

Final Report

Sierra Nevada Conservancy Grant Program Safe Drinking Water, Water Quality and Supply, Flood Control River and Coastal Protection Act of 2008 (Proposition 84)

Grantee Name: *South Yuba River Citizens League*

Project title: *Yuba 2010: Tools and Capacity for Community Supported Watershed Science*

SNC Reference Number: *G0770016* **Submittal Date:** March 30, 2012

Report Prepared by:

*Gary Reedy
River Science Program Director
South Yuba River Citizens League (SYRCL)
216 Main St., Nevada City, CA 95959
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Attachments:

- Copy of yubashed.org homepage
- Example meeting minutes from Technical Advisory Group
- Notes from exchanges with state and national expert on watershed information systems.
- Yuba Shed Version 1 survey and results
- Yubashed.org user requirements
- Photos from State of the Yuba Town Hall
- Sign-in from State of the Yuba Town Hall
- Yuba Watershed Map for public distribution

Summary

This project supported the development of new and improved resources for SYRCL's community-based River Monitoring program, including protocols for new monitoring projects, development of the River Monitoring database (RMdb), creation of a sustainable Yuba River Watershed Information System (Yuba Shed). These large deliverables were met and the most significant result is the re-establishment of a model citizen based monitoring program with tools and resources to export in the Sierra Nevada Region. The products of this grant build immeasurable capacity for SYRCL to continue operating and expanding our River Monitoring program, as well as watershed assessment and watershed coordination activities in partnership with many organizations. Substantial matching resources from the SYRCL have been utilized to produce the deliverables of

this grant project including of 6000 hours of volunteer hours for River Monitoring, program costs and supplies, overhead, and Americorps service for program coordination.

Deliverables or Outcomes

The deliverables of this grant, and associated outcomes are presented in the following table. We fully met all deliverables with two exceptions. Registering the river monitoring database as Creative Commons proved unnecessary and irrelevant. In 2008, it seemed to the author of the grant application that such a registry was important to validate the creation of an open source product. The relevant standards for open source programming material do not require such registry. The product is open source and freely available as described in the River Monitoring Database Manual. Secondly, we have not completely produced outreach materials promoting the adoption of yubashed.org by other organizations. The product speaks for itself and we expect that with the recent public launch of the second version of yubashed.org, awareness of the product will spread and inquiries into adoption will arrive. SYRCL remains committed to supporting other organizations adopt such as system by providing them the custom Drupal module which is open source and transferable.

GRANT DELIVERABLE	RESULT
Task 1: Implement the Community-Supported Science Program	
Revise water quality monitoring plan and QAPP	Revised plans published at http://yubariver.org/river-monitoring-resources/
Develop new protocols for citizen programs	New protocols developed for pH testing, algal bioassessment, and sensitive and invasive species sightings
Provide updated training to citizens	Three annual trainings provided and updated training manual posted at yubariver.org/river-monitoring-resources/
Publish annual "State of the Yuba" science report	Provided State of the Yuba town hall in 2010 with publications of powerpoint and posterboards, revised and published unfinished State of the Yuba Report (c.2006), developed framework at yubashed.org for ongoing State of the Yuba reporting.
Develop program materials for use by others in region	Refined and posted materials at http://yubariver.org/river-monitoring-resources/
Task 2: Build a Model River Monitoring Database	
Redesign architecture with Advisory Council	completed - Series of meetings of Technical Advisory Group with design process and documentation.
Develop middle-tier and front-end applications	completed

Customize Access queries and reports	completed
Database testing and re-customization	completed
Register database creative commons	not strictly applicable. River Monitoring database is open source, see Manual.
Draft technology transfer materials	Manual inclusive of these materials and posted at http://yubariver.org/river-monitoring-resources/
Outreach and training for organizations in region	completed with Wolf Creek Community Alliance
Task 3: Produce a sustainable Yuba Watershed Information System	
Develop architectural plan building on 2008 system/website	completed - Series of meetings of Technical Advisory Group with design process and documentation.
Contract programmer of web builder customization	completed - then second programmer contracted to develop a better yubshed.org
Expand content of bibliography, photos, and data	completed
Update Mapserver project with expanded content and dynamic linkages within system	Under advice of Stephen Beckwitt, opted for ArcGis.com project as included in yubashed.org
Conduct trail postings, review and revisions	completed
Enhance web portal for building cooperation and providing community interaction	pilot components completed
Establish and publish maintenance protocols	maintenance protocols have not been published
Expand technical advisory group in regional/state-wide expertise	completed through consultation with Stephen Stienberg and the XXXXX
Survey users needs and preferences	completed
Develop materials/outreach for supporting adoption of system in other watersheds	completed through reference to yubashed.org in multiple projects within CABY IRWMP process

Production under this grant followed a two-phase pattern for each of the main tasks.

Task 1 – Expanding the River Monitoring Program

Early efforts to expand the program involved a focus on new algal bioassessment protocol, more systematic deployment of temperature loggers, a provisional monitoring plan, and improvement in our training of new volunteers. Each year we expanded our River Monitoring program by providing a training of 12-20 new volunteers, and this would include new protocols such as observation of sensitive or invasive species.

In 2010, we revised the Quality Assurance Program Plan (QAPP), developed the Sensitive and Invasive Watch project, and developed protocols for producing

annual data reports. More recently, we have completed a monitoring plan, and revised our training manual. All the while, the program maintained data quality assurance through participation in Technical Advisory Committee meetings convened by staff of the Central Valley Regional Water Quality Control Board, and preparation of annual Data Reports.

Task 2 – Database

The first version of the River Monitoring Database under this grant was completed in 2009. Major improvements to the system, under the guidance of our Technical Group, were made in 2011-12. This included integration with yubashed.org and documentation for transferability.

Task 2 – Information System

Version 1 of yubashed.org was launched in May 2010, and celebrated for the provision of River Monitoring data and a broad collection of photos, documents and other resources.. Organizations which used the system to download information included the State Water Resources Control Board, the California Department of Fish and Game, Sierra Streams Institute, and the UC Davis Department of Watershed Science. However, despite success the system was yet developed to be open source and transferable. Then the programmer retired.

A Yuba Shed User Survey was published in December 2011 and 32 responses were evaluated and reviewed by the TAG before embarking on re-development. The TAG for RMdb and Yuba Shed met four times and provided specific input on drafting system requirements and developing updated versions of both the database and information system. Our lead technical contractor, Thomas Spellman, performed well and following the guidance of the TAG, Yuba Shed Version 2 using Drupal, a well-established open source content management system.

Unanticipated Successes Achieved: (Please describe any additional successes beyond completing scheduled tasks or meeting scheduled milestones.)

The deliverables of this grant agreement were extremely ambitious, especially considering the modest funding available. SYRCL is proud to have met our goals with this project, and produced all significant deliverables. And we did also achieve additional success.

At commencement of the grant period, we only had some ideas of how to expand the River Monitoring program with new protocols, but after 2 years of Science Committee meetings and careful consideration of the future program, we chose to launch the pilot Sensitive and Invasives Watch, a project that provides great promise for new long-lasting value to the citizen based monitoring program. We train new and existing volunteers in the identification of a list of rare or invasive species. The list was co-developed with US Forest Service staff working in our region. Multiple funding sources have been identified for expanding this new component of River Monitoring.

Actual and Budgeted Costs

PROJECT BUDGET CATEGORIES	Budgeted SNC Dollars	Actual Dollars
Task 1 – Expand Monitoring Program	43600	43084
Task 2 – Monitoring Database	17380	16813
Task 3 – Yuba Shed Development	19600	20857
Admin Overhead	4029	3854
GRAND TOTAL	84609	84609

Matching Resources

Since 2008, an annual average of 70 volunteers have participated in the River Monitoring program. Some of these volunteers spend time helping with preparation for monitoring events, entering data or participating on committee. The total annual average of such volunteer hours exceeds 1600. SYRCL maintains these records in hardcopy and database. Using independent sector valuation, these volunteer hours represent \$35,200 annually. Other matching resources include the costs of the Americorps River Monitoring Coordinator, their overhead and mileage to field sites. Also, the program has annual costs of equipment maintenance, supplies and lab fees.

Match Category	2008	2009	2010	2011	Total
Volunteers	35200	35200	35200	35200	140800
Americorps	7500	7750	8250	8800	32300
Coordinator overhead	350	350	350	400	1450
Mileage	200	200	200	200	800
Monitoring supplies	600	600	600	600	2400
Lab fees	1150	1950	250	0	3350
Total	45000	46050	44850	45200	\$181,100

Were there any other relevant materials produced under the terms of this Agreement that are not a part of the budgeted deliverables? If so, please attach copies.

The following items were not necessarily produced “under the terms of this Agreement” but are products produced by SYRCL that leverage or are otherwise associated with the grant project deliverables.

- The State of the Yuba Town Hall event with powerpoint and poster boards reporting data trends and other program information.
- Annual River Monitoring Program Data Reports for 2010 and 2011.

- SYRCL “enews” bulletins updating 4000 recipients on River Monitoring program events and products
- A Yuba River Watershed map for public distribution (2011). The map shows monitoring sites of SYRCL and Friend of Deer Creek and all major diversions, dams and hydroelectric facilities. The map also shows major roads, public land ownership and a variety of other useful information including labeled towns and landmarks.

Capacity-Building Results and Collaboration and Cooperation with Stakeholders:

(What partnerships did you initiate or strengthen as a result of this project? How did they affect the project outcome? If applicable, how did this grant increase your organization’s capacity? What is your plan to sustain this increase?)

The River Monitoring database is used by only the Science Director, the Program Coordinator and 2-3 volunteers. The entire corps of volunteer monitors (106 over a four-year grant period) appreciate, however, the utility of the database. Moreover, the database strengthens the program which benefits a much larger number of people and organizations. Counts of the number of visitors to yubashed.org suggest an average of 300 per month for the first year after release. Yuba Shed version 2 has not been launched long enough to evaluate usage.

This project strengthened SYRCL’s relationship with Sierra Streams Institute (Friends of Deer Creek) by allowing us to help each other out. SSI trusted us to present their data in yubashed.org, and SYRCL was able to demonstrate how the system is both watershed-wide and conducive to including others’ data. Other partnerships (e.g. Sierra Fund and American Rivers) are beginning to be enhanced through potential applications of yubashed.org in collaborative monitoring and assessment projects.

See #6 and #9 below for how this grant increased SYRCL’s capacity, and plans for increasing or sustaining that capacity. A final plan of that type is due by June in order to be prepared for our 2012/13 fiscal year.

Our Technical Advisory Group evolved to include individuals of particular capacity, including the IT provider for the SYRCL office, Steve Beckwitt (GIS expert) of SNC and ESRI, and a brilliant young programmer from UC Davis.

There are other specific capacity-building aspects to this project. For example, the Yuba Shed GIS application was the rationale for obtaining a 90% discount in software and training resources from ESRI.

Description of Project Accomplishments:

1. Most Significant Accomplishment

This grant has produced important tools for community-engaged monitoring and watershed assessment. The River Monitoring database is a critical tool for SYRCL's program, and the only open-source and transferable database, to my knowledge, that is compatible with state water quality monitoring standards. Even more significantly, the Yuba River Watershed Information system is a tool for organizing and sharing many types of information (data, maps, photos, documents) from multiple sources. "Yuba Shed" is an open-source module that can be maintained at low cost or transferred to other watershed areas.

2. WOW Factor

The River Monitoring Database and Yuba Shed have become integrated in that SYRCL can directly update River Monitoring data at yubashed.org. Also impressive, is that Yuba Shed is sustainable at low-cost. Many information systems have been constructed with budgets 10-20 times this project budget, only to result in complex and demanding systems (e.g. The Russian River Information System, Sacramento Watershed Information Module) that are not sustained due to lack of funds, and eventually pulled off-line.

3. Design and Implementation

I should have contracted a project manager to focus on deliverables sooner in the grant period instead of continuing to think that I, as the qualified staff, needed to do it myself. Also, a project management calendar with task and deliverables would have been useful early on, albeit requiring occasional changes.

4. Indirect Impact

The strength and quality of the River Monitoring program, as supported by this project, has many indirect impacts. The RM program is a social and educational component of the community. Over 70 volunteers actively monitor, with an approximate 15% annual turnover. An adequate number of new volunteers apply for trainings each year. When inspired by the program, these volunteers increase their activities of stewardship. Other impacts come through the use of the resulting data in forums such as FERC relicensing, watershed assessment, and restoration project planning.

One indirect impact of the Sensitive and Invasive Watch is that the information was used by the Forest Service and Yuba County Water Agency as general methods for crews implementing field studies for FERC relicensing.

5. Collaboration and Conflict Resolution

This project did not rely on collaboration with other organizations. However, input from others was garnered by the SYRCL Science Committee and the Technical Advisory Group. No conflicts were experienced with other groups. We would have preferred more of a contribution for Sierra Streams Institute in preparing their data for inclusion in yubashed.org, but we expect good collaboration in future project where both organizations are funded.

6. Capacity-Building

SYRCL has a staff of five plus two Americorps. The organization is in good health, and has a membership of almost 1000. Fiscally, the organization is short on funds for the maintenance and operation of our River Monitoring program and watershed coordination activities. Many people in the community and other organizations expect of these activities by SYRCL, so these underfunded areas can be a source of budgetary stress or over-work for the single staff member and two Americorps working in this area. Additional capacity is urgently needed for project and office management. This is expected to come after completion of a current strategic planning process led by SYRCL's new Executive Director, Caleb Dardick.

Ongoing funding notwithstanding, this project has markedly increased SYRCL's capacity for River Monitoring program and watershed assessment. This has already resulted in improved capability for engaging in partnerships with other organizations. For example, SYRCL has been included in three collaborative projects being advanced through CABY. Instead of having to make a case for SYRCL's role in such work, lead organizations for each of these projects (the Sierra Fund, American Rivers, and Sierra Streams Institute) proactively acknowledge the benefits of giving SYRCL large roles.

Products from this project give SYRCL more capacity to partner with other organizations or be of service to the community. For example, we can now more efficiently train new monitors, and offer more educational days to local schools. Volunteers and other interested people visiting yubashed.org or other products are educated and thus more capable of citizen engagement in issues concerning the river or watershed.

7. Challenges

The grant freeze period was a challenge to the continuity of SYRCL's staff and the River Monitoring program, mostly due to a freeze in revenue from other grants. The challenge was met by reducing activities and costs, but it took almost two years to recover from this shrinkage. A related challenge is the fact that SYRCL can only afford to coordinate the River Monitoring program by depending on Americorps members that provide 11 months of service and change annually. This grant has helped provide needed continuity by producing a set of final resources for the

program. In addition, SYRCL has addressed the challenge by contracting past coordinators to train new coordinators.

The primary programmer for Version 1 of Yuba Shed retired from professional service in early 2011, scuttling our plans to complete development of the information system and satisfy standards pertaining to open source coding and low-cost maintenance. In addition, our RMdb programmer was out of the country for almost two years of the grant period. Without the availability of these key technical resources, it became impossible to enhance these two products to meet our objectives and grant deliverables according to the previous plan and schedule. A new path of development was chosen following meetings of our Technical Advisors where we focused on the objectives of RM db and Yuba Shed and identified user needs. A difficult choice ensued: Accept less than the goals of transferability, open source programming and low-cost maintenance OR invest additional matching funds and risk the timeline of our grant. We chose to reach for our goals. I developed a new contract for a lead programmer in November, and also initiated a request of SNC for a time extension on the grant contract. The denial of this request was unfortunate and stressed the completion of the second version of yubashed.org.

A serious challenge in completing the grant deliverables has been competing demands of the Science Director and a total lack of additional staff capacity for these tasks. The challenge was finally met in 2011 by contracting a former Americorps River Monitoring Coordinator to focus on remaining deliverables.

8. Photographs

See program presentation posted to <http://yubariver.org/river-monitoring/>. The photo below shows one of the five posterboards created for the State of the Yuba Town Hall in March 2010.

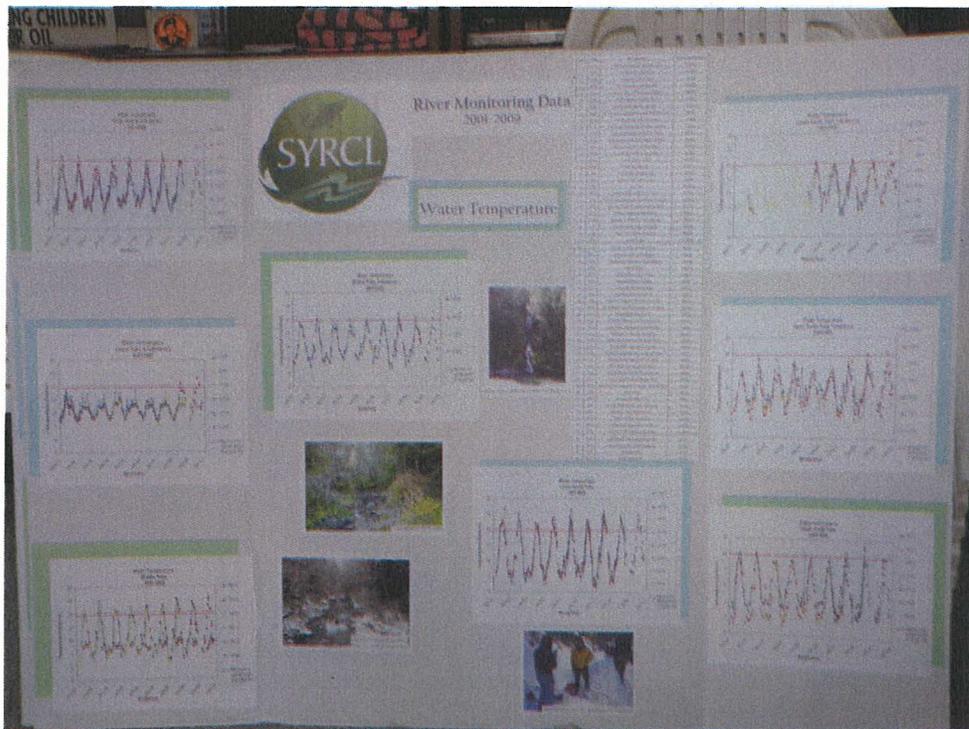
9. Post Grant Plans

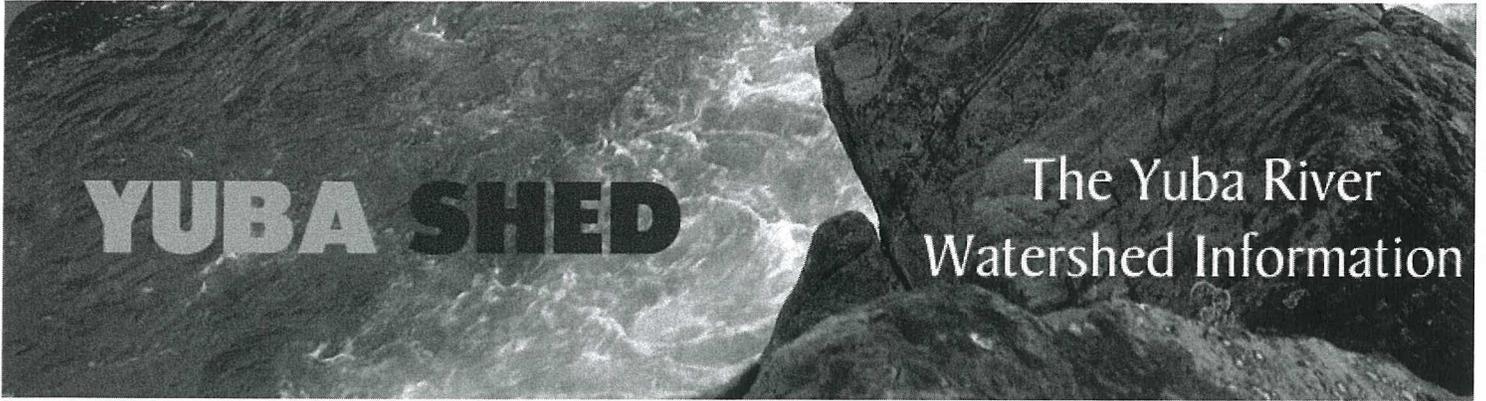
The River Monitoring program will continue to operate, supported by the resources developed under this grant agreement. As a result of these resources, annual monitoring plans and data reports will be published annually, and we expect more partnerships with other organizations through the shared use of yubashed.org. Likely organizations for such partnership include Sierra Streams Institute, the Sierra Fund, CABY, Nevada Irrigation District, Nevada County and Sierra County.

Pending the results of SYRCL's strategic planning process, SYRCL will target grants and invest additional resources in the River Monitoring program to support the pursuit of priority assessment objectives.

10. Post Grant Contact

Gary Reedy, River Science Program Director
gary@syrcl.org, (530) 265-5961 x.208

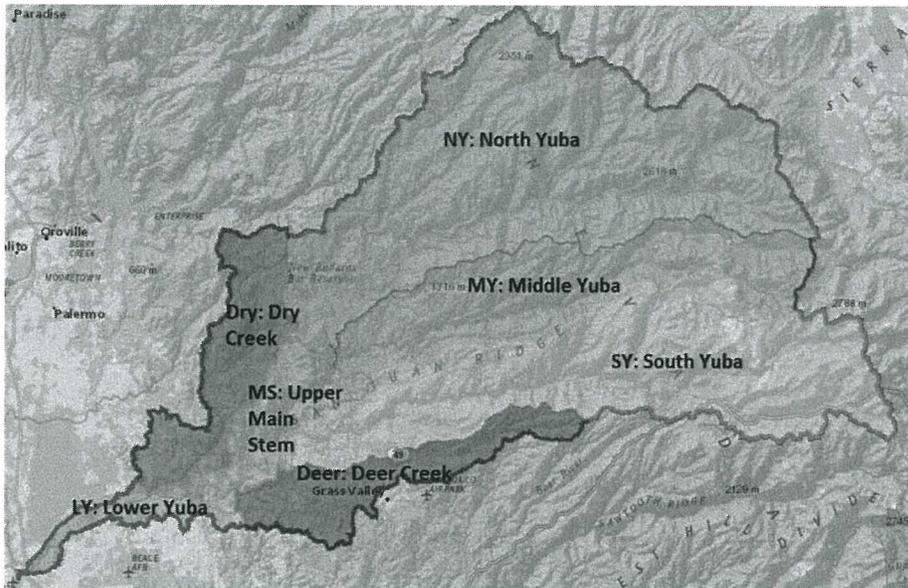




Welcome to Yuba Shed

This information system provides data, documents, photos, maps and tools for people interested in the condition many tributaries. Yuba Shed has been designed to facilitate collaborative work among organizations, and to promote understanding of the Yuba River and the entire Yuba River watershed.

To access data tables, charts and reports, click on Data in the menu on the left. Data is organized by seven regional Yuba River watershed.



This second version of Yuba Shed contains data collected by the South Yuba River Citizens League (SYRCL) as well (SSI). Yuba Shed will continue to be updated with information from other organizations, an expanding bibliography relevant resources.

Yuba Shed development was funded by the Sierra Nevada Conservancy with additional support from the California (Watershed Coordinator Grant Program), and the Department of Water Resources Watershed Program.



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Minutes

Technical Advisory Group for the Yuba Watershed Information System

January 27, 2012

Attendees: Gary Reedy, Thomas Spellman, Michael Anderson, Nick Santos, Kaitlyn Hacker

1. Update on general progress
 - a. In 2 weeks the goal is to have a functional system up and running
 - b. Sierra Streams Institute will also be contributing their data to the system
2. Proof of concept for Drupal based system
 - a. Details of content types
 1. Early in concept, but online now at <http://50.116.1.122/drupal>
 2. In the data view, categories, regions, sites are both content types and fields so there is the ability to add to information specific to these content types rather than being restricted by just being fields. Customizing the view for data still needs to be done.
 3. Can view the data through specific drop down menus for category, organization, region and site.
 - b. Other content types and modules: maps, photos, bibliography, metadata
 1. Metadata: will likely be similar to linking to data content type node. May want to consider using the Dublin Core add on in Drupal for metadata template, though being constrained to a specific format may be problematic when plugging in other people's metadata. The potential solution is to create a form, but leave an area for body text. In the body html could be plugged in and the metadata fields would be left blank.
 2. Image gallery: default template right now but first step in adding photos. Need fields added for captions and attributes. A separate chart content type needs to be added to differentiate images from charts.
 3. Bibliography: currently using an existing Drupal module. May want to explore using an online converter such as Bibtex to make bibliography entries or just do it directly through Drupal.
 4. Maps: ArcGIS watershed tour map will be separate than the maps associated with the data pages.
 - c. Methods for navigation of data
 1. There will be multiple ways at arriving at the same place and a breadcrumbs trail from the homepage will be an important feature.
3. RimDB – did not have time to fully dive into
 - a. Current functionality
 - b. Data analysis features
 - c. Charting
4. Next steps/schedule
 - a. The next meeting will be at Clientworks on February 10th at 10:30
 - b. At this meeting the site should have a data view format and a built in map feature.
 - c. The way data will be uploaded needs to be finalized

Minutes

January 13, 2012

Technical Advisory Group for the Yuba Watershed Information System and RMdb

Attendees:

Gary Reedy, Michael Anderson, Thomas Spellman, Kaitlyn Hacker, Nick Santos (skype)

1. User Requirements
 - a. Reviewed list of requirements drafted by Gary. Goal is to guide development of Yubashed Version 2. Clarification: "data" as content type refers to charts and tables.
 - b. User Survey Results: 18 respondents. Many of the results were across the board. Overall, people have utilized the current version of Yubashed for water quality data, maps, photos and watershed assessment and this is where they would also like to see the most improvement. The maps in particular should be utilized to give people a better watershed tour with photos and a better sense of projects.
2. CMS evaluation
 - a. By user requirements
 1. Word Press not sophisticated/complex enough to handle what we need
 2. Jease is Java based, requires custom coding and not worth considering since it would be too complicated to maintain from a non-computer programmer perspective
 3. Drupal seems to be the best candidate for our needs and this is confirmed by review article that Mike distributed. Drupal may be a challenge to develop with, but once developed it will require less expertise to make tweaks later.
 - b. Content types vs. modules (Semantics)
 1. A module is a set of content types or logic. Thomas is going to create a new Drupal module (Yuba Shed) but it will depend on existing modules.

The Yubashed module will have specific content types which could link into other existing modules as well as having its own content types.

2. In Drupal each item of content is a node and each node has a set of fields with content and there can be links between nodes. Each node can be one of a number of content types where you can change the template/container type. Content type is important for how to use the system/update. Semantics are important!

c. Steps of development

1. Create a Drupal module navigation structure for viewing. The target is to have the functionality working by the end of January.
2. Structure must accommodate both the autogenerated data from RM db and manual addition of data from other sources.

3. RimDB

a. Building the system to publish SYRCL's water quality data housed on MySQL db.

1. Thomas mentioned two main possibilities - manual input module or automatic import module?:
 1. Push: in office, publish DataVis flat tables that make connection to the server and trigger functionality
 2. Pull: Log into Yubashed and go get it
 3. 3rd alternative that came up in meeting: save locally, log in and have the option to upload to Yubashed
2. Want an annual update because we can't QA fast enough to warrant monthly or more frequent updates.
3. Need ability to review charts and tables before update, but want an automated charting and table function

b. Charting modules (PHP or Linux base)

1. Want automated charting and table function, but did not discuss modules.
- c. Requirement of transferability to other organizations. Thomas will provide documentation.
4. Hosting and system support
 - o Linode, as already set up for Thomas
5. Next meeting/steps
 - o January 27th 9:30-11 at Clientworks (pending everyone's availability)

Gary Reedy

From: Thomas Spellman <thos37@gmail.com>
Sent: Wednesday, February 01, 2012 5:34 PM
To: Gary Reedy
Cc: Kaitlyn Hacker
Subject: Re: FW: FW: national vision for data sharing

<http://sccwrp.org/AboutSCCWRP/SCCWRPStaff/SteinbergSteven.aspx>

T

On Wed, Feb 1, 2012 at 4:56 PM, Gary Reedy <Gary@syrcl.org> wrote:

Thomas,

Thanks for these notes. Apparently there is nothing to do in this version of our work because they are not ready. It would be good to discuss this in some detail at our next TAG meeting, 2/10

Do you have contact information for Steve Steinberg Looking for an agency and title for our reporting.

Gary Reedy

Science Program Director, South Yuba River Citizens League

(530) 265-5961 ext. 208

From: Thomas Spellman [<mailto:thos37@gmail.com>]
Sent: Tuesday, January 31, 2012 12:43 PM

To: Gary Reedy
Cc: Kaitlyn Hacker
Subject: Re: FW: FW: national vision for data sharing

Steve is one of the people behind CEDEN. So, naturally, he is in favor of us getting our data into CEDEN. CEDEN is also connected to the EPA's EIEN (Environmental Information Exchange Network). In my conversation with him about our specific situation at the break, he said he thinks either making the data available in an EIEN exchange network, i.e. WQX (Water Quality Exchange), whether as individual XML files or as a full WQX server node, or contributing the data to CEDEN are both good directions. The only compelling reason to go the CEDEN route over WQX is if we use some of CEDEN's extra data types that WQX doesn't yet include. I'd need to do some research into this. However, he said that he is working with the WQX

people to handle the extra data types in the next version of WQX anyway. My intention for RiMDB version 2 is to do both. Data included in CEDEN takes a while to be published, whereas data published in one's own EIEN node is immediate and can be used directly as the data source for any internet based data analysis or publishing system (Yubashed, other groups, agencies, etc.), and can be imported into EPA's STORET directly from the node.

The gist of the direction of the Data Management Workgroup is they are currently considering drafting a recommendation of specific preferred data format standards to the other Monitoring Council workgroups and other groups/agencies that want their raw data to be usable by others and the public. What this basically means for water quality is the workgroup will eventually produce a recommendation and a cookbook that will suggest making water quality data available via the national EIEN's WQX or the state's CEDEN, or a few other standard formats like WaterML, etc. In other words, we're ahead of the game because I'm actively pursuing options for how to share data from RiMDB in a standard format and method. This will be a part of the version 2.0 of RiMDB, and can be included in a future update of Yuba Shed.

T

On Tue, Jan 31, 2012 at 12:56 AM, Gary Reedy <Gary@syrcl.org> wrote:

Thomas,

So glad you were able to go, and I look forward to learning more. Do you notes suggest a follow-up conversation with Steve or other state officials regarding specifics to effect what you are working on?

Gary

From: Thomas Spellman [thos37@gmail.com]

Sent: Monday, January 30, 2012 8:48 PM

To: Gary Reedy

Cc: Kaitlyn Hacker

Subject: Re: FW: FW: national vision for data sharing

It was a very worthwhile visit to Sac. I had lunch with Steve and 2 others, though we didn't talk much on topic, I did get a lot of perspective about where the workgroup is at just from being present, and also even contributed a little bit of direction and focus as well. I took some notes.

T

On Mon, Jan 30, 2012 at 8:46 AM, Gary Reedy <Gary@syrcl.org> wrote:

Thomas,

Excellent! Hope you learn lots and pass it all on to us ... maybe an update to the Sci Team on Friday?

Hope you connect with Steve.

Gary

Gary Reedy

Science Program Director, South Yuba River Citizens League

(530) 265-5961 ext. 208

From: Thomas Spellman [<mailto:thos37@gmail.com>]

Sent: Friday, January 27, 2012 1:30 PM

To: Gary Reedy

Cc: Kaitlyn Hacker

Subject: Re: FW: FW: national vision for data sharing

Hey Gary,

I'm planning to attend the next meeting of the California Monitoring Council's Data Management Workgroup on Monday Jan 30, and so will likely have a chance to connect with Steve there. You and/or Kaitlyn are welcome to come with me. Here's the meeting agenda:

http://www.swrcb.ca.gov/mywaterquality/monitoring_council/data_management_workgroup/docs/2012/dmwg_agenda013012.pdf

T

On Mon, Jan 9, 2012 at 10:15 AM, Gary Reedy <Gary@syrcl.org> wrote:

Thomas,

See below. Please either

- 1) contact Steve Steinberg directly and share your notes from the call in an email to us , or
- 2) provide a few questions that you want Kaitlyn to ask when she contacts Steve.

Consultation with state official experts is a task in our grant agreement. While the consultation may or may not inform what we do, I need documentation for our final grant reporting.

Thanks,

Gary

From: Anne Littlejohn [mailto:ALittlejohn@waterboards.ca.gov]
Sent: Monday, January 09, 2012 10:09 AM
To: Gary Reedy
Cc: Kaitlyn Hacker
Subject: Re: FW: national vision for data sharing

Hi Gary - So sorry for not getting back to you sooner! I hope you had a happy new year as well. I think Thomas Spellman's interests may align with efforts being made by the California Monitoring Council's Data Management Workgroup. Here is a link that has information about the workgroup, how he can get involved or at least get on their email list and also a main contact (Steve Steinberg).

http://www.swrcb.ca.gov/mywaterquality/monitoring_council/data_management_workgroup

I highly encourage him to check in with this group because they are an active group and will have a lot of information on what is going on with WQ data sharing.

Hope this helps - let me know if you have any ?s.

Take care,

Anne

>>> Gary Reedy <Gary@syrcl.org> 1/3/2012 10:50 AM >>>

Hello Anne,

It has been a couple of years since we discussed who is at the frontier of developing water quality data sharing tools. Thomas Spellman is a gifted programmer who SYRCL has contracted to work on our system, and he has much greater ambitions (see below).

Can you offer any contacts with whom we can connect and possibly use to guide Thomas' efforts?

Thanks and happy new year!

Gary

Gary Reedy

Science Program Director



South Yuba River Citizens League
216 Main Street
Nevada City, CA 95959
(530) 265-5961 x 208
www.YubaRiver.org

Join us! The 10th Annual Wild & Scenic Film Festival happens January 13-15.

-----Original Message-----

From: Thomas Spellman [<mailto:thos37@gmail.com>]

Sent: Thursday, December 29, 2011 3:19 PM

To: John van der Veen; Joanne Hild; Gary Reedy; Kaitlyn Hacker; carrie.monohan@sierrafund.org
Subject: national vision for data sharing

Hi John, Joanne, Gary, Carrie, Kaitlyn,

I've recently become aware of national efforts to develop an
environmental data sharing network: <http://www.exchangenetwork.net/>

The state's interest is communicated here: <http://www.calepa.ca.gov/EIEN/>

The data schema for the Water Quality Exchange (WQX -
<http://www.exchangenetwork.net/data-exchange/water-quality-data-exchange/>)

includes the following:

- * Physical conditions at the time of a site visit;
- * Chemical and bacteriological analyses of the water sampled;
- * Chemical analyses of fish tissue collected;
- * Taxon abundance data including population census, frequency class,
group summaries, and individual results;
- * Toxicity data;
- * Habitat assessment scores and their related metrics; and
- * Biological index scores and their related metrics.

There is national grant money available for developing new nodes on
this network. This could potentially apply to developing a local node
that would be usable by local groups and that could enable sharing

data with each other and non-local members of the exchange network, and for submitting data to the EPA's central database. The grant description also talks about developing geospatial sharing capability.

<http://www.epa.gov/exchangenetwork/grants/index.html>

My intention is to develop the next version of the RiMDB database so that it serves the needs of water monitoring efforts throughout the state, including methods for sharing the data with the public and government agencies using open standards. So, naturally, it makes sense to develop RiMDB in alignment with this emerging national vision. Plus, it might be useful to get some funding from the EPA for this work. I suggest that we put this grant opportunity on our radar for next year (Nov), if it's not already there, and explore the possibilities in the meantime.

There's an Exchange Network meeting in May that I'd like to go to:

<http://www.exchangenetwork.net/meetings-and-events/en2012/>

T

Yubashed Survey Questions

Q1. Select which category applies to you:

Answer Options,"Response Percent","Response Count"

SYRCL River Monitor, former or current,"61.9%",13

Yuba or Bear River watershed resident, not a River Monitor or environmental scientist,"19.0%",4

Environmental Scientist and Yuba or Bear River watershed resident,"14.3%",3

Non-resident environmental scientist,"4.8%",1

Comments,,3

,"answered question",21

,"skipped question",1

Q2. How much time have you spent perusing at www.yubashed.org?

Answer Options,"Response Percent","Response Count"

15 minutes or less,"27.3%",6

15 minutes to 45 minutes,"36.4%",8

45 minutes to 2 hours,"31.8%",7

More than 2 hours,"4.5%",1

,"answered question",22

,"skipped question",0

Q3. Do you think you know what is and is not available at Yubashed?

Answer Options,"1","2","3","4","5","Rating Average","Response Count"

Yes (1).....No (5),4,7,4,3,4,2.82,22

,,,,,"answered question",22

,,,,,"skipped question",0

Q4. A Is the site easy to navigate? 4. B Did you find what you were looking for?

Answer Options,"1","2","3","4","5","Rating Average","Response Count"

A. Yes (1).....No (5),7,9,1,1,2,2.10,20

B. Yes (1).....No (5),4,8,4,1,2,2.42,19

Comments,,,,,,7

,,,,,"answered question",20

,,,,,"skipped question",2

Q5. What have you found most useful at Yubashed?

Answer Options,"Response Percent","Response Count"
Charts,"80.0%",12
Metadata,"26.7%",4
Raw Datafiles,"20.0%",3
Comments,,7
,"answered question",15
,"skipped question",7

Q6. What is your primary interest at Yubashed?

Answer Options,"Response Percent","Response Count"
Water quality data collected by SYRCL,"35.0%",7
Other data collected by SYRCL,"5.0%",1
Data collected by others in the watershed,"5.0%",1
Watershed assessment information,"30.0%",6
Access to photos from the watershed,"5.0%",1
Maps,"15.0%",3
Library of Documents,"5.0%",1
Comments,,3
,"answered question",20
,"skipped question",2

Q7. Please choose your other interests for returning to Yubashed

Answer Options,"Response Percent","Response Count"
Water quality data collected by SYRCL,"57.9%",11
Other data collected by SYRCL,"26.3%",5
Data collected by others in the watershed,"26.3%",5
Watershed assessment information,"47.4%",9
Access to photos from the watershed,"36.8%",7
Maps,"47.4%",9
Library of Documents,"26.3%",5
Comments,,1
,"answered question",19
,"skipped question",3

Q8. What area would you most like to see improved in Yubashed Version 2?

Answer Options,"Response Percent","Response Count"

Water quality data collected by SYRCL,"14.3%",2
Other data collected by SYRCL,"0.0%",0
Data collected by others in watershed,"7.1%",1
Watershed assessment information,"35.7%",5
Access to photos from the watershed,"0.0%",0
Maps,"42.9%",6
Library of documents,"0.0%",0
Comments,,5
,"answered question",14
,"skipped question",8

Q9. How important is it for you to be able to comment to site on contents?

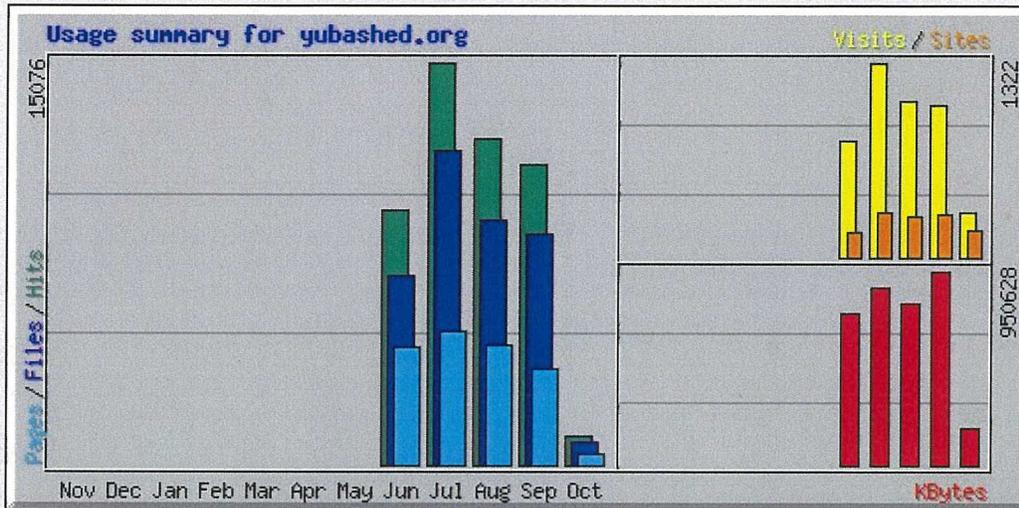
Answer Options,"1","2","3","4","5","Rating Average","Response Count"
Very Important (1)... Not Important (5),1,3,7,2,6,3.47,19
,,,,,"answered question",19
,,,,,"skipped question",3

Q10. Comments or suggestions for Yubashed Version 2

Answer Options,"Response Count"
,12
answered question,12
skipped question,10

Gary Reedy

From: Gary Reedy [gary@syrcl.org]
Sent: Thursday, October 07, 2010 9:28 AM
To: 'Gary Reedy'
Subject: FW: yubshed visitors



Summary by Month

Month	Daily Avg				Monthly Totals					
	Hits	Files	Pages	Visits	Sites	KBytes	Visits	Pages	Files	Hits
Oct 2010	176	142	64	50	186	180947	305	386	855	1057
Sep 2010	375	288	119	34	289	950628	1035	3584	8660	11250
Aug 2010	394	295	144	34	270	792409	1060	4481	9163	12225
Jul 2010	486	380	161	42	297	864431	1322	5017	11798	15076
Jun 2010	453	337	212	37	175	743514	788	4453	7091	9519
Totals						3531929	4510	17921	37567	49127

No virus found in this incoming message.

Checked by AVG - www.avg.com

Version: 8.5.448 / Virus Database: 271.1.1/3180 - Release Date: 10/06/10 06:34:00

USER REQUIREMENTS FOR YUBA SHED

The goal of the project is an information system at www.yubashed.org that SYRCL can use to:

- Publish data and results of the River Monitoring program to meet the interest of both general users and experts seeking to access information including complete data sets.
- Publish data from other sources in a form that encourages cooperative data sharing.
- Maintain an expanding library of electronic documents relative to the Yuba River watershed
- Maintain a gallery of captioned photos organized by topics and categories
- Provide a dynamic map of the Yuba River watershed with monitoring sites and other layers for which points link to data and photos
- Educate users through both the organization of content, captioning, background information, and synthesis or assessment pages.
- Maintain annually up-to-date content at low cost
- Develop materials/outreach for supporting adoption of system in other watersheds

Visitor User Requirements:

1. Home page that provides orientation and guide to usage, as well as a site map
2. Menu that allows easy navigation to categories of content (bibliography, maps, data, photos and background information)
3. Bibliography that provides searches of citations and easy links to open pdf documents
4. Dynamic map module (ArcGis.com) that shows location of SYRCL monitoring sites and provides by linkage from site marker, site information and data summaries.
5. Photo gallery where photos captioned, credited and organized in series or tours
6. Data organized by subbasin and category (data type) and inclusive of both example charts and tables.
7. Data associated with a metadata record (who, what, when, why) and background information providing links to relevant information including source documents.
8. Charts that provide consistent linkage to tables. Charts and tables provide linkage to metadata, back
9. Function to download datasets of interest
10. Function to submit comments to Yuba Shed administrators regarding specific content.

Maintenance and Update User Requirements

- 1) All routine updates can be completed by staff with less than 40 hrs training.
- 2) Establish and publish maintenance protocols
- 3) Annual updates of River Monitoring data facilitated by functions to auto-generate new tables and charts and replicate data contained in captions and links to metadata, maps, photos and background information.
- 4) Other types of data (including from other sources) can be shared as Excel files (tables) and images (charts) through a series of steps that takes less than 10 minutes per addition, including linking to metadata, photos and background information (extra time allotted to the creation of those associated contents).
- 5) Templates readily available for facilitation of creating new content.



The Yuba River Watershed

The mission of the South Yuba River Citizens League (SYRCL) is to protect and restore the Yuba River and the greater Yuba River watershed. Seven sub-basins comprise the 1,300 square mile watershed that drains to the mouth of the Yuba River at Marysville. SYRCL conducts water quality monitoring and assessment throughout the greater watershed and works in partnership with water agencies and others in coordinating studies and developing protection or restoration priorities. For more information see www.yubariver.org.

- Yuba Watershed Boundary
- Yuba Watershed Sub-Basin
- Stream
- Water Diversion/Canal
- Wild & Scenic River
- Major Roadway
- SYRCL Water Quality Assessment Site
- Federal of Deer Creek Monitoring Site, www.dcrwatermonitoring.org
- Dam
- Meadow (CDFG delineation, 2005)
- California State Park
- Current Boundaries of Subbasin as Stated in National System of Salmon or Steelhead Potential Boundaries of Salmon or Steelhead

