



# TestTheWater.org

an Online Water Data Management System

4Marbles Inc. Team Members:

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## Products & Services



Mobile  
LabBook

Data records and mobile  
input



Data  
Management

Data processing



Report  
Tool

Data Analysis  
Graphing



Forum

Connecting & Sharing

Water testing data management is now only a tap away.



## MOBILE LABBOOK

Data Collection  
& Digital Record



## DATA MANAGEMENT

Data Compliance  
& Quality Assurance



## REPORT TOOL

Data Trending  
& Analysis



## FORUM

Promote Your Efforts  
& Coordinate

TEST THE WATER

User Name Password

Remember Me?

Home Page **Forum** Blogs

New Posts FAQ Calendar Community Forum Actions Quick Links



TEST THE WATER

Welcome, DemoUser Notifications My Profile Settings Log Out

Home Page **Forum** Blogs Mobile LabBook Login Data Center Login

New Posts Private Messages FAQ Calendar Community Forum Actions Quick Links

Forum

### TestTheWater Forums

Welcome to the TestTheWater Forums.

Main Category		Threads / Posts	Last Post
Main Category Description			
<b>Main Forum</b> Main Forum Description		Threads: 0 Posts: 0	Never

# Forum: Currently Accessible only to Beta-testers



The Forum is designed to build a community focused on the importance of water data observations and to encourage collaboration amongst interested groups.

The Forum allows Users to:

- Create posts on water related topics
- Calendar for creating and coordinating events
- Pose questions, share protocols
- Create Groups for Data Collection & Management



Welcome, DemoUser   Notifications ▾   My Profile   Settings   Log Out

Home Page   Forum   Blogs   **Mobile LabBook Login**   **Data Center Login**  

[New Posts](#)   [Private Messages](#)   [FAQ](#)   [Calendar](#)   [Community](#)   [Forum Actions](#)   [Quick Links](#)   [Advanced Search](#)

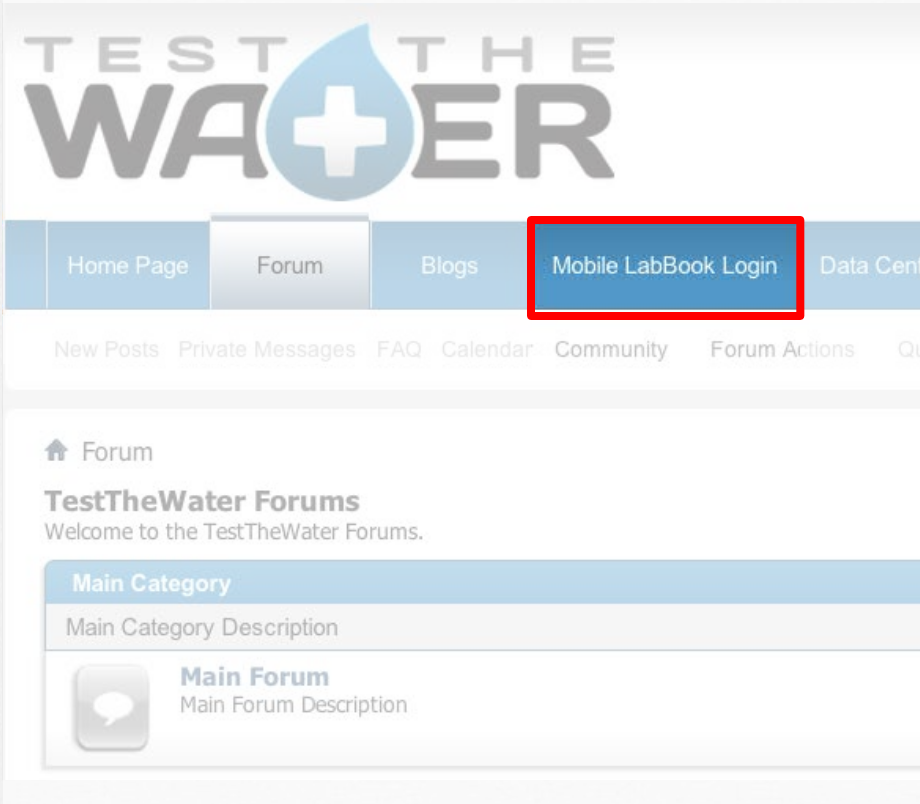
🏠 Forum

### TestTheWater Forums

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Main Category	Threads / Posts	Last Post
Main Category Description		
<b>Main Forum</b> Main Forum Description	✔ Threads: 0 Posts: 0	Never

# Mobile LabBook Login



TEST THE WATER

Home Page Forum Blogs **Mobile LabBook Login** Data Center

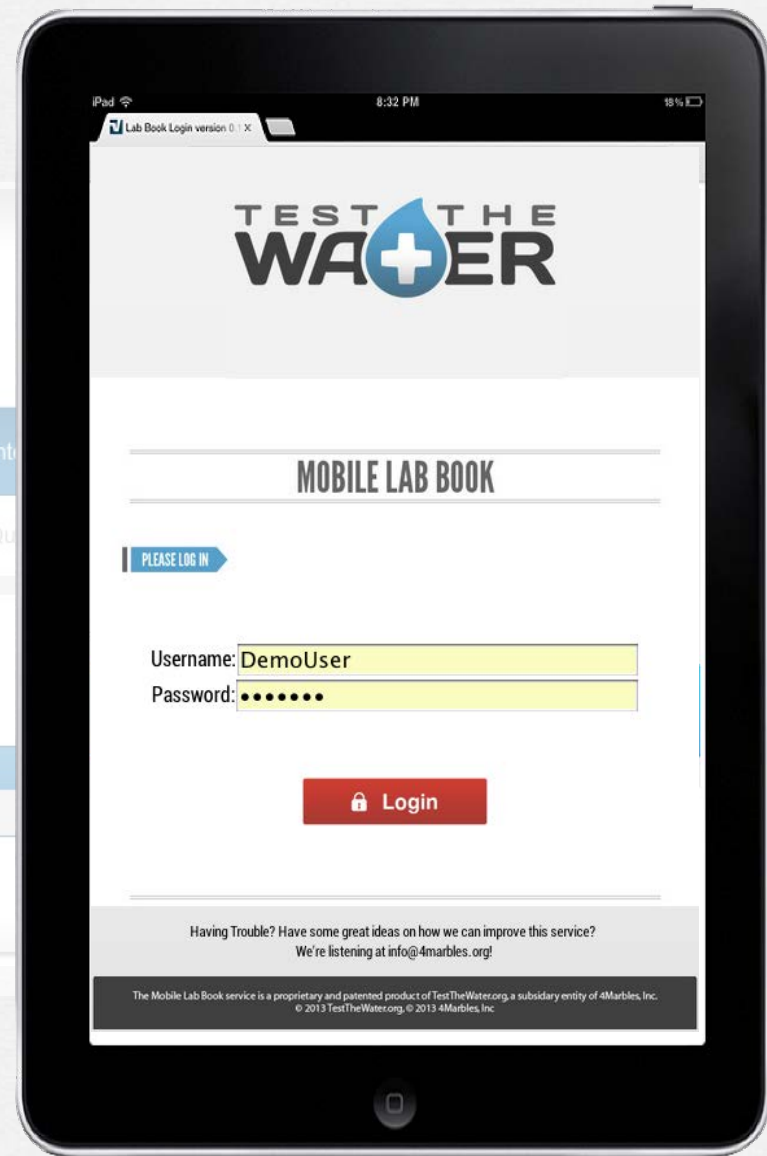
New Posts Private Messages FAQ Calendar Community Forum Actions

Forum

**TestTheWater Forums**  
Welcome to the TestTheWater Forums.

Main Category  
Main Category Description

Main Forum  
Main Forum Description



Lab Book Login version 0.1 X

8:32 PM 18%

TEST THE WATER

MOBILE LAB BOOK

PLEASE LOG IN

Username: DemoUser

Password: ●●●●●●

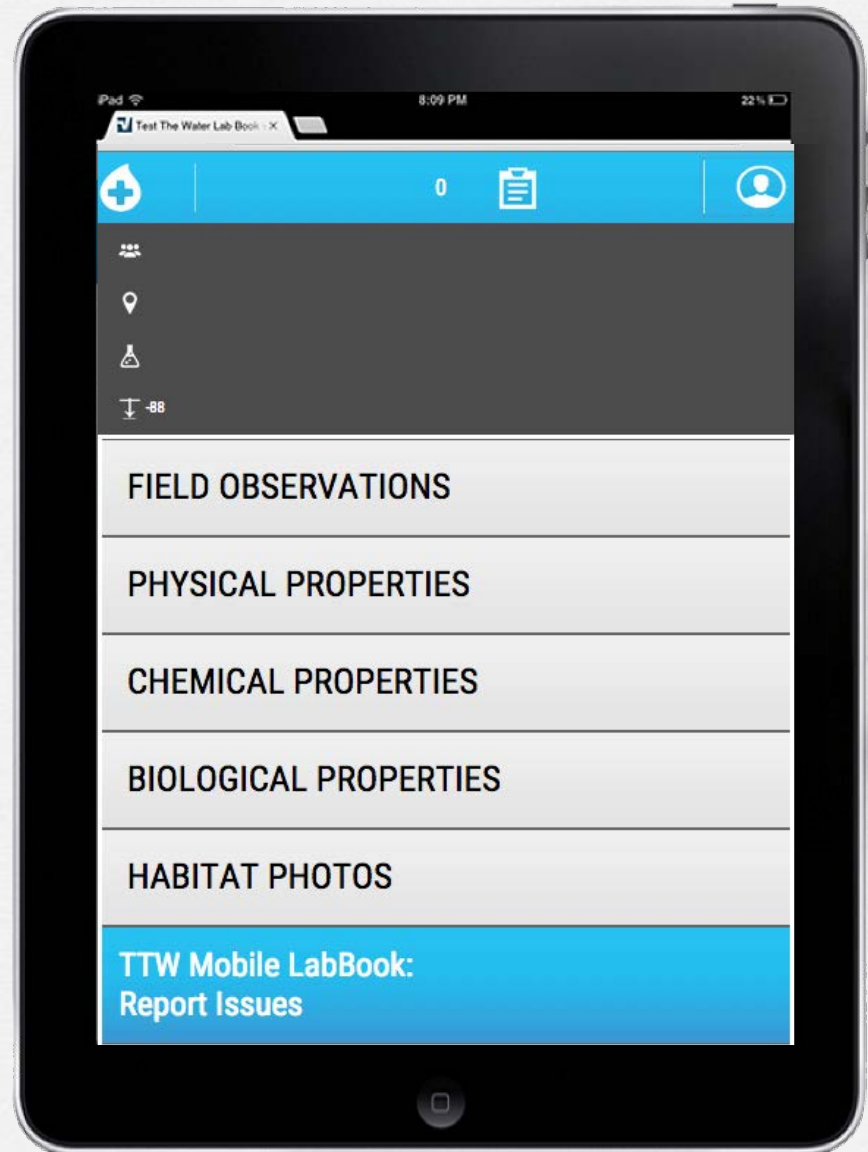
Login

Having Trouble? Have some great ideas on how we can improve this service?  
We're listening at info@4marbles.org!

The Mobile Lab Book service is a proprietary and patented product of TestTheWater.org a subsidiary entity of 4Marbles, Inc.  
© 2013 TestTheWater.org © 2013 4Marbles, Inc.

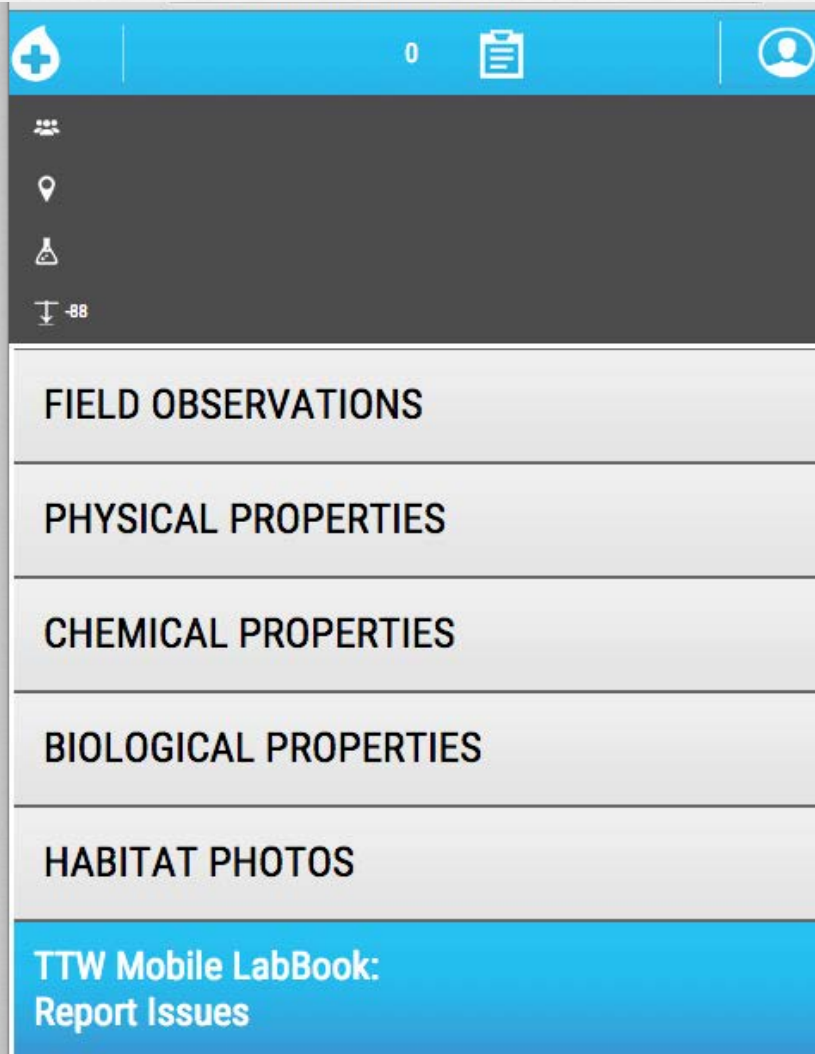
## Features

- HTML5 platform flexibility useable on any smart mobile device running Chrome
- Maintains Functionality and data integrity in the absence of internet via HTML5 local device database
- User allowed data tagging with GPS coordinates and timestamp
- Data uploaded to the TTW central Server for access from any internet connected device





# Mobile LabBook vs Field Data Sheet



**DQM Field Data Sheet for Water Quality Monitoring** Date \_\_\_\_\_ Page \_\_\_\_\_

Waterbody Name: \_\_\_\_\_ of \_\_\_\_\_

Project Name and/or ID: \_\_\_\_\_ Station ID: \_\_\_\_\_

Group/Organization name and/or ID: \_\_\_\_\_ Station Name: \_\_\_\_\_

Team Name: \_\_\_\_\_ Station Habitat (circle one: Pool, Run, Riffle) \_\_\_\_\_

Trip ID: \_\_\_\_\_ Station Visit ID: \_\_\_\_\_

Leader (name & Members): \_\_\_\_\_ Date of last rain: \_\_\_\_\_  
 (list additional names on back)

**Observations: Circle one underlined option: Observations Time:** \_\_\_\_\_

**Cloud cover** no clouds; partly cloudy; cloudy sky

**Precipitation** none; misty; foggy; drizzle; rain;

**Wind** calm; breezy; windy;

**Water Murkiness** clear water; cloudy water (>4" visibility); murky (<4" visibility). [this pertains to the water itself, not to scum]

**Flow conditions** dry creekbed; isolated pools; trickle (< 0.25 gal/sec); < 5 gal/sec; > 5 gal/sec; full waterway no observed flow

**Sample color** none; amber; yellow; green; brown; gray; other:

**Sample odor** none; fresh algae smell; chlorine; rotten eggs; sewage; other

**Other (presence)** algae or water plants; oily sheen; foam or suds; litter; trash; other

Measurements									
Instrument ID	Parameter	Unit	Result	Repeated Measurement Result	Bracket/Resolution	Measurement Time	Measurement Depth*	Cor	
	Total Depth (at Station) or Staff Gauge Readout	cm					not applicable		
	Specific conductivity	µS/cm							
	Dissolved oxygen (DO)	mg/l (ppm)							
	Temperature, water	°C							
	pH	pH							
	Transparency	cm							

\*Measurement Depth: (Select) surface; mid-column; near-bottom; (or provide measured number and unit)

Sampling Device: (for observations, measurements, and Samples): none; pole&beaker; bucket& rope; Kern

Sample ID (for offsite analyses)	Collection Time	Collection Depth	Sample Conts:

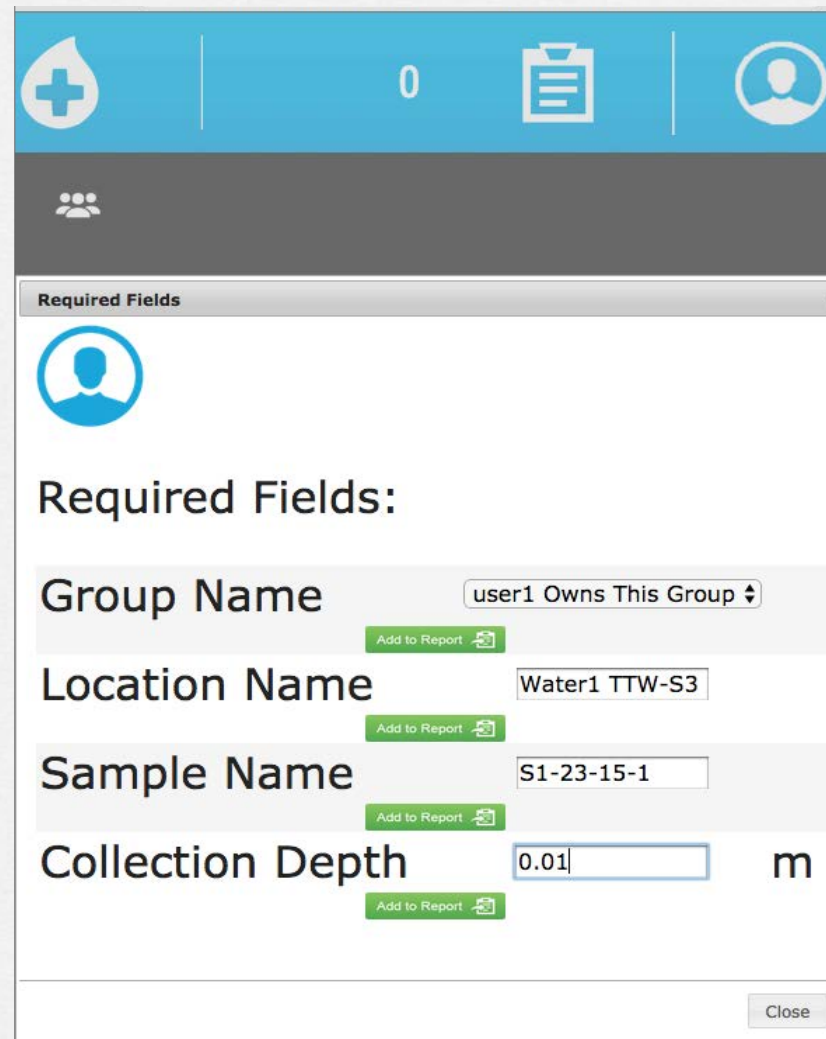
- Side by Side comparison of a traditional SWAMP field data sheet vs. the digital Mobile LabBook layout.
- WQX and SWAMP type organization of data types for user familiarity
- Lets walk through a sample data collection.....

# Mobile LabBook- Required Fields

DQM Field Data Sheet for Water Quality Monitoring				Date	Page
Waterbody Name: _____				_____	_____
Project Name and/or ID: _____				Station ID: _____	_____
Group/Organization name and/or ID: _____				Station Name: _____	_____
Team Name: _____				Station Habitat (circle one: Pool, Run, Riffle)	_____
				Trip ID	Station Visit ID
Leader (name & Members): _____				Date of last rain	
<i>(list additional names on back)</i>					

## Step 1

- Tap on the grey bar and enter “Location Name”, “Sample Name” and “Group Name” (required fields), and Collection Depth as needed and click the associated ‘Add to Report’ button.
- The entered values will be displayed in the grey banner above the data collection input fields
- The advantages of TestTheWater’s relational databases eliminates the need for redundant data capture
- Examples of these data points are Station ID, group members, project information, etc.



The screenshot shows a mobile application interface with a blue header bar containing a water drop icon, a '0' counter, a clipboard icon, and a user profile icon. Below the header is a grey bar with a group icon. A 'Required Fields' dialog box is open, displaying a user profile icon and the following fields:

- Group Name**: user1 Owns This Group (dropdown menu) with an 'Add to Report' button.
- Location Name**: Water1 TTW-S3 with an 'Add to Report' button.
- Sample Name**: S1-23-15-1 with an 'Add to Report' button.
- Collection Depth**: 0.01 m with an 'Add to Report' button.

A 'Close' button is located at the bottom right of the dialog box.

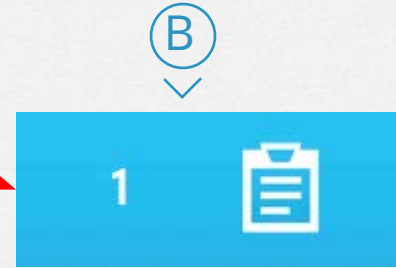
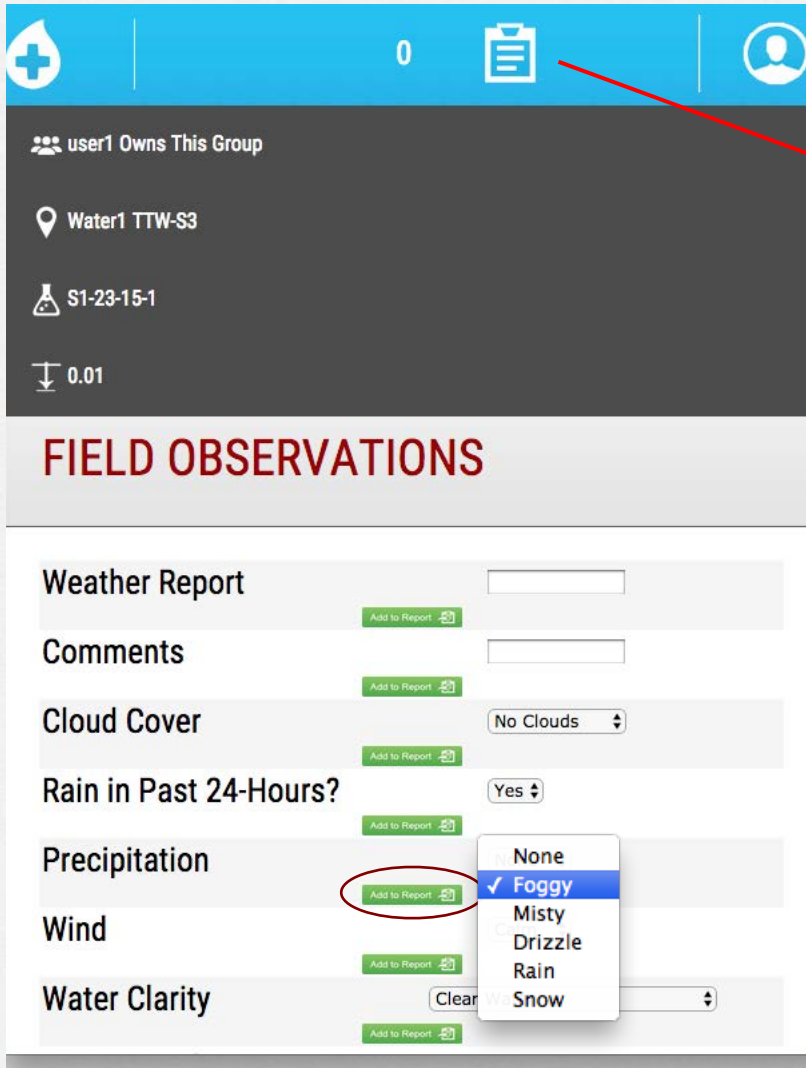
<b>Observations: Circle one underlined option:</b>		<b>Observations Time:</b> _____	
Cloud cover	no clouds; partly cloudy; cloudy sky		
Precipitation	none; misty; foggy; drizzle; rain;		
Wind	calm; breezy; windy;		
Water Murkiness	clear water; cloudy water (>4" visibility), murky (<4" visibility). [this pertains to the water itself, not to scum]		
Flow conditions	dry creekbed; isolated pools; trickle (< 0.25 gal/sec); < 5 gal/sec; > 5 gal/sec; full waterway no observed flow		
Sample color	none; amber; yellow; green; brown; gray; other:		
Sample odor	none; fresh algae smell; chlorine; rotten eggs; sewage; other		
Other (presence:)	algae or water plants; oily sheen; foam or suds; litter; trash; other		

Paper Data Sheet Equivalent

## Step 2

- The values select/entered are displayed in the gray banner above the data collection input fields.
- The values displayed will be associated with every data point entered into the LabBook.

The screenshot shows the mobile LabBook interface. At the top, there is a blue header with a plus icon, a '0' indicator, a clipboard icon, and a user profile icon. Below the header, a dark gray banner displays the following information: 'user1 Owns This Group', 'Water1 TTW-S3', 'S1-23-15-1', and '0.01'. Below this banner is a red section titled 'FIELD OBSERVATIONS'. The main area contains several input fields with corresponding dropdown menus and 'Add to Report' buttons. The selected values are displayed in a gray banner above each input field: 'Weather Report' (empty), 'Comments' (empty), 'Cloud Cover' (No Clouds), 'Rain in Past 24-Hours?' (Yes), 'Precipitation' (None), 'Wind' (Calm), and 'Water Clarity' (Clear Water).



## Step 2 cont...

Ⓐ Open "Field Observations" and enter/select data. Press the "Add to Report" button.

Ⓑ You should notice your Data Points increase by 1 at the top in the report area



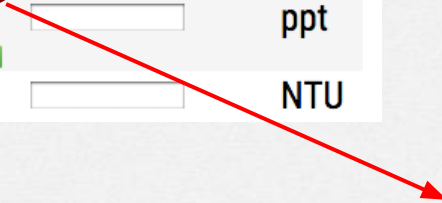
## PHYSICAL PROPERTIES

< (A)

Water Width	<input type="text"/>	meters
	<input type="button" value="Add to Report"/>	
Water Depth	<input type="text"/>	meters
	<input type="button" value="Add to Report"/>	
Air Temperature	<input type="text"/>	Deg C
	<input type="button" value="Add to Report"/>	
Water Temperature	<input type="text" value="20.3"/>	Deg C
	<input type="button" value="Add to Report"/>	
Salinity	<input type="text"/>	ppt
	<input type="button" value="Add to Report"/>	
Turbidity	<input type="text"/>	NTU

Measurements							
Instrument ID	Parameter	Unit	Result	Repeated Measurement Result	Bracket/Resolution	Measurement Time	Measurement Depth*
	Total Depth (at Station) or Staff Gage readout	cm					not applicable
	Specific conductivity	uS/cm					
	Dissolved oxygen (DO)	mg/l (ppm)					
	Temperature, water	°C					
	pH	pH					
	Transparency	cm					

Paper Data Sheet Equivalent



## Step 3

- (A) Open "Physical Properties" and enter data. Press the "Add to Report" button.
- (B) You should notice your Data Points increase by another point.



# Mobile LabBook- Collecting Samples

user1 Owns This Group

Water1 TTW-S3

S1-23-15-1

0.01

### CHEMICAL PROPERTIES

Acidity/Basicity	<input type="text"/>	pH
Ammonia as N	<input type="text"/>	mg/L
Arsenic	<input type="text"/>	mg/L
Benzene	<input type="text"/>	µg/L
Chlorine, Free	<input type="text"/>	µg/L
Cyanide	<input type="text"/>	µg/L
Fluoride	<input type="text"/>	µg/ml

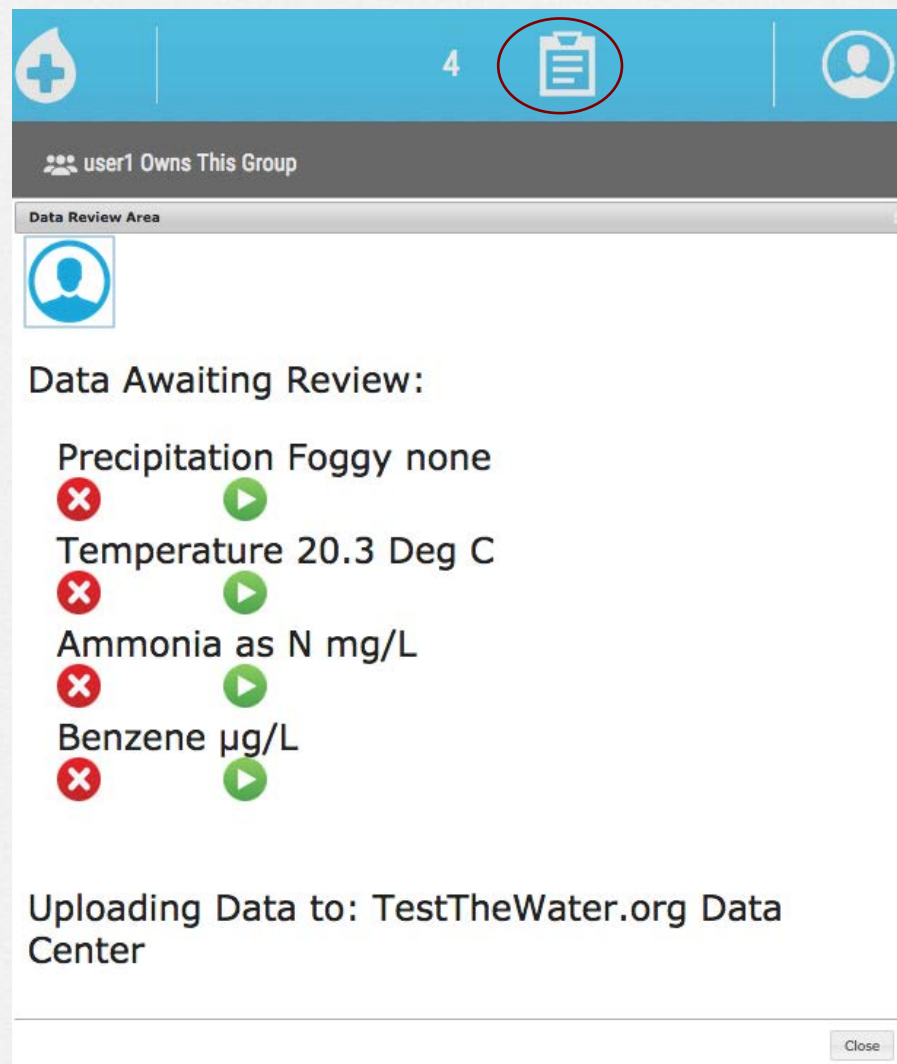
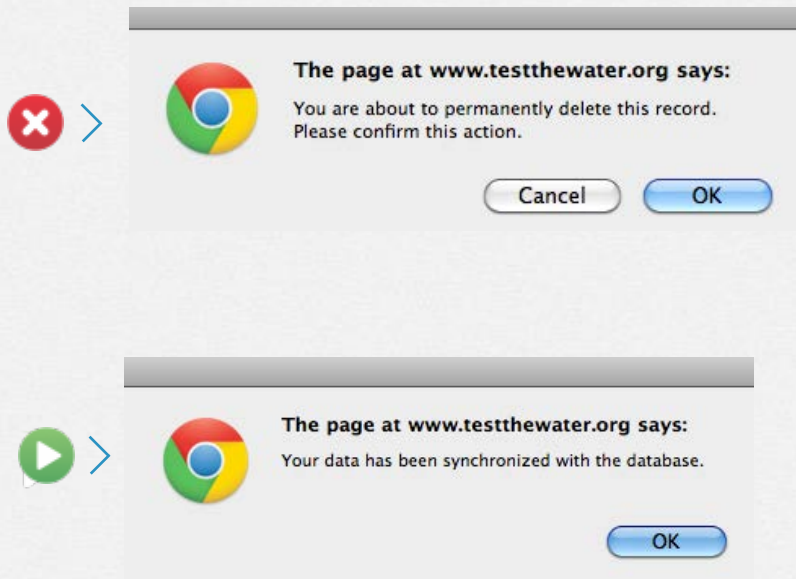
Sample ID (for offsite analyses)	Collection Time	Collection Depth	Sample Containers						

Paper Data Sheet Equivalent



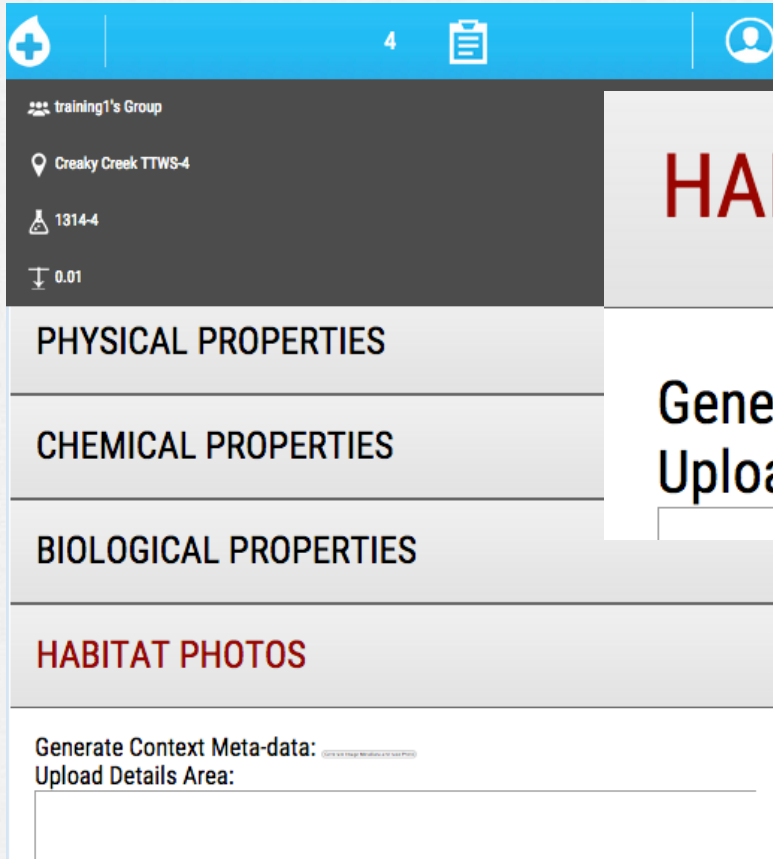
## Step 4

- (A) Open "Chemical Properties" and press the "Add to Report" button without entering any results.
- (B) You should notice your Data Points increase by one point per entry.



## Step 5

- Go to “My Report” and review your data.
- Delete incorrect entries (red X icon).
- Upload correct data to the TTW central database (green arrow icon).



## HABITAT PHOTOS

Generate Context Meta-data:  
Upload Details Area:

Generate Image MetaData and take Photo



Generate Context Meta-data:

Generate Image MetaData and take Photo

Capture Image:  NO FILE CHOSEN

Location Name:

Sample Name:

Latitude:

Longitude:

Altitude:

Timestamp:

Datum:

Upload Details Area:



## Step 6

-  Click on the “Generate image MetaData and Take Photo” button.
-  Your metadata, including current coordinates and timestamp will be populated and ready for upload with your image.

# Mobile LabBook- Photo Capture and Upload

Generate Context Meta-data:

Capture Image: Choose File no file chosen Upload Image

Location Name: Creaky Creek TTWS-4

Sample Name: 1314-4

Latitude: 52.7622305

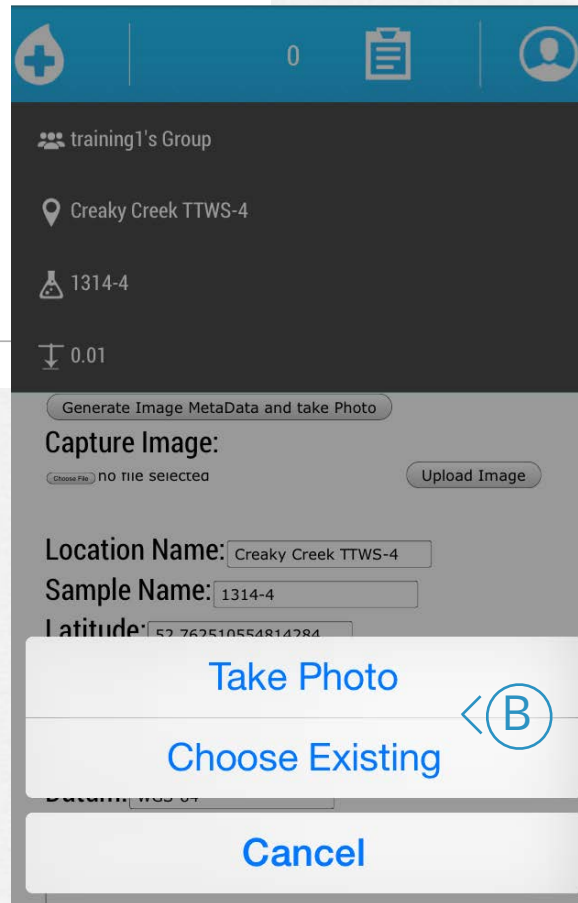
Longitude: -1.2347671999999998

Altitude: 72.39051818847656

Timestamp: 2015-02-26T21:06:50

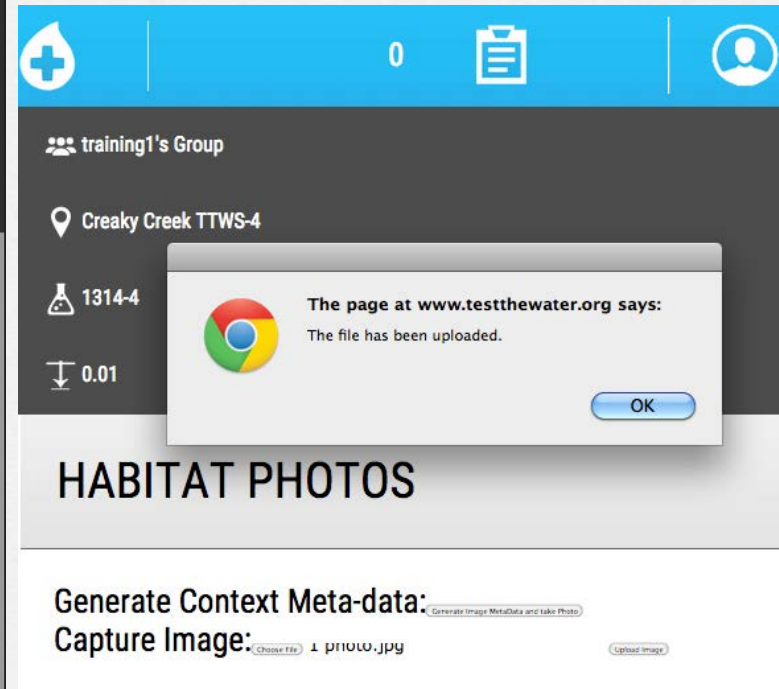
Datum: WGS-84

Upload Details Area:



Generate Context Meta-data:

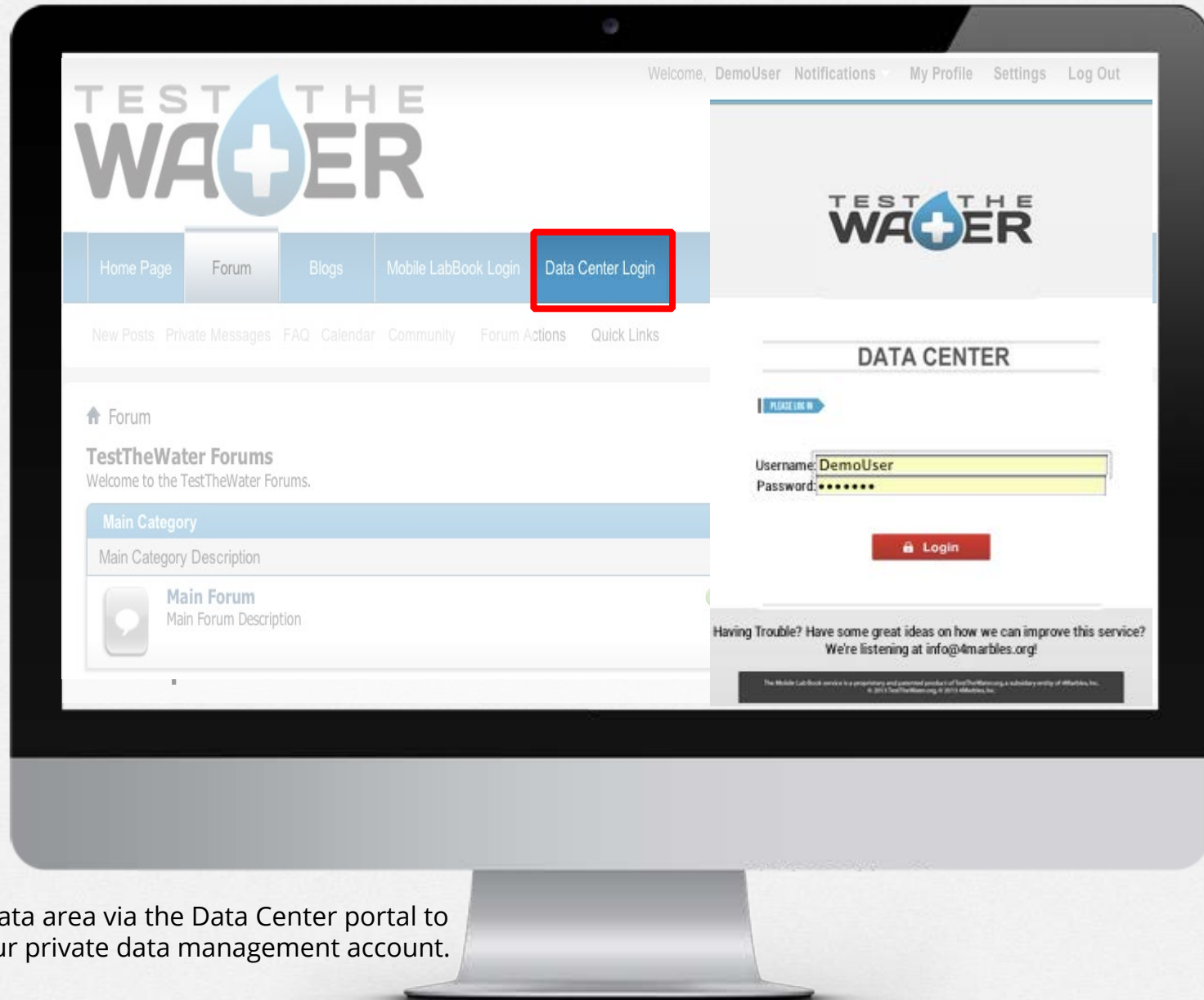
Capture Image: Choose File 1 photo.jpg Upload Image



Step 6 cont...

- **A** Click on the Capture Image/Choose File button.
- **B** Use your mobile device to take a new photo or use an existing photo.
- **C** Click Upload Image and the image file along with the metadata will be uploaded into the TTW DataCenter.





- Log into data area via the Data Center portal to access your private data management account.



# Data Records Organization and Viewing

Provide Feedback



Click Here to Download the Report Tool



Images LabBook Records Lab MetaData for Samples Data Quality Assurance Locations Stations Projects Equipment Calibrations Data Validation Submitted Data Export Data



Last Reviewed by	Station Code	Location Name	Sample Name	Analyte Name	Result	Unit Name	Collection Depth (meters)	LabBook Timestamp	Trip ID
		Water1 TTW-S3	S1-23-15-1	Precipitation	Foggy	none	0.01	2015-03-15 20:52:00	
		Water1 TTW-S3	S1-23-15-1	Temperature	20.3	Deg C	0.01	2015-03-15 21:18:06	
		Water1 TTW-S3	S1-23-15-1	Ammonia as N		mg/L	0.01	2015-03-15 21:33:42	
		Water1 TTW-S3	S1-23-15-1	Benzene		µg/L	0.01	2015-03-15 21:34:15	

Showing 1 to 4 of 4 entries (filtered from 54 total entries)

Previous 1 Next



## UI Functionality

**A** Export (CSV, Excel, Print)

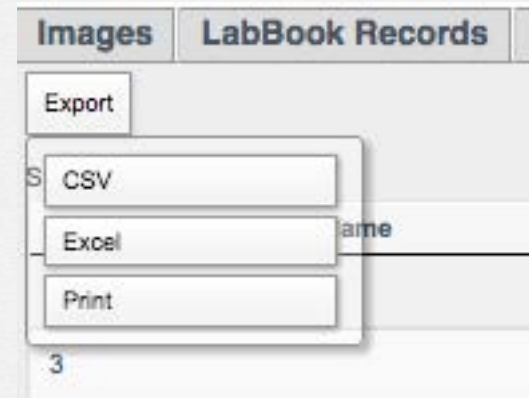
**B** Sort

**C** Search

**D** Records / Page

**E** Records Count

**F** Pagination



# Data Center Content Overview

<a href="#">Images</a>	<a href="#">LabBook Records</a>	<a href="#">Lab MetaData for Samples</a>	<a href="#">Data Quality Assurance</a>	<a href="#">Locations</a>	<a href="#">Stations</a>	<a href="#">Projects</a>	<a href="#">Equipment</a>	<a href="#">Calibrations</a>	<a href="#">Data Validation</a>	<a href="#">Submitted Data</a>	<a href="#">Export Data</a>
------------------------	---------------------------------	--	--	---------------------------	--------------------------	--------------------------	---------------------------	------------------------------	---------------------------------	--------------------------------	-----------------------------

Edit

Show 10 entries

Search:

Location Name	Sample Name	Analyte Name	Latitude	Longitude	Positional Accuracy	Altitude	Altitude Accuracy	Datum
Loc1	Sam1	Air Temperature	52.7626273683566	-1.2347858042446	65.0	72.3905181884766	10.0	WGS-84
Phone 11	Phone s1	Ammonia as N	52.7624894538268	-1.2347537594102	65.9595069389836	72.3305511474609	10.0	WGS-84
Loc1	Sam1	Fluoride	52.762568216241	-1.23470700074174	65.0	72.3174209594727	10.0	WGS-84
My Stream TTW-S5	Sample 123-4	Fluoride	52.7626393986521	-1.23479974658237	65.0	72.2917556762695	10.0	WGS-84
My Stream TTW-S5	123-5	ParticleSize	52.7626393986521	-1.23479974658237	65.0	72.2917556762695	10.0	WGS-84
My Stream TTW-S5	123-5	Coliform, Fecal	52.7625485102692	-1.23474758081592	65.0	72.2764282226563	10.0	WGS-84
My Stream TTW-S5	123-5	SpecificConductivity	52.7626280562783	-1.23478795425245	65.0	72.2746810913086	10.0	WGS-84
My Stream TTW-S5	123-5	Temperature	52.7626280562783	-1.23478795425245	65.0	72.2746810913086	10.0	WGS-84
Loc1	Sam1	Arsenic	52.7625501425884	-1.23470425676709	65.0	72.2697296142578	10.0	WGS-84
R	F	RainInPast24Hr	52.7625496617607	-1.23471961108952	65.0	72.2567977905274	10.0	WGS-84

Showing 1 to 10 of 54 entries

Previous 1 2 3 4 5 6 Next

- Access to IMAGES, RECORDS, METADATA, QUALITY ASSURANCE, LOCATIONS, STATIONS, PROJECTS, EQUIPMENT & CALIBRATIONS, VALIDATION, SUBMITTED DATA, and EXPORT DATA
- GPS coordinates for each sample are collected by the Mobile LabBook and synced with the Data Center for your records.

# TTW Data Center: 117 Fields from CEDEN and SWAMP

LocationName	BatchVerificationCode	State	Accuracy Derivation Rationale
CollectionDepth	FieldReplicate	Counties_2004_COUNTY	Param&Method Code
SampleName	ResQualCode	LocationCode	Domain Code
Result	QACode	Station Location Description	Agency/Program Inventory #
UnitName	ProtocolCode	Driving directions	Serial #
Accuracy (Bias)	AgencyCode	Access to Station	Common Name
Accuracy Unit	CollectionDeviceName	Landmarks	Parameter
Precision	ComplianceCode	Instrument ID	Type /Method
Precision unit	ExpectedValue	CharacteristicParameter	Features
AnalyteName	CalibrationDate	Units	Model
Timestamp	ProjectCode	CalibrationCheck DateTime	Calibration Mode
ActualLatitude	CollectionMethodCode	Associated Event	Range and Units
ActualLongitude	Replicate	Temperature (C) at Calibration	Detection Limit
PositionalAccuracy	MatrixName	Thermometer ID	Resolution (Increments)
Altitude	FractionName	Standard Material	Manufacturer (Make)
AltitudeAccuracy	VariableResult	Valueof Standard	Vendor
Datum	SampleDate	First Reading	Catalog Number (Vendor)
SampleTypeCode	CollectionTime	SecondReading	Catalog Number (Manufacturer)
LabBatch	UnitCollectionDepth	ThirdReading	Lot/Batch #
AnalysisDate	MethodName	ActionTaken	Date Purchased
LabReplicate	SWRCBWatTypeCode	Reading after calibration	Date of First Use
MDL	CalWater_2004_RB	Cal/AccurCheck Operator	Expiration Date
RL	StationName	Stock Dilutions Preparer	Parts/Reagents Replaced
DilutionFactor	StationSource	Ensuing Lab Batch ID	Replacement Date
PrepPreservationName	StationCode	Barometric Pressure at Calibration	Buyer Owner
PrepPreservationDate	CoordinateNumber	(mmHg)	Custodian or Operater
DigestExtractMethod	TargetLatitude	CALAC Comments	Batteries
DigestExtractDate	TargetLongitude	Accuracy Check Differential or Drift	Comments
LabAgencyCode	LocalWatershed	Percent Accuracy (Bias)	Manufacturer's Specifications
LabSubmissionCode	LocalWaterbody		

[http://www.ceden.org/docs/2013\\_documentation/CEDENFieldIMPlan\\_2013\\_0823.pdf](http://www.ceden.org/docs/2013_documentation/CEDENFieldIMPlan_2013_0823.pdf)  
[http://www.ceden.org/docs/2013\\_documentation/CEDENChemIMPlan\\_2013\\_0823.pdf](http://www.ceden.org/docs/2013_documentation/CEDENChemIMPlan_2013_0823.pdf)  
[http://www.waterboards.ca.gov/water\\_issues/programs/swamp/tools.shtml#qapp\\_tools](http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml#qapp_tools)



# Data Center - Photo Management

Provide Feedback

Data Center

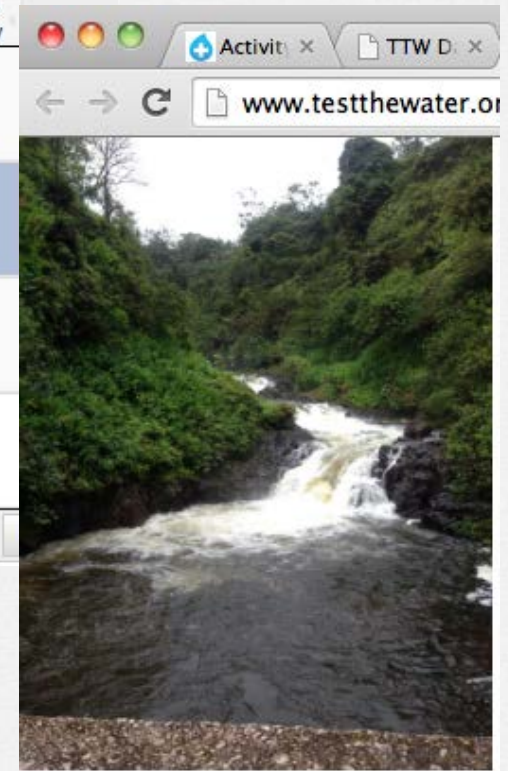
Click Here to Download the Report Tool

Images LabBook Records Lab MetaData for Samples Data Quality Assurance Locations Stations Projects Data Validation Area Submitted Data Export Data

Show 10 entries Search:

Photo	Location Name	Sample Name	Timestamp	Latitude	Longitude	Positional Accuracy	Altitude	Altitude Accuracy
	My Stream TTW-S5	Sample 123-4	2015-02-15 08:43:12					
	My Stream TTW-S5	Sample 123-4	2015-02-15 08:45:42	52.76251718628355	-1.234742777784496	65	72.4290771484375	10
	Creek1 TTW-S5	123-6	2015-02-15 09:29:14	52.76264596526641	-1.2347883409232325	65	72.23751831054688	10
	TTW-123	Creek abc	2015-02-18 14:35:19	41.75981443844899	-72.72784866399385	10	40.0206184387207	4

Showing 1 to 4 of 4 entries Previous

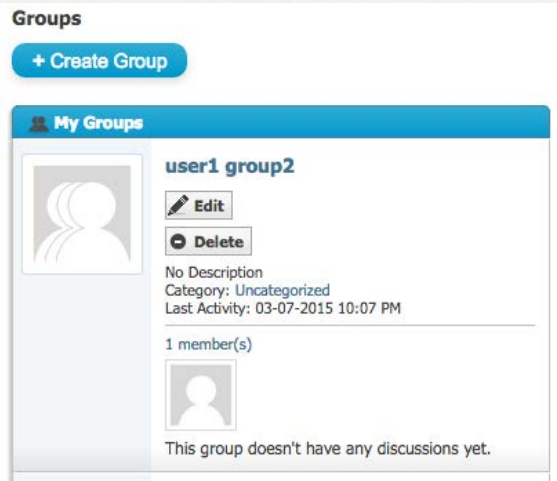


- This will display all your pictures taken in the field and the associated metadata
- Displays Photos you took and any photos submitted to your Group if you have one.
- Click on Thumbnail of photo to open the full image in new Tab, or...
- Right click any photo to download and save to your local drive

# TTW Data Center- User Roles & Administration

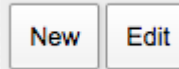


Group Owner

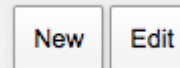
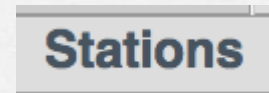


Public, Moderated or Invitation Only

Project Manager



Station Manager



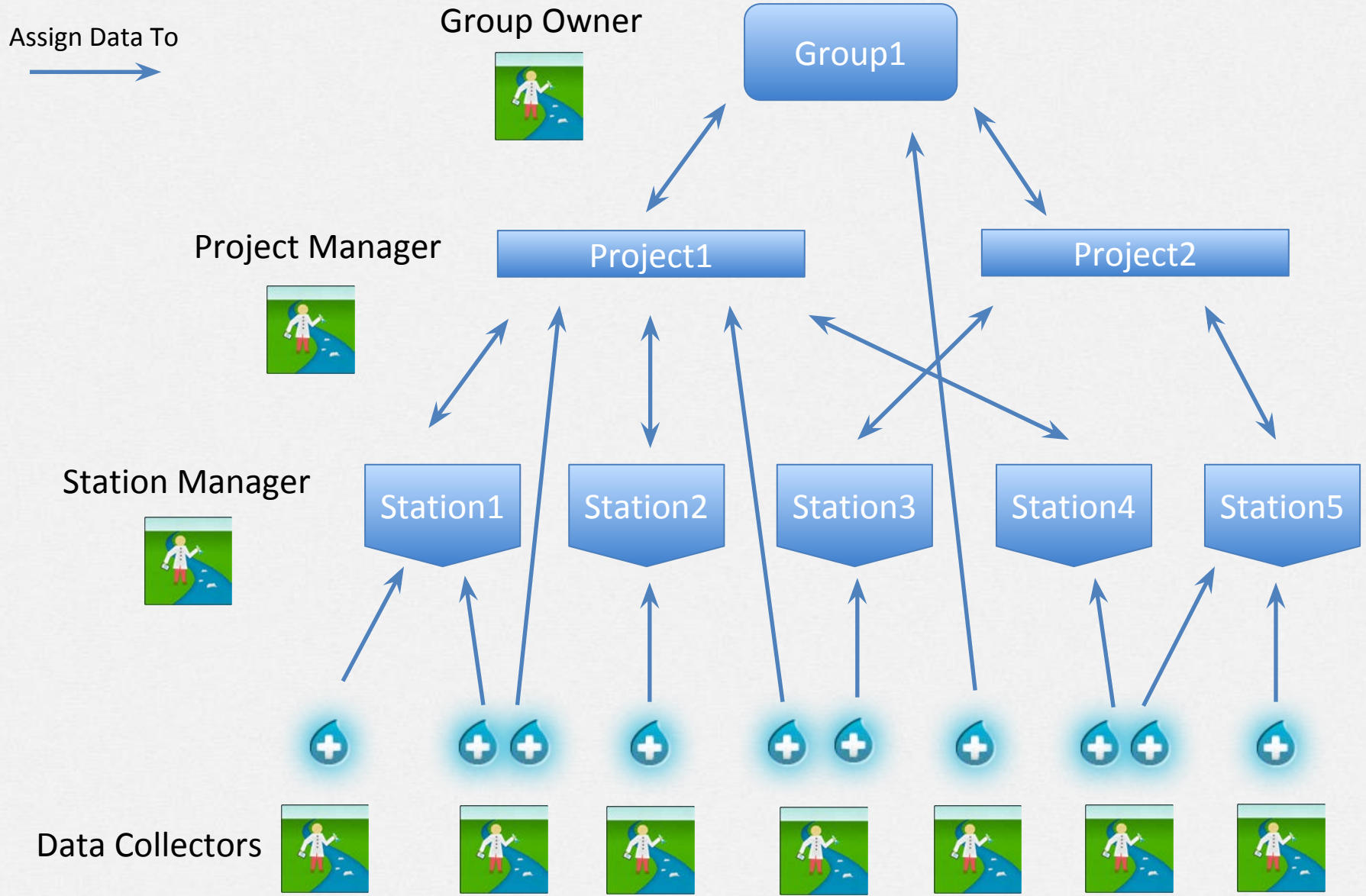
Data Collector



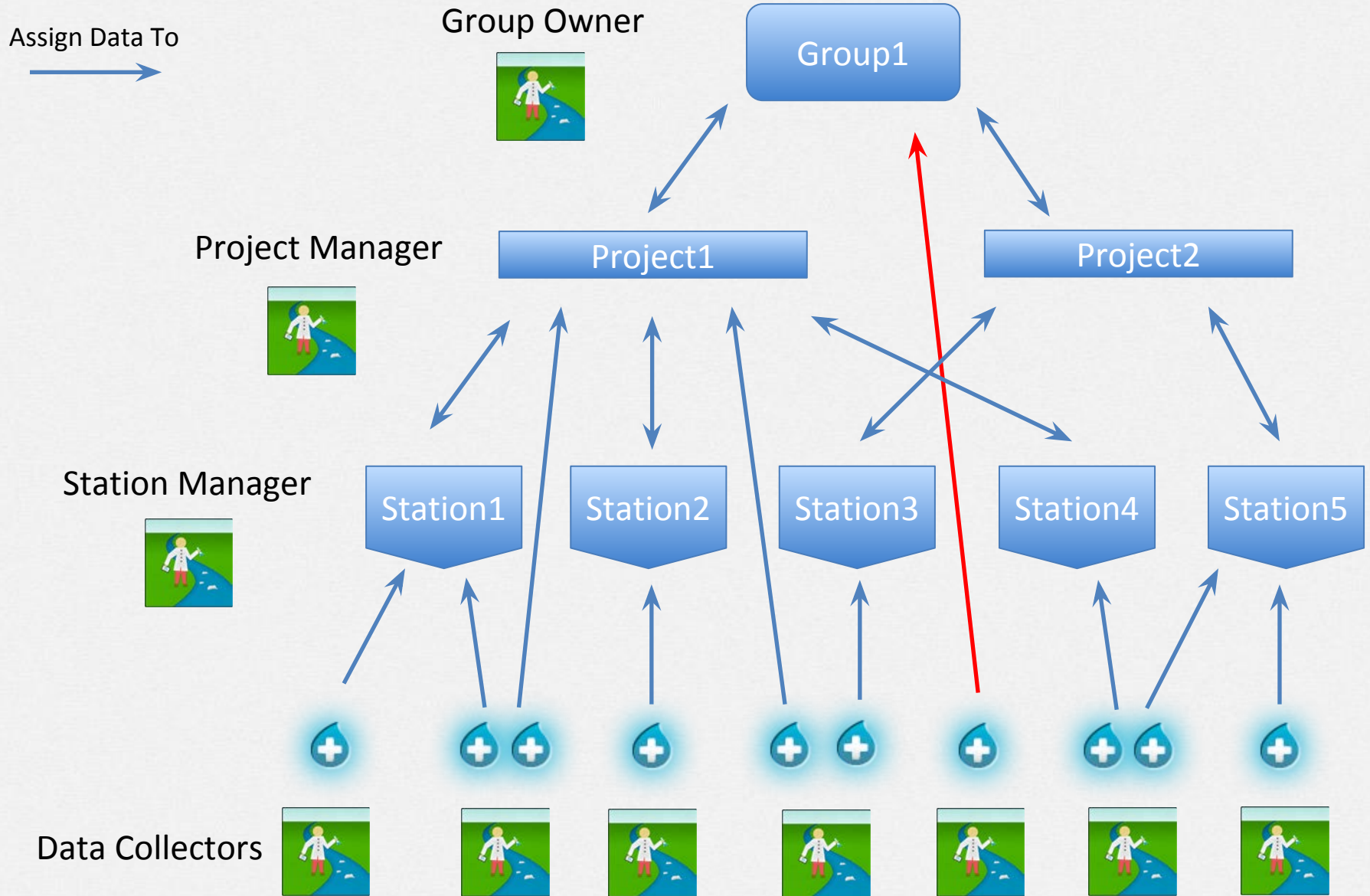
The Data Collector, Group Owner, Station Manager and Project Manager roles are available for Data Management. While these distinct roles exist, all four roles could be played by a single individual in relation to any given data. This depends on how you've chosen to structure your organization.



# TTW Data Center- Potential Data Flows



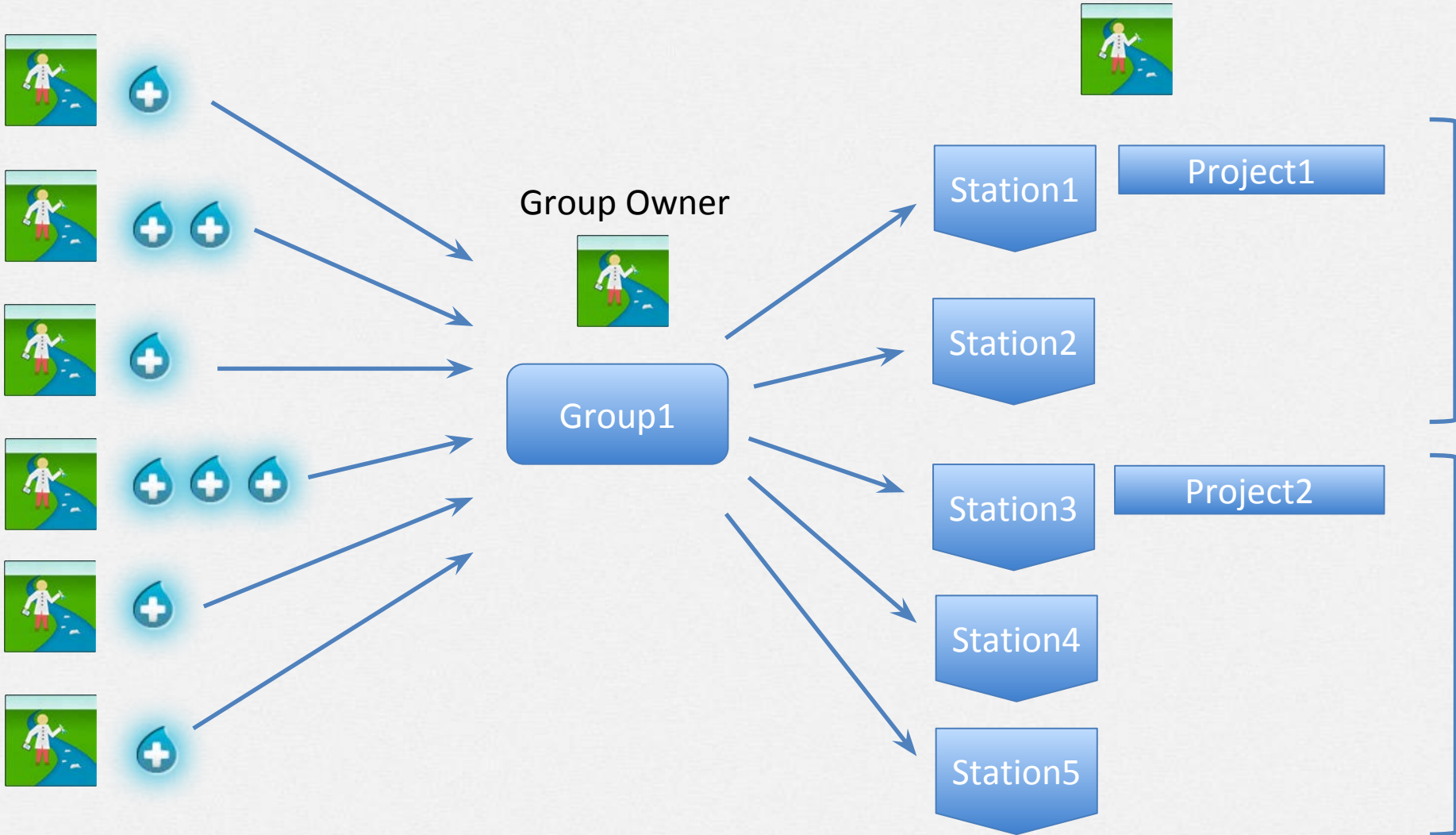
# TTW Data Center- An Example Data Flow

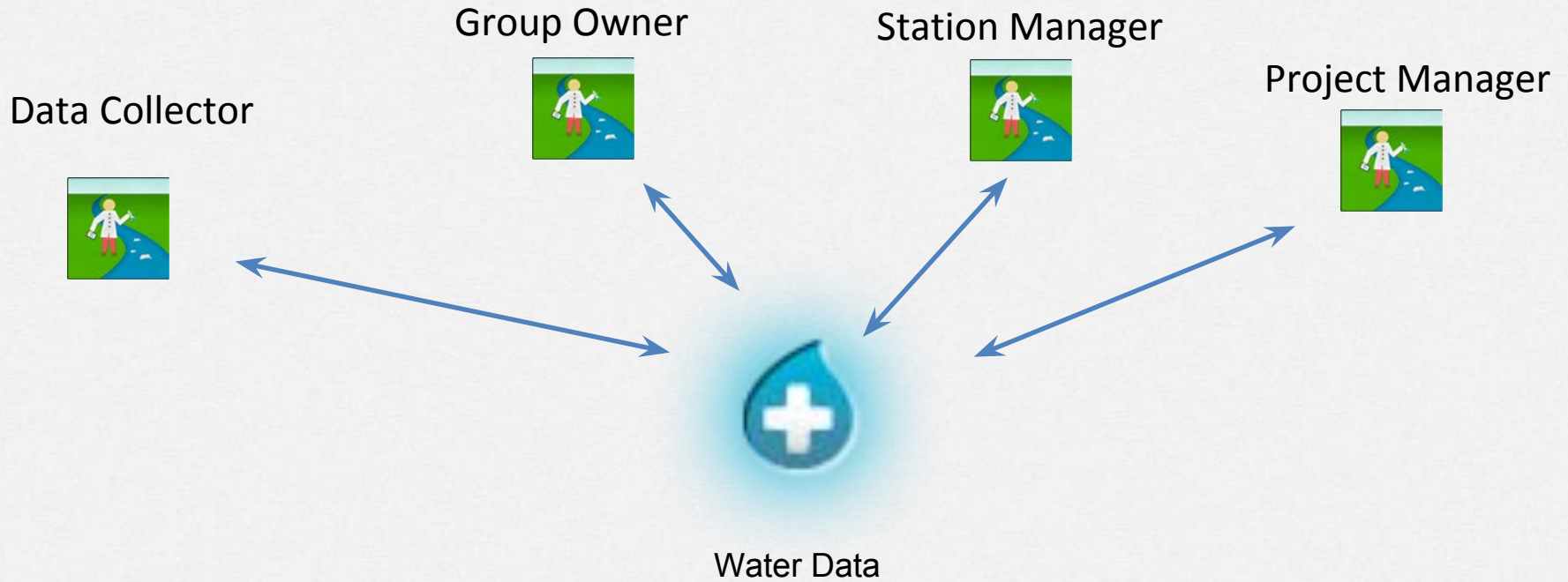


# Data Admin: Assigning Data for Review

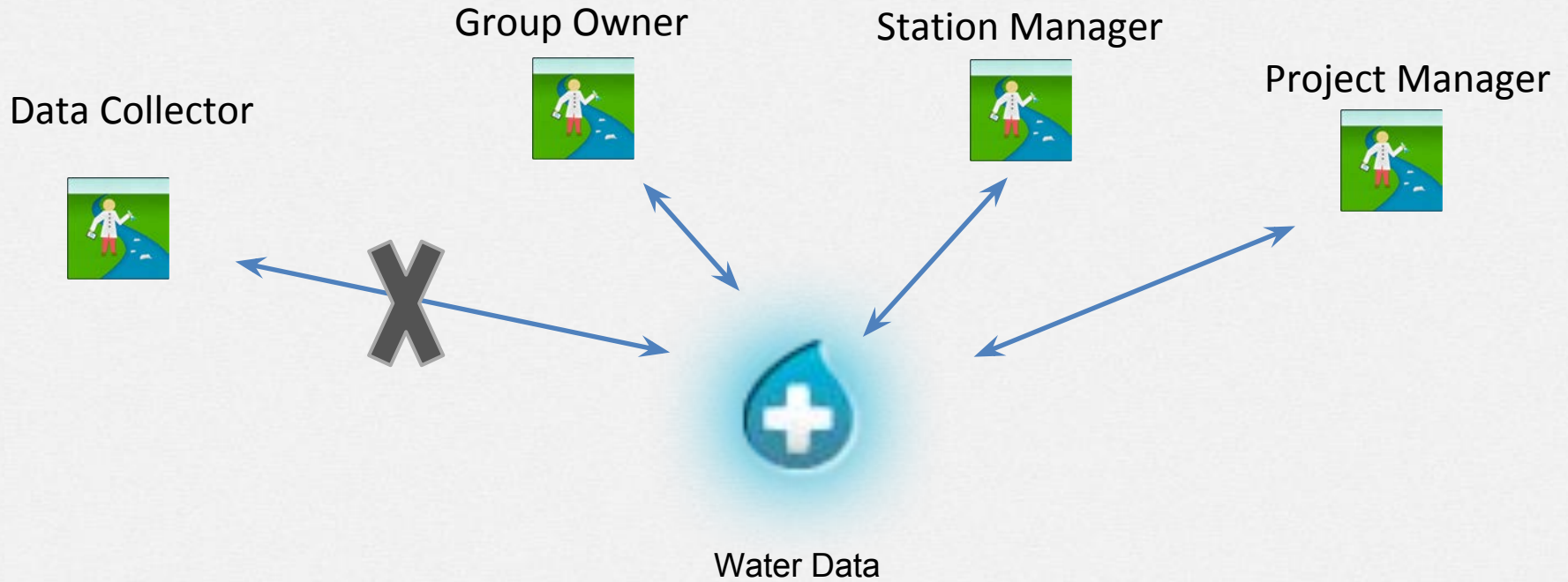
Data Collectors

Station Manager = Project Manager



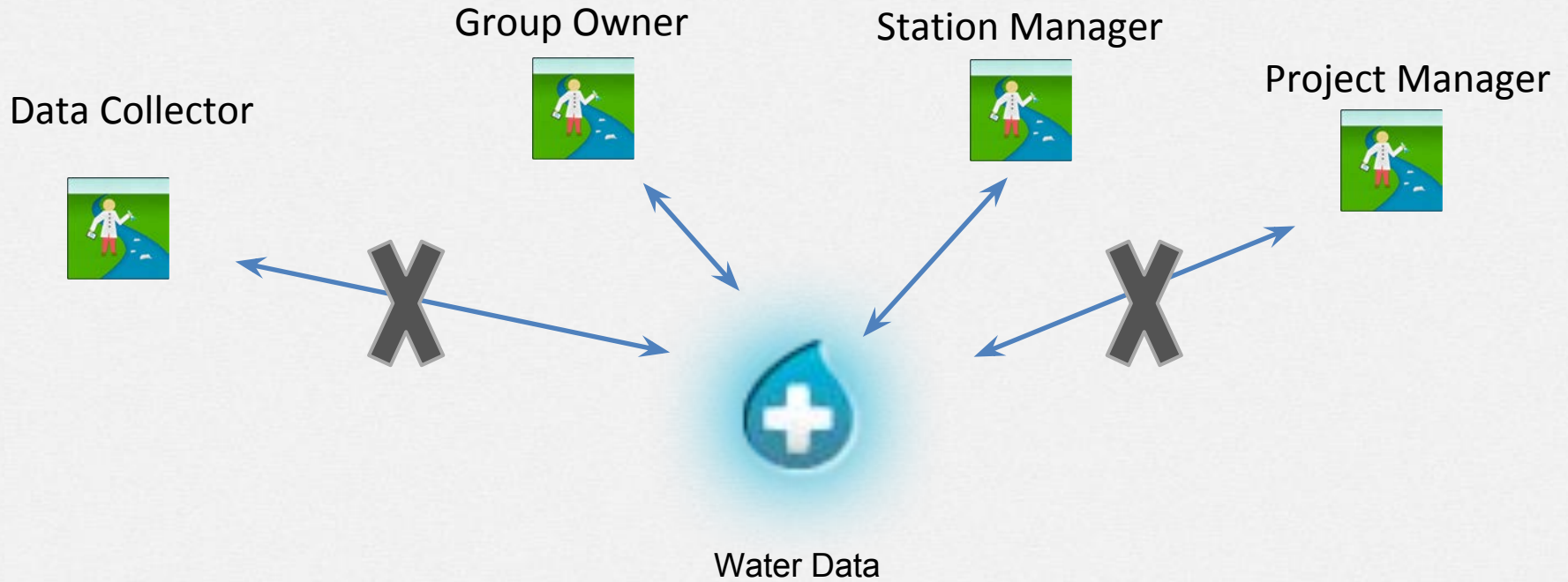


Your organization can have all roles participate in data editing and validation...or

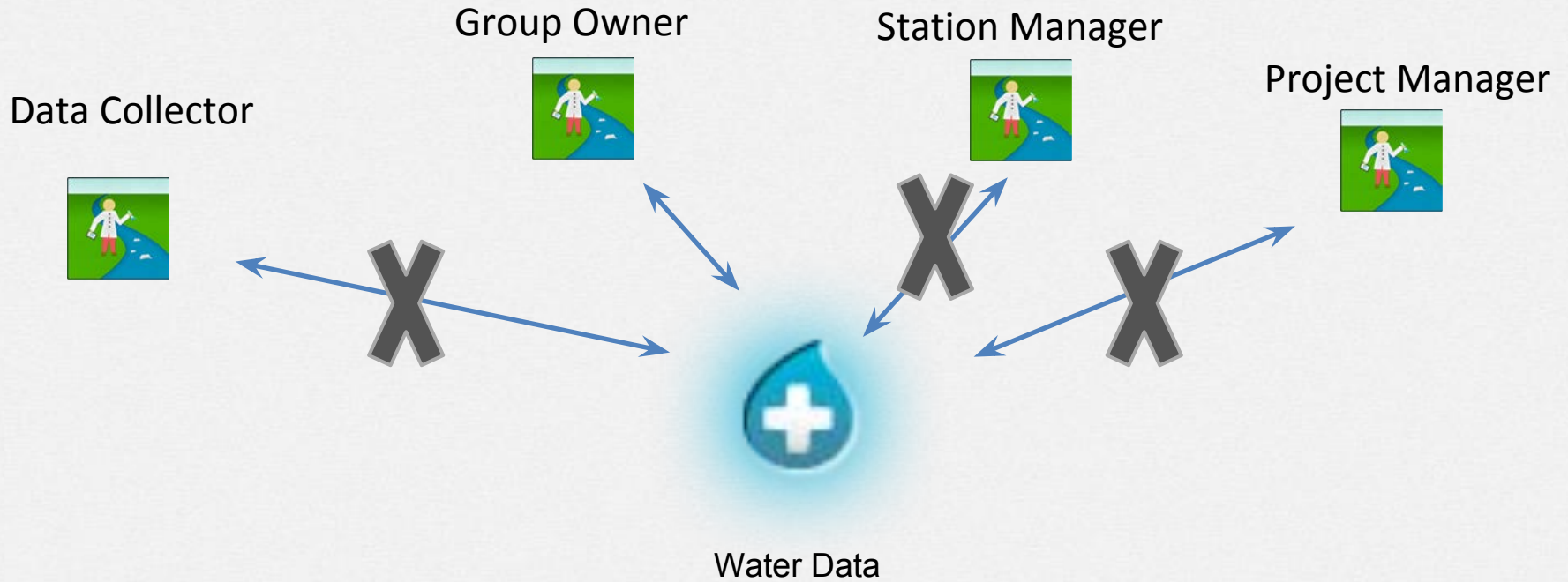


You can limit who can access and edit the Data after submitted.





You can limit who can access and edit the Data after submitted.



You can limit it to just the Admin Group Owner.

# Data Center- Stations & Projects

Provide Feedback

Click Here to Download the Report Tool

Images LabBook Records Lab MetaData for Samples Data Quality Assurance Locations **Stations** **Projects** Equipment Calibrations Data Validation Submitted Data Export Data

Edit Search:

Last Reviewed by	Station Code	Location Name	Sample Name	Analyte Name	Result	Unit Name	Collection Depth (meters)	LabBook Timestamp	Trip ID
user1	TTW-S6	Phone l1	Phone s1	Enterococcus	33	CFU/100 mL	-88	2015-01-29 13:34:50	
user1	LABQA	Phone l1	Phone s1	Enterococcus	212	CFU/100 mL	-88	2015-01-29 10:59:00	
user1	TTW-S1	Phone l1	Phone s1	pH	3	none	-88	2015-01-29 13:36:15	
user4	LABQA	l1	s2	pH	11	none	-88	2015-01-29 14:54:42	
user4	LABQA	Loc1	Sam1	Turbidity	15	NTU	-88	2015-01-31 10:25:23	
user1	TTW-S1	Phone l1	Phone s1	Enterococcus	313	CFU/100 mL	-88	2015-01-29 10:53:43	
		Phone l1	Phone s1	Ammonia as N	44	mg/L	-88	2015-01-29 13:33:19	
		Phone l1	Phone s1	Air Temperature	33	Deg C	-88	2015-01-29 15:08:48	
		Phone l1	Phone s1	Turbidity	4	NTU	-88	2015-01-29 15:09:09	
		Loc1	Sam1	Arsenic	33	mg/L	-88	2015-01-29 15:53:49	

Showing 1 to 10 of 50 entries

Previous 1 2 3 4 5 Next

- STATIONS and PROJECTS tabs provide access to create new or edit existing projects or stations owned by you or in a group you own.

Edit entry

Organization Name:	<input type="text" value="user1 test"/>
Parent Project Code:	<input type="text" value="TTW"/>
Group Name:	<input type="text" value="user1 Owns This Group"/>
Project Code:	<input type="text" value="TTW-P2"/>
Project Name:	<input type="text" value="test user1"/>
Project Description:	<input type="text" value="testing user1"/>
QAPP Code:	<input type="text" value="1"/>
Project Manager:	<input type="text" value="user1"/>
Telephone:	<input type="text" value="444-223-1222"/>
Email:	<input type="text" value="user1@4marbles.org"/>
Public Release:	<input type="text" value="No"/>
Assign Project To:	<input type="text" value="user1"/>

Update

- CEDEN validation rules are enforced for both Station and Project creation and editing.



# Data Center- Managing Stations

PROVIDE FEEDBACK

Edit entry

Station Name:	<input type="text" value="User1Station2 User2'sProject1"/>
Station Code:	<input type="text" value="TTW-S3"/>
Project Code:	<input type="text" value="TTW-P1"/>
Station Agency:	<input type="text" value="User1"/>
Station Source:	<input type="text" value="TTW"/>
Coordinate Number:	<input type="text" value="1"/>
Coordinate Source:	<input type="text" value="Age, 1"/>
Target Latitude:	<input type="text" value="43.084458"/>
Target Longitude:	<input type="text" value="-87.8838544"/>
Local Watershed:	<input type="text" value="Milwaukee"/>
Local Waterbody:	<input type="text" value="Lake Michigan"/>
Water Body Type:	<input type="text" value="Bays and Harbors"/>
State:	<input type="text" value="Alabama"/>
Location Description:	<input type="text"/>
Directions To Station:	<input type="text"/>

Update

- CEDEN validation rules are enforced for both Station and Project creation and editing.

# Data Center- Managing Data Records



[Provide Feedback](#)

[Click Here to Download the Report Tool](#)



[Images](#) [LabBook Records](#) [Lab MetaData for Samples](#) [Data Quality Assurance](#) [Locations](#) [Stations](#) [Projects](#) [Equipment](#) [Calibrations](#) [Data Validation](#) [Submitted Data](#) [Export Data](#)

[Edit](#)

Search:

Last Reviewed by	Station Code	Location Name	Sample Name	Analyte Name	Result	Unit Name	Collection Depth (meters)	LabBook Timestamp	Trip ID
		Water1 TTW-S3	S1-23-15-1	Precipitation	Foggy	none	0.01	2015-03-15 20:52:00	
		Water1 TTW-S3	S1-23-15-1	Temperature	20.3	Deg C	0.01	2015-03-15 21:18:06	
		Water1 TTW-S3	S1-23-15-1	Ammonia as N		mg/L	0.01	2015-03-15 21:33:42	
		Water1 TTW-S3	S1-23-15-1	Benzene		µg/L	0.01	2015-03-15 21:34:15	

Showing 1 to 4 of 4 entries (filtered from 54 total entries)

[Previous](#) [1](#) [Next](#)

- Manage your data with access to IMAGES, RECORDS, METADATA, QUALITY ASSURANCE, LOCATIONS, STATIONS, PROJECTS, EQUIPMENT & CALIBRATIONS, VALIDATION, SUBMITTED DATA, and EXPORT DATA

# Data Center- Editing Fields

The screenshot displays the 'Data Center' interface. A modal window titled 'Edit entry' is open, allowing for the modification of a data record. The form includes various fields with drop-down menus and text inputs. The background shows a table of data with columns for 'Last Reviewed by', 'Station Code', and 'Location'. A 'Data Validation' section is also visible on the right side of the interface.

**Edit entry form fields:**

- Assign Data To: user1
- Labbook Data Collector: user1
- Location Name: Water1 TTW-S3
- Sample Name: S1-23-15-1
- Analyte Name: Temperature
- Result: 20.3
- Unit Name: Deg C
- Accuracy: [empty]
- Accuracy Units: [empty]
- Precision: [empty]
- Precision Units: [empty]
- Collection Depth in Meters: (-88 means value not measured) 0.01
- LabBook Timestamp: 2015-03-15 21:18:06
- Station Name: LABQA
- Project Name: Not Applicable
- Station Visit ID: [empty]
- Field Replicate: [empty]
- Matrix Name: air
- Collection Method Name: 24 hour auto sampler
- Collection Context: Assessment Area 1
- Validate this data for CEDEN/EPA: [empty]
- Last Reviewed by: user1
- Trip ID: [empty]

**Data Table (Background):**

Images	LabBook Records	Lab MetaData for Sar
Water1 TTW		
Water1 TTW		
Water1 TTW		
Water1 TTW		

**Data Validation Section:**

Submitted Data | Export Data

Search: water1

LabBook Timestamp	Trip ID
2015-03-15 20:52:00	
2015-03-15 21:18:06	
2015-03-15 21:33:42	
2015-03-15 21:34:15	

Previous 1 Next

- Edit with drop-down selection of CEDEN Standard Vocab and Form Validation.

# Data Center- Editing Sample Results

Assign Data To:	<input type="text" value="user1"/>
Labbook Data Collector:	<input type="text" value="user1"/>
Location Name:	<input type="text" value="Water1 TTW-S3"/>
Sample Name:	<input type="text" value="S1-23-15-1"/>
Analyte Name:	<input type="text" value="Ammonia as N"/>
Result:	<input type="text"/>
Unit Name:	<input type="text" value="mg/L"/>
Accuracy:	<input type="text"/>
Accuracy Units:	<input type="text"/>
Precision:	<input type="text"/>
Precision Units:	<input type="text"/>
Collection Depth in Meters: (-88 means value not measured)	<input type="text" value="0.01"/>
LabBook Timestamp:	<input type="text" value="2015-03-15 21:33:42"/>
Station Name:	<input type="text" value="LABQA"/>
Project Name:	<input type="text" value="Not Applicable"/>

Assign Data To:	<input type="text" value="user1"/>
Labbook Data Collector:	<input type="text" value="user1"/>
Location Name:	<input type="text" value="Water1 TTW-S3"/>
Sample Name:	<input type="text" value="S1-23-15-1"/>
Analyte Name:	<input type="text" value="Ammonia as N"/>
Result:	<input type="text" value="0.017"/>
Unit Name:	<input type="text" value="mg/L"/>
Accuracy:	<input type="text" value="0.001"/>
Accuracy Units:	<input type="text" value="mg/L"/>
Precision:	<input type="text" value="0.001"/>
Precision Units:	<input type="text" value="mg/L"/>
Collection Depth in Meters: (-88 means value not measured)	<input type="text" value="0.01"/>
LabBook Timestamp:	<input type="text" value="2015-03-15 21:33:42"/>
Station Name:	<input type="text" value="User1Station2 User2'sProject1"/>
Project Name:	<input type="text" value="User2 projects"/>

- Edit with drop-down selection of CEDEN Standard Vocab and Form Validation.




# Data Editing- Lab MetaData for Samples

Sample Type Code:	BlankSp
Lab Batch:	1
Analysis Date:	2015-02-01
Lab Replicate:	1
MDL:	1
RL:	100
Fraction Name:	<0.0039 mm
Variable Result:	Age_Pond, >51 years
Sample Date:	2015-02-01
Collection Time:	12:12:12
Dilution Factor:	1
Prep Preservation Name:	Antifoam
Prep Preservation Date:	2015-02-01
Digest Extraction Method:	Aiello and Kellett, 2006
Digest Extraction Date:	2015-02-01
Lab Agency Code:	A & L Western Agricultural Laboratories, Inc.
Lab Submission Code:	Acceptable


# Data Editing – Data Quality Assurance (QA)

Edit entry

Location Name:	<input type="text" value="Phone I1"/>
Sample Name:	<input type="text" value="Phone s1"/>
Analyte Name:	<input type="text" value="pH"/>
Result Quality Code:	<input type="text" value="Absent"/>
Quality Assurance Code:	<input type="text" value="BB"/>
Protocol Code:	<input type="text" value="SWAMP Ocean Acidification QAPP"/>
Equipment ID:	<input type="text" value="Ins pH-43456"/>
Collection Device:	<input type="text" value="FGL-pH Meter"/>
Compliance Code:	<input type="text" value="Compliant"/>
Expected Value:	<input type="text"/>
Calibration Date:	<input type="text" value="2014-05-17"/> 
GPS Device:	<input type="text" value="ABCL Garmin Etrex Legend"/>

# Data Editing – Data Quality Assurance (QA)

Edit entry

Location Name:	<input type="text" value="Phone I1"/>
Sample Name:	<input type="text" value="Phone s1"/>
Analyte Name:	<input type="text" value="pH"/>
Result Quality Code:	<input type="text" value="Absent"/>
Quality Assurance Code:	<input type="text" value="BB"/>
Protocol Code:	<input type="text" value="SWAMP Ocean Acidification QAPP"/>
Equipment ID:	<input type="text" value="Ins pH-43456"/>
Collection Device:	<input type="text" value="FGL-pH Meter"/>
Compliance Code:	<input type="text" value="Compliant"/>
Expected Value:	<input type="text"/>
Calibration Date:	<input type="text" value="2014-05-17"/> 
GPS Device:	<input type="text" value="ABCL Garmin Etrex Legend"/>

# Data Editing – QA Equipment & Calibrations

## Equipment

Equipment ID:	Ins pH-43456
Parameter Method Code:	PH
Domain Code:	2
Inventory Number:	123456
Serial Number:	111-1111-11111
Common Name:	pH meter
Parameter:	pH
Type Method:	field
Features:	probe
Calibration Mode:	9
Range Units:	log[H]
Detection Limits:	0-14
Resolution:	0.01
Manufacturer:	Fischer
Vendor:	Fischer

## Calibrations

Equipment ID:	Ins pH-43456
Characteristic Parameter:	pH
Instrument Units:	log[H]
Calibration Datetime:	2014-05-17 01:05:58
Associated Event:	Trip ID 5
Temp. During Calibration:	25
Thermometer ID:	78911
Standard Material:	liquid
Standard's Theoretical Value:	7.0
First Reading:	6.9
Second Reading:	7.0
Third Reading:	7.0
Action Taken:	calibrated
Reading After Calibration:	7.0
Stock Dilutions Preparer:	Jack Pickelson



# Data Validation for Submission to CEDEN

**LabBook Records**

Validate this data for CEDEN/EPA:  Yes  No

Last Reviewed by:



Images LabBook Records Lab MetaData for Samples Data Quality Assurance Locations Stations Projects Equipment Calibrations **Data Validation** Submitted Data Export Data

Edit Search: \_\_\_\_\_

Location Name	Sample Name	Analyte Name	Result	Unit Name	Data is Validated
Next River #1	S1-387	Enterococcus	33	CFU/100 mL	
Whitewater S13	S13-11	Enterococcus	212	CFU/100 mL	Yes
Whitewater S14	S14-32	Benzene	32	µg/L	
Whitewater S15	S15-23	Air Temperature	37	Deg C	

Showing 1 to 4 of 4 entries

Previous 1 Next

- User adds data to "Data Validation Area", then...

# TTW Enforces the Necessary Rules

A few examples of rule violations which the 'Validation Area' enforces prior to allowing user to mark a data record as validated for submission to CEDEN:

Matrix Name:

Environmental samples are expected to have a MatrixName reflecting that the samples are collected from the environment with Samplewater or Sediment in the name.

Prep Preservation Name:

Prep Preservation Date:

A Prep Preservation Date must be entered if a Prep Preservation Name other than "None" or "Not Recorded" is specified.

Datum:

Since Actual Latitude and Longitude values were not specified set Datum to NR.

Analysis Date:

The Analysis Date cannot be greater than Todays Date.

TTW platform enforces over 110 rules for each data record!

CEDEN validation rules are applied to applicable fields prior to allowing user to mark data as validated.

# Data Validation for Submission to CEDEN

Lab Agency Code: A & L Western Agricultural Laboratories, Inc.

Lab Submission Code: Acceptable

Batch Verification Code: Alternate Level Validation

Result Qualifier Code: Absent

Quality Assurance Code: BB

Protocol Code: AEAL Field SOP Delta Island Monitoring Proj

Collection Device: 1-GallonGlassSampleBottle

Collection Agency: Not Recorded

Compliance Code: Compliant

Expected Value: 1

Calibration Date: 2015-02-01

GPS Device: ABCL Garmin Etrex Legend

This data has been validated please upload it to CEDEN: **Yes**

Organization Name: User2 org

Data Validation		Submitted Data	
Search: <input type="text"/>			
	Result	Unit Name	Data is Validated
	33	CFU/100 mL	
	212	CFU/100 mL	Yes
	32	µg/L	
	37	Deg C	

Previous 1 Next

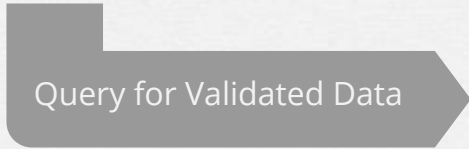
- User can only set the “Data is Validated” field to ‘Yes’, when all the applicable CEDEN validation rules are satisfied.

# CA Data Compliance: Journey To CEDEN

TTW Database



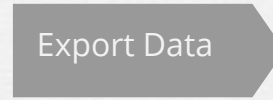
Query for Validated Data



Query Results



Export Data



CSV Files



CEDEN Database



- Query and output to CSV file and sent to CEDEN.



# Data Records Submitted to CEDEN

[Images](#) [LabBook Records](#) [Lab MetaData for Samples](#) [Data Quality Assurance](#) [Locations](#) [Stations](#) [Projects](#) [Equipment](#) [Calibrations](#) [Data Validation](#) [Submitted Data](#) [Export Data](#)

[View Record](#)

Show  entries

Search:

Location Name	Sample Name	Analyte Name	Result	Unit Name	Date Submitted to CEDEN
User1 data for user2 proj	1	Arsenic	99.1	mg/L	2014-11-05 07:07:35
user1 data user4 project	1	Benzene	12.22	ug/L	2014-11-05 07:07:35
User1's data for User1's project	1	E. Coli	100	CFU/100 mL	2014-11-05 07:07:35
user2 data user1 project	1	SpecificConductivity	15.5	uS/cm	2014-11-08 18:01:59
user4 data for user1	1	Enterococcus	223.12	CFU/100 mL	2014-11-05 07:07:35

Showing 1 to 5 of 5 entries

[Previous](#) [1](#) [Next](#)

- User can only set the "Data is Validated" field to 'Yes', when all the applicable CEDEN validation rules are satisfied.

# Export Data Records for Report Tool

Location Name	Sample Name	Analyte Name	Result	Unit Name	Timestamp
1	2	SpecificConductivity	223	µS/cm	2015-02-19 19:15:52
3	2	Fluoride	55	µg/ml	2015-02-19 18:57:31
asdf	asdf	CloudCover	Cloudy Sky	none	2015-02-09 20:53:06
asdf	asdf	RainInPast24Hr	Yes	none	2015-02-09 20:53:08
asdf	asdf	Precipitation	Drizzle	none	2015-02-09 20:53:16
asdf	asdf	Wind	Calm	none	2015-02-09 20:53:20
asdf	asdf	WaterClarity	Murky	none	2015-02-09 20:53:27
asdf	asdf	InStreamFlow	Trickle	none	2015-02-09 20:53:34
asdf	asdf	SampleColor	Amber	none	2015-02-09 20:53:39
asdf	asdf	SampleOdor	Rotten Eggs	none	2015-02-09 20:53:45

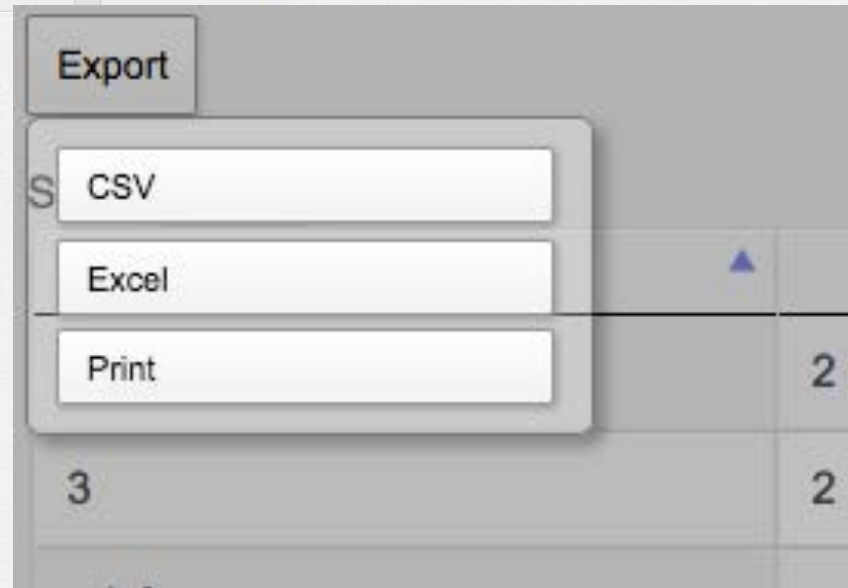
The Data Center provides the user an excel based reporting template. This tool allows the user to take control of their data. It provides functionality to do further analysis:

- Sort
- Aggregate
- Graph
- Trending Analysis

The Data Center allows the user to export their data in various formats to export to the reporting template:

- Excel
- CSV
- Print

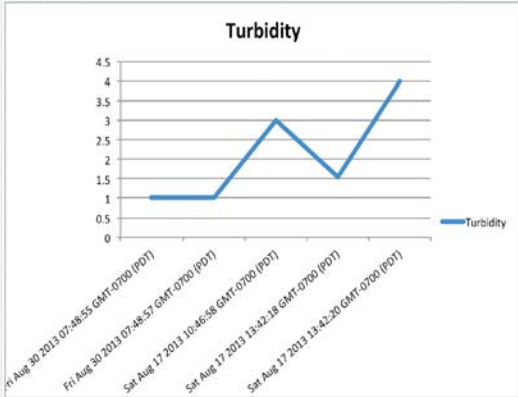
**The Reporting Template is designed to import the users data file that was exported from the Data Center**



MOBILE LAB BOOK

A  
v

Location Name	Alameda Watershed				
Sample Name	Creekside4				
Average of Result	Date & Time Stamp				
Analyte Name	Fri Aug 30 2013 07:48:55	Fri Aug 30 2013 07:48:57	Sat Aug 17 2013 10:46:58	Sat Aug 17 2013 13:42:18	Sat Aug 17 2013 13:42:20
Turbidity	1	1	3	1.538461538	4
<b>Grand Total</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>1.538461538</b>	<b>4</b>



MOBILE LAB BOOK

Location Name	Alameda Watershed			
Average of Result	Analyte Name	Ammonia as N	Arsenic	B
<b>Sample Name</b>	<b>Air Temperature</b>			
CreekBank1	26.04			
Creekside1				
Creekside2				
Creekside4	14.58823529	2		
HomeTest1	6.666666667	37.5	100	
Marshland	38.57142857			
Riverside1				
WatchHill				
<b>Grand Total</b>	<b>21.98181818</b>	<b>19.75</b>	<b>100</b>	

MOBILE LAB BOOK

Location Name	Alameda Watershed							
Average of Result	Analyte Name	Creekside1	Creekside2	Creekside4	HomeTest1	Marshland	Riverside1	WatchHill
<b>Sample Name</b>	<b>CreekBank1</b>							
Air Temperature	26.04							
Ammonia as N				14.58823529	6.666666667	38.57142857		
Arsenic				2	37.5			
Benzene		11			13.13333333			
Chlorine, Free				15.66666667	23	129.6	2.8	
Comments						#DIV/0!		
Cyanide					11	643	1	
E. Coli		4		33.96153846			2.8	99
Enterococcus		1	5.888888889		1.75			
Fluoride					98	12		
Nitrate as N					91			
Oxygen, Dissolved					29	4.2		
pH		1		6	3.266666667		2.5	

C

The reporting template comes built with active pivot sheets. These pivots provide:

- The user flexibility to “slice and dice” their data to make it meaningful
- The ability to perform trending analysis
- Comparison and Aggregation
- Graphing for data visualization

## UI Functionality

- Ⓐ Graphing & Sorting
- Ⓑ Compare Analytes by Samples
- Ⓒ Aggregation

# User Feedback

Data Center:



Provide Feedback

Got Feedback?

Please provide your feedback below:

Rate this page\*  Awesome!  Good  Meh!  Bad  Horrible!

What do you like?\*

What needs to be improved?\*

Attach file  No file chosen

Name

Mobile LabBook

FIELD OBSERVATIONS

PHYSICAL PROPERTIES

CHEMICAL PROPERTIES

BIOLOGICAL PROPERTIES

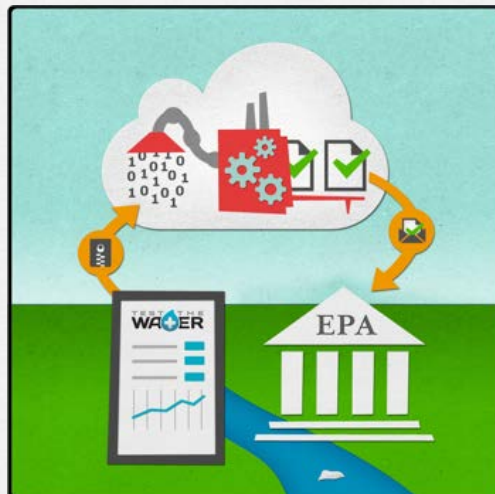
HABITAT PHOTOS

**TTW Mobile LabBook:  
Report Issues**




We welcome feedback from our users to identify system bugs, errors and enhancement requests.





We will be offering Business Licenses to funded non-profits and for-profits, offering various levels of support. While 'Citizen Scientist Volunteer Monitors' have the potential to bring larger amounts of data to States and the EPA for less cost than traditional data collection with potentially more continuous area coverage, TTW requires funding to fully support a large 'Citizen Scientist Volunteer Monitor Community' user base.

We are currently seeking support to make this happen. Let's work together.

Funding  TTW ability to support more volunteer monitoring/citizen scientist activities.



# Special Thanks To:



- Erick Burren- California Clean Water Team
- Steven Steinberg- Southern California Coastal Water Research Project
- Cristina Grosso- San Francisco Estuary Institute, CEDEN Node Data Manager
- Revital Katznelson- UC Berkeley Extension Instructor
- The SFEI & CEDEN Teams

- Glen Warren
- Justus Bingham
- Zak Skrivanek
- Helen Fletcher
- Jim Tremblay
- Jami Coffman
- Curt Coffman
- Mike Carney

Do you want additional info?

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