



# Channels

**5800  
Stream Teams  
Strong!**

Information for and about **Missouri Stream Teams** • July/August 2018

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## FRIENDLY REMINDER

If not previously reported, **PLEASE** send us last year's Activity Reports as soon as possible.

# START Water Quality Monitoring

By April Sevy, MDC Volunteer Water Quality Monitoring Coordinator

**F**or many of us, mentoring others comes as natural as tending to our favorite stream. It is an avenue to share knowledge and help others do what they love. Experienced Stream Team volunteers mentoring new volunteers is not anything new, but we thought it was time to have a framed mentoring program in place.

This year marks the 25<sup>th</sup> anniversary of the Volunteer Water Quality Monitoring (VWQM) Program and the first year of the Stream Team Advanced Reinforcement Training (START) Mentoring Program. This pilot run is for water quality monitoring in the St. Louis region.

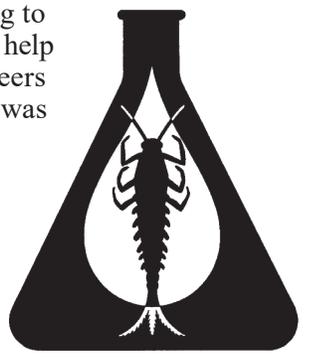
The START mentors consist of nearly a dozen hand-selected Level 3 VWQM monitors. These individuals consistently submit quality data and have proven time and again to be wonderful educators and Stream Team role models. These water quality monitors have maintained their training validation by attending a Level 2 workshop every three years and also attended a special START Mentor Training to ensure they were knowledgeable on any changes to protocols or equipment and familiar with common mistakes made in the field and on data sheets.

As of May 2018, there have been 11 START monitoring events hosted by START mentors. Any trained VWQM volunteer can register to attend one of these events. This is a great opportunity for a new monitor to get their feet wet and become familiar with monitoring protocols under the guidance of an experienced mentor.

Sometimes a new monitor is most nervous at their own site: how to get started, the best spot to sample macroinvertebrates, or finding the best stretch for measuring stream discharge. The mentors have that covered, too! After the Introductory workshop season, we had two new monitors contact Stream Team staff and request on-site assistance. We were able to send these calls out to the START mentors to see who would be nearby and available.

We are working closely with our mentors to develop this mentoring program into something that could eventually be used on a statewide level, but we will only be implementing it within the St. Louis Region at this time.

START mentors are available to provide assistance for monitors at any level of training. If you are at least Introductory trained and feel like you need help getting started, check out the online Stream Team calendar for scheduled START monitoring events. You may also contact VWQM staff to request guidance from a mentor.



## Water Quality Volunteer

**Did You Know ... ?**  
Continued on page 2



## Check out our new look!

By Kat Lackman, MDC Stream Team Biologist

The Stream Team website has a fresh new look and we hope it will make finding things a whole lot easier! The new design rolled out the first part of May and has been condensed and reorganized to provide a more user-friendly experience. Many of the page names and links have changed, so if you had any of your favorite resource pages bookmarked, please navigate to the new site to update your links. While cruising through the new site and exploring the content, we hope that you will enjoy the on-screen reading version of our *Channels* newsletter, Teams highlighted in photos throughout, and the overall crisper, cleaner layout. As always, if you have any questions about the new layout, please don't hesitate to contact us.

## Save the date!

Join us for the 22nd Annual Meramec Watershed Celebration at Meramec State Park in Sullivan, Picnic Shelter #2, 10:00 a.m. - 5:30 p.m. on Saturday, July 28, 2018.

**All Stream Teams are welcome to this family friendly event!**  
**Stream Team Awards**

**Meet fellow Stream Teams from around the state**  
**Tube on the Meramec (bring your own tube or borrow one of ours)**

**Canoe races/obstacle course**

**BBQ Potluck (bring a side dish to share)**

**Games and programs for kids**

**Celebrate the accomplishments of Missouri Stream Teams and the history of the Meramec Watershed**  
**See old friends and meet new ones!**

Free overnight camping is available 7/27 and 7/28 at group Campsite "C".

... that the strange stuff that may ...

Continued on page 3



## Monitoring Minute

By April Sevy, MDC Volunteer Water Quality Monitoring Coordinator

### WE'RE GOING TRANSPARENT!

On July 1, 2018, the Stream Team Volunteer Water Quality Monitoring program will begin accepting transparency data in centimeters (CM). Turbidity data measured in Nephelometric Turbidity Units (NTU) will no longer be accepted and any existing data in the data base will be converted to the new unit of measurement.

Transparency allows us to measure water clarity. A low reading of transparency indicates a large amount of suspended sediment or organic material in the water. This can be soil particles, algae, or decaying materials. Excessive sediment affects biological life and chemical parameters. For example, soil particles in the water absorb energy from sunlight, resulting in higher water temperatures. Depending on the clarity of the stream, a monitor may also see a change in nutrient levels as nitrogen, phosphorus, and heavy metals bind to soil particles which can enter a waterway with runoff and erosion.

Measuring water clarity is a general indicator of stream health and allows us to better extrapolate other data. Therefore, it's important for our program to convert to a unit of measure that is more broadly used.

By early July, currently active water quality monitors should receive a letter with a vinyl transparency tape to convert their existing turbidity tube into a transparency tube by placing the new CM sticker directly over the existing NTU sticker. The method of using the tube is the same. The only changes a monitor will notice are the parameter name and unit of measure. New chemistry data sheets reflecting this update can be downloaded from the Stream Team website. If you have not received a new CM sticker by mid-July or have not submitted data in the last two years but plan to monitor again in the future, please contact me at [april.sevy@mdc.mo.gov](mailto:april.sevy@mdc.mo.gov) or 573-522-4115 ext. 3593.

We look forward to seeing this new transparency data come in!



# Team Snapshots



*Team 5661 reported their first activity, picking up two bags of trash on a balmy December Day on Pomme de Terre River. Welcome aboard!*



*The Central Missouri Hellbenders (Team 5675) conduct velocity float trials while performing their first discharge monitoring on Flat Branch Creek in Columbia.*



*David Schlup of Team 3331 takes Stream Teaming to Macao Beach in the Dominican Republic while on a business trip. Awesome!*



*The St. Ann School Streamers (Team 4470) spent last winter doing monthly cleanups on Engelholm Creek and removing invasive bush honeysuckle. Thank you for your dedication!*

# The Riffle Review

a bi-monthly glimpse of Stream Team activities

Since our last issue of Channels, Stream Team members reported:

- 585 total activities
- 27.63 tons of trash collected
- 3,784 total participants
- 145 water quality monitoring trips
- 23,340 total hours
- 1531 trees planted

Check out more highlights below . . .

**Team 304** Bob Steiert is pleased to report his last water quality monitoring trip on the Little Blue River in Kansas City continues a multi-year string of water quality measurements since 1993, the beginning of the VWQM Program. Cheers to 25 years of dedication!

**Team 1351** Through multiple partnerships, the MU McDonald County Extension Stream Team hosted a two-day educational event with hands-on activities that familiarized 315 fifth graders with various components of a watershed and how they all function effectively together, focusing on the Elk River Watershed. What a great way to reach out to our youth!

**Team 2145** Cub Scout Pack 202 got an up-close and alarming lesson in river dynamics when Roubidoux Creek rose quickly during their cleanup after a heavy rain upstream, flooding the foot bridge and forcing participants to move to higher ground. Despite the surprise in rising water on a clear, sunny day, two tires and 22 bags of trash were collected.

**Team 2991** The Friends of Labarque Creek have been busy improving the habitat along Bone Creek, seeding, planting, and maintaining 525 trees planted this spring, all for the benefit of the Labarque Watershed.

**Team 3098** Before the Jewett 4-H students headed to the stream for water quality monitoring, the students built model watersheds with point and non-point pollution and added wetlands and riparian zones to see their effect on pollution concentration as the watershed received sprayed "rain." Neat way to put two-and-two together!

**Team 3713** The Dry Fork ACOA Team, along with several other Teams, participated in Conservation Day at the Capitol, advocating for the Stream Team Program and passing out information for the upcoming Paddle MO event. Thank you for using your voices to promote clean streams!

**Team 3917** Richelle Craig found challenges in participating in their summer cleanup last year as an expecting mother, but "coordinating an event after a few months is fulfilling. We make our cleanups a family event; we clean, enjoy nature, and clean up again!" she said.

**Team 4200** The Broken Bow Trash Baggers headed up this year's Pickup Boonville, bringing nearly 150 volunteers together on a cool spring morning to collect 126 bags of trash, 50 bags of recyclables, and eight tires throughout the river town of Boonville. Congrats on a successful cleanup!

**Team 4397** The Kimmswick Kleanup numbers are in! Sixty-two volunteers cleaned nearly three and a half tons from Rock Creek, filling two dumpsters full of trash and pulling 95 passenger tires, five truck tires, and 500 pounds of scrap metal.

**Team 5432** The Camdenton Middle School Capstone Team got a full day of watershed education including a presentation by DNR staff, a litter cleanup on Spencer Creek at Ha Ha Tonka State Park, and a macroinvertebrate monitoring demonstration. "It was a wonderful experience!" said Ashli Eaves.

... appear to be some kind of ...

Continued on page 4



# Big Creek Tire Round Up

By Chris Kempland, Stream Team 5667

In September 2017, a Lincoln County landowner reached out to her close family for help. She had received a notice from the local Department of Natural Resources informing her a neighbor found many used tires on their property that originated from her upstream property on Big Creek. These were tires placed in the bank by a previous landowner.

Every spring, the creek floods with normal rainfall, washing the tires out of the bank. The accelerated erosion is believed to have been caused by farming practices in which the earth was tilled too close to the stream's edge. This has caused the bank to destabilize, allowing erosion to occur and exposing tires with every rainfall.

Her family responded by reaching out to the Stream Team Program to determine the next steps. They formed the Rock Springs Stream Team 5667 and started planning an event to remove the exposed tires. The team was comprised of family and friends from as far as Alabama, as well as members of other local Stream Teams. Coordinating with Stream Team, DNR, and the



This handy crew worked to remove 266 tires from Big Creek in Lincoln County.

League of the Watershed Guardians (Team 5168), they developed a plan.

On a chilly day in late October 2017, the newly formed Rock Springs Stream Team gathered on the property to clean up the creek. Twenty individuals showed up at the banks of Big Creek with trucks, trailers, skid loaders, ATVs, and all of the nourishment required to put in a hard day's work and help out a dear friend and family member. They gathered to form a plan, handed out personal protective gear, and then the team went to work. The team plucked 266 tires from the creek and bank, loaded them onto a trailer, and stored them in an old barn to await transportation to a tire disposal facility. During the spring of 2018, another 16 tires were collected from various spot checks by the property owner. On May 12<sup>th</sup>, a small group of Team 5667 coordinated with the neighboring property owner to remove the tires he had collected. An additional 268 tires were snagged from the neighbor and hauled to the same location in the old barn. In all, 550 tires were collected, as well as various other pieces of debris, from the banks of Big Creek.

In an effort to minimize the further bank erosion, a bank stabilization project is now underway. Team 5667 obtained 600 trees and the tedious task of planting has begun. This will hopefully prevent the bank from eroding much more over the coming years.

## TEAM CALENDAR

### JULY

- 2 Greenway Network monthly board meeting, St. Peters. Call 636-498-0772 for more information.
- 6 Watershed Committee of the Ozarks monthly meeting, Springfield. Contact Stacy at 417-866-1127 to learn more.
- 10 Big Muddy Speaker Series, Rocheport. Visit [bigmuddyspeakers.org](http://bigmuddyspeakers.org) for more information.
- 11 Big Muddy Speaker Series, St. Charles. Visit [bigmuddyspeakers.org](http://bigmuddyspeakers.org) for more information.
- 12 VWQM Validation Workshop, Kirkwood. Register online at [mostreamteam.org](http://mostreamteam.org).
- 13-15 10th Annual Water Quality Monitoring Outing with Ozark Fly Fishers, Montauk State Park. Contact Scott at [swdarrrough@yahoo.com](mailto:swdarrrough@yahoo.com) to find out more.
- 14 50th Anniversary of Wild and Scenic Rivers – Eleven Point Cleanup, Greer Access. Contact Jennifer at [jenniferconnor@sierraclub.org](mailto:jenniferconnor@sierraclub.org) for more information.
- 14 LOWA Kayak Meetup, Lake of the Ozarks. Contact Donna at 573-434-4400 to RSVP.
- 19 VWQM Validation Workshop, Blue Springs. Register online at [mostreamteam.org](http://mostreamteam.org).
- 21 Rock Bridge Water Festival, Columbia. Contact Lynne at 573-886-4491 to learn more.
- 24 Big Muddy Speaker Series, Kansas City. Visit [bigmuddyspeakers.org](http://bigmuddyspeakers.org) for more information.
- 26 VWQM Validation, Workshop, Springfield. Register online at [mostreamteam.org](http://mostreamteam.org).
- 28 22nd Annual Meramec River Watershed Celebration, Sullivan. See page 2 for more details.
- 31 VWQM Validation Workshop, Jefferson City. Register online at [mostreamteam.org](http://mostreamteam.org).

### AUGUST

- 4 Bull Shoals Lake Cleanup, Kirbyville. Contact Ronna at 417-739-5001 for more information.
- 4 Mineral Fork Cleanup, Blackwell. Contact Carol and Paul at [sfltees@att.net](mailto:sfltees@att.net) to register.
- 7 Big Muddy Speaker Series, St. Charles. Visit [bigmuddyspeakers.org](http://bigmuddyspeakers.org) for more information.
- 11 LOWA Kayak Meetup, Lake of the Ozarks. Contact Donna at 573-434-4400 to RSVP.
- 14 Big Muddy Speaker Series, Rocheport. Visit [bigmuddyspeakers.org](http://bigmuddyspeakers.org) for more information.
- 15 Scenic Rivers Stream Team Association meeting, location TBD. Contact Ted at [tednpat713@gmail.com](mailto:tednpat713@gmail.com) for details.
- 25 Race for the Rivers, St. Charles. See page 7 for more information.
- 25 START Water Quality Monitoring, Defiance. Call April Sevy at 573-522-4115 ext. 3593 to register.
- 25-26 Operation Clean Stream, Meramec Watershed. See page 8 to learn more.
- 26 Tire Bash on the Big, Bonne Terre. Contact Brian at 314-606-0755 to learn more.
- 28 Big Muddy Speaker Series, Kansas City. Visit [bigmuddyspeakers.org](http://bigmuddyspeakers.org) for more information.

Remember to check online at [mostreamteam.org](http://mostreamteam.org) for changes and updates to the Team calendar!

... polluting orange slime may ...  
Continued on page 7

# Missouri Stream Team Activity Report

Stream Team Number \_\_\_\_\_

Team Name \_\_\_\_\_

Your Name \_\_\_\_\_

Shipping Address (no PO Box)

Is this a business address? Yes No

\_\_\_\_\_

\_\_\_\_\_

Home Phone (\_\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

Work Phone (\_\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

Email \_\_\_\_\_

Contact Person for Team \_\_\_\_\_

Is there a change in Contact Person? Yes No

Is there a change in Contact Person address? Yes No

If yes, new address \_\_\_\_\_

\_\_\_\_\_

Mail this Activity Report to:

MISSOURI STREAM TEAM  
PO BOX 180  
JEFFERSON CITY MO 65102-0180

We welcome your activity photos. They may be published in our newsletter or annual report. Thank you!



Please help save shipping costs. Ship to your office or school. **Activity Order** Supply Items Please allow 3 weeks for shipping.

These free supplies are for your Stream Team activities	Number requested
First Aid Kits (limit one per 5-10 participants)	
Litter Pickup Bags (green mesh 24" x 36")	
Litter Pickup Bags (red mesh 14" x 26")	
Work Gloves (adult size)	
Work Gloves (youth size)	
These free incentives are for your Stream Team volunteers	Number requested
Bookmarks (dragonfly)	
Bookmarks (spring peeper)	
Bumper Stickers (Quality Water, 3 1/2" x 9 1/4")	
Colorbook: Stream Team Most Wanted (Grade 4-6)	
Colorbook: Stream Team Superstars (Grade K-3)	
Mini-Buttons (Stream Team, 1" pins)	
Patches (Stream Team, Scouts only 3")	
Pencils (Get Into Missouri Streams)	
Post-it Notes (Stream Team, 3" x 4")	
Scratch Pads (Stream Team, 5 1/2" x 8")	
Stickers "Get Into Missouri Streams" (3" round)	
Stickers "I Love Missouri Streams" (3" round)	
T-shirts (Stream Team) Size Small	
T-shirts (Stream Team) Size Medium	
T-shirts (Stream Team) Size Large	
T-shirts (Stream Team) Size X-Large	
T-shirts (Stream Team) Size XX-Large	

For a full list of Thank You items visit [mostreamteam.org](http://mostreamteam.org)

### Activity Prize Drawing

The more activities you submit, the better your chances!

New prizes every three months!	Check one
If you would like to be included in our Activity Prize Drawing, please check the box at right and attach a list of participant names. Please print clearly.	<input type="checkbox"/>
	OR
Attention teachers and youth group leaders: For a youth group prize, please check the box at right. You do not need to include a participant list for group prizes.	<input type="checkbox"/>
	Youth Group Prize

If you order in advance, please don't forget to report your accomplishments AFTER your event.

## Activity Report

### Stream Team Activity 1

Activity Type (see codes at right) \_\_\_\_\_

Activity Date \_\_\_\_\_

Stream Name \_\_\_\_\_

Activity County \_\_\_\_\_

Activity Basin (optional) \_\_\_\_\_

Miles of River Covered (optional) \_\_\_\_\_

Count of Volunteers \_\_\_\_\_

Hours Spent on Project \_\_\_\_\_

**Measurement:** Please list number of trash bags collected, trees planted, letters written, storm drains stencilled, WQM trips, etc. See list at right.

**Location Description:** Please provide a detailed location for your activity. Example: 100 yds. downstream from Hwy. 63 bridge over Cedar Creek a mile south of River City. A good source for maps is at [www.usgs.gov](http://www.usgs.gov).

**Project Description:** Please describe your activity and include some fun facts. Example: "Held 4th annual litter pickup and picnic at Brush Creek, found an awesome antique bottle, removed 3 tires, saw an eagle!"

### Stream Team Activity List

Activity	Code	Measurement
Adopt-An-Access	AAA	New access adopted
Advocacy on stream issue	ADV	Number of events
Article written for publication	ART	Number of articles
Assisted MDC fish stocking	FIS	Number of events
Award received	AWA	Number of awards
Education project	EDU	Number of events
Forestkeepers monitoring	FOR	Number of trips
GPS reading	GPS	Number of trips
Grant applied/received	GRT	Number of projects
Greenway development	GRE	Number of projects
Habitat improvement	HAI	Number of projects
Letter written on stream issue	LET	Number of letters
Litter pickup	LPU	Number of litter bags
Media contact/interview	MED	Number of interviews
Monofilament recycling	MRP	Weight of line recycled
Other: please describe	OTH	Number of projects
Photo-point monitoring	PPM	Number of photos
Pre-activity planning	PLN	Number of events
Presentation to groups	PRE	Number of presentations
Rain garden/barrel, green roof	NPS	Number of projects
Recruited new Team/members	REC	Number of new members
ST Association activity	ASC	Number of events
ST display at school, fair, etc.	DIS	Number of events
ST Inventory Guide submitted	INV	Number of inventories
Storm drain stenciling	SDS	Number of drains marked
Stream access maintenance	SAM	Number of litter bags/events
Stream Team meeting	MTG	Number of attendees
Stream Team mentoring	MEN	Team mentored & events
Stream workshop attended	WKS	Number of attendees
Streambank stabilization	SSP	Number of projects
Tree planting	PLT	Number of trees
Water quality monitoring	WQM	Number of trips
Watershed mapping	WAT	Number of trips
Zebra mussel monitoring	ZEB	Number of trips

Report more activities on back!

# Missouri Stream Team Activity Report continued

## Stream Team Activity 2

Activity Type (see codes at right) \_\_\_\_\_

Activity Date \_\_\_\_\_

Stream Name \_\_\_\_\_

Activity County \_\_\_\_\_

Activity Basin (optional) \_\_\_\_\_

Miles of River Covered (optional) \_\_\_\_\_

Count of Volunteers \_\_\_\_\_

Hours Spent on Project \_\_\_\_\_

**Measurement:** Please list number of monitoring trips, bags of trash collected, letters written, trees planted, storm drains stencilled, events held, etc. See list at right.

\_\_\_\_\_

**Location Description:** Please provide a detailed location for your activity. Example: 100 yds. downstream from Hwy. 63 bridge over Brush Creek a mile south of River City. A good source for maps is at [www.usgs.gov](http://www.usgs.gov).

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Project Description:** Please describe your activity and include some fun facts. Example: "Held 4th annual litter pickup and picnic at Brush Creek, found an awesome antique bottle, removed 3 tires, saw an eagle!"

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Stream Team Activity 3

Activity Type (see codes at right) \_\_\_\_\_

Activity Date \_\_\_\_\_

Stream Name \_\_\_\_\_

Activity County \_\_\_\_\_

Activity Basin (optional) \_\_\_\_\_

Miles of River Covered (optional) \_\_\_\_\_

Count of Volunteers \_\_\_\_\_

Hours Spent on Project \_\_\_\_\_

**Measurement:** Please list number of monitoring trips, bags of trash collected, letters written, trees planted, storm drains stencilled, events held, etc. See list at right.

\_\_\_\_\_

**Location Description:** Please provide a detailed location for your activity. Example: 100 yds. downstream from Hwy. 63 bridge over Brush Creek a mile south of River City. A good source for maps is at [www.usgs.gov](http://www.usgs.gov).

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Project Description:** Please describe your activity and include some fun facts. Example: "Held 4th annual litter pickup and picnic at Brush Creek, found an awesome antique bottle, removed 3 tires, saw an eagle!"

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Stream Team Activity List

Activity	Code	Measurement
Adopt-An-Access	AAA	New access adopted
Advocacy on stream issue	ADV	Number of events
Article written for publication	ART	Number of articles
Assisted MDC fish stocking	FIS	Number of events
Award received	AWA	Number of awards
Education project	EDU	Number of events
Forestkeepers monitoring	FOR	Number of trips
GPS reading	GPS	Number of trips
Grant applied/received	GRT	Number of projects
Greenway development	GRE	Number of projects
Habitat improvement	HAI	Number of projects
Letter written on stream issue	LET	Number of letters
Litter pickup	LPU	Number of litter bags
Media contact/interview	MED	Number of interviews
Monofilament recycling	MRP	Weight of line recycled
Other: please describe	OTH	Number of projects
Photo-point monitoring	PPM	Number of photos
Pre-activity planning	PLN	Number of events
Presentation to groups	PRE	Number of presentations
Rain garden/barrel, green roof	NPS	Number of projects
Recruited new Team/members	REC	Number of new members
ST Association activity	ASC	Number of events
ST display at school, fair, etc.	DIS	Number of events
ST Inventory Guide submitted	INV	Number of inventories
Storm drain stenciling	SDS	Number of drains marked
Stream access maintenance	SAM	Number of litter bags/events
Stream Team meeting	MTG	Number of attendees
Stream Team mentoring	MEN	Team mentored & events
Stream workshop attended	WKS	Number of attendees
Streambank stabilization	SSP	Number of projects
Tree planting	PLT	Number of trees
Water quality monitoring	WQM	Number of trips
Watershed mapping	WAT	Number of trips
Zebra mussel monitoring	ZEB	Number of trips

## Additional notes and information

Notes \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**If you ordered supplies in advance, please don't forget to report your accomplishments AFTER your event. The Stream Team Program needs your final results!**

**Questions?**  
**Need help getting started?**  
**Please contact us at:**

Phone: 1-800-781-1989 (voicemail)  
 Email: [streamteam@mdc.mo.gov](mailto:streamteam@mdc.mo.gov)  
 Website: [www.mostreamteam.org](http://www.mostreamteam.org)  
 Facebook: [www.facebook.com/mostreamteams](http://www.facebook.com/mostreamteams)  
 Fax: 573/526-0990



**Thank you for volunteering to help Missouri's waterways.**

## Activity Prize Drawing

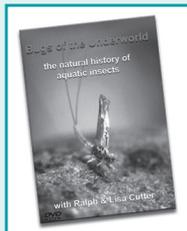
### 1st Quarter Prize Winners

- ★ Dennis Sullivan – De Soto, MO  
Team 401 – Joachim Stream Team
- ★ Dan Childress – Eminence, MO  
Team 941 – Alley Stream Team
- ★ Tom Heitman – Eolia, MO  
Team 1313 – Jake's Snakes
- ★ Tom Mazurek – De Soto, MO  
Team 1995 – De Soto Car Shop
- ★ Michael Hey – Ballwin, MO  
Team 4913 – Trout Unlimited Gateway Chapter
- ★ Stephanie Virgen – Washington, MO  
Team 5403 – Virgen Stream Team
- ★ Josh Stevens – Fulton, MO  
Team 5625 – Smith Creek Tributary Caretakers

Please keep sending us your Activity Reports . . .  
**YOU might win NEXT!**

### 3rd Quarter Prizes

- ◆ Pelican Intrepid 120 Kayak
- ◆ Cuisinart 3-piece grill tool set
- ◆ Better Homes & Garden Outdoor Candle 3-pack
- ◆ Outdoor First Aid Kit
- ◆ Pennington Cedar Bird Feeder
- ◆ Lodge Cast Iron Dutch Oven
- ◆ Youth Prize: Bugs of the Underworld DVD



# What is that Orange Slime?

By Sarah Wright-Aholt, Stream Team 168

If you spend time near Missouri streams you have probably seen the slimy orange puddles that seem to be oozing out of the soil or in the water. These slicks can look greasy or feathery and are often topped with a rainbow sheen. This strange stuff is not an oil leak or spill, it is a natural occurrence and very common.

These orange formations are caused by bacteria that are oxidizing, or fixing, the iron that naturally occurs in soil. Iron is one of the most plentiful minerals found in the crust of the earth. Often rain or groundwater can cause some iron to leach out of the soil. When it leaches out, the bacteria find it. These iron fixing bacteria get energy by oxidizing ferrous iron into ferric iron ( $Fe_2 \rightarrow Fe_3^+$ ). This oxidizing process leaves a rust colored precipitate. Couple that with the mats of long stringy bacteria, and this is quite a show.

But it gets better! The surfaces of these mats often have a metallic rainbow sheen similar to oil. However, if you use a stick or rock to break the sheen, you will find it will break apart, indicating it is organic, not oil. Organic film will crack, almost looking like stained glass while oil will swirl back together. At times this blob will have a strange odor, but that too is normal.

Iron-fixing bacteria have been around for millions of years. These bacteria pose no threat to aquatic species. At times, these bacteria will be found growing in drinking water wells and will cause a nuisance. However, the U.S. Environmental Protection Agency does not consider these bacteria as a drinking water contaminant.

So what do you do about these strange blobs? The best advice is to let nature take its course and enjoy the orange shows for the amazing natural occurrences that they are.



*Iron-fixing bacteria can be alarming to encounter but is a natural occurrence in and near streams.*



**Race for the Rivers Featuring Bass Pro Outdoor Days**

**Frontier Park, St. Charles, MO**

**Saturday, August 25**

**10:00 a.m - 5:00 p.m.**

**Come out for a full day celebration of the Missouri River and clean water.**

**Canoe/kayak race**

**Katy Trail Ride**

**Art on the River**

**Music festival**

**Food and beverages**

**Free canoe rides in the big canoes**

**Hands-on activities**

**On-shore kayaking in Kayak Cove**

**Lewis and Clark encampment**

**(including a rare chance to see the keel boat on the water)**

**Missouri turtles**

**Native fish aquarium and fishing demos**

**Kids and family rest area, and much, much more!**

... actually just be ...

Continued on page 8



# 51st Annual Operation Clean Stream

August 25 & 26, 2018

9:00 a.m. to 5:00 p.m.

Operation Clean Stream will take place at various locations throughout the Meramec Watershed. Join us as a volunteer this year as we celebrate 51 years of improving local rivers and open spaces! Register online at [openspacestl.org/ocs/](http://openspacestl.org/ocs/).



## COALITION CORNER

News from Stream Teams United

### WE WANT YOUR INPUT – TAKE THE ALL-STREAM TEAM SURVEY

Stream Teams United is asking all Stream Team volunteers to take a short online survey. In 2018, we are updating our goals for education, advocacy, sustainable funding, and technical projects for our organization, and we want to hear from you. The survey can be found online at <http://mstwc.org/survey/> and will be available until July 29. It should only take 5 to 10 minutes to complete, and you will be entered to win a double-walled stainless steel water bottle with the Stream Teams United logo. Don't wait – go online and take the survey today!

### HAVE YOU SEEN THE NEW VOLUNTEER DATA SUMMARY REPORT?

Stream Teams United is pleased to announce the availability of the new *Missouri Stream Team Volunteer Water Quality Monitoring Data Summary Report*. This report summarizes the water quality data collected by Stream Team Volunteer Water Quality Monitors across the state from 1993-2016. The report can be viewed on the Stream Teams United website at <http://mstwc.org/whats-happening/stream-reports/>.

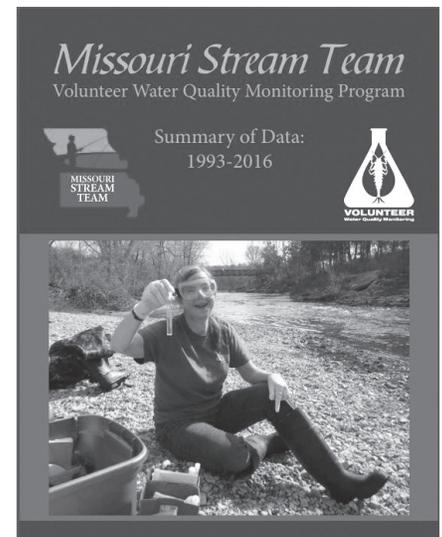
In 2011, the first data summary report was completed, which compiled and analyzed volunteer data from 1993-2010. The 2018 report includes an additional six years of data and includes analysis of water chemistry samples at 627 sites and macroinvertebrate monitoring at 413 sites across the state.

For this report, data were used from sites that were sampled at least four years for invertebrate data and at least three years for water chemistry data. To be included, invertebrate samples required all three net sets and water chemistry data required a minimum of five monitoring events over a span of any three years. The results are summarized and interpreted for each of 13 regions of the state. In total, the report compiles and summarizes data from over 40,000 sampling events!

This effort was made possible through the compilation and interpretation work of University of Missouri Senior Research Associates Dan Obrecht and Tony Thorpe, guidance from the Missouri Stream Team Program, and funding by the Missouri Department of Natural Resources.

Thank you to all the Missouri Stream Team volunteers who collect and submit data for your adopted stream. Your data are very important in providing knowledge about the water quality of streams in Missouri.

If you have not yet seen the new summary report, check it out at <http://mstwc.org/whats-happening/stream-reports/>.



... iron-fixing bacteria?  
See page 7 to learn more about iron-oxidizing bacteria!