

Starting and Sustaining a Volunteer Watershed Monitoring Program



Presented by

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South Yuba River Citizens
League

SYRCL



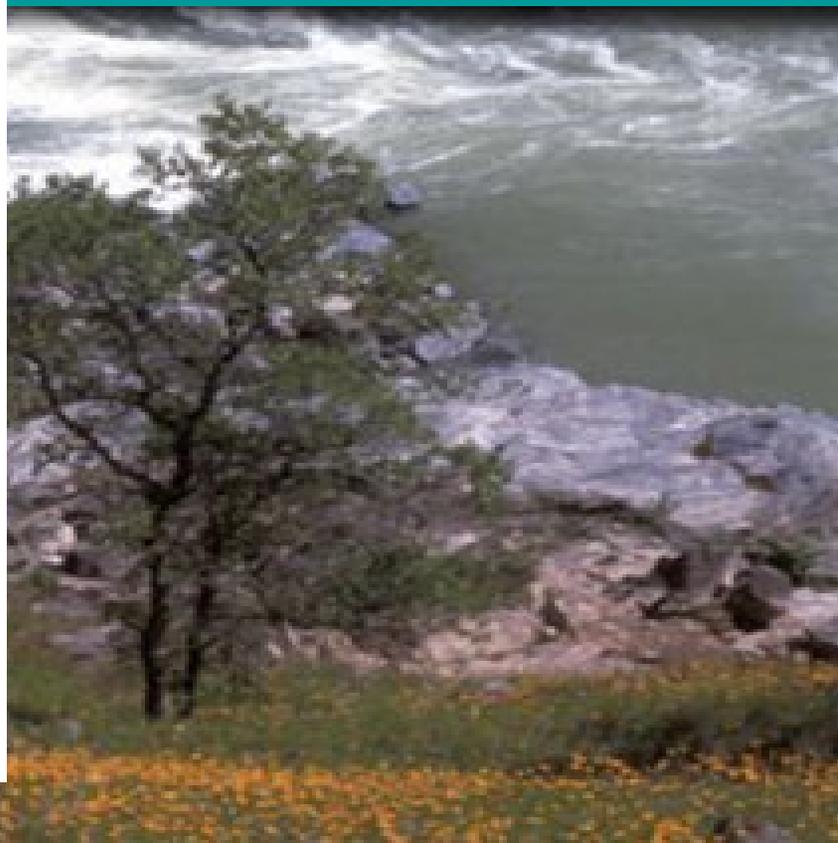
Citizen Monitoring & Adaptive Management Handbook



Volume 1:
Citizen Monitoring Essentials

Produced by the
South Yuba River Citizens League
and the Natural Heritage Institute

Funded by



Prerequisites for Initiating a Successful Volunteer River Monitoring Program

- Adequate Funding
- Well-Defined goals
- Completed, carefully-considered Work Plan



Funding

- Sampling Equipment
- Equipment Maintenance
- Lab Costs
- Computer & software
- Watershed Coordinator
 - Office
 - Trainings
 - Additional equipment
 - Volunteer appreciation (BBQs, pizza nights)



Defining Your Goals

Key questions to answer when setting up a monitoring program:

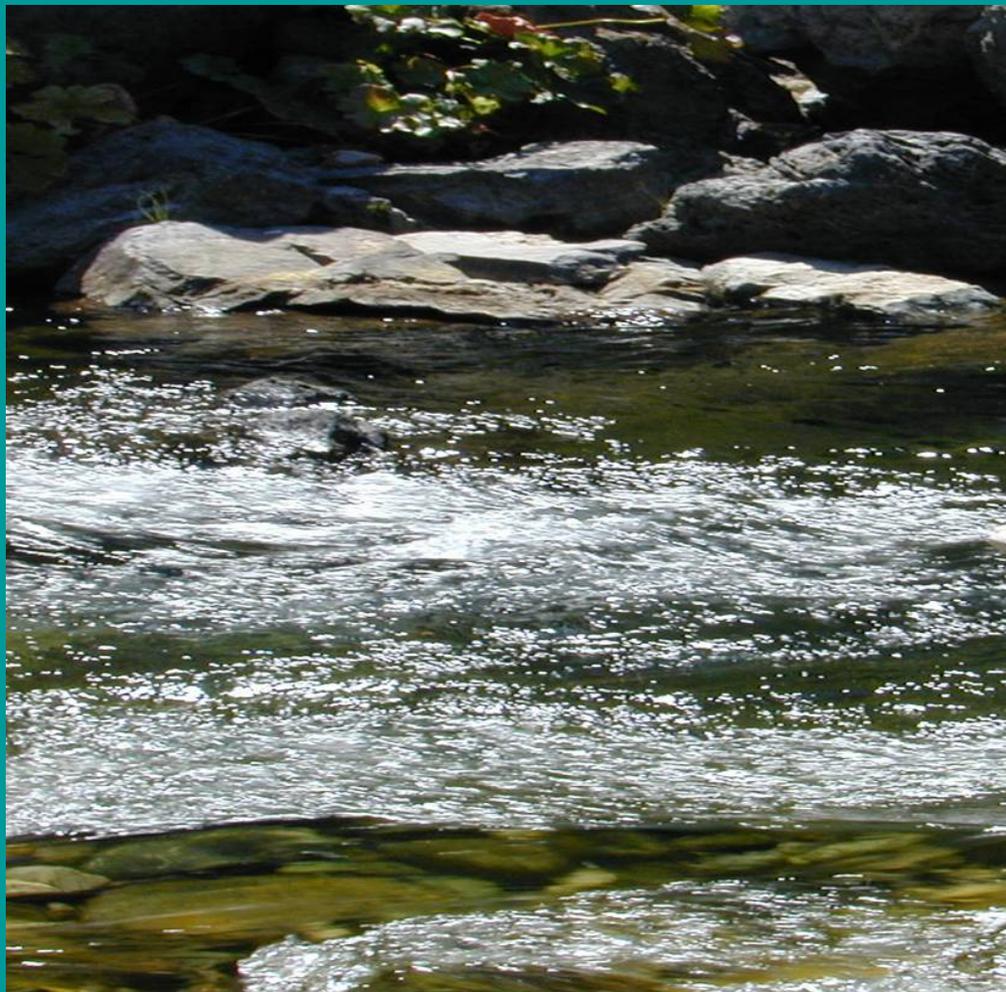
#1 Why are you monitoring?



#2 What watershed indicators will you monitor?

#3 Does the watershed indicator help you answer your questions about the watershed?

#4 Data: Do you know what your data will be used for?





#5 How will you monitor?

#6 When do you want to monitor?

#7 Where will you monitor?



#8 Who will perform the tasks necessary for the project to succeed?



#9 Do you have the resources to achieve your monitoring goals?



Developing a Monitoring Plan & QAPP

Workplan includes:

- Program Advisors**
- Technical Advisors**
- Statement of Goals**
- Outreach Plan
- Monitoring Program Description
- Use of Data Description
- QAPP**
- Data management plan
- Reporting plan**

QAPP: Quality Assurance Project Plan



- State Water Board Approved standardized operating procedures

California State Water Board

Clean Water Team QAPP Template:

<http://www.swrcb.ca.gov/nps/availdoc.html>



Technical Advisory Committee (TAC)



Rob Pudim & High Country News

Monitoring Program Description

Selecting Monitoring Sites

Begin with

- Your goals
- Practical considerations

Then do your research

Talk to your regional
board in the very
beginning!



Assessing Watershed Health

- Water Quality Testing
- Streamwalk Survey
- Bioassessment



Water Quality Testing



Parameters tested:

- Air & water temperature
- pH
- Conductivity
- Dissolved oxygen
- Turbidity
- Fecal Bacteria

Streamwalk Survey and Photo-Monitoring



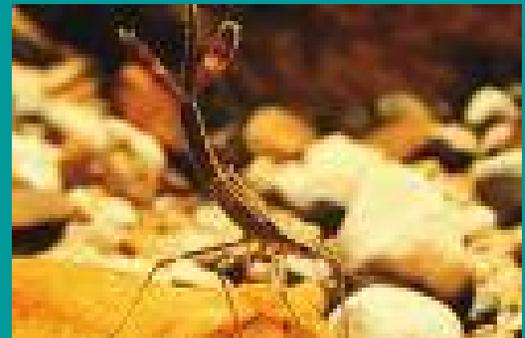
- Visual assessment of ½ mile of riparian corridor
- Determine habitat value
- Look for changes over time
- Valuable for “red flags”, locating restoration candidate sites, and educates volunteers, promotes stewardship



Bioassessment

(Macroinvertebrate
sampling)

Measures biological health
of waterway



Monitoring Coordinator



Planner, organizer, coordinator, communicator, motivator, cheerleader, technical expert, field supervisor, computer wizard!

Dedicated Volunteers

- Give them reasons to be a volunteer
- Ask for a commitment
- Tell them the program won't exist without their efforts
- Communicate with them often
- Reward them
- “State of the Yuba Report” presented first to them



Successful Volunteer Coordination

Good communication is key!

- Phone calls and emails
- Assigned tasks
- Written protocols
- Delegate to volunteers to help with coordinating



Adequate Equipment

Approximate cost of one water quality monitoring kit: \$450.00



SAMPLE EQUIPMENT LIST FOR SNA PROJECT

Based on 4-6 Sampling Sites per Watershed

Temperature

- ❖ ExTech Pocket Thermometer/Alarm

pH

- ❖ Hanna pHep Waterproof Testers
- ❖ 500 mL Bottle of 4.00 pH Buffer Solution
\$7.30
- ❖ 500 mL Bottle of 7.00 pH Buffer Solution
\$7.30
- ❖ 500 mL Bottle of 10.00 pH Buffer Solution
\$7.30

Conductivity

- ❖ Oakton Waterproof TDS Tester-Low Range
- ❖ 500 mL Bottle of 447 uS Conductivity Calibration Solution

Dissolved Oxygen

- ❖ LaMotte Dissolved Oxygen Kit, Liquid Acid Version
- ❖ Sodium Thiosulfate/per month
- ❖ Sulfuric Acid/Alkaline Potassium Iodide/Starch Indicator
- ❖ Refill for D.O. kits

Turbidity

- ❖ Hanna Portable Turbidity Meter

Miscellaneous

- ❖ Sampling Arms
- ❖ Large Bottle attachment
- ❖ Recycled Clipboards (\$4.25/each)
- ❖ Sharpie Markers
- ❖ Environmental Sample Bottles
- ❖ 500 mL
- ❖ 125 mL
- ❖ Alconox Powder for washing equipment Wash Bottles
- ❖ Waste Containers
- ❖ Gloves in sizes Small, Medium and Large
- ❖ Batteries
- ❖ Eyeglass repair kit screwdriver for changing meter batteries

Formalized, Required Trainings

- Field Manuals
- Water Quality Testing Trainings : 3 trainings over 1 month period

Streamwalk Survey:

all-day training 6 months later

- Bioassessment:
 - 1 or 2-day training,
 - 1 year after start-up
- Refreshers trainings annually



Report Your Monitoring Results

Share data via

- ❖ Data nights
- ❖ Website
- ❖ Newsletters
- ❖ Radio spots
- ❖ Newspaper articles & news releases
- ❖ Regional data-sharing venue
- ❖ SWAMP database (??)

- Form partnerships with your data users
- Find out the kind of data relevant to river management agencies & policymakers
- Use your TAC



Contact Information..

SYRCL



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Don't forget to pick up your free copy of the

SYRCL Citizen Monitoring Manual

Available on CD