



# THE SMALLMOUTH HORIZON

*Helping to Protect and Preserve Quality Smallmouth Bass Fishing*

July 2015

## Fireworks leave their colors behind

by Jim Carrier

As Madison enters another season of holiday fireworks, the silence over their pollution is deafening.

Exhausted by the fight over Rhythm & Booms, stymied by the stonewalling of fireworks companies and lack of data over environmental effects, and driven by patriotism and tradition, Madison will host another big fireworks show as if the residue issue has disappeared.

But the heavy metals that give us the bright colors have not. These include strontium red, titanium silver, aluminum white, copper blue, barium green, potassium violet, sodium blue, etc.

Fireworks are made up of fuel, oxidizers and salts of those metals — copper chloride and strontium carbonate are two examples. According to Ken Kosanke, a Ph.D. chemist from Colorado, publisher of the *Journal of Pyrotechnics* and author of "The Illustrated Dictionary of Pyrotechnics," 5 to 15 percent of fireworks by weight are the metal salts. Depending on the molecule and atomic weight of the metal, one-third to one-half of those salts are the metals.

As we watch Shake the Lake this weekend, the colors will be created when electrons in the atoms of metal are "excited" by the heat. The light comes as the electrons release this excess energy and return to their normal, or ground, state.

While the salt molecules and much of the rocket burn up, the metal atoms do not disappear.

That means that for every ton of fireworks shot over our lakes, somewhere between 33 and 150 pounds of heavy metals fall into the water. A de-

finite calculation would require chemical details from fireworks contractors, who refuse to provide them. They call it proprietary information.

According to published reports, Rhythm & Booms exploded approximately five tons of fireworks in each 30-minute show. Each show, then, deposited 165 to 750 pounds of heavy metals. Thus, in its 20 years, Rhythm & Booms deposited 3,300 to 15,000 pounds of heavy metals in Warner Park's wetland.

A Volkswagen Beetle, a popular standard for weight comparison, weighs 1,900 pounds.

So, in its 20 years, Rhythm & Booms deposited the equivalent of two to eight VW bugs into Warner's wetland. A Harley-Davidson Street 500 motorcycle weighs just under 500 pounds. Put another way, in 20 years, Rhythm & Booms deposited the equivalent of seven to 30 motorcycles into the public waters of Madison.



*Photo by Andrew Choy*

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When I ran these calculations by Michael Hiskey, a former Los Alamos National Lab chemist and current professor at the University of Colorado in Colorado Springs, he called them “pretty close.”

“Different colors and effects will have varying metal contents, of course,” he wrote. “Chinese fireworks, which are used the most worldwide due to the low cost, are the worst offenders, containing arsenic, mercury and lead. You have to put this in perspective though, as a typical coal-fired power plant emits a lot more heavy metals on a daily basis (including ra-

dioactive metals) than a typical fireworks display does.”

We heard this from Madison health officials — that street runoff contributes far more pollution than fireworks. I find this argument specious, as if to say, what’s a little more in a dirty lake? We’ll see June 27 as we “shake” Monona, and July 4 on Mendota as Maple Bluff celebrates the Fest on the Fourth.

*Jim Carrier is a science journalist and co-founder of Wild Warner. This article originally appeared in The Cap Times.*

# Gathering for Steve Winters

Nancy Winters, along with John and Melissa, is hosting a party to celebrate Steve’s life. Steve wanted his friends to get together one last time and have some food and drinks on him. This gathering is taking place on August 1st from Noon to 5:00 P.M. at S2606 Coon Bluff Road, Reedsburg, WI 53959.

If you can stop by for a short time (or the entire time), they would love to see you. If you think you might go, please reply to Nancy at [ncarolwinters@gmail.com](mailto:ncarolwinters@gmail.com) with a quick yes, no, or maybe, so she can plan the food.

She is looking forward to seeing us all.



*Mike Simon with a short nosed gar, one of the many bonus species that Wisconsin River anglers can occasionally catch. He and Bob Harrison were fishing with Kyle Zemple, of Black Earth Angling.*

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Articles, photos, and calendar events for the newsletter are encouraged and should be submitted by the 1st day of the month to: Dan Johnson, 426 Glenway St. Madison, WI 53711. Send to: [johnson7@tds.net](mailto:johnson7@tds.net), editor.

# Spring 2016

## FLY FISHING OPENER



Special Thanks: Dave Whitlock, Illustration

### SATURDAY, FEBRUARY 13, 2016



SPONSORED BY THE BADGER FLY FISHERS,  
MADISON, WI • [www.badgerflyfishers.com](http://www.badgerflyfishers.com)

8:00 A.M. – 5:00 P.M. plus evening banquet



#### ATTRACTIONS

- Commercial exhibits of the latest and finest in fly fishing equipment
- Raffles, and lively auction
- Fly tying demonstrations

#### LOCATION

American Family Insurance  
Training Center Bldg. A  
6000 American Parkway  
Madison, WI

Use Surface Parking Lots  
1 or 2

#### FEATURED SPEAKER

**Gary Borger** – Noted fly fishing expert and author

## Our Next Meeting:



## Upcoming Events:

**August 1<sup>st</sup>**

Gathering for  
Steve Winters

**October 20<sup>th</sup>**

WSA monthly meeting  
Ted Peck - Fall fishing  
on the Mississippi

**September 15<sup>th</sup>**

WSA monthly meeting  
Ron Barefield  
Fishing the Mississippi

Wisconsin Smallmouth Alliance meetings are normally held on the third Tuesday of each month. The Badger Fly Fishers meet on the fourth Monday.

Both groups meet at the Mapletree Restaurant on Highway 51, in McFarland, Wisconsin. Programs begin at 7:00 p.m., dinner at 6:00 p.m. **Visitors and guests are always welcome!**