

# Using the Web-based NHD Editing Tool

Idaho Department of Water Resources

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Geographic Information Systems – Internet Mapping

September, 2011

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## Instructions

### Welcome

The National Hydrography Dataset (NHD) is a comprehensive set of digital spatial data that contains information about surface water features such as lakes, ponds, streams, rivers, springs and wells. This dataset is free, and complete at the 1:24,000 and 1:100,000 scales. For NHD data and more information about the NHD visit [United States Geological Survey NHD website](#). One of the strength of the NHD is its Stewardship program, where States can submit edits to the USGS and improve the NHD. The Idaho Department of Water Resources functions as the NHD Steward in Idaho. More information about the NHD in Idaho can be found [here](#).

### Incorporating Local Data in the NHD Provides Better Data for All

Water managers, be it on a local or regional level, rely on accurate hydrographic data for planning, modeling and other tasks. Currently, much of this data resides “in the heads” of local water managers, as well as on paper maps maintained by various local water managers. The goal of this project is to develop tools that make it easy for all water managers and other people with hydrological knowledge to provide simple data edits to IDWR over the internet using a web browser such as Explorer or Firefox. This web mapping application does not require any GIS experience or any software other than your internet browser. Our goal is to let users interact with a web-based map to suggest additions or changes to geometry or names stored in the National Hydrography Dataset (NHD). After you have completed and saved your edits the NHD Steward at IDWR will review and submit them for inclusion in the NHD. For more details see ***Reviewing Edits***.

You can edit points, lines and events with the editor. The points currently stored in the NHD mark locations of dams and stream gages. Examples of lines – which the USGS calls flowlines – are rivers, streams, canals, ditches and pipe-lines. Events represent a large group of items which are associated with a flowline. They include diversion structures, such as weirs, headgates, etc., water quality monitoring stations (point events) and a water quality problem (a line event), as well as twenty other categories. In all, there are eleven types of edits allowed by this application. They are explained in the section entitled *Using the Editor*.

**You will be asked to register to use this application.** This ensures that the IDWR is able to contact you if we have any questions about your edits. It helps guard against edits that are malicious or that do not contain useful information.

Please see ***Appendix – Glossary***, at the end of this document, for an explanation of the GIS and internet mapping terms used in this document.

## Registration

Enter the following address in your browser: <http://www.idwr.idaho.gov/NHDEditor/Login.aspx>

1. Click the **Login** button at the bottom of the screen.
2. Click the [click here](#) link at the bottom of the screen to register. You will be taken to the **New user Registration** page (*Registration.aspx*).
3. Complete the following information:

**Username:** does not have to be your real name. It must be between 3 and 15 alphanumeric characters. It may contain spaces and underscores (\_).

**Password:** must be between 6 and 15 characters. It must contain at least one lowercase letter, one uppercase letter and one number. It can contain some punctuation such as a "?" or a "!".

**Organization name:** please enter the full name of your organization. The name must be between 5 and 100 characters.

**Email:** supply the email address of the person IDWR can contact for further information if needed.

**Telephone number:** supply the phone number of the person IDWR can contact for further information if needed. Phone number must contain area code. It should be entered without spaces or other punctuation. For example 2082874830.

**First Name:** enter your first name without punctuation or hyphens. Spaces are allowed.

**Last Name:** enter your last name without punctuation or hyphens. Spaces are allowed.

Click **Register** button. You will be returned to the User Login page where you can enter the Username and Password created in the previous steps to log in to the system.

## Logging On

Enter your username and password in the form at the following address:

<http://www.idwr.idaho.gov/NHDEditor/Login.aspx>

You will be taken to *Citations.aspx*. Begin entering details about how you gathered the information for your edit.

### Citations – Information about this Edit Session

Once you have logged on to the web-site you will be sent to the page named *Citations.aspx*. This page collects details about the information you will enter.

1. Log in to the website using your Username and Password. If you have not registered to use this site, you must do so.
2. Complete the "Information about this Edit Session" screen:

The screenshot shows the 'Information About This Edit Session' form. The 'Title' field contains 'South Ranch lateral, April 2011'. The 'Process Description' field contains the text: 'Transferred last of the lines digitized from Forest Service topo map. The original work was done by an intern but passed internal review.' The 'Source' is '2004 NAIP Imagery', 'Scale' is '1:24,000', 'Date created' is 'September, 2010', 'Accuracy' is 'good', and 'Completeness' is 'Complete'. A 'Save' button is visible. Below the form is a table of previous sessions:

Previous Edit Sessions						
	ID	Title	Process Description	Contributors	Scale	Accuracy
Copy This	33	South Ranch lateral.	Transferred lines digitized from Forest Service topo map. The original work was done by an intern but passed internal review.		24000	good
Copy This	37	December feeding, after changes were	The contribution number should not have a problem with numbers unless the 100000. Hopefully, it's not. This is a test entry.		10000	good

- Title:** the title should describe the edits you are planning to make in this session. The title is unique and can only be used once. Example of a title: "2010 GPS Project". You cannot use punctuation or underscores with the exception of periods, commas or single quotes.
- Process Description:** A detailed description of how you collected the data, and how you processed it. You can use numbers, letters, single quotes, periods, commas and spaces but not punctuation such as "?", "#" and "!". The description must not exceed 250 characters. As the examples above and below show, misspelled words are underlined in red, the number of characters entered appears to the left and a tool-tip provides help.

The close-up shows the 'Process Description' field with '0 characters' and a 'Source' dropdown set to '2004 NAIP Imagery'. A tooltip is displayed over the field with the text: 'Give a detailed description (up to 255 characters) of how you collected this data and how you have processed it. Only alphanumeric characters, periods, commas, hyphens and single quotes are allowed.'

Here is an example of a process description:

Updated the canals and laterals using GPS point data, historical canal company paper maps and 2009 Imagery.

- c. **Source:** Describe which sources you used to generate the information you provide in this edit session. For example, did you use a GPS unit, historical maps or topographical maps published by the United States Geological Survey? If you cannot find your Source in the drop-down box select "Other, Please Describe" and a pop-up box will appear that you can use to type in your source information.
- d. **Scale:** What is the scale of your source? For example, if you used high resolution USGS Topo maps your source scale would be 1:24,000. If you used your own paper maps, look for a source scale which is typically found in the corner of your map. Use the information in the following box to calculate the source scale:

Instead of a "representative fraction" such as 1:24,000 or 1:100,000 you may only find a scale bar like this:

Use a ruler to determine how many inches corresponds to one mile and use the following equation:  
 Representative Fraction = (63,360 / number-of-inches)

For example, if 2 inches corresponds to one mile then the map scale is (63,360 / 2) = 1:31,680

When you use NAIP Imagery (such as what is provided in this web application) then your scale is 1:24,000.

- e. **Date created:** When was the source data created? For example, for 2006 NAIP imagery the source data would be "2006". Another example could be "Canals were GPS'd during the Spring of 2008".
- f. **Accuracy:** How accurate is the source data? For example, you could describe the accuracy of your GPS unit on the day of data collection. You can leave this field blank if you are not sure of the accuracy.
- g. **Completeness:** Describe how complete your data is.
- h. **Source contribution:** Who provided this source data to you or where did you find this source data?

3. Click the **Save** button.

The citations you entered for previous edit sessions are shown at the bottom of the screen. You may copy information from a previous session, if desired. Just click the **Copy This** button, as shown in the figure below. You must change the title after you click "Copy This" as each title must be unique.

<i>Previous Edit Sessions</i>						
	<i>ID</i>	<i>Title</i>	<i>Process Description</i>	<i>Contributors</i>	<i>Scale</i>	<i>Accuracy</i>
Copy This	33	South Ranch lateral.	Transferred lines digitized from Forest Service topo map. The original work was done by an intern but passed internal review.		24000	good
			<i>The verification method should not</i>			

Note, at the top of the Citations screen, you may click the [Review](#) link, at the top of the page. That link will take you to a page where you can view all of the edits you have made within the last year. For details, see the **Review Edits** section of this manual.

### **Why do I Have to Enter Citations Every Time I Edit?**

One of the strengths of the National Hydrography Dataset is the documentation, or metadata, that is delivered with the lines, points and names data. NHD users are able to click on any point or flow-line (river, canal, pipe, etc.) in the NHD and display a detailed record for that specific feature.

Metadata helps people who use the NHD determine how current the data is, who collected it and what type of source data was used to generate this hydrologic data. Since the data gathered in this NHD Web Editing application is destined for the NHD, we must include the citation information required by the NHD.

## Using the Map

In order to use this editor you must be able to see the waterway you intend to modify and the landmarks around it. The tools used to re-position the on-screen map, identify streams within it and edit those canals, ditches, etc. are much like those found in other internet mapping applications.

You must use the **navigation tools** to position the stream you wish to modify in the center of the on-screen map and magnify it in order to see roads and field boundaries that help you accurately draw your new waterway, if necessary. You can display the entire state of Idaho within the on-screen map or magnify the view so that you can see just a few acres.

The terms "zoom in" and "zoom out" mean to view a smaller portion of the earth or a larger portion, respectively. To view the approximate map scale, place your cursor over the scale-bar in the lower, right corner of the map. The larger the number after the colon, the more of Idaho you see. **If you add stream segments, you should do that at a scale of 1:5000 or larger (1:2000 is larger).** That allows you to accurately place the new lines. To "pan" the map means to reposition it, at the same scale, to see a different part of the earth.

## Navigation Tools

Within the interactive map you can display the entire state of Idaho or magnify the view so that you can see just a few acres or city blocks. The tools used to resize and reposition the on-screen map are called navigation tools. This application has no visible navigation controls except for the *zoom slider, which is positioned on the map at the upper, left-hand corner.*

**Zoom Slider:** Used to double the scale of the map or reduce it by half. Click on the upper button to see more detail. Click on the bottom button to view a larger area.



## Resizing the Map

**Zoom In – use any of the following methods:**

- Click the upper arrow on the *Zoom Slider*.
- Press the *plus sign* (+) on the keypad.
- Roll mouse-wheel forward.
- Hold down the **Shift** key, click on the map and hold the button down while dragging the mouse cursor to outline the area you wish to see.

**Zoom Out – use any of the following methods:**

- Click the lower arrow on the *Zoom Slider*.
- Press the *minus sign* (-) on the keypad.
- Roll mouse-wheel backward.
- Hold down the **Ctrl** and **Shift** keys, click on the map and hold the button down while dragging the mouse cursor to outline an area of the map. If you cover a large area, you will be zoomed out a little bit; if you cover a small area you will be zoomed out a lot.

## Moving the Map

**Pan tool:** click on the map and drag it to a new position. Apple Mac users can use the **Command** key in the same manner that **Ctrl** key is used on Windows PCs.

## Navigating



The *find* tool is used to “find” a location in Idaho using various methods, including entering northing/easting pairs in several coordinate systems.

This tool will appear before the map does but you may use it, at any time, by clicking on the **Find** tool icon. If you are using the editor for the first time, the first map you see will show the entire state of Idaho. If you have saved an edit, the map will be zoomed into the area of your last edit.

You may zoom into a portion of Idaho using any of the following options:

**Find a Location in Idaho** ✕

Select the method used to find your place of interest.

**Enter Coordinates**

Lat-Long (Degrees and Decimal minutes) ▾

**Latitude**

D  ° M.mmmm  °

eg. 43                      34.134000

**Longitude**

D  ° M.mmmm  °

116                              12.924000

**Locate By:**

- Coordinates
- Township, Range, Section
- City
- County
- Zip code
- Address
- Stream, River or Lake

**Find a Location in Idaho** ✕

Select the method used to find your place of interest.

**ENTER COORDINATES**

Lat-Long (Degrees and Decim ▾

- Lat-Long (Degrees Minutes Seconds) Find Map
- Lat-Long (Degrees and Decimal minutes)
- Lat-Long (Decimal degrees)
- Idaho Transverse Mercator NAD83
- UTM Zone 11N
- UTM Zone 12N
- UTM Zone 11N (NAD27)
- UTM Zone 12N (NAD27)
- StatePlane East FIPS1101
- StatePlane Central FIPS1102
- StatePlane West FIPS1103
- StatePlane East FIPS1101, feet
- StatePlane Central FIPS1102, feet
- StatePlane West FIPS1103, feet
- StatePlane East FIPS1101 (NAD27)
- StatePlane Central FIPS1102 (NA27)
- StatePlane West FIPS1103 (NAD27)

**Locate By:**

- Address
- Stream, River or Lake

## Other Tools



### Measure

The *measure* tool is discussed in the section entitled “Measuring Distances.”



### Capture

The *capture* tool allows you to save a picture of the current map. This is useful for making electronic “slide presentations.”



### Print

The *print* tool creates a map, complete with legend, scale-bar, creation date and annotation. For best results, you must set your browser to print in landscape mode.



### Help

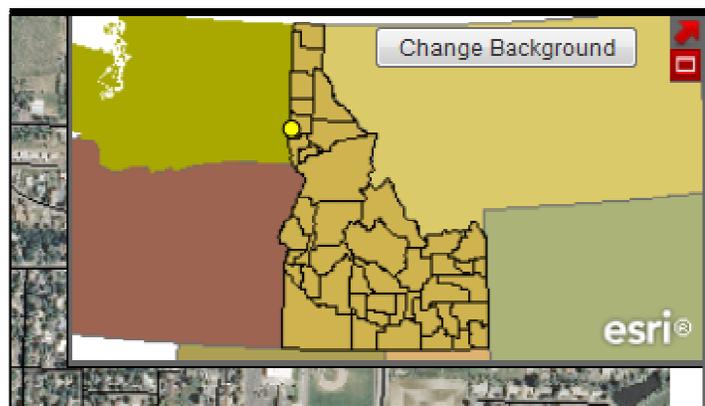
The *help* tool displays this document in another browser window.

## The Overview Map

The overview map shows the portion of Idaho you are viewing in the main map window.

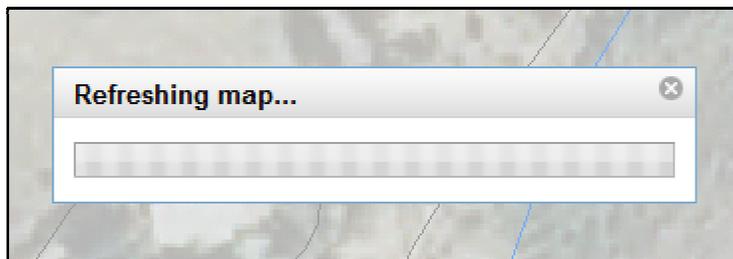
Normally, you will be viewing a very small area which will be shown as a point on the overview map.

If the area you are viewing is quite large it may be displayed as a rectangle on the overview map.



## The Progress Bar

The progress bar appears when you resize the map. If it remains after the map has redrawn, you can close it by clicking on the “X” in the upper, right corner of the window.



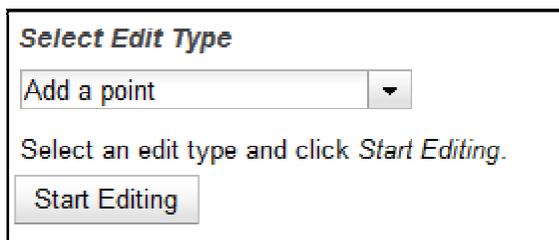
## Using the Editor

In order to make changes to the NHD, you must first select what type of edit operation you will be performing. You may make several changes during one edit session. Bear in mind that **the information you enter on the citation page and the comments you supply after each edit apply to all edits made in that session**. So, if you use a different source for two edits, you must go back to *Citations.aspx* and create a second citation.

Throughout this document, the lines you edit may be referred to by a specific name, such as canal, creek or pipeline, or in general terms such as waterway, stream-segment or flowline.

## Starting the Edit

Adding a point is the simplest of edits. That is the option offered when you first see the map. The data-entry form looks like this:



**Select Edit Type**

Add a point

Select an edit type and click *Start Editing*.

Start Editing

## Supported Edit Operations

There are eleven types of edits available through this application. With the exception of adding a point, all operations require you to identify the feature you wish to edit (or to which an event will be attached). Examples of many of these operations are shown on the next few pages.

**Add a point** – dam, stream gage, etc.

### Modify an existing point

**Change point name** – change the name of an existing NHD point.

**Move point** – move an existing NHD point.

**Delete an existing point** – delete an existing NHD point.

**Add a line** – add an NHD Flowline (river, stream, canal or ditch)

### Modify an existing line

**Change stream name** – change the name of an existing NHD Flowline (river, stream, canal or ditch)

**Reverse stream flow direction** – change the flow direction of an existing NHD Flowline

**Modify shape of existing stream** – change the geometry of all or part of an existing NHD Flowline

**Delete an existing stream** – delete an existing NHD Flowline

**Add a point event** – diversion, water quality monitoring station...

**Add a line event** – spills, protected streams, etc.

### Example – Changing a Stream Name

This example shows the steps necessary to change the name of an existing stream.

**Select Edit Type**

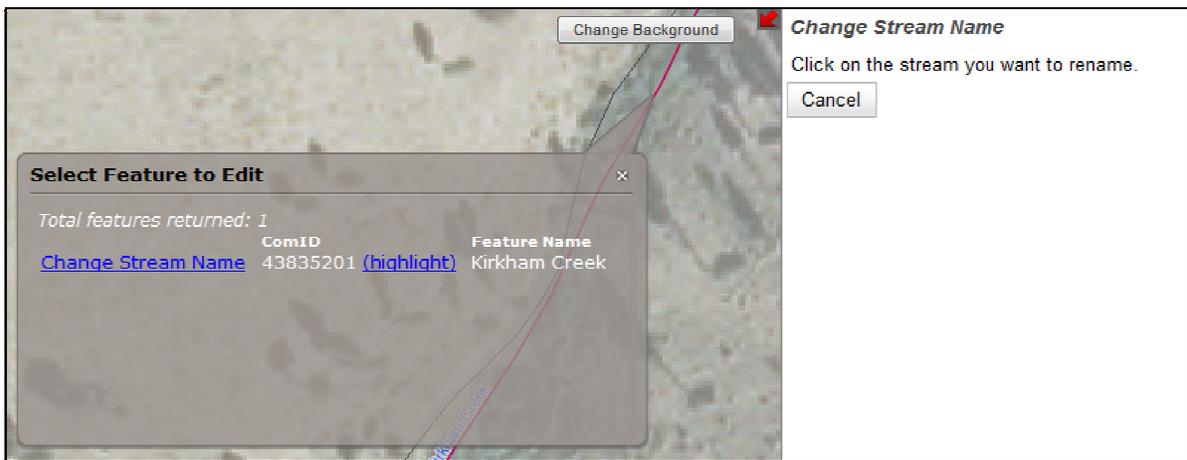
Modify an existing line ▼

Change stream name ▼

Select an edit type and click *Start Editing*.

Start Editing

- 1) Click the **Start Editing** button.
- 2) Click the stream segment you wish to modify.
- 3) You will see a pop-up menu containing details about that stream. If you see more than one, click the “highlight” link on each record until the one you wish to modify is highlighted.



- 4) Click the “Change Stream name” link for the segment you wish to edit.

- 5) Enter the new name (and the source of that name) for the stream.

The source of the name should be the Geographic Names Information System (GNIS). Tooltips will appear as you move from one text-entry box to another.

- 6) The text you enter in the **Comments** box will be shown again if you edit another item during this session. Do not overwrite comments from previous edits. Just add text to the end of it or modify your comments.

**Change Stream Name**

You must enter the new name for this stream.

Feature name

Feature name source

If you wish to explain your changes or the material on which you based them, please do so in the text-box below. **These comments apply to all changes made in this session.**

Comments

If you cancel this edit, you must go back to the map to define your edit.

Save Cancel

**Change Stream Name**

You must enter the new name for this stream.

Feature name

Feature name source

If you wish to explain your changes or the material on which you based them, please do so in the text-box below. **These comments apply to all changes made in this session.**

Comments

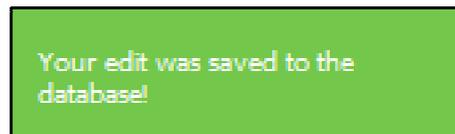
If you cancel this edit, you must go back to the map to define your edit.

The **Comments** text-box will expand as you enter characters. You can enter up to 255 characters.

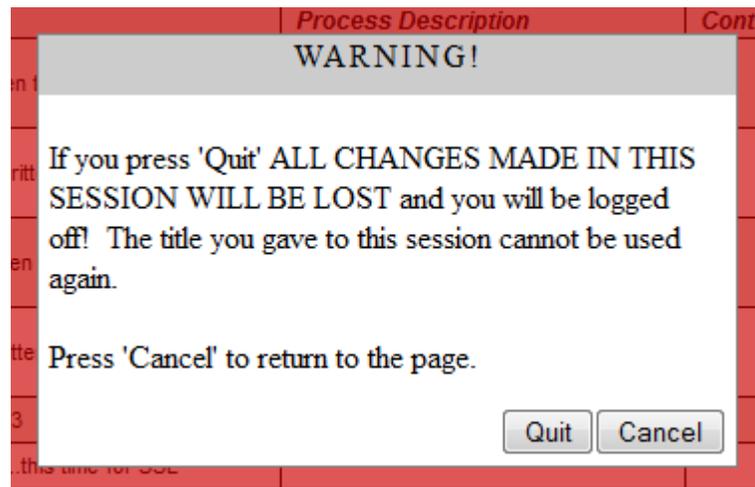
As was the case with the text-box that held the process description on the Citations page, the **Comments** box will underline misspelled words or, in this case, proper names.

- 7) Click the **Save** button and your edit will be written to the database.

When the information has been saved you will see the following pop-up window in the lower, right corner of the screen.



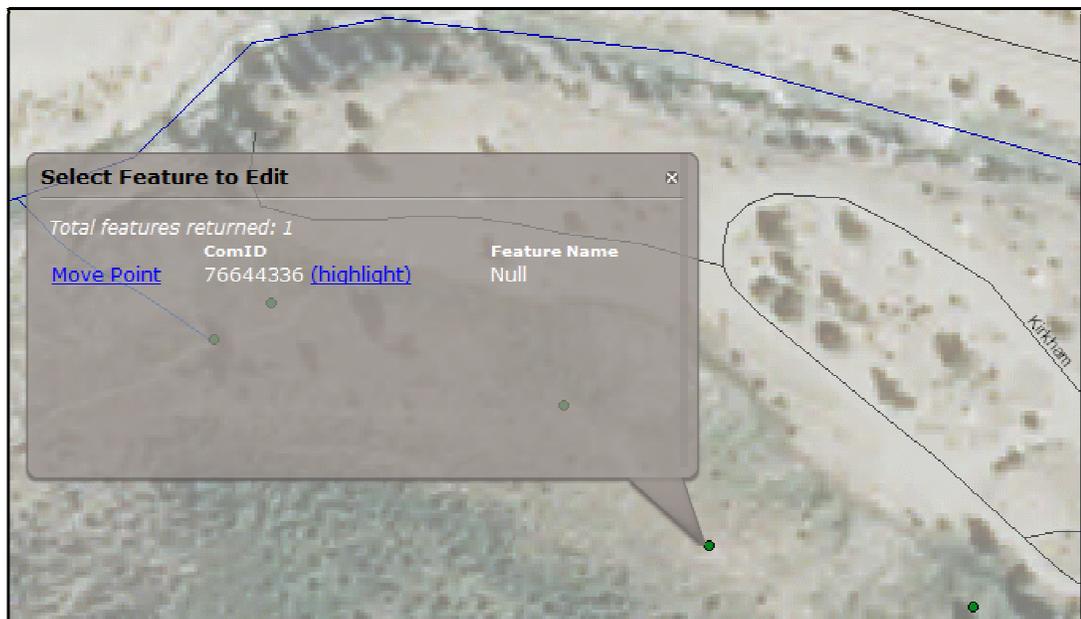
If you click the **Cancel** button you will be warned about losing your changes. If you have saved your edit, then you can press **Quit**. This is the same warning you will receive if you cancel your data-entry session on the *Citations* page.



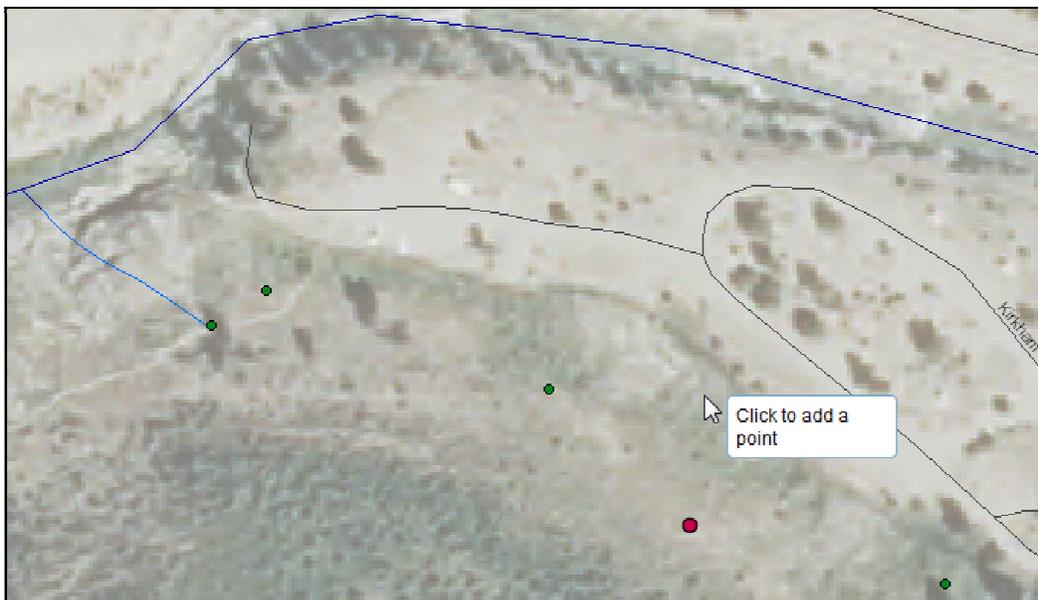
## Example - Moving a Point

This example shows the steps necessary to move an existing point. Select **Modify an existing point** from the menu.

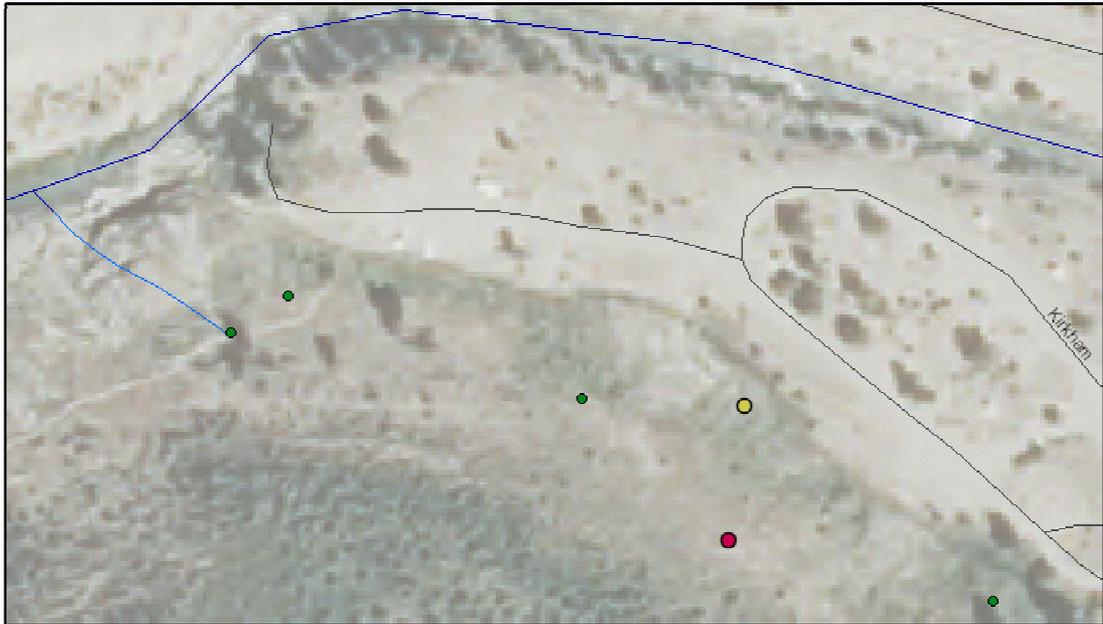
- 1) Select **Move point** from the sub-menu.
- 2) Click on the point you wish to move.



- 3) Click the "Move Point" link for the point. The selected point will be highlighted.



- 4) As the tooltip instructs, click the map where you wish to move the point. The new point will be highlighted in a different color.



- 5) Enter comments as instructed in the previous example.
- 6) Click the Save button and wait for the pop-up window to appear in the lower, right corner of the screen.

## Example – Adding a Point Event

All point- and line-events must be attached to an existing stream. This example shows the steps necessary to add a point event to an existing stream. Select **Add a point event** from the menu.

- 1) Click the **Start Editing** button.
- 2) Click the stream segment to which you wish to add the point event. You must click fairly close to the line. If the “Select Feature to Edit” window does not pop up, click closer to the stream. Zoom into the map so that you can accurately place the event point.



Note that the event is not exactly on the canal.

- 3) Click the “Add Point Event” link for the segment you wish to edit. In this case, it is the only stream shown.
- 4) Click the “Change Stream name” link for the segment you wish to edit..

The application will snap the event point to the line and highlight the line.



**Add Point Event**

You must provide entries for all fields except *Feature ID* and *URL*.

Source originator

Description

Feature ID

URL of webpage

the event when you enter your comments.

- Stream Gage
- Dam
- Divergence Structure General
- Divergence Structure Withdrawing
- Divergence Structure Contributing
- Water Quality Monitoring Station
- Boat Access Point
- Bridges/Transportation Structures
- Stream Characteristics
- Presence/Absence of Aquatic Species

- 5) Fill the text-boxes as directed by the tooltips. If you are the source of the information, enter 'self'.
- 6) If you are editing features for a company or agency that maintains a web-site with details about this event, enter the unique ID for the feature in the **Feature ID** text-box and the web address in the **URL of webpage** text-box.
- 7) You must select an event type from the drop down list.
- 8) Click the **Save** button and wait for the pop-up to tell you that the edit was saved.

### Reviewing Edits

The edits you submit are written to a database at the IDWR, where staff check the edits to make sure they are valid and that they represent the information you wrote in the “comments” field. No other users of the NHDEditor can view the edits you submit.

In order to determine the current status of your edits, you must use the *ReviewEdits.aspx* page. See *Using the ReviewEdits Page*.

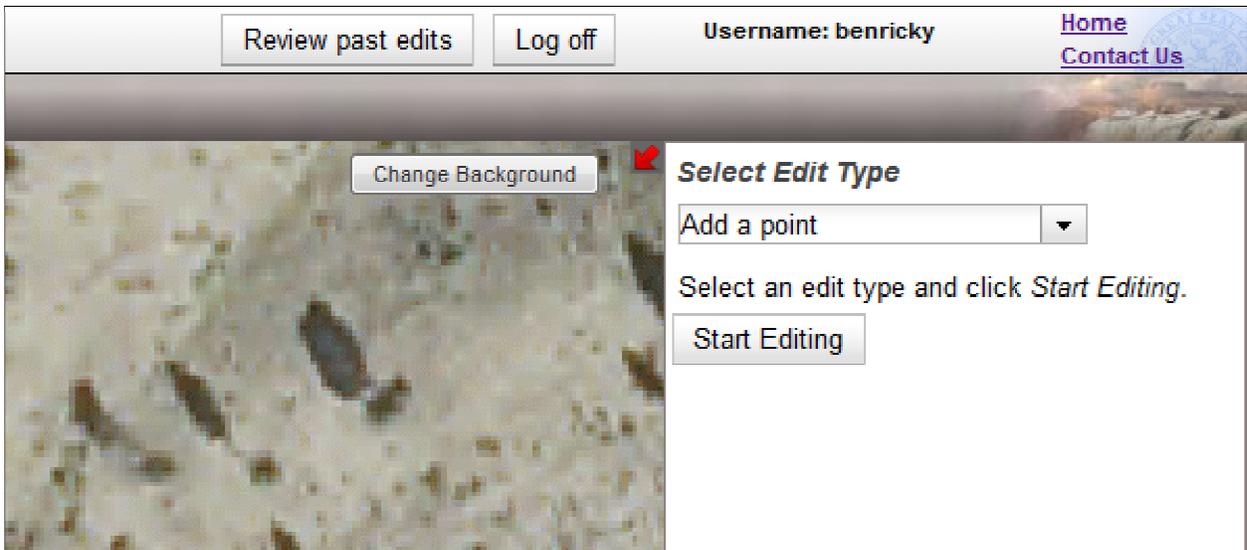
### Review Previous Edits Before Entering a Citation

You may log on to the NHDEditor and review edits at any time. You may elect to review edits without creating a citation by logging on to the site and clicking the [Review](#) link, at the top of the page.



### Review Previous Edits During an Edit Session

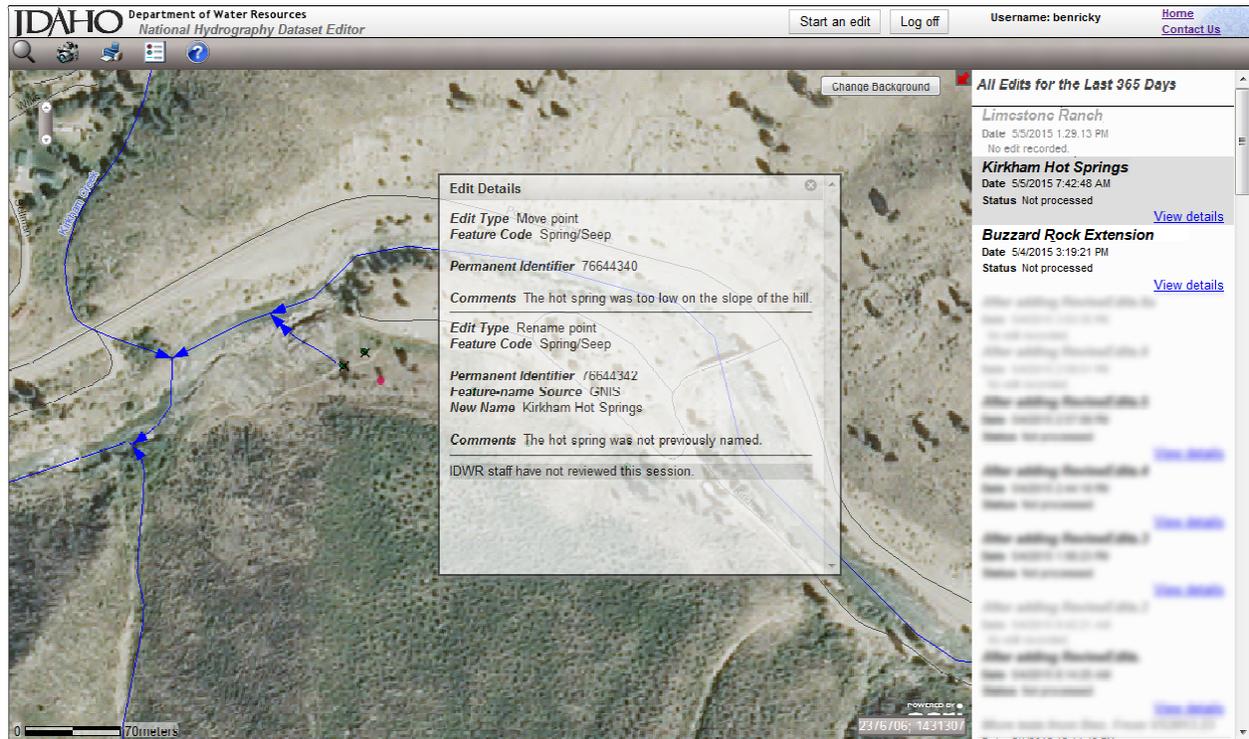
If you are currently editing the NHD, you may review your previous edits without logging off by clicking the *Review past edits* button, located near the top, center of the page. If you have not saved your current edit you will be warned to save it. Be careful to save your current edit before reviewing previous ones.



### Using the ReviewEdits Page

The edit-session that you are viewing on the screen will be shown with a dark gray background on the right-hand side of the screen.

If you click [View Details](#) on any of the sessions, you will see all of the edits made in that session, drawn as points or lines on the map as well as text showing the details of the edits you made. The last text on that *Edit Details* pop-up window shows that “IDWR staff have not reviewed this session.”



This is where you will be able to track the status of your edit-sessions. The message will change to one of the following, as we review the edits:

- IDWR staff is currently checking the work for accuracy and completeness
- IDWR staff has submitted edits from this session to the USGS
- IDWR staff has rejected the edits in this session. You should have received an e-mail showing a detailed reason for the rejection

Additionally, if we have submitted the edits to the USGS for their approval, you will see one of the following:

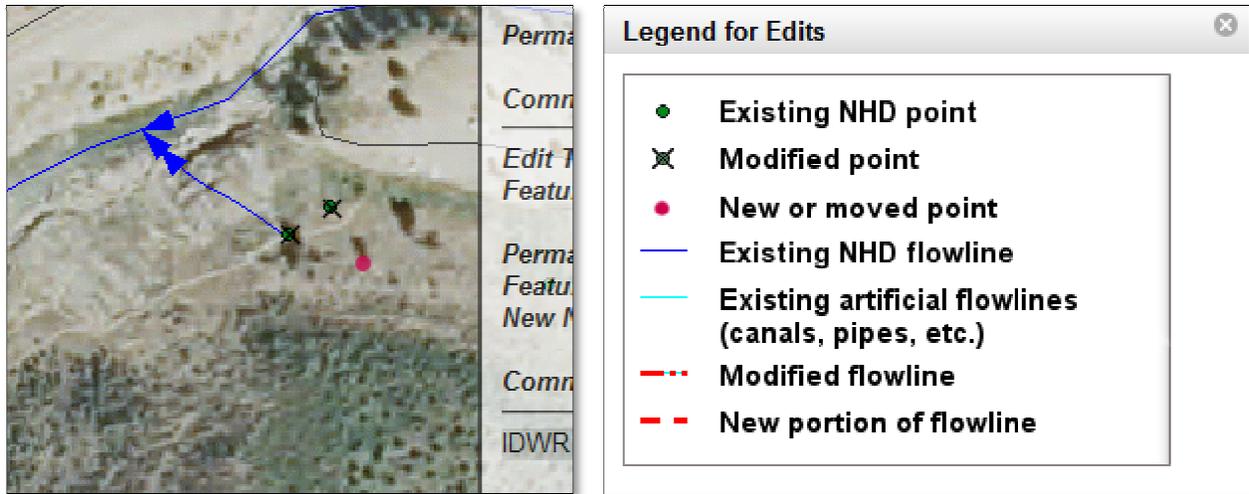
- Approved - edits from this session have been approved by the USGS
- Rejected - edits from this session have been rejected by the USGS

If your edits were rejected for any reason, by the USGS or the IDWR, we will send a detailed message to the e-mail address you used when you registered to use this tool.

### Reading the Map Symbols

Displaying the legend will help you interpret what symbols mean and match the representation of your edits on the screen with any personal notes you may have. This legend differs, slightly, from the one you will see while editing.

In the case of the *Kirkham Hot Springs* edit example, the user modified two points: one point was moved because it was “too low on the slope” and the other point was renamed. Even though it is difficult to determine which modified point is which, the tool that the IDWR staff uses to check the edits will be able to sort things out.

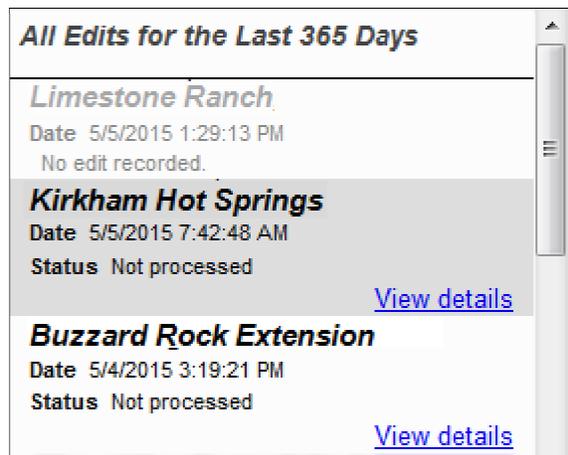


As noted previously, click [View Details](#) on any of the sessions in order to see the edits you recorded.

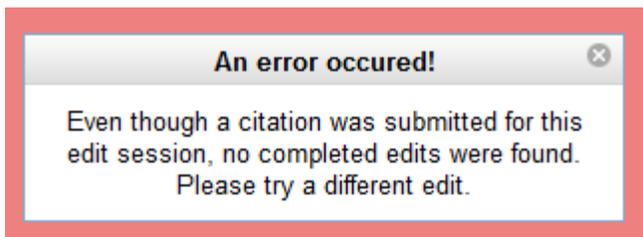
The edit-session that you are viewing is underlaid with a dark gray background on the right-hand side of the screen.

Edits that you did not complete before logging off are displayed in a light gray. The words “No edit recorded” are shown to emphasize that fact.

In the example, at right, *Kirkham Hot Springs* and *Buzzard Rock Extension* are valid edit sessions.



There is a possibility that you created a citation but no edits were recorded for that citation.



You will see this error message.

This can only happen if you cancel an edit session and choose to “quit,” as explained in section 7 of *Example – Changing a Stream Name*.

## Final Thoughts

### Log Off

Don't forget to log off of the application once you have finished your edits. This tells the application that you are done making edits and is a good way to ensure that the edits you made were written to the database.

### General Information

You **must not** use the browser's controls to refresh the map. Using the browser's "Back" button to go the previous page will cause you to lose any information you have entered or cause it to be stored improperly.

If you have any problems with this application, or have questions not answered by this document, you can contact the NHD Steward using the information shown below. Please ensure that your e-mail address and telephone number are correct when filling the registration form.

### The Image Behind the Map

The imagery displayed as the background for the map was acquired by the USDA for the *National Agriculture Imagery Program* (NAIP), in 2009. It is high resolution – every pixel (dot) on the map represents one square meter on the ground. You should be able to properly locate your changes using the roadways, waterways and other features in the imagery. If you use the features on this map to provide the precise location for your edits (in other words, if you draw a line along a canal along field boundaries visible on this map; not transferring them from another map), enter "2009 NAIP Imagery" in the *Source* field of the *Information about this Edit Session* screen.

## Contacting IDWR

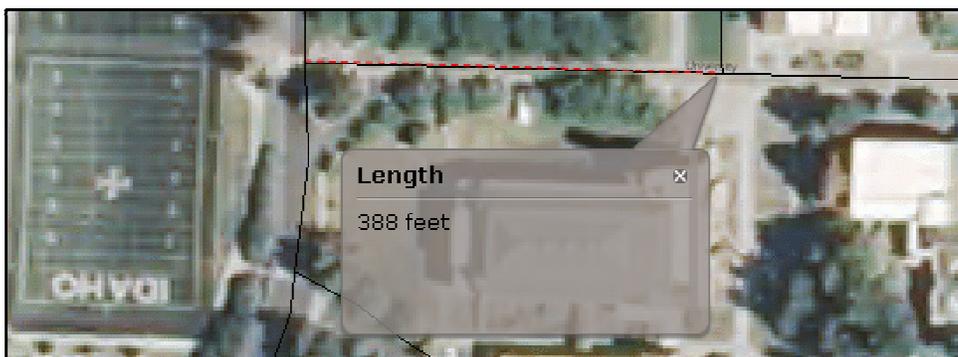
For comments and questions concerning the NHD Editor or any of the IDWR's interactive maps, send an e-mail message to [GISInfo@idwr.idaho.gov](mailto:GISInfo@idwr.idaho.gov) or call the telephone number shown below:

### Idaho Department of Water Resources

The Idaho Water Center  
322 East Front Street  
PO Box 83720  
Boise, Idaho 83720-0098  
Phone: (208) 287-4800  
Fax: (208) 287-6700

## Appendix – Measuring Distances

Measure distances on the map by clicking the measure tool. Tooltips guide you through the process.



## Appendix – Glossary

The following list of terms is for those of you who are not familiar with internet mapping applications.

### General Terminology

**GIS** – Geographic (or geographical) Information System. The GIS ties IDWR data – wells, water rights, etc. – to locations in Idaho.

**Attribute** – a characteristic of the data; a value from one of the columns/fields in the database.

**Feature** – a point, line or polygon that describes the extent of an item in the IDWR's GIS.

**Layer** – a collection of features of the same type, e.g. streams.

**Extent** – the scope or limit of the geographical area.

**IDTM** – Idaho Transverse Mercator is the official coordinate system used to exchange geographic information within the state.

### Terms Specific to Using the Map

**Map** – the portion of the display used to emulate a paper map.

**Navigation** – the act of sizing or repositioning the content of the interactive map.

**Click** – press the mouse button (usually the left button). This application does not provide any functionality to “right-clicking.”

**Drag** – press and hold the mouse button while moving the mouse. The only use for this (in this application) is as a short-cut to zoom to a specific portion of the map.

**Hover** – mouse your mouse cursor over an area of the map, icons or menus in order to see more information about that item.

**Rubber-band box** – if you use the **Shift** and **Ctrl** keys while dragging the mouse you will see a rectangular overlay showing the extent of the area which will be operated on. Used for navigation or feature selection.

**Zoom in** – view a smaller portion of Idaho (magnify).

**Zoom out** – view a larger portion of Idaho (minify).

**Pan** – reposition the map by dragging it in any direction.

**Tooltip** – small text-boxes which become visible when you place your mouse cursor over certain components.

**Map scale** – the approximate scale of the map, given as a ratio, e.g. 1:24000.