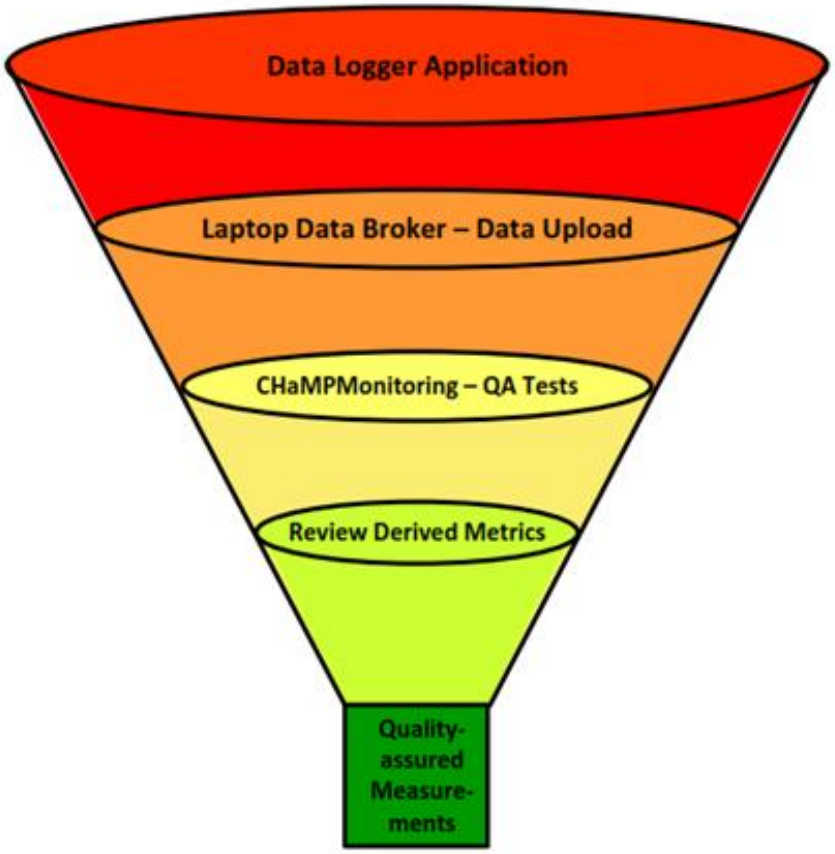
CHaMP Field Season 2013

Lots and lots and lots of data

- 23 Crews
- 124 Hitches
- 504 Surveys
- 393 files per survey
- 198,240 files validated and uploaded

CHaMP Data Quality

Tiered Approach to Data Quality



Data Logger Application (quality control)

- Required values are non-null
- Numeric values are within range
- Categorical values are from domain list

Data Broker Application (quality control)

- Format and schema of files
- Referential integrity between files
- Completeness of all components

CHaMPMonitoring.org (quality assurance)

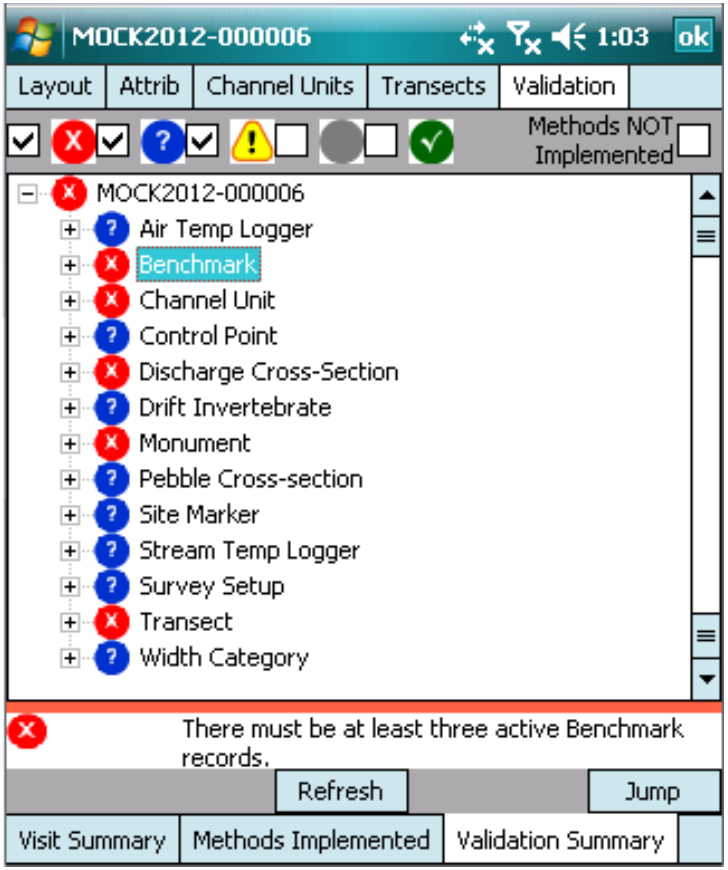
- Review number of records
- Review outliers (graphical)
- Sanity check (graphical)

CHaMPMonitoring.org (quality assurance)

- Review of derived metrics (graphical)

Handheld Logger Application

Quality control at time of data capture



- Updated for 2013 methods
- Improved layout and navigation
- Refresh validation on demand
- Validation for missing values

Handheld Logger Application

Proposed Enhancements for 2014

- Update Allegro for 2014 methods
- Pilot Ipad application in one watershed/contractor
- Clean out non-measured text from xml file after user removes the non-measured toggle for the measurement or input group

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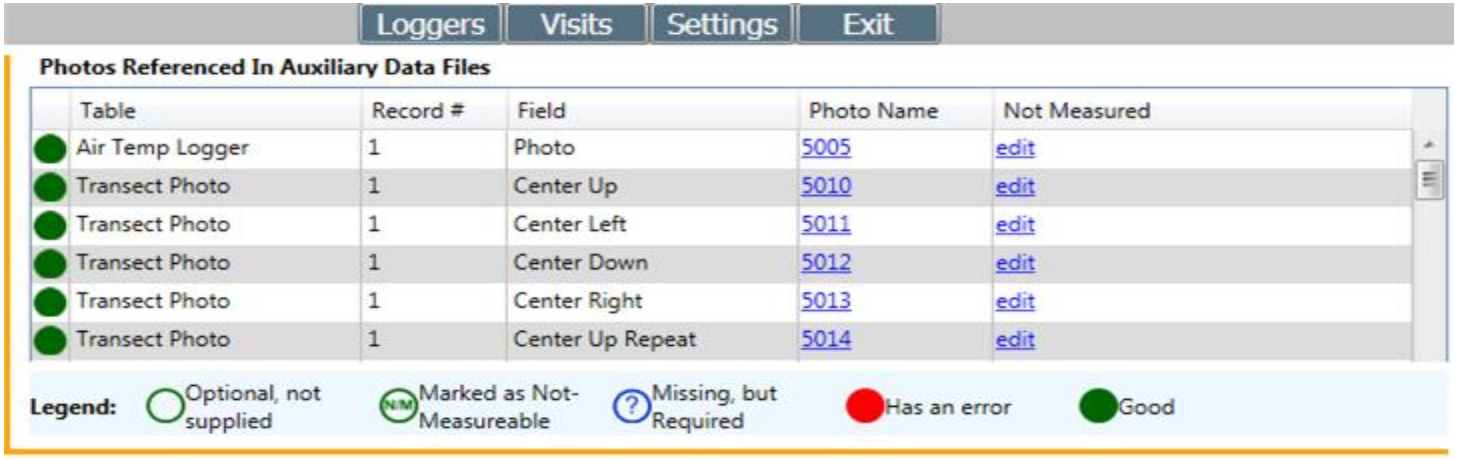
Data Broker Application

Quality control at time of data upload

- Enable sending Topo files from any laptop
- Enable setting “Not Measured” flag
- Display status of all visits for organization
- Backup working files to Cloud
- PDF file of previous site photos
- Improved navigation



Data Broker Application

Proposed Enhancements for 2014

- Increase file upload time-out for slow internet connection
  - Set time-out parameter in configure file
- Add message for time-out
- Add button to reset photos for uploading after time-out
- Support raw files from any topo survey equipment
  - Either remove all validation, or
  - Get list of expected file extensions

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Quality Assurance Review

Site: dsgn4-000168 North Fork Catherine Creek

Overview | Visits | Stream Temperature

This site's watershed is: Upper Grande Ronde

Chart | Grid

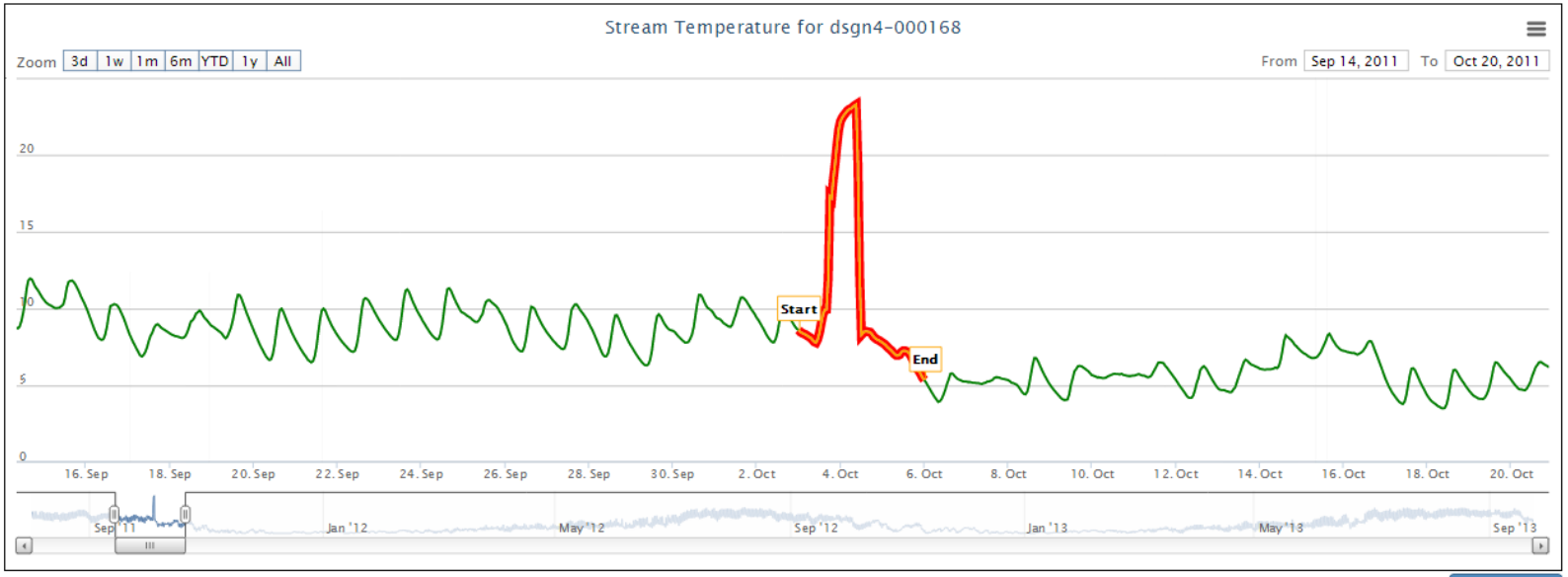
Display Series

Within Site
- Pass Data
- Suspect Data
- Reject Data

- Logger Dates
- Maintenance Dates
- Probe Messages
- Air Temperature

Nearby Sites
- CBW05583-109994
- CBW05583-138666
- CBW05583-253354
- CBW05583-515498
- CBW05583-531882
- dsgn4-000001

Offset Within Site
- One Year Offset
- Two Year Offset



Anomaly | Decision

Add Decision

Time Period
Start: 10/3/2011 12:00 AM
End: 10/5/2011 11:00 PM

First | Prev | Anomaly 2 of 3 | Next | Last

Statistics
Count: 72
Min: 5.514°C
Mean: 11.078°C
Max: 23.28°C

Message
- Hourly Variation greater than expected
- Daily Mean Variation greater than expected
- Daily Max Variation greater than expected
- Daily Range greater than expected

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- Upload “Opportunistic” survey sites to study design
- Stream temperature QA tool
- Improved metric QA graphs
- Build Site GDB generator engine
- Run RBT Orthogonal for all surveys for all years
- Remove Egnyte Cloud
  - Upload files directly to CM.org
  - Back up 1TB of CHaMP data for disaster recover
- Access database exports available from CM.org
- Continued update to metric calculations
- Support upload topo files that “require attention”
  - Display topo tool messages

CHaMPMonitoring.org

Proposed Enhancements for 2014

- Site map and site photos pdfs available for download
- Improve documentation for metric calculations
- Continued updates to metric calculations
- Support additional metric engines