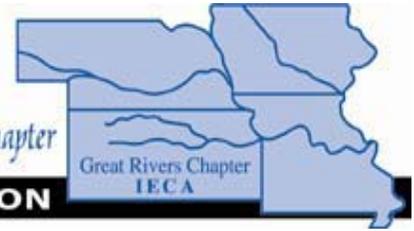




Great Rivers Chapter



INTERNATIONAL EROSION CONTROL ASSOCIATION

A Newsletter For Members and Friends of the Great Rivers Chapter of the International Erosion Control Association

Summer 2010

NEWSLETTER

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Seven years ago, a small but determined cadre of volunteers embarked on the Iowa Department of Natural Resources' fledgling river cleanup event called Project AWARE (A Watershed Awareness River Expedition). Since that time, thousands of people have volunteered for the weeklong river cleanup event, trading in luxurious vacations to far-off destinations for mud, sweat, trash, and adventure right here in Iowa.

This year's expedition, scheduled for July 10-17, will focus on over 100 miles of the West and East Nishnabotna rivers in southwest Iowa. Volunteers participate by paddling down the river in a canoe or kayak and cleaning up river trash along the way. A limited number of canoes are available for those who need them, and opportunities for land-based volunteers are also available. While the expedition itself lasts an entire week, volunteers may stay and help for as little or as long as they like.

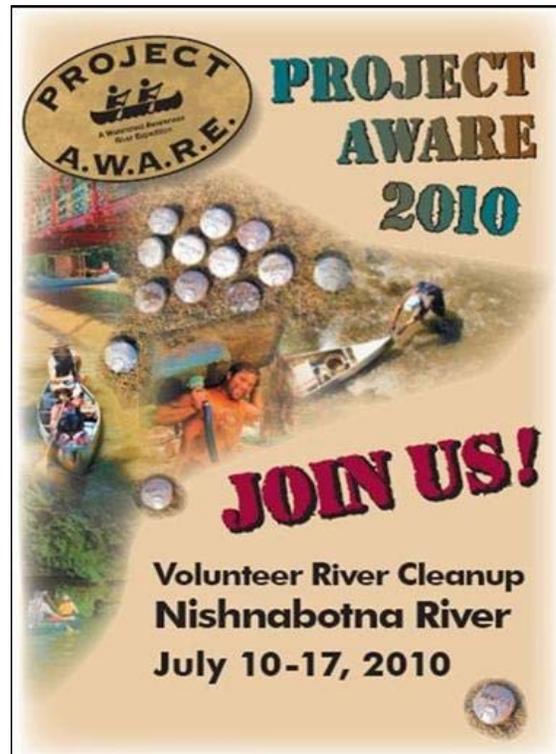
Even though it can be dirty, smelly, and exhausting, Project AWARE is one

of the most meaningful and rewarding efforts Iowans can ever experience. In addition to river cleanup, Project AWARE also offers a unique blend of educational programs and demonstrations, volunteer camaraderie, camping, and other outdoor recreation opportunities that enrich the experience.

In the seven-year history of Project AWARE, the expedition has achieved nationally recog-

nized results: 1,500 participants, 497 sponsors, over 500 river miles, and 1,700 cubic yards of trash (with a recycling average of 72 percent). Volunteers have also restored native prairie, renovated trails and enhanced recreational areas.

For more information on this event and to download the registration materials, please visit www.iowaprojectaware.com



Message from the President



While I usually get to use the “president’s message” as my own little soap box to talk about...well whatever seems to be affecting the chapter most at that time, and usually that revolves around the weather. So I get to write a short message complaining about too much rain, not enough rain, etc... and though I am sure that it will be greatly missed I have a few other pressing topics that need to be addressed in this message. But don’t worry, hopefully I will get back to my standard bloviating in my next message.

I have a few quick plugs to get out of the way before I move on. First, the save the date flyers for our annual fall conference and expo were sent out a few weeks ago. Through our partnership with the City of Omaha we are reaching out to a bigger audience than ever before. The wealth of experience and knowledge that the City has been able to bring to the table is making this a remarkable experience for us on the planning side but also translating to one of the most amazing shows in content, venue and speakers that we have ever been able to provide. We are getting very excited as we move closer to the date so please mark your calendars and forward the save the date flyer to as many people as you can. We are working vigorously to get the registration out as soon as possible, so keep an eye out for that and help spread the word.

I also wanted to take this opportunity to mention a couple of ways we are trying to reach out to our chapter membership that you may not have heard about. First of course is that we have this newsletter, which is a great place for us to put out useful and relevant information. If there are topics that you would like to see added or have some article ideas please feel free to contact myself or any of your Board members listed at the end of this newsletter. We also have our chapter blog and website, these are both great venues to post more current topics and issues that we feel need to be addressed. Finally the newest and definitely easiest for us to keep up to date with current information is our Facebook page. This really has turned out to be a great place for us to post up to the moment relevant chapter information, dates, events, and updates in addition to the great photos and comment boards. Please take some time to check out the page and become a fan, it really is the best way to keep your finger on the pulse of what’s going on in the chapter.

Finally I wanted to take a little of your time to say thank you. I would like to thank Board member DeDe Vest. After years of dedicated service to the IECA Great Rivers Chapter and the Board of Directors DeDe decided not to seek re-election when her three year term was up. In DeDe’s terms she stepped aside in order to bring in some new blood to the Board. Although I understand and respect her wishes, the tremendous contributions and experience DeDe has brought to the Board over the years will be greatly missed. That being said I would like to welcome our newest Board member Dean Matoon. You will be able to read Dean’s bio below. We look forward to working with Dean and are confident that he will be able to bring a lot to the table. And a huge thank you to our two board members that decided to serve for another term J.B. Dixon and Darice Baxter. As DeDe had mentioned, it is important to cycle through new leadership on a regular basis but it is equally as important to retain the talent and experience that has helped shape our board, if for no other reason than to train the next group of volunteers. We will be having our officer nominations and elections at our next Board meeting scheduled for July, so look forward to hearing about that in our next newsletter or on our website, blog, and Facebook page.

Until next time, stay dry, stay safe and keep your mud on your OWN sites.

Thank you for the opportunity to serve,
Thomas M. Wells, CPESC, CISEC
IECA Great Rivers Chapter President

A handwritten signature in blue ink that reads "Thomas M. Wells". The signature is stylized and cursive.

New Board Member — Dean Mattoon

Dean Mattoon is an Engineering Technician for the City of Dubuque. Originally starting his career as a mechanical designer, he quickly changed gears into the world of civil engineering as an Engineer's Assistant for Palo Alto County, Iowa. There he performed survey work, and was certified through the Iowa D.O.T. for aggregate, concrete, and asphalt testing and inspection.

In the spring of 2002, he moved to the Dubuque area and starting working for the City Engineering Department, performing aggregate and concrete testing, and working with Geographical Information Systems. With a love for the environment, he quickly became interested in stormwater as the City's first MS4 permit became active in 2005. Since that time, Dean has attended numerous stormwater workshops, as well as presented at their own annual Low Impact Development conferences.

In 2008, Dean became one of 8 people certified in the State of Iowa as a certified erosion, sediment, and stormwater inspector through the Envirocert Organization. Along with helping in all aspects of the six minimum control measures of the MS4 permit, which includes work as the primary inspector, Dean created an electronic database for tracking permit compliance. This database utilizes GIS / GPS technology for visual and inspection capabilities and Microsoft Access for its storage and record creation functions. In his spare time, Dean loves to hike, read, sing, and play the guitar.

Meet Your Board Member — Sara Drake, EIT,

Sara is an erosion control specialist at Carter Waters LLC. Sara's primary job responsibility is to assist Carter Waters' salespeople on geosynthetics and erosion control products. She also provides technical support to engineers, municipalities, and contractors on geosynthetics and erosion control related problems. She has been in the erosion control industry since 1997.

Sara received a B.S. in Civil/Environmental Engineering from South Dakota State University in 1997 and an M.S. degree in Engineering Management from the University of Kansas in 2006. She received her Certified Professional in Erosion and Sediment Control (CPESC) certification in 2003. She is

also an approved instructor for Envirocert International, Inc. to teach the CPESC tutorial.

Sara has served on the Great Rivers of IECA since 1998 as a board member and treasurer. She is also an active member of the Kansas Contractors Association.

Sara is married to her husband, Loren Weeks. Sara enjoys spending her free time personal training and teaching fitness classes at the YMCA. In the summer, she also enjoys sitting by the pool reading a book.



Sara Drake, a long serving Board Member for the Great Rivers Chapter.

The Sediments Stops Here

ELGs from a Monitoring Perspective

By Rebecca Kauten, MPP, CPESC-IT

Effluent Limitation Guidelines, or ELGs, are taking effect via EPA and state regulatory agencies because the water that leaves your construction site has an impact on both the human and non-human species downstream. Regardless of whatever BMP you select as part of your erosion/sediment control, dewatering or active/passive filtration system on your site, there are some basic parameters to keep in mind as factors of overall water quality and the health of an aquatic habitat. The key parameters, in general, for stormwater tend to include sediment, a series of metals, nutrients and bacteria. For the sake of construction and pending regulations, the focus tends to be on sediment.

The other parameters, particularly metals, tend to require sophisticated, often costly methods of both collection and analysis. And even with the pending ELG rules, there are some folks promoting the use of turbidimeters and other advanced sampling and monitoring methods as a way to gather data.

The goal of this article is to provide some background information on why certain methods of treatment exist and ways to collect the best data from whatever BMPs you choose to incorporate with your construction site. Flocculants, polymers and other sediment removal systems are emerging as options in the construction market. Some things to note about flocculants: they were originally developed for the wastewater treatment industry. As you may be aware, wastewater plants often have multiple lagoons or settling ponds. These are to enable secondary and tertiary treatment of the wastewater prior to its eventual discharge to a nearby water resource.

The wastewater treatment cycle is a pretty complex process. Because of the eventual discharge into local waters, wastewater treatment professionals are required by law to run a number of tests on the water as it moves through the system – and adhere to established water quality standards for the samples they test. And these wastewater treatment professionals often have to earn and maintain certifications in order to run what are often lab-based tests.



Will the construction industry eventually evolve into a field-based version of wastewater treatment? It's hard to say. If we are looking to implement the same level of sophistication in sediment control, we better also be prepared to include a high level of performance monitoring and site evaluation. At the moment, no regulations are requiring this of construction sites. What we need to achieve is a higher level of accountability – someone out on that construction site paying attention to where the water goes when it rains, what might be in it and how the nearby lake or stream might possibly be impacted by whatever could come off that construction site. I firmly believe that until there are treatment and monitoring requirements comparable to the wastewater industry, folks should become more familiar with basic tools, basic information and learn the fundamentals of both why monitoring is a valuable practice – and what it is we should be looking for when we collect data. In the end, the time and dollars spent on this data will end up a more



Spring Workshop brings together JobPoint Students & City of Columbia, Mo.

The list of attendees at the 2010 Great Rivers Chapter Spring Workshop included several young men participating in an innovative professional development program. The City of Columbia, Missouri has partnered with JobPoint, an organization focused on training men and women for the workforce. The City partnered specifically with the JobPoint program for construction site management as a way to provide specialized training and experience for the young men and women enrolled in the program who are interested in pursuing careers in the construction industry.

Mike Heimos, stormwater education and outreach coordinator for the City of Columbia, helped coordinate the Spring Workshop with IECA and also serves as a liaison for the City with the JobPoint students. "I am very excited to see where this program is going," said Heimos. "What a great opportunity to have these kids take part in the workshop and learn about an industry in which many of them hope to work – in the not too distant future."

Throughout the day many of the students were asking questions about terminology used during the workshop. Seated in the front row of the room, many were actively engaged in the presentations and discussions. At the end of the day, one of the adult supervisors with the group commented that our workshop was one of the best training sessions he can remember their group attending.

Heimos is very excited about the potential for future partnerships between the City of Columbia stormwater education program and JobPoint. "I see nothing but good things coming from this," he said. "We're working to train tomorrow's construction and erosion control professionals today through a well-established program dedicated to quality job training. No matter how you look at it, we all can win from this."

Since 1965, JobPoint has worked to link people and jobs by providing career planning and job placement assistance. The organization specializes in preparing individuals to enter the workforce, while meeting a critical need of the business community. The organization is headquartered in Columbia, Missouri, with locations in Jefferson City, Fulton, Wright City and Marshall. For information about programs, services and locations please call 573/474-8560 or visit www.jobpointmo.org.

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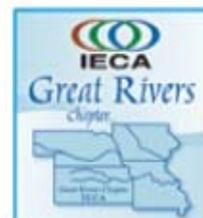
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ELG's continued

sound investment than if we run out and purchase fancy equipment we barely know how to operate, let alone maintain.

As you may know, EPA chose the Nephelometric turbidity unit, or NTU as the unit of measurement for the ELG ruling. There is debate as to whether or not NTU is the proper metric. Other options could be to measure suspended sediment concentration (SSC), total suspended solids (TSS), and turbidity to name a few.

TSS was originally intended as an analysis of wastewater – and was never intended as a measurement of surface water concentrations. Suspended Sediment Concentrations is a more reliable analysis, but again, requires lab-based testing versus field-based analysis..

NTUs determines the amount of light that is defracted by particles suspended in the water, and is often considered a surrogate measurement for water clarity. While also often a measurement taken in a lab setting, NTU readings can be generated from field samples too.

So why didn't EPA go with SSC? It could be because the tests to determine SSC are highly dependent on individual watershed conditions and, again, are rather labor-intensive measurements. This leaves NTUs and turbidity.

So with ELGs around the corner, many people are wondering whether or not to go out and buy a turbidimeter? And if so, what kind is the best? A standard response for the time being is "make sure that's what you are prepared to do for your monitoring before you make the investment." Using a turbidimeter and relying on its data for monitoring records requires more than just the basic knowledge of how to turn the meter on and off. The meters require calibration by formazin or proprietary standards. Different instruments produce different numbers – sometimes because they are calibrated to different standards – you want to make sure your instrument is calibrated to generate NTU measurements. Most are, but it's important to make sure you get one that does. Not all turbidimeters are alike.

EPA does accept the use of a calibrated turbidimeter for field-based NTU measurements. However, science and academia still debate as to whether or not this is the proper measurement for construction sites.

Some schools of thought look to the secchi disk or even an all-black disk as a way to measure water clarity. The secchi disk is one of the most basic methods, but it also has its problems. For starters, reading the disk is highly dependent on the level of sunlight (ambient) light on the day and time the measurement is taken. If you are out taking a secchi reading on a cloudy day– say, after a 1.25 inch rain– the light itself could skew your data. This is where the all-black disk becomes a more reliable too. Rather than looking for both black and white colors through water, one looks only for the color black – which is not dependent upon light refraction at all.

There are challenges that come with the black disk, however. Current methods are a bit cumbersome and, once again, impractical for use on an active construction site. Still, I believe there will be attempts to make this measurement a more practical solution for rapid, field-



based monitoring that is needed for construction sites.

The black disk still has yet to be a practical solution for field-based monitoring on construction sites. However, due to the reliability of the data generated via this method, there should be technological advancements in the coming years to enable this as a more practical, field-based solution. Until then, we are left with the NTU unit of measurement, but also measurements of visual clarity by means of a secchi disk. Several states are listing secchi or transparency tube readings as an acceptable surrogate for NTU measurements when no other reliable method of measurement is available. And believe it or not, in spite of the lack of a direct relationship between NTUs and visual clarity, the transparency tube measurement may be considered a more reliable measurement due to its ease of use.

In the IOWATER volunteer water monitoring program we use a 60 centimeter transparency tube to document water clarity in Iowa. This is a basic indicator of water clarity and can be used for the purposes of gathering basic water quality data as a means of understanding the overall makeup of a nearby lake, river or stream. It is relatively easy to use and has a very little margin for operator error. You either see the disk or you don't.

The University of Wisconsin Extension has devised a rough guide to connecting the centimeter measurements to NTUs based on a mathematical calculation. I tend to encourage construction site monitoring professionals to refer to this as a basic guide for measuring water clarity. However, this chart is an arbitrary calculation. To truly know the measures of water clarity by means of this calculation, many more factors within each watershed that is monitored need to be taken into account. However, as a rapid assessment tool, it gets you close to the mark and serves as a way of quickly tracking trends. If all of a sudden you take a reading that appears well above or below what you normally measure, it may be time for more sophisticated analysis. However, for the time being and to get folks started taking data, I suggest this as the "rugged" method of monitoring.

My suggestion to those unfamiliar with monitoring at all would be to start out by gathering data from a transparency tube. This is probably the least expensive and user friendly method of collecting water quality data. Secondly, the measurements can at least get you a baseline understanding of the conditions when you conduct your weekly site inspections. Is it the hardest science available for measuring turbidity levels? Probably not. But does it get you close enough to the mark to start making decisions about what to do about your runoff? I think so. Until there are more defined requirements, my suggestion is get yourself some good data from reliable, relatively inexpensive and user friendly sources.

EPA's Effluent Guidelines are not taking effect for some time. Some of you may have recently heard from Region VII that this means there isn't a whole lot that is necessary at this stage of the game. I tend to see this more as the time to prepare for what is to come, and get yourself acquainted with both the act of monitoring and recording data as a means of understanding how your site functions – and possibly impacts downstream communities. And if you head into the first phase of ELG enforcement and already have a robust data set, chances are your audits and or inspections may be more positive in the long run.

Because of the pending ELG regulations, sediment is by far the focus for stormwater monitoring. However, other parameters come into play on the construction site too. We just don't have any set administrative rules or regulations to require monitoring for these at this point. For example: pH is a reading that I would



Inside Story Headline

recommend taking anywhere your liquid from concrete runoff might come into contact with eventual discharge from your site. Also, Dissolved Oxygen, combined with pH readings, would be a good thing to measure if you end up using a flocculant or polymer in any sediment basins on your site. Just because the water is clear does not necessarily mean it is safe for fish or other aquatic life. Sediment basins can also cause temperature spikes – particularly on hot days or when the water has been idle for an extended period. When ponds are designed to have outflow systems, many tend to have the drain come from the bottom. However, because sediment basins are by definition meant to have heavier particles “settle” to the bottom, this is a poor option for dewatering. Basin skimmers tend to take water from the top of the pool. However, depending on how shallow the water is, this may be warmer water, and a cause for a thermal spike at the discharge zone. Hydrocarbons, organic compounds and metals are cause for concern in areas prone to spills or use of heavy machinery. Often these are more of a factor in the post-construction water monitoring world, but it is wise to be aware of the fact that your construction site could also be a source of these contaminants.



If I were inspecting a site today and wanted to include some water monitoring as part of my weekly visit, these are the three tools I'd have in my toolbox. I'd also go get certified by a citizen volunteer monitoring program in my state and use the equipment I get, the data sheets that are available on their website, and include this information in my SWPPP. ELG regulations don't necessarily have to be a scary, stressful thing to work through. And there are some basic tools available to really give you a fair assessment of your site. That way, once there are more specific guidelines from EPA, DNR or your local regulatory body, you've at least got a head start on some decent data.

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