
Using the Web-based Water Rights Accounting Application

Idaho Department of Water Resources

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Water Rights Accounting
Updated October, 2016

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Welcome

The Water Rights Accounting is a set of computational tools that the Watermaster uses to quantify natural flow available, natural flow use, and storage use on a daily, after-the-fact basis. The water rights accounting computes the natural flow available using streamflow, reservoir, and diversion measurements. Based on the natural flow available, the water rights accounting determines which water rights are in priority.

The Idaho Department of Water Resources provides this interactive web application as a way for the public to easily examine surface water rights accounting data used in, or output from, the accounting model. This application's initial page is <https://www.idwr.idaho.gov/apps/Accounting>. That page helps you gather the information to query the IDWR's accounting database; results are viewed on the second page of the application – the **Report** page – which displays the selected time-series data.

The **Report** page can be accessed by internet address, without going through the initial page. See [Request to View Data without Using the Initial Page](#) and [Getting Help - Report Page](#).

This web-based application allows you to view, print, graph and download the historical data and the output from the accounting model. That output may alternatively be referred to as water rights allocations, ALC data or model data.

Historical data and accounting model data are available for the following rivers:

- Bear River
- Big Lost River
- Boise River
- Payette River and tributaries
- Upper Snake River

Note that only historical data (no accounting) are available for the following river systems:

- Billingsley Creek
- Garden and Challis Creeks
- Morgan Creek
- Upper Salmon River Basin
- Stanley Area
- Thousand Springs

Access to historical data for these six river systems is slated to be moved to another application in the near future. A link to the new application will be provided on the initial **Accounting** page when that happens.

Conditions of Use

Users of this on-line application are hereby warned that these data are subject to change and not considered the legal representation of those data collected and maintained by the IDWR. The persons who maintain this application are not the scientists, engineers and support staff responsible for providing the data. Clarification of derivation, or verification of correctness, can only be accomplished by contacting personnel of the IDWR. An example of the disclaimer, available by clicking the **Conditions of Use** link on the page, is shown below. The text of this disclaimer is included in every ZIP-file created by this program.

Disclaimer ✕

Conditions of Use

The Idaho Department of Water Resources is maintaining this web site as a public service. The Idaho Department of Water Resources strives to ensure that all technical data and other information made available to the public through this web site is accurate, complete and in conformance with the Idaho Public Records Act. Neither the Department of Water Resources nor the State of Idaho, however, assumes any legal responsibility for the accuracy or completeness of the information contained on this site.

Persons using information from this site for official purposes, or other purposes, for which accuracy and completeness are required, are hereby notified that they should first verify the information with the public records or other primary sources from which the information was obtained.

For information on using this application, view the [Users' Manual](#).

If you are using Internet Explorer from a desktop or laptop PC and do not see a properly formatted page underneath this disclaimer, turn off [Compatibility View](#). If that didn't fix the problem, try using a different browser, such as [Chrome](#) or [Firefox](#).

Terminology

Throughout this document, you will see the abbreviations HST and ALC. Those stand for history (or historical) and allocations data, respectively. The historical data are the recorded flows, discharges, storage, etc. of the sites accounted for in the model. The allocations data are the modelled, calculated results from the Water Rights Accounting model.

Specifying the Data to View and Download

The initial web page allows you to select the data you wish to view or download but is essentially blank until you select a river system. Follow the steps as they are enumerated. Once you select a river system, you will see all of the sites on that river. No years-of-record will be displayed until you place a checkmark in the checkbox of the site you wish to view or download.

This form can be accessed by clicking on *Water Rights Accounting Tabular Data* link on the *Water Rights Accounting* web-page, <http://www.idwr.idaho.gov/water-data/water-rights-accounting/research.html>.

The screenshot shows a web interface for the Idaho Department of Water Resources. The header includes the IDAHO logo, the department name, and navigation links for Home, Research, Idaho.gov, and Contact Us. A 'Help' button is also present. The main content area is divided into several sections:

- Explanation:** A text box explaining that the data available are daily values for flows, diversions, or reservoir contents. It notes that multiple sites and years can be selected, and data can be viewed as tabular reports, graphs, or PDFs.
- Step 1. Select River System:** A dropdown menu currently showing 'No river system selected'.
- Step 2. Select data source:** Two radio button options: 'Historical records' (selected) and 'Accounting data'.
- Step 3. Select one or more sites:** A table with a checkbox in the first column and headers for 'Site ID', 'Site Type', 'Site Name', 'HST Count', and 'ALC Count'.
- Step 4. Select one or more years:** A text input field labeled 'Year'.
- Step 5. Submit your request:** A text box explaining that the list of available years is updated based on the most recently selected site. It notes that data for all selected sites will be available on the 'Report' page. A 'Submit' button is located at the bottom right of this section.

Once you select the sites and years you wish to view and click the **Submit** button, you will be taken to the **Report** page.

The initial page is formatted so that all of the steps are viewable, on a single page, on desktop browsers. The steps are enumerated in order to guide you through the process.

1. Select a river system.
2. Select the type of data you wish to view – historical or accounting (allocations).
3. Select one or more sites from that river system or basin. When you select a site by placing a check in a site’s checkbox, the list of available years (in Step 4) is updated to reflect the years for which data is available for the most recently selected site.
4. Select the year(s) you wish to view/download after you have selected all of the sites.
5. When you click the **Submit** button, the list of sites and years selected will be passed to the **Report** page for viewing/downloading.

Explanation

The data available from this page are daily values for flows, diversions or reservoir contents. You may select multiple sites, for multiple years. Submit your request to view tabular reports of the data, which is available for download, graphing or as a Watermaster-style report (PDF).

Step 3. Select one or more sites

475 sites Search:

<input type="checkbox"/>	Site ID	Site Type	Site Name	HST Count	ALC Count
<input checked="" type="checkbox"/>	13010500	R	JACKSON LAKE	39	28
<input checked="" type="checkbox"/>	13011000	F	SNAKE RIVER NR MORAN WY	39	28
<input checked="" type="checkbox"/>	13022500	F	SNAKE RIVER AB RESERVOIR NR ALPINE WY	37	28
<input type="checkbox"/>	13023000	F	GREYS RIVER AB RESERVOIR NR ALPINE WY	37	28
<input type="checkbox"/>	13027500	F	SALT RIVER AB RESERVOIR NR ETNA WY	37	28
<input type="checkbox"/>	13032450	R	PALISADES RESERVOIR NEAR IRWIN	39	28
<input type="checkbox"/>	13032500	F	SNAKE RIVER NR IRWIN ID	39	28
<input type="checkbox"/>	13032510	P	P BYRD PUMP	30	28
<input type="checkbox"/>	13032515	P	BOY SCOUT CAMP PUMP	28	16
<input type="checkbox"/>	13032520	P	A ROSTAD PUMP	28	18
<input type="checkbox"/>	13032920	P	R ROSE PUMP	24	23
<input type="checkbox"/>	13033010	D	PALISADES CANAL	27	26
<input type="checkbox"/>	13033643	P	W FLEMING PUMP	37	20
<input type="checkbox"/>	13033650	P	MERT OGDEN PUMP	29	23
<input type="checkbox"/>	13033660	P	LYNN DIVON PUMP	12	12

Step 1. Select River System

Upper Snake River

Step 2. Select data source

Historical records
 Accounting data

Step 4. Select one or more years

Year
<input type="checkbox"/> 2015
<input checked="" type="checkbox"/> 2014
<input type="checkbox"/> 2013
<input type="checkbox"/> 2012

Step 5. Submit your request

The list of available years (in Step 4) is updated to reflect the years for which data is available for the most recently selected site. Since the available years vary by site, there may be site/year combinations for which no data will be returned. Data for all selected sites will be available on the **Report** page but you will view data for one site, for one year at a time. For more details, view the [Users' manual](#).

Submitting a data request means that you have read and agree to the [Conditions of Use](#).

*Note: The **HST Count** and **ALC Count** columns refer to the number of years of data available for history*

and allocations, respectively. As shown in the table, data are not available for all years, for all sites. The last site selected will determine the years used in the query, which means that, on the **Report** page, there is a chance that you will receive an error message if you select a site/year combination for which no data exist in the database.

The “select all sites” checkbox in the table-header, *Step 3*, allows you to select all of the sites for a river system.

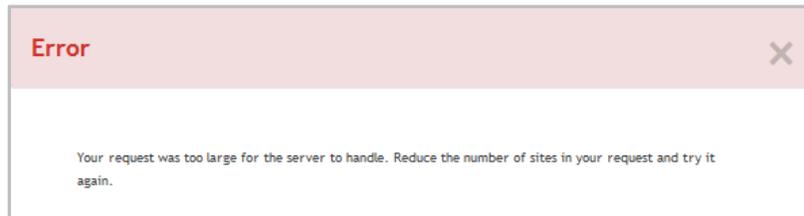


If you place a checkmark in it, the list-of-years in *Step 4* will not be filled until you uncheck and check one of the sites in *Step 3*. If you place a checkmark in it and then “un-check” a site, you will see:



Requesting to View All Data for a River

Even though you can use the “select all sites” checkbox to request data for all sites on a river (from the initial page), that request may fail due to the number of characters sent to the server – every SiteID for the river is present in the request. The query works reliably for small river systems. For example, the request for the entire Boise River (116 sites) receives a response. However, the Upper Snake River contains 475 sites, which means that the request for that data is over 5KB; it will be rejected by the server. This message is displayed:



You may experience a similar problem if you try to request to download the data for all sites, for all years, for even the smaller river systems.

Request to View Data without Using the Initial Page

If you need to view all of the data at one time, you may specify only the river system – no SiteIDs or years. Use the following format, specifying the proper river-system abbreviation and history or model: <http://idwr.idaho.gov/apps/Accounting/Report?riverSystem=SNK&yearlist=&yeartype=IY&hstalc=model>

River System Abbreviations

BAR	Bear River	
BGY	Billingsley Creek	No model data
BL	Big Lost River	
BOI	Boise River	
GCC	Garden and Challis Creeks	No model data

MOR	Morgan Creek	No model data
PAY	Payette River and Tributaries	
SAL	Upper Salmon River Basin	No model data
SNK	Upper Snake River	
STA	Stanley Area	No model data
TSP	Thousand Springs Area	No model data

Note that, while you can request to view an entire river system you will only be able to download or graph data for a single site, for a single year. In order to download all of the data for an entire, select only that site on the initial page. As explained below, this is a restriction enforced by the server.

Searching for Sites by Site ID or Name

The **Search** text-box at the top of *Step 3* allows you to search for a site by ID or name.

The image shows two side-by-side screenshots of a web application interface. Each screenshot displays a search bar at the top with the text '475 sites' and a search input field. Below the search bar is a table with columns for Site ID, Site Type, Site Name, HST Count, and ALC Count. The left screenshot shows search results for '130325', listing sites like 'SNAKE RIVER NR IRWIN ID', 'P BYRD PUMP', 'BOY SCOUT CAMP PUMP', and 'A ROSTAD PUMP'. The right screenshot shows search results for 'parkin|', listing sites like 'T PARKINSON PUMP', 'B PARKINSON PUMP', 'B PARKINSON EXCHANGE WELL', 'M PARKINSON EXCHANGE WELL', and 'GODFREY-PARKINSON PUMP'.

Sorting Columns

You cannot choose to view only one type of site, such as all pumps. But you can sort the **Site Type** column to group those sites. Click the up/down arrows beside each column heading to sort the data by the values in that column.

Calling this Application from the Interactive Map

The **Report** page is accessible from the Water Rights Accounting interactive map application. If you click on a point in the mapping application, <http://maps.idwr.idaho.gov/Map/Accounting>, you will be taken directly to the **Report** page. All of the years of data for that single site will be displayed. The link is the same as those referred to as “bookmarks” in [Appendix - API Reference](#).

The Report Page

As explained below, the sites and years available for viewing on the **Report** page is governed by what you select on the initial page. Further, depending on how you accessed the **Report** page, actions may be restricted. For example, if the river-system has fewer than 200 sites, you will be able to view and download all data for all sites on the river. If it is a large river-system, such as the Upper Snake, you will be able to view data for all of the sites, for all of the years using the internet address explained in [Requesting to View All Data for a River](#). However, that kind of request restricts you downloading or graphing data for a single site/year combination.

If you must download data for multiple years/sites for the Upper Snake River, select less than 200 sites on the initial page and then submit the request. This restriction is imposed by the web server, not this application, so it cannot be changed.

Viewing the Data

Once you click the **Submit** button, the **Report** form will open in new tab or window. Regardless of the number of sites and years you select on the initial page, you will see the information for a single site/year combination on the **Report** page. You can view the data for any of the sites, for any of the years you selected on the initial page by using the **Site / Year/ YearType** dropdown lists at the top of the page.

Historical data for Site ID:13010500
Reservoir name: JACKSON LAKE

Daily mean values for reservoir contents in acre feet
Irrigation Year, November 2013 To October 2014

13010500: JACKSON LAKE

13010500: JACKSON LAKE

13011000: SNAKE RIVER NR MORAN WY

13022500: SNAKE RIVER AB RESERVOIR NR ALPINE WY

History

Model

2014

Year

Irrigation

Year Type

	APR	MAY	JUN	JUL	AUG	SEP	OCT					
1	156702.41	169800	182713.45	200347.06	224063.59	245928.48	299932.88	651060.88	822789	781711.63	707073.44	640711.44
2	157000	170600	183313.17	200743.66	225488.02	246342.28	303754.41	663170.88	823809.25	778700	704615.06	640946.19
3	157469.95	171414.13	183903.22	201739.95	227121.61	246968.03	309526.56	676036.56	824580.56	775698.81	702156.63	640464.94
4	157600	171804.31	184299.81	202136.55	228546.02	247169.89	316599.56	688226.56	825600.81	772931.19	699698.25	640464.94
5	157853.72	172194.48	184502.94	202136.55	229600	247997.5	324332.72	697983.38	826359.69	770681.5	697000	640464.94
6	158050.3	171994.64	184502.94	202732.39	230388.8	248411.3	332756.91	709040.19	827379.88	768600	694559.63	640464.94
7	159005.05	172584.67	185092.98	203537.17	230797.19	249026.97	341445.41	719593.31	827890	766450.44	692119.25	640711.44
8	159959.81	172965.33	185700	205745.44	231205.59	249900	347082.31	729719.56	828400.13	764213.38	689202.69	640946.19
9	160540.14	173355.52	186485.88	206756.31	231813.2	250894.13	353649.31	738373.94	828400.13	761222.44	686512.31	640946.19
10	160727.36	173555.36	187279.05	206756.31	233237.63	252337.39	359131.81	747520.13	828400.13	758231.5	683300	641192.69
11	160900	173745.69	187700	207551.3	233646.02	252549.34	363072.34	755994.38	828648.94	755240.63	680179.25	641400
12	161111.13	174400	188300	208758.47	234054.42	253578.8	366798.75	763714.88	828800	752300	677500.75	641427.44
13	161600	174600	188662.27	209729.77	234462.81	255435.88	370096.81	771682.06	828648.94	749270.94	674810.38	641427.44
14	162075.25	174725.91	189648.89	211300	235688.02	256475.44	374297.47	778956.25	826869.81	746280	672135.13	641400
15	162262.45	175300	190045.48	212978.69	236096.41	257918.7	379164.41	783475.06	825900	743564.19	669474.25	641200
16	163220.33	175896.45	190645.2	213989.58	236913.2	258534.36	387146.19	788238.81	825339.5	741089.75	666565	641192.69
17	164000.69	176086.78	191235.23	214391.97	236913.2	259573.91	396928.72	794006.75	823050.31	738868.81	664389	641192.69
18	164200.55	176500	191438.38	214990.64	237730	261430.98	410565.28	797012.38	820508.63	736394.44	662400	641192.69
19	165371.08	176867.14	192231.55	215393.03	237929.22	263298.16	422923.47	799799.88	818485.81	734200	660273.5	641192.69
20	165561.42	177457.17	192231.55	216197.83	238337.63	265177.63	433295.59	802328.31	816216.38	732200	658085.63	641192.69
21	166151.45	177647.5	192618.45	217208.72	238546.8	268113.5	447592.19	805103.44	813687.94	730455.81	655661.25	641427.44
22	165951.59	177837.83	192821.59	217208.72	238955.2	272716.78	463985.75	808643.31	811300	728476.31	653485.25	641427.44
23	165761.27	178818.05	193218.17	217601.3	239363.59	276072.03	481175.75	812170.81	808890	726750.25	651545.75	641427.44
24	166151.45	179008.38	193218.17	218612.17	239363.59	279417.09	499630.5	816722.06	806361.56	724770.69	649121.38	641192.69
25	166731.95	179988.58	193411.63	219613.25	239772	283406.59	519327.47	817474.44	803327.38	722549.75	646240.19	640946.19
26	166731.95	180178.92	194204.81	219613.25	240588.8	287204.81	540084.63	818485.81	800305.56	720336.81	644068.56	641427.44
27	167321.98	180178.92	194750.48	220015.64	241813.98	290808.84	562140.06	819250.56	797777.06	717878.38	642871.25	641673.94
28	167712.17	180569.09	196060.09	221831.31	242222.39	293149.41	584104.56	820261.94	794508.81	715659.88	641908.75	641427.44
29	168200	181200	197369.7	--	242630.78	295479.63	604527.75	821014.31	791239.13	712961.63	640711.44	641427.44
30	168873.19	181739.64	198679.31	--	244273.27	297602.69	621734.25	822030.13	788238.81	710755.06	640946.19	641673.94
31	--	182400	200153.61	--	244687.08	--	636861.25	--	785226.25	709040.19	--	641673.94
MEAN	162827	175981	190208	211058	235685	263764	424312	767236	816353	743467	670287	641157
MAX	168873.19	182400	200153.61	221831.31	244687.08	297602.69	636861.25	822030.13	828800	781711.63	707073.44	641673.94
MIN	156702.41	169800	182713.45	200347.06	224063.59	245928.48	299932.88	651060.88	785226.25	709040.19	640711.44	640464.94

IRRIGATION YEAR 2014 TOTAL 161875087 MEAN 443493

Output All

Table as PDF Submit

Submit questions to [GISinfo](#) or contact:
Idaho Department of Water Resources
 322. E. Front Street Boise, Idaho
 83720-0098 Telephone: (208) 287-4800
 FAX: (208) 287-6700

Download All

CSV Download

WATER RIGHTS ACCOUNTING

9

The sites and years available for download, printing or graphing – whether history or model data – is governed by what you select on the initial page. Each time you select a group of sites, the **Report** page is opened in a new browser tab. Therefore, you can open several **Report** pages and visually compare tabular data for two datasets by switching between browser tabs.

Possibility for Error

As mentioned previously, you may encounter an error while displaying data. For example, a flow gage (13057155) has 36 years of historical record and an upstream pump (13057146) has records for only the last seven years. So, if you select the pump site before selecting the gage site, you will be able to select years earlier than 2009 – the earliest data for the pump site. In which case, choosing to display (non-existent) data for the pump, will cause the following error message.



You may view, graph and download data for multiple years, for multiple sites. The only restriction is the network speed of your connection to the IDWR and the current load on the server.

Downloading Data

You have the choice to download the data in any of three formats, CSV, JSON or XML. The checkmark in the **All** checkbox of the **Download** panel indicates that you wish to download all of the sites, for all of the years you selected on the initial web page. If you remove the checkmark, only the site/year that is visible on the web-page will be downloaded.



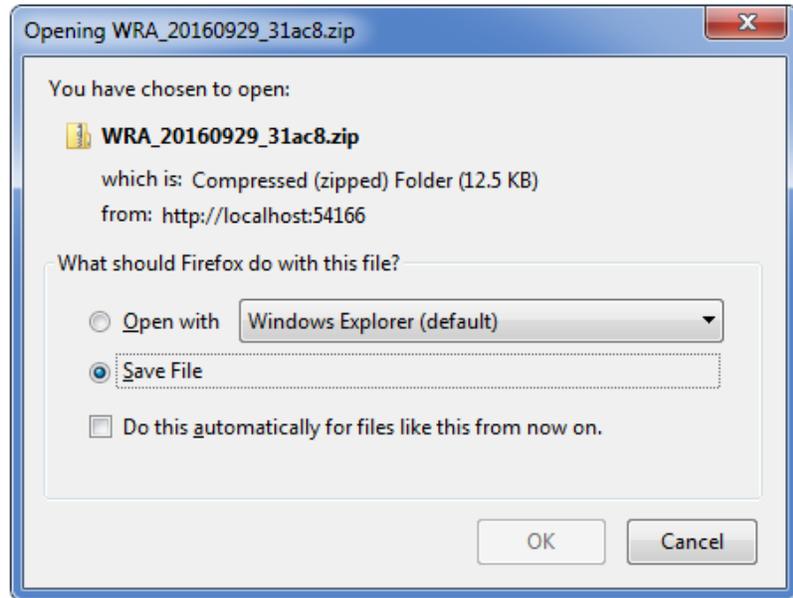
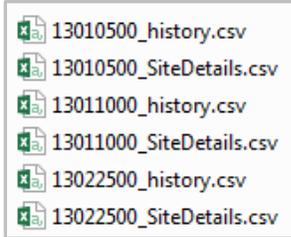
Programmers’ note: You may bypass this user interface and download data directly from the **Water Right Accounting** web service. To do so, specify comma-delimited lists of sites and years, download type (CSV, JSON or XML), etc.

<https://www.idwr.idaho.gov/apps/Accounting/Download?sitelist=13010500,13011000,13022500&yearlist=2015,2014,2013,2012,2011&yeartype=IY&downloadtype=CSV&hstalc=history>

If your request-string is longer than 1500 characters you must use HTTP POST.

Additional options and web services are available. For example, the IDWR’s **WaterServices** web service provides a JSON result which can be consumed by your web applications. See [Appendix – API Reference](#) for more information. If you need more information, please contact GISInfo@idwr.idaho.gov.

When you select **CSV** from the drop-down list and click the **Download** button, you will see a dialog asking if you wish to open or save the downloaded data. Data, whether history or model, will be represented in the downloaded file by one record per row.



For each site downloaded, the ZIP-file contains a data-file (file-name reflects the SiteID and data-type, like 13010500_history.csv). The included files will be of the type you specified – CSV, JSON or XML. Site-details files and conditions-of-use document will be included. **Example of data from CSV-file:**

SiteID	SiteType	JDate	Reservoir Contents (Acre Ft)	Surface Elevation (Feet)	DataDate	YR
13010500	R	2013305	156702.41	6738.67	11/1/2013 6:00	2014
13010500	R	2013306	157000	6738.66	11/2/2013 6:00	2014
13010500	R	2013307	157469.95	6738.71	11/3/2013 6:00	2014
13010500	R	2013308	157600	6738.69	11/4/2013 7:00	2014
13010500	R	2013309	157853.72	6738.73	11/5/2013 7:00	2014
13010500	R	2013310	158050.3	6738.74	11/6/2013 7:00	2014
13010500	R	2013311	159005.05	6738.79	11/7/2013 7:00	2014

The JSON and XML files contain the same column headings as the CSV-file; **record #2 from XML-file:**

```
<?xml version="1.0"?>
<IDWR_Water_Rights_Accounting>
+ <_13010500_history.xml>
- <_13010500_history.xml>
  <SiteID>13010500</SiteID>
  <SiteType>R</SiteType>
  <JDate>2013306</JDate>
  <Reservoir_x0020_Contents_x0020__x0028_Acre_x0020_Ft_x0029_>157000</Reservoir_x0020_Contents_x0020__x0028_Acre_x0020_Ft_x0029_>
  <Surface_x0020_Elevation_x0020__x0028_Feet_x0029_>6738.66</Surface_x0020_Elevation_x0020__x0028_Feet_x0029_>
  <DataDate>11/2/2013 6:00:00 AM</DataDate>
  <YR>2014</YR>
</_13010500_history.xml>
+ <_13010500_history.xml>
```

Record #2 from JSON-file:

```
{
  "SiteID": "13010500", "SiteType": "R", "JDate": "2013306",
  "Reservoir Contents (Acre Ft)": "157000",
  "Surface Elevation (Feet)": "6738.66",
  "DataDate": "11/2/2013 6:00:00 AM", "YR": "2014"
},
```

The site name, site-type, etc., are delivered in a separate data-file, named like 13010500_SiteDetails.csv.

SiteId	SiteType	StationName	FullName	River	ALCSiteType
13010500	R	JACKSON LAKE	JACKSON LAKE	SNK	R

Copying Data

If you wish, you may copy the tabular data by selecting a portion of the dataset and using the key-sequence required by your device – this is Ctrl-C on Windows and Linux platforms or Command-C on Apple OSX platforms. This key-sequence varies on iOS, Android and other phone/tablet devices.

Historical data for Site ID:13010500 Reservoir name: JACKSON LAKE		Daily mean values for reservoir contents in acre feet Irrigation Year, November 2013 To October 2014										
13010500: JACKSON LAKE		Site		2014		Year		Irrigation		Year Type		
DAY	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	156702.41	169800	182713.45	200347.06	224063.59	245928.48	299932.88	651060.88	822789	781711.63	707073.44	640711.44
2	157000	170600	183313.17	200743.66	225488.02	246342.28	303754.41	663170.88	823809.25	778700	704615.06	640946.19
3	157469.95	171414.13	183903.22	201739.95	227121.61	246968.03	309526.56	676036.56	824580.56	775698.81	702156.63	640464.94
4	157600	171804.31	184299.81	202136.55	228546.02	247169.89	316599.56	688226.56	825600.81	772931.19	699698.25	640464.94
5	157853.72	172194.48	184502.94	202136.55	229600	247997.5	324332.72	697983.38	826359.69	770681.5	697000	640464.94
6	158050.3	171994.64	184502.94	202732.39	230388.8	248411.3	332756.91	709040.19	827379.88	768600	694559.63	640464.94
7	159005.05	172584.67	185092.98	203537.17	230797.19	249026.97	341445.41	719593.31	827890	766450.44	692119.25	640711.44
8	159959.81	172965.33	185700	205745.44	231205.59	249900	347082.31	729719.56	828400.13	764213.38	689202.69	640946.19
9	160540.14	173355.52	186485.88	206756.31	231813.2	250894.13	353649.31	738373.94	828400.13	761222.44	686512.31	640946.19
10	160727.36	173555.36	187279.05	206756.31	233237.63	252337.39	359131.81	747520.13	828400.13	758231.5	683300	641192.69
11	160900	173745.69	187700	207551.3	233646.02	252549.34	363072.34	755994.38	828648.94	755240.63	680179.25	641400
12	161111.13	174400	188300	208758.47	234054.42	253578.8	366798.75	763714.88	828800	752300	677500.75	641427.44

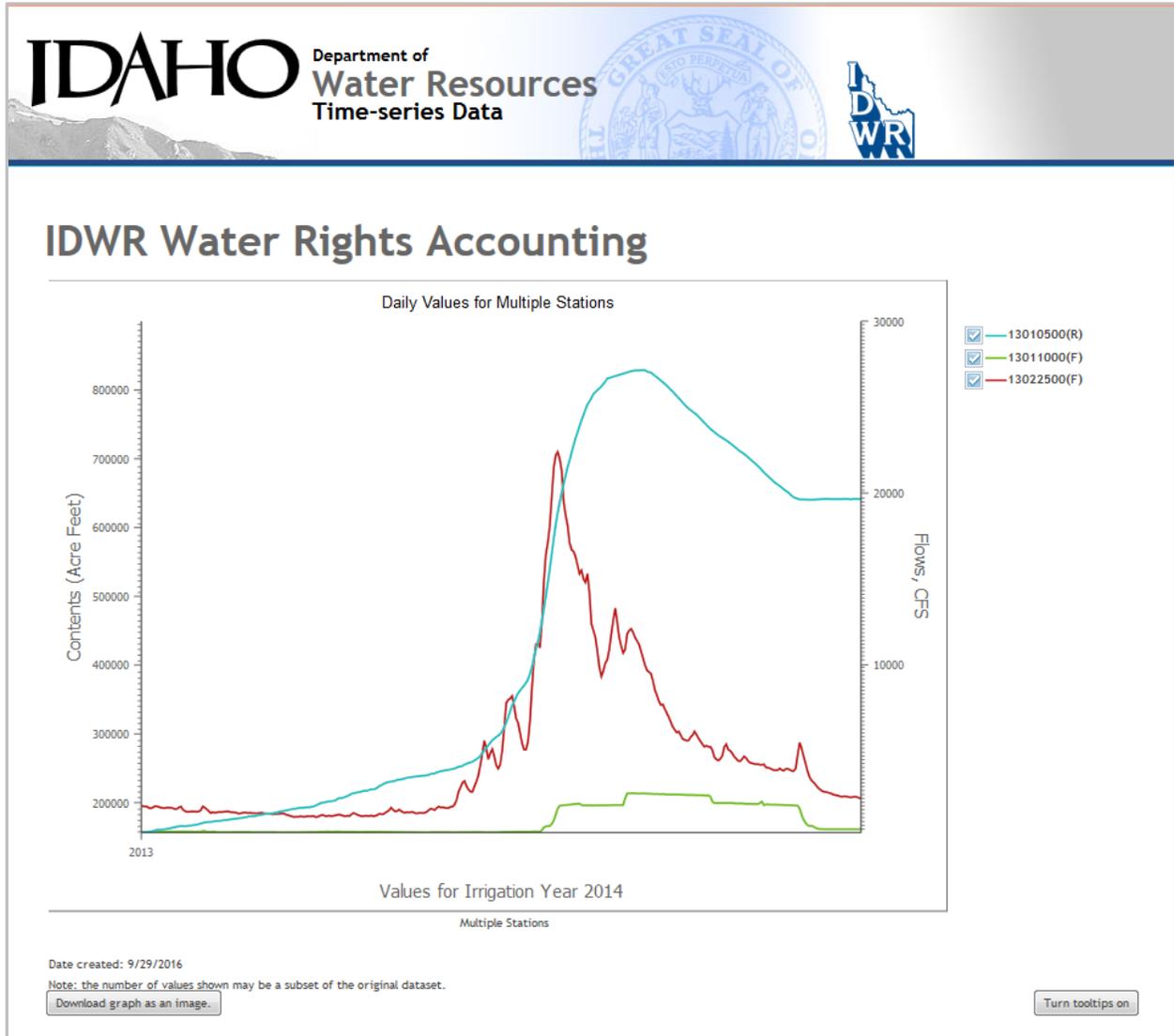
Downloading the Data in Watermaster Format – Suitable for Printing

You may save the data in the Watermaster format using the *Table as PDF* option in the **Output** panel. The checkmark in the **All** checkbox of the **Output** panel indicates that you wish to create output for all of the sites/years you selected on the initial web page. If you remove the checkmark, a report for only the site/year that is visible on the web-page will be created. As with other downloads, once you click the **Submit** button, you will be prompted to open or save the ZIP-file (contains one PDF per site per year).

13010500 JACKSON LAKE													29-SEP-2016
DAILY MEAN VALUES FOR RESERVOIR CONTENTS IN ACRE FEET, IRRIGATION YEAR, NOVEMBER 2013 TO OCTOBER 2014													
DAY	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	
1	156702.41	169800	182713.45	200347.06	224063.59	245928.48	299932.88	651060.88	822789	781711.63	707073.44	640711.44	
2	157000	170600	183313.17	200743.66	225488.02	246342.28	303754.41	663170.88	823809.25	778700	704615.06	640946.19	
3	157469.95	171414.13	183903.22	201739.95	227121.61	246968.03	309526.56	676036.56	824580.56	775698.81	702156.63	640464.94	
4	157600	171804.31	184299.81	202136.55	228546.02	247169.89	316599.56	688226.56	825600.81	772931.19	699698.25	640464.94	
5	157853.72	172194.48	184502.94	202136.55	229600	247997.5	324332.72	697983.38	826359.69	770681.5	697000	640464.94	
6	158050.3	171994.64	184502.94	202732.39	230388.8	248411.3	332756.91	709040.19	827379.88	768600	694559.63	640464.94	
7	159005.05	172584.67	185092.98	203537.17	230797.19	249026.97	341445.41	719593.31	827890	766450.44	692119.25	640711.44	
8	159959.81	172965.33	185700	205745.44	231205.59	249900	347082.31	729719.56	828400.13	764213.38	689202.69	640946.19	
9	160540.14	173355.52	186485.88	206756.31	231813.2	250894.13	353649.31	738373.94	828400.13	761222.44	686512.31	640946.19	
10	160727.36	173555.36	187279.05	206756.31	233237.63	252337.39	359131.81	747520.13	828400.13	758231.5	683300	641192.69	
11	160900	173745.69	187700	207551.3	233646.02	252549.34	363072.34	755994.38	828648.94	755240.63	680179.25	641400	
12	161111.13	174400	188300	208758.47	234054.42	253578.8	366798.75	763714.88	828800	752300	677500.75	641427.44	
MEAN	162827	175981	190208	211058	235685	263764	424312	767236	816353	743467	670287	641157	
MAX	168873.19	182400	200153.61	221831.31	244687.08	297602.69	636861.25	822030.13	828800	781711.63	707073.44	641673.94	
MIN	156702.41	169800	182713.45	200347.06	224063.59	245928.48	299932.88	651060.88	785226.25	709040.19	640711.44	640464.94	
IRRIGATION YEAR 2014													TOTAL 161875087 MEAN 443493

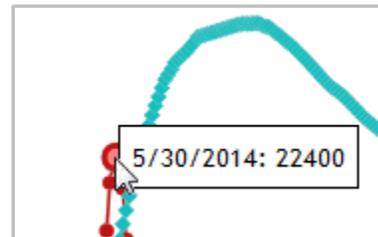
Creating a Graph of the Data

You may create a graph of the data using the *Graph* option in the **Output** panel. The checkmark in the **All** checkbox of the **Output** panel indicates that you wish to create output for all of the sites/years you selected on the initial web page. If you remove the checkmark, a graph for only the site/year that is visible on the web-page will be created. The legend indicates the SiteID and site-type of each dataset.



The graph shows in a new browser tab. You can save the graph as an image or turn on the tooltips and markers which dynamically display data as you hover over the graph. Click the Legend’s checkboxes to turn off/on the lines representing any of the sites.

Note that the example shows flow-values from two sites and contents for a single reservoir. So, there is an axis for Acre Feet as well as CFS.

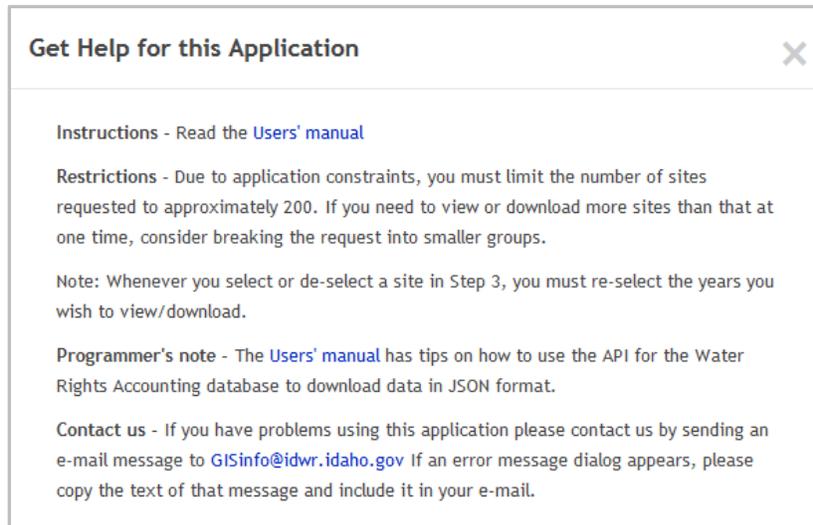


Getting Help

Each page has a **Help** button, located in the upper, right hand corner of the page. Since you are reading this manual, chances are that you have already discovered the **Help** dialog.

Initial Page

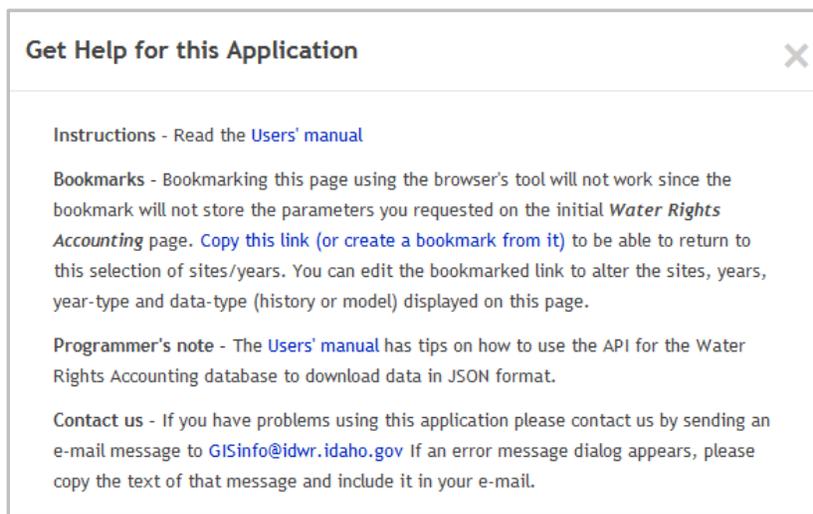
The Help dialog on the initial page of this application refers to this document and makes the user aware that they may not be able to download all of the information from the database at one time.



Report Page

In addition to making this users' manual available, the **Help** dialog tells you how to create a bookmark to the display you are currently viewing. For example, <https://www.idwr.idaho.gov/apps/Accounting/Report?sitelist=13011000,13022500&yearlist=2015,2014,2013&yeartype=IY&hstalc=history>

It also advises that detailed information about the IDWR's time-series APIs are available.



Appendix – API Reference

Requesting time-series data from the **Water Rights Accounting** API is very straightforward. The output product is always a ZIP-file containing the time-series data (and site details) in the format selected by the user; the default format is CSV. You can discover how to form the request-for-data by selecting the proper output format and using the bookmark tool, shown in the dialogs, in [Getting Help](#), above. The bookmark tool composes a request to the **Water Rights Accounting** API similar to the following:

<https://www.idwr.idaho.gov/apps/Accounting/Report?sitelist=13011000,13022500&yearlist=2015,2014,2013&yeartype=IY&hstalc=history>

WaterServices API

In addition to the **Water Rights Accounting** API, the **WaterServices** API delivers data in a much simpler form. Therefore, you must make requests to several operations in order to get the full view of the data, such as site name and the proper names of all of the values returned in the response.

The format in which you receive the response for requests is specified by appending the ‘f’ parameter to the request; JSON is the default response-format. If you specify ‘f=csv’ you will receive an uncompressed CSV-file. You may need to request the data in JSONP format (and supply a callback name) in order to guard against JavaScript security issues. If you specify ‘f=jsonp&callback=somecallbackname’ you can retrieve the data for use in an application. The response looks like:

```
somecallbackname([{"SiteType":"F","FieldName":"V1","Contents":"Flow","Units":"CFS"}]);
```

Download Time-Series Data from the WaterServices API

The response for the requested time-series data is an array of all of the records for each site/year combination present in the query. If no data is found for a particular site/year combination, no records are returned for that site, for that year. For history data, the request may return only the primary value (“V1”) from the database. For model data, the response may contain several values – see [Request Field Descriptions](#), below.

<https://www.idwr.idaho.gov/apps/WaterServices/Accounting/History?sitelist=13010500,13011000,13022500&yearlist=2015,2014,2013,2012,2011&yeartype=IY>

f=json

```
[{"SiteID":13010500,"SiteType":"R","JDate":"2010305","V1":646474.94,"V2":6760.92,"DataDate":"\Date(1288591200000)\","YR":2011},
{"SiteID":13010500,"SiteType":"R","JDate":"2010306","V1":646474.94,"V2":6760.92,"DataDate":"\Date(1288677600000)\","YR":2011},
{"SiteID":13010500,"SiteType":"R","JDate":"2010307","V1":646474.94,"V2":6760.92,"DataDate":"\Date(1288764000000)\","YR":2011},
{"SiteID":13010500,"SiteType":"R","JDate":"2010308","V1":646474.94,"V2":6760.92,"DataDate":"\Date(1288850400000)\","YR":2011},
{"SiteID":13010500,"SiteType":"R","JDate":"2010309","V1":646474.94,. . .
```

f=csv

```
"SiteID","SiteType","JDate","V1","V2","DataDate","YR",
"13010500","R","2010305","646474.94","6760.92","11/1/2010 12:00:00 AM","2011",
"13010500","R","2010306","646474.94","6760.92","11/2/2010 12:00:00 AM","2011",
"13010500","R","2010307","646474.94","6760.92","11/3/2010 12:00:00 AM","2011",
"13010500","R","2010308","646474.94","6760.92","11/4/2010 12:00:00 AM","2011",
"13010500","R","2010309","646474.94","6760.92","11/5/2010 12:00:00 AM","2011",
"13010500","R","2010310","646474.94",. . .
```

Request Site Details

The details for each site may be necessary for writing report headings or for linking to results from requests for time-series data. The only parameter is the list of sites for which you want details. This request returns a JSON array with the details for sites 13010500, 13011000 and 13022500.

<https://www.idwr.idaho.gov/apps/WaterServices/Accounting/SiteDetails?sitelist=13010500,13011000,13022500>

```
[{"SiteId":13010500,"SiteType":"R","StationName":"JACKSON LAKE","FullName":"JACKSON LAKE","River":"SNK","ALCSiteType":"R"}, {"SiteId":13011000,"SiteType":"F","StationName":"TO MORAN","FullName":"SNAKE RIVER NR MORAN WY","River":"SNK","ALCSiteType":"F"}, {"SiteId":13022500,"SiteType":"F","StationName":"MORAN TO ALPINE","FullName":"SNAKE RIVER AB RESERVOIR NR ALPINE WY","River":"SNK","ALCSiteType":"F"}]
```

Request Field Descriptions

As with site details, the descriptions of each of the fields in the output dataset may be necessary for post processing. The column-heading and units used to report these data vary by site-type and by whether history or model data are being requested. This is a request for fields reported for “flows.”

<https://www.idwr.idaho.gov/apps/WaterServices/Accounting/HistoryFields?SiteType=f>

```
[{"SiteType":"F","FieldName":"V1","Contents":"Flow","Units":"CFS"}]
```

The same request, made for ‘sitetype=r’ (reservoirs) returns four fields, meaning those four fields are in the time-series data:

f=json

```
[{"SiteType":"R","FieldName":"V1","Contents":"Reservoir Contents","Units":"Acre Ft"}, {"SiteType":"R","FieldName":"V2","Contents":"Surface Elevation","Units":"Feet"}, {"SiteType":"R","FieldName":"V3","Contents":"Evaporation","Units":"Inches"}, {"SiteType":"R","FieldName":"V4","Contents":"Precipitation","Units":"Inches"}]
```

f=csv

```
"SiteType","FieldName","Contents","Units",
"R","V1","Reservoir Contents","Acre Ft",
"R","V2","Surface Elevation","Feet",
"R","V3","Evaporation","Inches",
"R","V4","Precipitation","Inches"
```

Using Mobile Devices

This application is designed to be used on any “personal computer,” from large desktops to smart phones. However, the interaction between the user and the interface varies widely with the size, resolution and type of hand-held, touch-capable devices, be they cell phones or tablets. It has been tested on Android tablets and phones. It works on iOS devices from the iPhone 3, forward. The Opera browser is not recommended on iOS devices. The application has not been tested on Windows phones except to ensure basic functionality.

The mobile-device gesture-related terms are meant to be synonymous with desktop navigation. Where this document instructs you to “click,” you must “touch” or “tap” your mobile device.

Handling Errors

If you submit requests by specifying parameters from the browser’s address bar, you may see a message that your request was not properly formed.



Try the request again. You should not encounter this type of error when the **Report** page is displayed after selecting the sites and years to view/download from the application’s initial page.

Browser Incompatibility -- Internet Explorer

If you use the Internet Explorer browser, make sure that Idaho.gov is not listed in the ebsites you’ve added to *Compatibility View* pane in IE’s *Compatibility View Settings*. See Microsoft’s web-site for details: <http://windows.microsoft.com/en-us/internet-explorer/use-compatibility-view#ie=ie-11-win-7>

Final Thoughts

Cookies

The information collected and passed from one page to another is stored in local storage on your PC, Mac or hand-held device. You must have cookies enabled in order to use this application. Although you may use the browser's "Back" button to go the previous page, you may cause the application to lose any selections you made on the page you are leaving.

Contacting IDWR

If you have any problems with this application, or have questions not answered by this document, you can contact the IDWR using the information shown below. Please provide the address of this web-page – <https://www.idwr.idaho.gov/apps/Accounting>.

Please include your telephone number and browser name/version when requesting assistance. If you are using this application on a mobile phone or tablet, please include that information. Comments on how to make this application better are welcome, of course.

For comments and questions concerning this application send an e-mail message to 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