

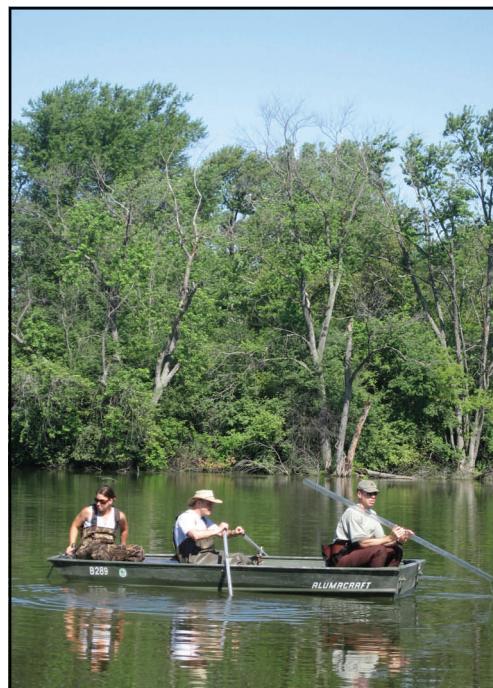
## Churchill Woods Sediment Sampling

With assistance from the USEPA's Water Division the Workgroup has completed comprehensive sediment sampling at the Churchill Woods impoundment dam in Glen Ellyn. Samples were also collected at downstream sites to allow projection of potential impacts should any future removal result in sediment being released downstream. Finding that impoundment sediment is significantly more polluted than downstream deposits would mean a higher level of sediment control would be necessary. In all over 300 samples were collected over a period of four days.

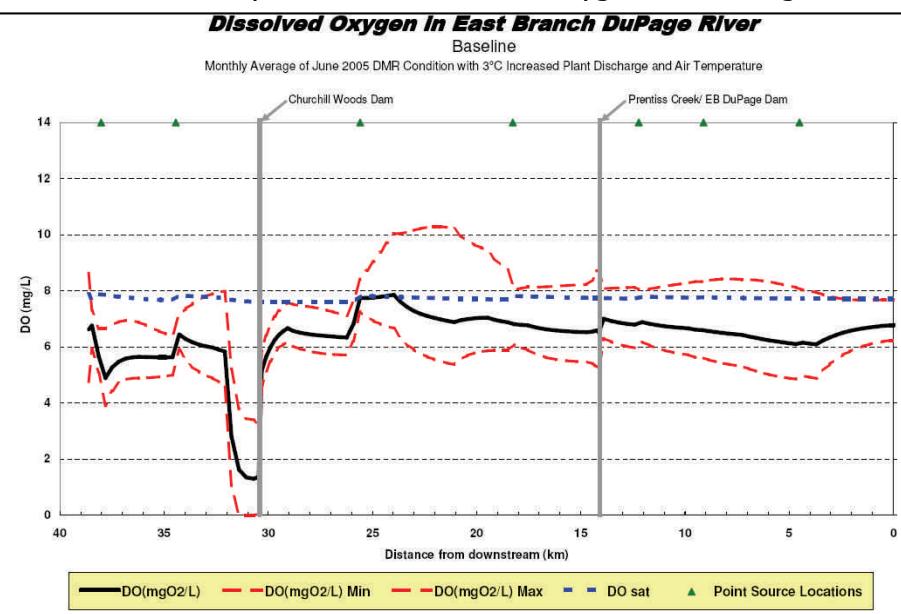
Collected samples are being analyzed for 64 parameters including nutrients, pesticides and metals by the USEPA Region V Laboratory. The sediment analysis allows the Workgroup to assign realistic costs to the proposed dam removal and restoration plan at the site. Initial project analysis revealed that the largest cost unknowns for restoration at the site were associated with the quality and quantity of sediment. Both aspects have now been quantified. The site has been identified in both the dissolved oxygen analysis and the bioassessment analysis as being the priority site for both water quality and biological impairment on the East Branch of the DuPage River. The analysis of the sediment will be used in further planning with the Forest Preserve District of DuPage County on a proposal to modify the dam and restore the stream. Many thanks to USEPA for their assistance!

## Stream Dissolved Oxygen Feasibility Study for East Branch

The IEPA received the final draft of DO Feasibility report for the east Branch of the DuPage River on August 28<sup>th</sup>, the final report should be available by mid November. The reports major recommendation is the removal of the dam at Churchill Woods in Glen Ellyn. Extensive beds of oxygen demanding sediment trapped by the dam are identified as the principle contributing factor to low levels of dissolved oxygen (DO) on the East Branch during low flow conditions. Continuous DO monitoring at the site confirms low levels of DO and the major influence algae plays in diurnal DO swings at the site. The study also draws attention to low DO levels observed at the Hidden Lake Forest Preserve in 2007 (south of Churchill Woods in the Village of Lisle). The report recommends no action be developed for the Hidden Lake location until Churchill Woods is restored as DO improvements there may also lead to improvements downstream.



Sediment sampling, Churchill Woods Forest Preserve , Glen Ellyn



QUAL 2k Model Output for the East Branch DuPage River under low flow conditions. Churchill Woods is clearly shown as priority problem area.

## Bioassessment Plan Update

The Bioassessment plan is now available in draft format. The report includes a number of specific observations but the following general observations can be made:

- Biological communities in the Salt Creek-DuPage River study area were impacted mainly by storm water pollution and damage to habitat, and secondarily by combined sewer overflows and wastewater loadings.
- The area's numerous stormwater detention ponds and other small impoundments in the rivers' headwaters contribute nutrients and oxygen demanding substances resulting in higher-than expected in-stream concentrations for these parameters.
- Stormwater influence in the form of polycyclic aromatic hydrocarbons (PAHs) was found across the program areas. PAHs build up on road surfaces as a result of incomplete gasoline combustion and oil leaks. Recorded PAH concentrations often exceeded levels where effects on benthic organisms are likely.
- Variations in habitat quality explained a significant amount of the recorded variation in stream biology. For example biological communities sampled within forest preserves tended to score better than non-buffered sites. These results suggest that stream and riparian habitat restoration are likely to have a positive impact on biological conditions.
- Poor water quality and habitat scores were frequently associated with the impoundments behind small head dams.
- Treatment plants across the area were generally operating well inside their permit levels but were linked to slightly elevated phosphorus concentrations.
- High concentrations of total dissolved solids (TDS) were noted in some headwaters areas. Such TDS concentrations are toxic to certain macro-invertebrates such as mayflies.

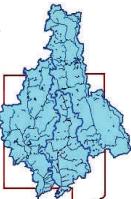


Orange Spotted Sunfish collected during bioassessment sampling

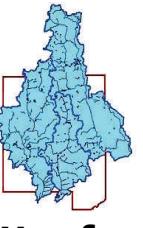
It is important to note that these problems do not act singularly to degrade stream biology, but in concert. Collectively, habitat degradation, non point source (NPS) pollution, high oxygen demand, ammonia concentrations and activities of combined sewer overflows resulted in almost all of the study area sites being classified as not meeting the minimum Clean Water Act goal of swimmable and fishable. Some exceptions to this statement were found on the lower East Branch and West Branch mainstems.

At one level the report delivers a straightforward identification of certain problems, allowing streams to be classified as impaired principally by habitat, stormwater washoff or point discharge. But it also allows the foundation for dealing with more complex problems where a culprit may not be easily identifiable.

It does this by allowing actions to be introduced incrementally and monitored for results resulting in greater efficiency. The final report, the results of nearly three years work for the DRSCW, will be released in December 2008.



# DuPage River Salt Creek Workgroup



**DuPage River Salt Creek Workgroup**  
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## DuPage River Salt Creek Workgroup Members & Executive Board

### Agency Members

Village of Addison  
Village of Arlington Heights  
Village of Bensenville  
Village of Bloomingdale  
Village of Bolingbrook  
Village of Carol Stream  
Village of Downers Grove  
Downers Grove Sanitary District  
DuPage County  
Village of Elk Grove Village  
City of Elmhurst  
Glenbard Wastewater Authority  
Village of Glen Ellyn  
Village of Glendale Heights  
Village of Hanover Park  
Village of Hinsdale  
Village of Hoffman Estates  
Village of Itasca  
Village of Lisle  
Village of Lombard  
Metropolitan Water Reclamation District of Greater Chicago

City of Naperville  
City of Northlake  
Village of Oak Brook  
City of Oakbrook Terrace  
Village of Roselle  
Salt Creek Sanitary District  
Village of Schaumburg  
Village of Villa Park  
City of West Chicago  
Village of Westmont  
City of Wheaton  
Wheaton Sanitary District

City of Wood Dale  
City of Woodridge

### Associate Members

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CDM, Inc.

Clark Dietz

The Conservation Foundation  
ENSR

Forest Preserve District of DuPage County

Hey and Associates, Inc.  
Huff & Huff, Inc.

Illinois Department of Transportation

Kabbes Engineering, Inc.

### Workgroup Executive Board

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Kevin Buoy—Vice President  
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Manju Sharma—Secretary/  
Treasurer

*Metropolitan Water Reclamation District of Greater Chicago*

Larry Cox—East Branch DuPage River Committee Chair

*Downers Grove Sanitary District*

### Staff

Stephen McCracken—Workgroup Coordinator *The Conservation Foundation*  
Andrea Cline—Water Resource Specialist *The Conservation Foundation*

## Letter from the President

Dear Members,

Welcome to the DuPage River Salt Creek Workgroup (DRSCW) newsletter. We continue to draw the attention of numerous organizations both in and out of Illinois as an innovative and effective organization addressing water quality issues on a watershed scale. Thanks to the assistance of our very active and dedicated members, the Workgroup is on the cusp of completing a number of final reports for different projects. Those reports include an analysis of ambient dissolved oxygen levels in the East Branch to allow targeted water quality improvements, and the completion of a detailed analysis of stream biology of all three rivers. The biology study will set a baseline for us to measure future improvements against and will allow the DRSCW to develop a prioritized list of future projects. The DRSCW has also hosted the first chloride reduction workshop and developed a series of chloride reduction fact sheets that will be a resource for Public Works Streets Departments within the program area.

On the monetary front the DRSCW received its third 319 grant worth \$360,000 to continue its work on water quality improvements. Membership continues to grow and I'd like to welcome new members, Elk Grove Village, Northlake and Westmont as full agency members and ENSR and Wight & Company as associate members. Welcome all of you and we look forward to working with you. Once again, I'd like to thank all of the members for their active support and participation and making the commitment to improve our local waterways.

Dennis Streicher  
President DRSCW

## Chloride Reduction Workshop

The DRSCW and the Metropolitan Chapter of the American Public Works Association (APWA) co-hosted a de-icing workshop at Oak Meadows Golf and Banquet in Addison on October 16<sup>th</sup>. The workshop covered water quality regulations, local analysis, international research, anti-icing practices, alternate products, pre-wetting and anti-icing product mixing and application.

The 111 attendees were treated to a hot breakfast and presentations on innovative public works programs from DuPage Department of Transportation, Hanover Park and Warren Township. The workshop met Workgroup goals for raising awareness to chloride impacts, and deicing program attendees benefitted from learning about chloride reducing practices neighboring communities are implementing.

Context for the workshop, the impact of chlorides on surface and ground waters, was supplied by DRSCW's consultant CDM, the Salt Institute, and Central Salt Ltd. Thanks to our speakers Larry Dunn, Warren Township Highway Department, Howard Killian, Director of Public Works for Hanover Park, Steven Karr, Technical Director Central Salt/EnviroTech, John Kawka, Manager of Highway Operations DuPage County DOT, Morton Satin, The Salt Institute and Dan Bounds, CDM. All presentations are available at DRSCW.org. Thanks also to the DuPage County Division of Stormwater Management for sponsoring the event.



Anti-icing is demonstrated on the left while standard procedures are shown on the right. Photo care of the Village of Hanover Park Public Works Department.