uploading them to the database. Again, you are aiming for files that do not exceed 1 MB in size. Most cameras are delivered with software for resizing

images. If that is not available, Picasa is a great free image tool from the folks at Google.

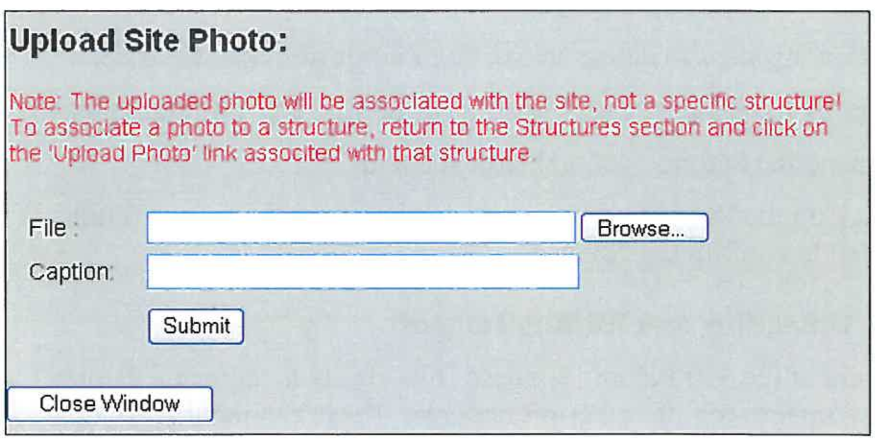
- If there are several images on a single page, scan each image on the page separately.

You can associate a photo with either a Site or a Permit. The more care you take to organize what your photos are associated with, the more useful the 310 Permit Database will be as it grows. For example, when you first add a Site to the database and add a Permit, it is tempting to upload all the photographs to the Site section, thinking that this will be the only Permit activity at the site. However, in 5 years time, when a new Permit is submitted for repair work on the original structure, it would be nice to have the original photos associated with the original Permit, not the Site in general.

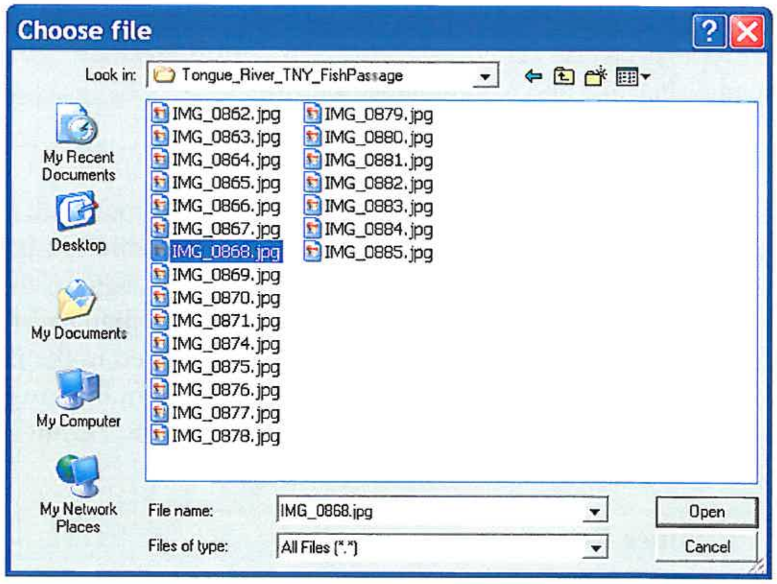
2.7.1. Uploading Site Photos

Use the following procedures for adding Site Photos to the database:

1) As with most activities associated with Sites or Permits, start by navigating to, and then selecting the appropriate Site.
2) Expand the Site section by clicking on it.
3) If you are logged in as an authorized user, a text link should appear at the bottom or the Site table, "Upload Site Photos". Click on this link to open the Upload Photo window.



4) Click the 'Browse' button and navigate to the photo you want to upload on your computer, or the network. Select the file, and then click Open.



5) Add a caption for the image.

6) Click Submit to upload the image to the database.

You may need to refresh the Site information to see the photos. Do this by selecting a different Site, then reselecting the original Site.

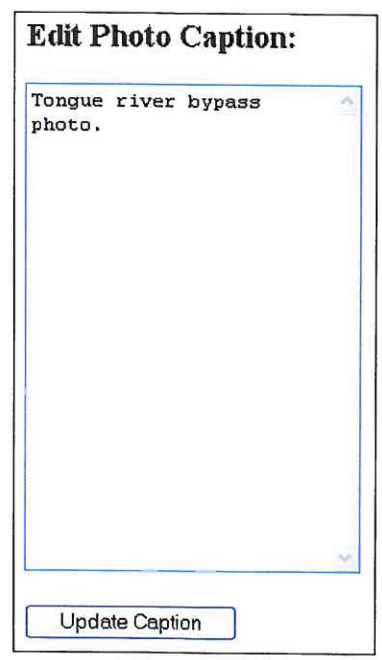
2.7.1. Uploading Permit Photos

Use the exact same procedure you used for Uploading Site Photos to upload photos for a Permit. Simply use Upload Permit Photos link in the Permit section.

2.7.1. Editing Photos

There are two options for editing photos: editing the caption and deleting the photo.

To edit a caption, expand the appropriate photo section and click on the icon to open the caption editing window. Click on the Update Caption button when you are through editing the caption. The photo section of the main application window will have to be reopened.



To delete a photo completely, simply click on the Delete text link next to the photo. You will be asked to Confirm the Delete in a small pop up window. If you clicked on Delete in error, simply click the Close button instead of Confirm.

2.8. Creating a Site Report

Several types of reports can be generated in the 310 Permit Database: Site Report, All Permits, Emergency Permits and Maintenance Permits.

2.8.1. Site Report

Sometimes it is convenient to create a simple summary report for a Site and Permit. This task is made easy with the 310 Permit Database. Enter the permit number you want to use to create a Site Report in the Create Site Report box to the right of the map. Click the arrow to the right of the box. A new window will open with a map and formatted Site and Permit information. Only the selected Site will be displayed in the map. You can turn on your desired map background by clicking the controls in the top right of the report. Also, you can pan and zoom the map as desired. All the Permit records associated with the Site will be displayed on the report.

2.8.2. Other Reports

Three different Permit listings can be created using the Other Reports function (Figure 2-8).

1) Click on the Other Reports link below the Permit Search options.
2) Next select the type of report.
3) Finally click on the Create Report button. A table of Permits will be displayed below.

This report can be copied and pasted into Excel.

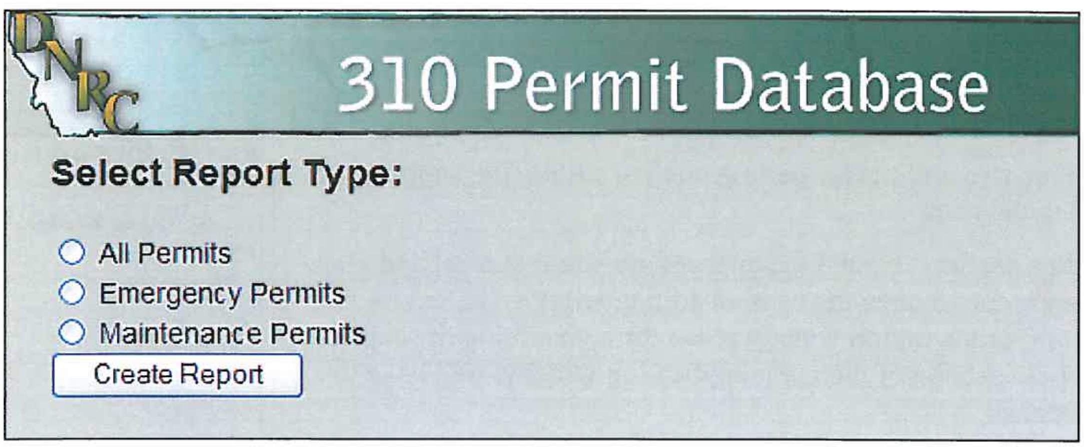


Figure 2-8. Create Permit listings.

Add User

add user . asp
pfm