



Spring Brook Creek stream restoration at Blackwell Forest Preserve in Wheaton.  
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## LETTER FROM THE PRESIDENT

Dave Gorman

Since our formation in 2004, we've grown into a truly impressive partnership of waste water treatment plants, storm water agencies, public land managers and environmental advocacy groups. Thanks to these varying perspectives and your contributions, we're making meaningful and cost-effective progress toward meeting the Clean Water Act goals for the waterways in DuPage and Cook Counties. If you haven't done so yet, take a few minutes to peruse [www.drscw.org](http://www.drscw.org) to see the wealth of information there.

This year promises to be a busy one, and I encourage you to contribute by joining one of our committees. The Monitoring Committee is overseeing sampling for fecal coliform, dissolved oxygen, conductivity and now even plastics. The Chlorides Committee oversees the annual de-icing workshops, our Sensible Salting program and the Tollway's Chlorides Offset program. The Projects Committee is overseeing several physical projects, as well as the Integrated Prioritization System (IPS) model to highlight the most constraining impairments and then create projects, as we have done for our NPDES permit special condition. And our West Branch, East Branch and Salt Creek Committees are comprised of those local stakeholders with knowledge of and ability to advocate for their local waterways.

Our contracted staff at The Conservation Foundation is working on those committee projects as well as the Nutrient Implementation Plan (NIP), whose components include a nutrient trading program, surface water quality modeling (QUAL2Kw) and non-point source modeling. We're coordinating some of these activities as well as the IPS model update with the Lower DuPage Watershed Coalition, the Des Plaines River Watershed Workgroup and the North Branch Watershed Workgroup.

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## LETTER FROM THE PRESIDENT, CONTINUED FROM PAGE 1

The projects and studies required in our NPDES permit special condition will be completed by various deadlines. Most of these permits will expire in 2023. This year, together we'll consider extending the special condition to complete additional watershed improvements funded by our waste water agency members. This would again be made financially feasible and desirable by further deferring tighter phosphorus limits until a later date. The IPS model update will provide us with that list of potential projects targeting our most significant impairments in time for those talks.

I'll leave you with this parting thought. The Clean Water Act, enacted in 1972 and producing our nation's largest capital projects effort ever, has done a great job to improve the health of our surface waters. However, further improvements are not only increasingly costly but are also less effective

since many of the impairments require work beyond treatment plants' abilities. It's imperative not only for the responsible expenditure of public funds but also for our legacy to our children that we invest the time and effort now to creatively find solutions to improve our local as well as national waters. With your continuing contributions to the Workgroup, that's what we're accomplishing!



DuPage River Salt Creek Workgroup

## DAM REMOVAL AND STREAM RESTORATION AT SPRING BROOK

An extensive restoration project is underway at the Blackwell Forest Preserve in Wheaton, DuPage County. The construction, funded by the Illinois Tollway with support from the DRSCW and the property's owner, the Forest Preserve District of DuPage County, is part of an ambitious plan to restore physical habitat for nearly half of the stream's 5.5-mile total reach. The project is to be completed in three phases starting from the northern end of St. James Farm Forest Preserve and finishing downstream at the stream's confluence with the West Branch of the DuPage River.

The current work, phase 2, is being constructed downstream of Winfield Road and will be approximately 1.3 miles in length. Central to this phase, and the entire project, is the removal of a small dam and the draining of its impoundment. This, at a stroke, will remove the barrier to fish passage on the river system, allowing fish such as large and small mouth bass, three species of shiners and two species of minnow to move upstream.

The completed project will replace the decades old straight ditch with meanders and reconnect the creek to the floodplain to allow nutrient-rich floodwaters to more easily flow into the surrounding forest preserve to filter and temporarily store stormwater. Gravels, cobbles, boulders and woody debris in the creek channel will also improve habitat for macroinvertebrates (aquatic insects), fish and freshwater mussels. At present, most of the enhancements are in a new channel built parallel to the present ditch, meaning riffles, pools and meanders can be constructed in a dry creek bed before the flow is directed into its new home. Additionally, the project will enhance the higher ground along the creek by removing invasive, nonnative vegetation and replacing it with native species.

All these habitat features positively correlate to fish and macroinvertebrate populations, the improvement of which is a central goal of the Clean Water Act. Failure to meet the thresholds for these populations set by the state is the main driver behind conditions in local storm water and waste water permits. Construction is anticipated to be completed in 2020.



Section of Spring Brook Phase 2 channel under construction. Note the riffle in the foreground. Riffles, due to their flow patterns and structure, are biological hotspots.

## IMPROVING ON IMPLEMENTATION OF THE CLEAN WATER ACT



Aerial view of Glenbard Waste Water Treatment Plant, capable of treating an average of 16 million gallons of waste water a day before discharging to the East Branch DuPage River.

Much needs to be accomplished in order to meet the ambitious goals of the Clean Water Act (CWA), to restore and maintain the chemical, physical and biological integrity of the Nation's waters. However, too often, those charged with implementing the CWA are constrained in prescribing solutions by a historic focus on end of pipe sources and a narrow view of what comprises pollution. Focusing on any part of a complex system inevitably leads to increasing costs and falling productivity. Via its members' permits, the DRSCW has attempted to focus efforts on meeting CWA goals and away from just building more wastewater infrastructure.

This is particularly salient to the public entities that own Waste Water Treatment Plants (WWTPs) and so bear the brunt of meeting the CWA. The reasons for this are historical: pre-1970's, WWTPs treatment levels were minimal by today's standards and WWTPs were an obvious source of large amounts of organic and bacterial pollution.

The 1972 CWA changed that. Funding the expansion of municipal wastewater treatment plants quickly became the single largest public works program in the United States (USEPA 1975). Government and industry has spent an estimated \$1 trillion since 1972 to abate end of pipe pollution. These investments allowed WWTPs to substantially reduce their pollutant contributions, creating dramatic improvements in the nation's water quality.

Yet despite these enormous investments, the USEPA reported in 2016 that over half of surveyed US river and stream miles were still failing to meet the goals established under the CWA. The reasons for the results and expenditures mismatch are likely due to aforementioned singular focus on wastewater effluent quality. In actuality, waterway health is multifaceted, a product of biological, physical and chemical characteristics, as set out in the CWA's goals. Further, it is reasonable to assume that future investments in WWTPs will follow the law of diminishing returns. In practice, this means while we have not reached the CWA goals by spending a trillion dollars to date, we should not expect to match the progress to date simply by expending another trillion.

The DRSCW Permit Special Condition was developed as a possible remedy to both the level of funding and the efficiency of the investments.

In 2014, IEPA began placing limits for phosphorous for WWTPs in Illinois. The DRSCW saw an opportunity to implement a more targeted alternative. Rigorous analysis of years of monitoring data from the DRSCW area had shown that habitat variables were much stronger explanations of variation in aquatic life than phosphorous. That analysis allowed the DRSCW to convince government scientists and representatives of advocacy groups to allow a new kind of permit, one that tackled a wide spectrum of pollution, notably the severe physical modification of our rivers.

Funding for the Special Condition was generated by postponing phosphorous removal and so saving operational costs for the additional treatment at WWTPs. A significant portion of those savings was then used to fund the implementation of the Special Conditions. These activities were painstakingly picked to maximize benefits to aquatic life.

Positive post-project results from one such DRSCW-supported project, the Oak Meadows Golf Course Stream Restoration Project, have demonstrated that such targeted and designed interventions can improve stream segments substantially toward meeting the CWA goal of supporting aquatic life.

It is highly unlikely that such improvements would have been obtained under the traditional approach. While this is encouraging, it is a single project. The targeted implementation method of the DRSCW will continue to be tested by the Spring Brook Stream Restoration (see article on page 2) and the proposed Fullersburg Woods stream restoration.

Aquatic systems are made up of interdependent communities of fish, insects and shellfish, themselves a product of a complicated and interrelated web of water chemistry, waterbody form, storm flows and landscape features. To ensure that public monies are efficiently spent, investments made under the CWA should reflect that complexity, and it is up to local governments to make that case.

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