



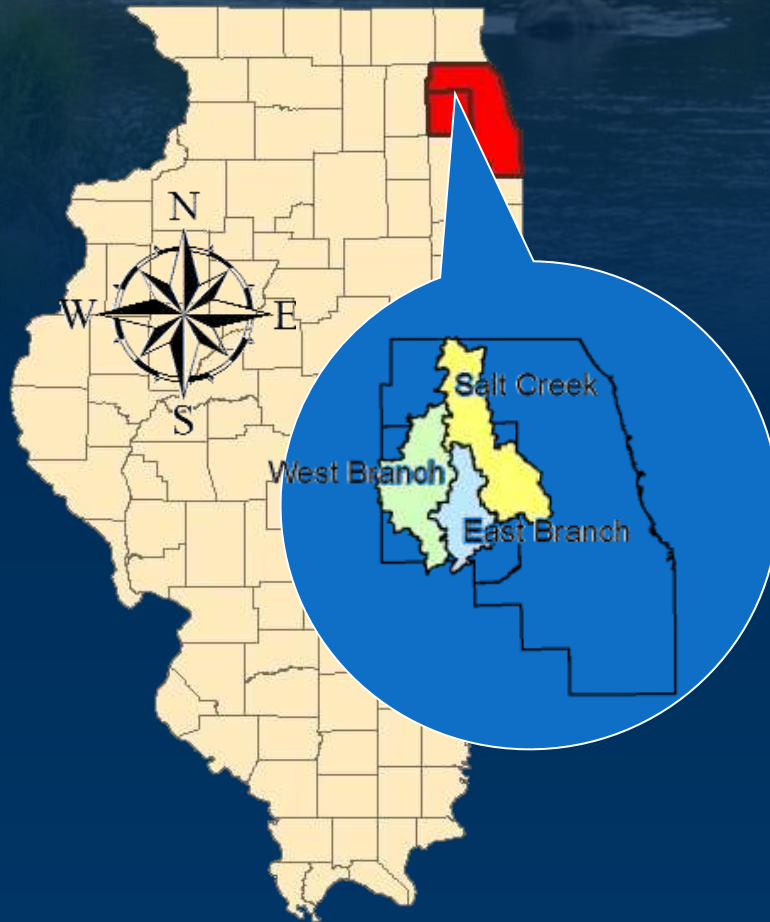
DuPage River Salt Creek Workgroup



The Formation and Organization of the DRSCW

Stephen McCracken
ILMA Annual Conference
February 19, 2015

DRSCW PROJECT AREA



- Cook and DuPage Counties (NE Illinois)
- Approximately 360 square miles of watershed
- Three waterways (100 miles of main stem stream)
- 55 municipal entities
- 156 MGD of effluent (based on DAF) from 25 POTW operators
- Urban to suburban
48.7% classified residential
24.7% non-residential urban
26.6% open space, including water
- Approved TMDLs for DO and chloride on several reaches





TMDLs for Dissolved Oxygen and chloride released in 2004

Problems

- I. Low confidence in results, high cost of implementation
- II. Who coordinates and pays for the projects

A group of wastewater operators argued for adaptive management and IEPA agreed to let stakeholders work on it.



MEMBERS

- Village of Addison
- AECOM
- Arcadis US, Inc.
- Village of Arlington Heights
- Baxter & Woodman, Inc.
- Village of Bartlett
- Village of Bensenville
- Black & Veatch
- Village of Bloomingdale
- Village of Bolingbrook
- CDM Smith
- Village of Carol Stream
- Christopher B. Burke Engineering
- Clark Dietz, Inc.
- Village of Clarendon Hills
- College of DuPage
- Donahue & Associates
- Village of Downers Grove
- Downers Grove Sanitary District
- DuPage County
- DuPage County Health Department
- City of Elmhurst
- Elmhurst-Chicago Stone Company
- Engineering Resource Associates
- Forest Preserve District of DuPage County
- Geosyntec Consultants
- Glenbard Wastewater Authority
- Village of Glen Ellyn
- Village of Glendale Heights
- HDR, Inc.
- HR Green, Inc.
- Village of Hanover Park
- Hey and Associates, Inc.
- Ross A. Hill
- Village of Hinsdale
- Village of Hoffman Estates
- Huff & Huff, Inc.
- Illinois Department of Transportation
- Illinois State Toll Highway Authority
- Inter-Fluve, Inc.
- Village of Itasca
- K-Tech Specialty Coatings
- Mary Lou Kalsted
- Village of Lisle
- Village of Lombard
- Metropolitan Water Reclamation District of Greater Chicago
- City of Naperville
- Naperville Park District
- City of Northlake
- City of Oakbrook Terrace
- Prairie Rivers Network
- RHMG Engineers, Inc.
- RJN Group, Inc.
- Robinson Engineering, Ltd.
- Village of Roselle
- Salt Creek Sanitary District
- Salt Creek Watershed Network
- Village of Schaumburg
- Sierra Club, River Prairie Group
- Strand Associates, Inc.
- Suburban Laboratories, Inc.
- The Conservation Foundation
- The Morton Arboretum
- V3 Companies
- Village of Villa Park
- Walter E. Deuchler Associates
- City of Warrenville
- WellSpring Environmental Products
- City of West Chicago
- Village of Westmont
- City of Wheaton
- Wheaton Sanitary District
- Village of Winfield
- City of Wood Dale
- Village of Woodridge
- York Township Highway Department



2010 Integrated Report Causes & Sources of Impairment selected segments of program area

AUID	Name	Miles	Causes	Sources
IL_GBL-11	East Branch DuPage River	3.4	Alteration in stream-side or littoral vegetative covers, Other flow regime alterations, Dissolved Oxygen, Phosphorus (Total), Polychlorinated biphenyls	Loss of Riparian Habitat, Site Clearance (Land Development or Redevelopment), Streambank Modifications/destabilization, Channelization, Urban Runoff/Storm Sewers, Source Unknown, Municipal Point Source Discharges
IL_GLA-02	Addison Creek (Salt Creek)	6.7	Aldrin, Alteration in stream-side or littoral vegetative covers, Chloride, Chromium (total), DDT, Hexachlorobenzene, Other flow regime alterations, Phosphorus (Total), Changes in Stream Depth and Velocity Patterns, Fecal Coliform	Contaminated Sediments, Channelization, Loss of Riparian Habitat, Combined Sewer Overflows, Municipal Point Source Discharges, Urban Runoff/Storm Sewers, Upstream Impoundments (e.g., PI-566 NRCS Structures), Dam or Impoundment

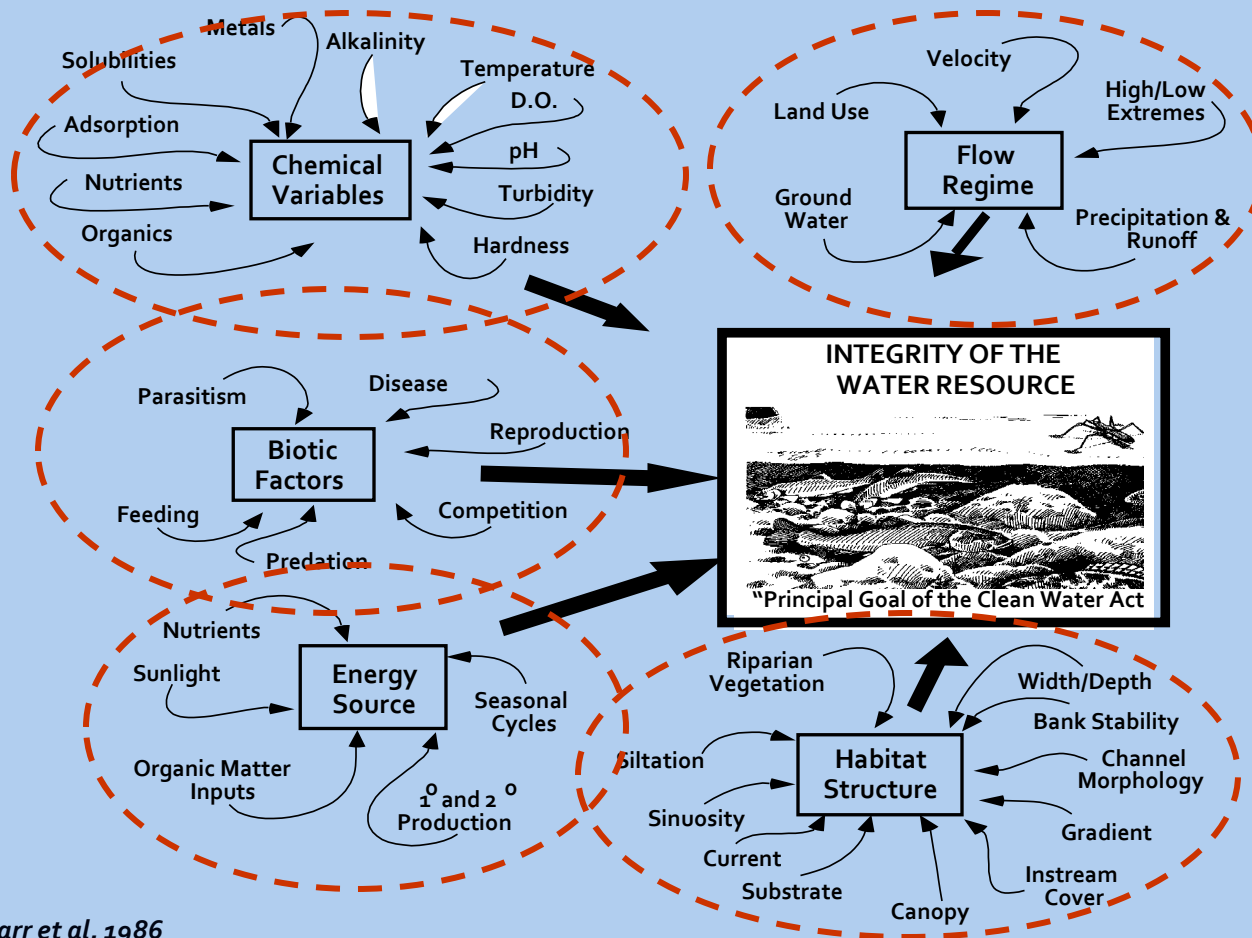


2010 303 (d) List selected segments of program area

Water Name	Water ID	Miles/Acres	Designated Use	Impairment Listing
E. Br. DuPage R.	IL_GBL-11	3.43	Aquatic Life	Phosphorus (Total)
Addison Cr.	IL_GLA-02	6.69	Aquatic Life	Aldrin, Chromium (total), chloride, DDT, Hexachlorobenzene, Nickel, Phosphorus (Total)



The Five Major Factors Which Determine the Integrity of Aquatic Resources



after Karr et al. 1986



Mission:

To bring together a diverse coalition of stakeholders to work together to preserve and improve stream resource quality in the East Branch DuPage River, West Branch DuPage River, and their tributaries

Financing:

Member Dues and Organization

Staff:

Has 1.5 full-time staff and relies on multiple hours by staff of member agencies

What is stream resource quality?
How do you measure it?



DRSCW Funding Mechanism (Voluntary)

Assessment Parameter	Assessment Unit	%Allocation of Annual Revenue	%Allocation		Total Assessment Units	Rates at 100% Participation	Factor for Nonparticipating Agencies	Recommended Rates
			%Allocation	Total				
WWTP Load	DAF MGD	66.67%	\$133,333.33	156.91	MGD	\$849.74 per MGD	1.5	\$1,274.62 per MGD
Storm Water	Acreage	33.33%	66,666.67	226,444	Acres	\$0.29 per acre	1.5	\$0.44 per acre
			\$200,000.00					

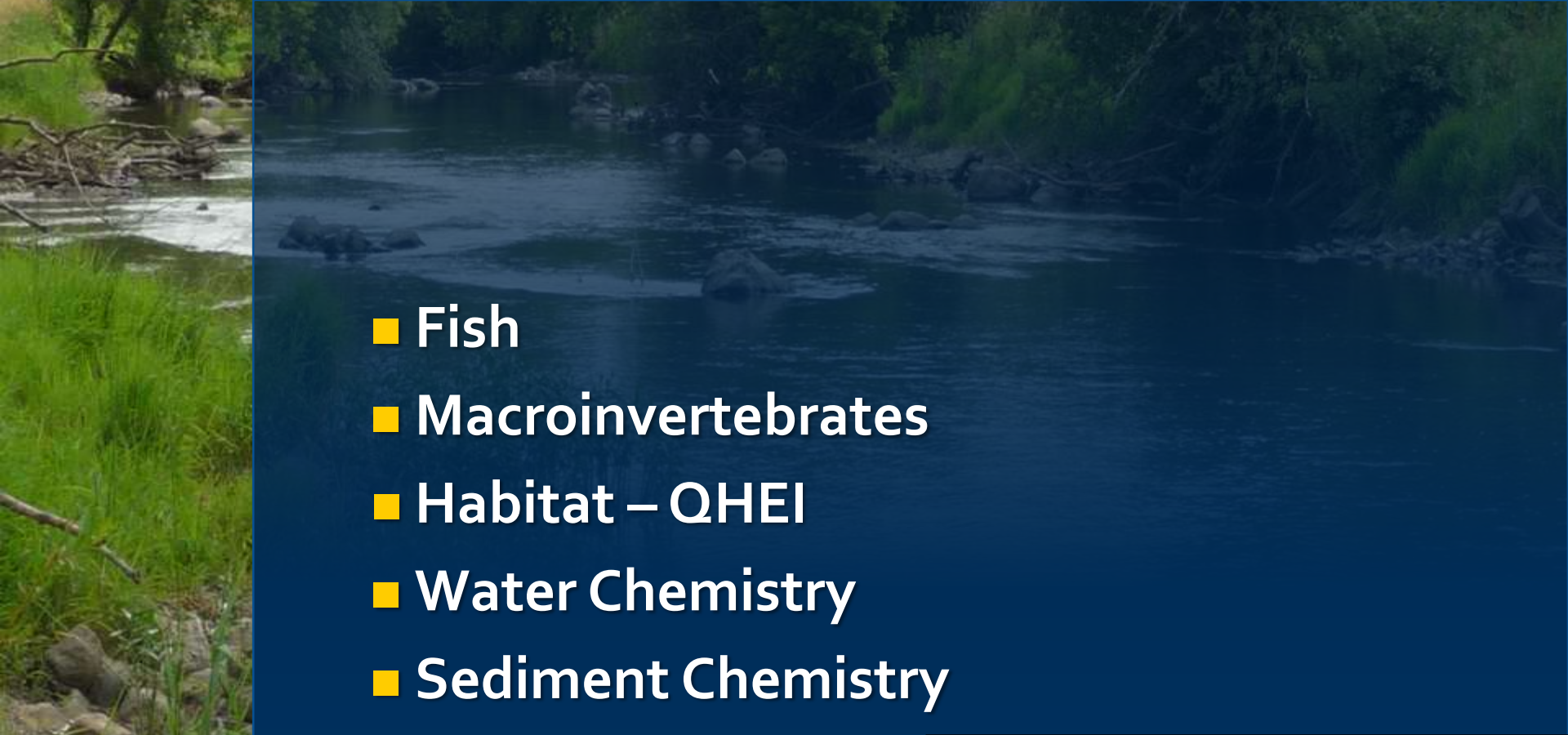
Membership Structure

Agency Members (NPDES permit holders)

Associate Members

Individual Members

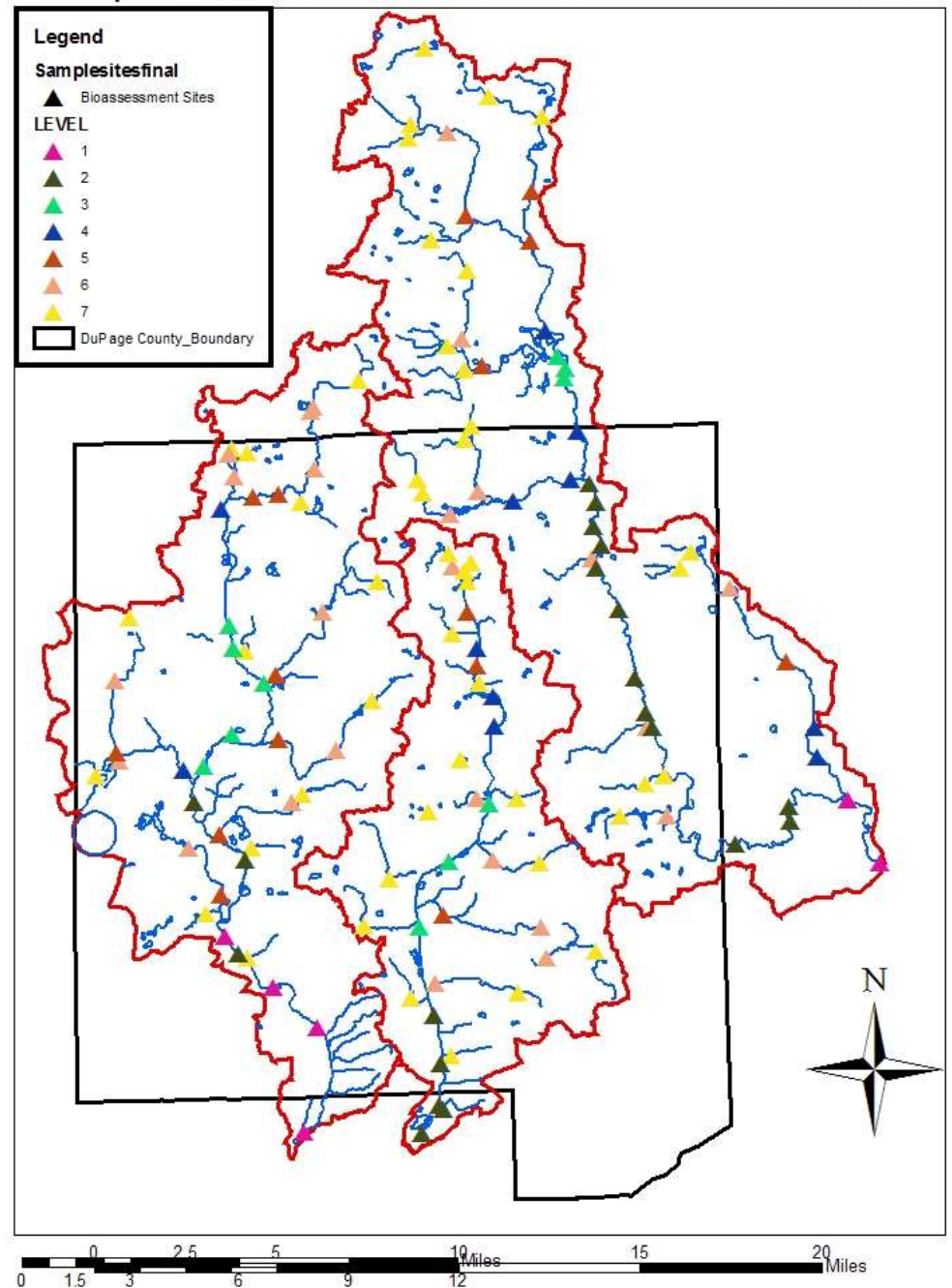


- 
- Fish
 - Macroinvertebrates
 - Habitat – QHEI
 - Water Chemistry
 - Sediment Chemistry





Map 2. Bioassessment Sites Geometric Levels





The problem
Not Supporting Aquatic Life
Designated Use in Program
Area (2006-7)

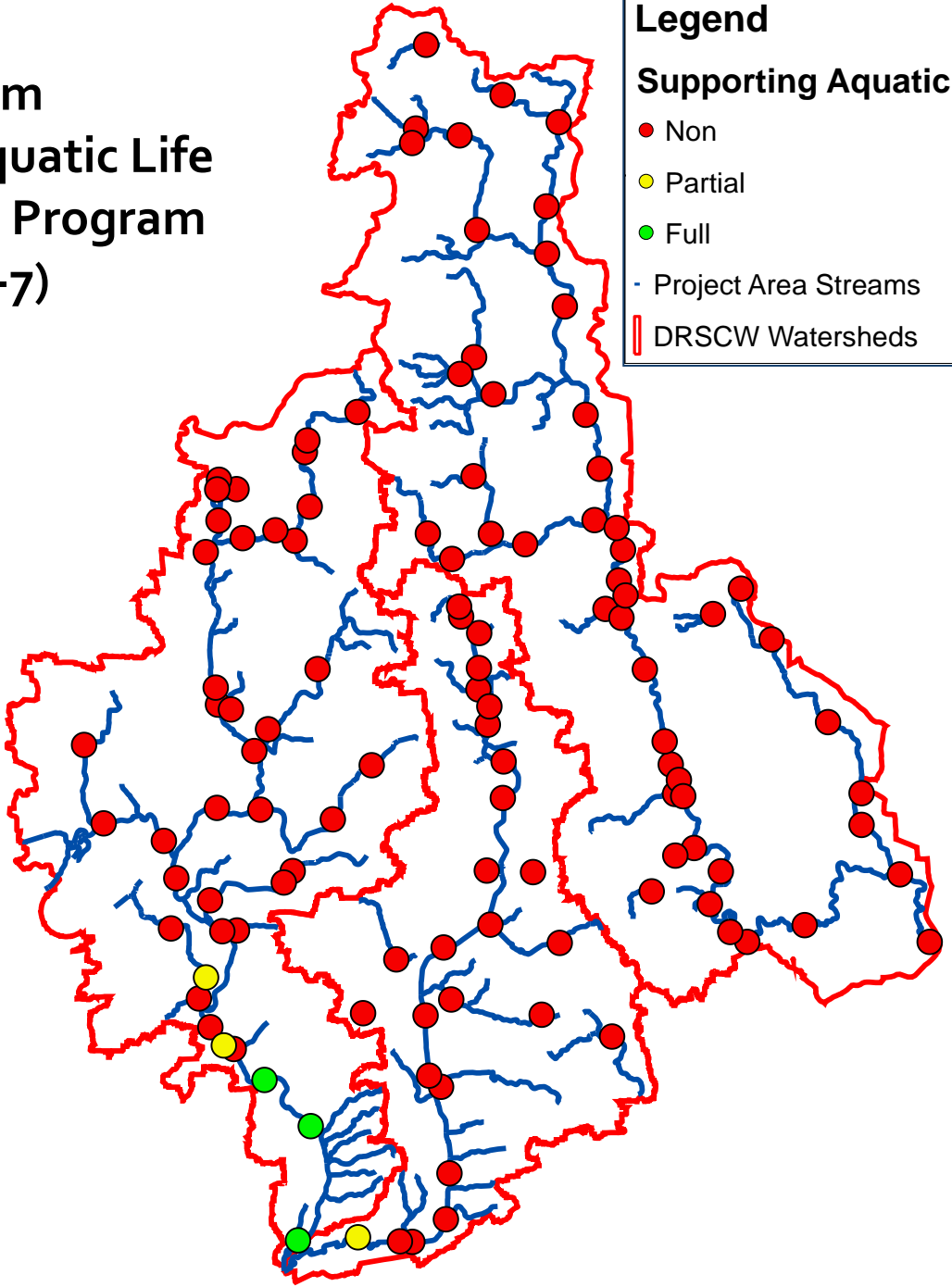
Legend

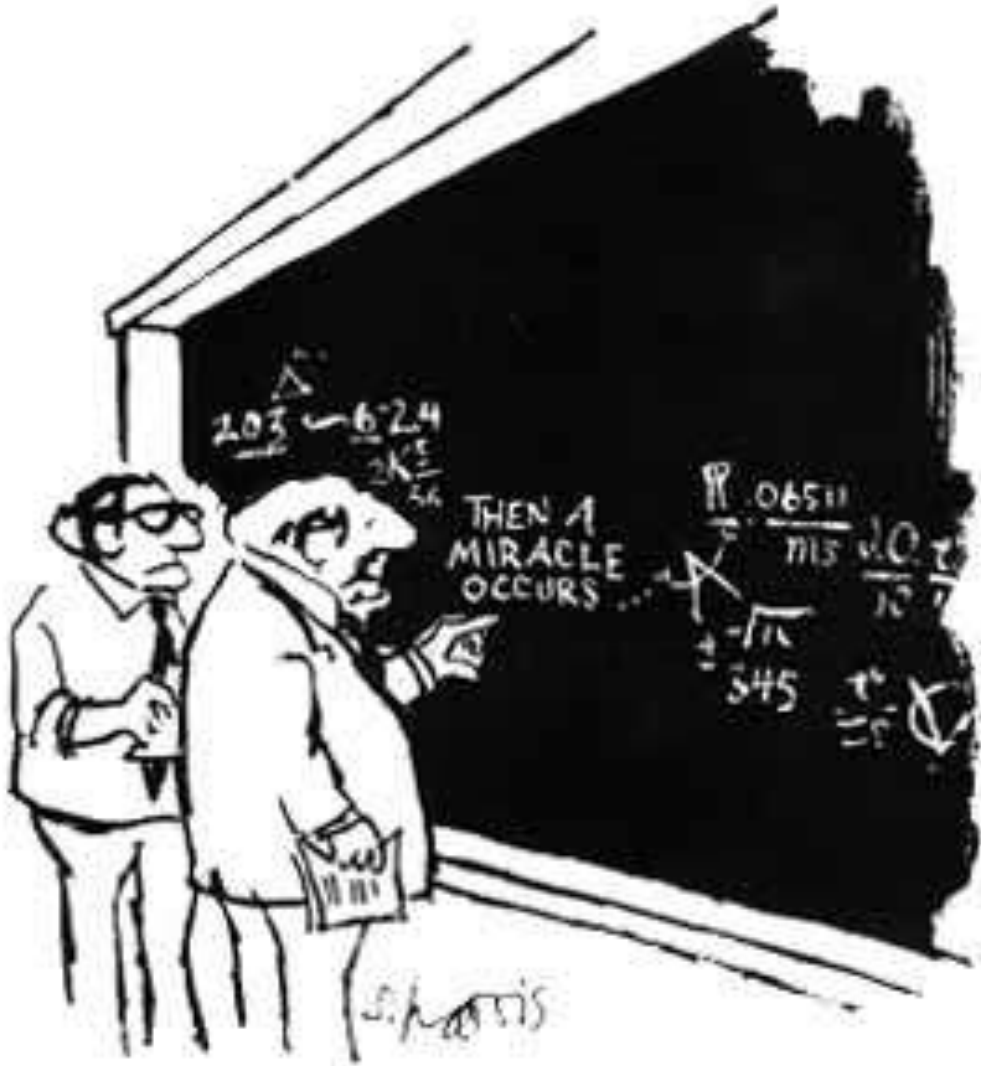
Supporting Aquatic Life

- Non
- Partial
- Full

- Project Area Streams

▭ DRSCW Watersheds





"I think you should be more explicit here in step two."

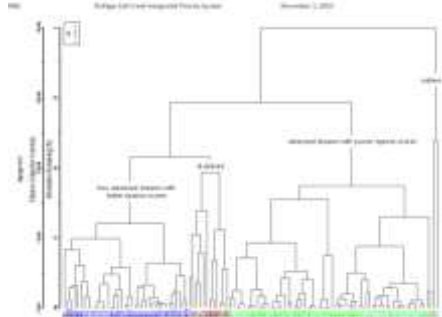
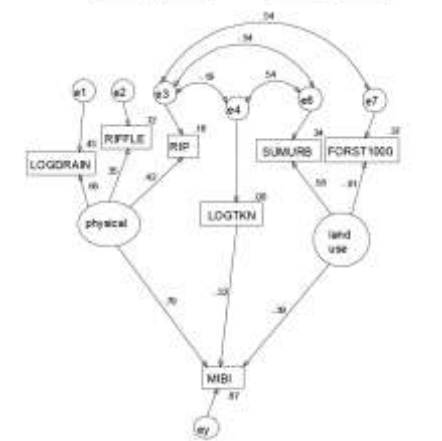
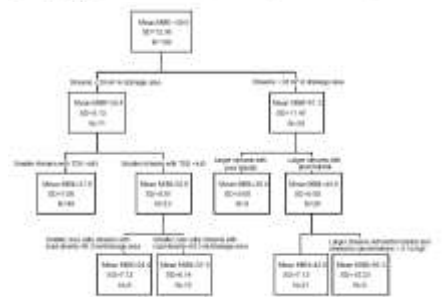


Figure 2. Cluster dendrogram based on Bray-Curtis similarity of fish assemblage attributes for sites in DuPage River-100 Creek watershed.



Statistically Demonstrated Stressor Indicators

Environmental Parameter

Riparian Score

Riffle Score

Channel Score

Substrate Score

Pool Score

Chloride

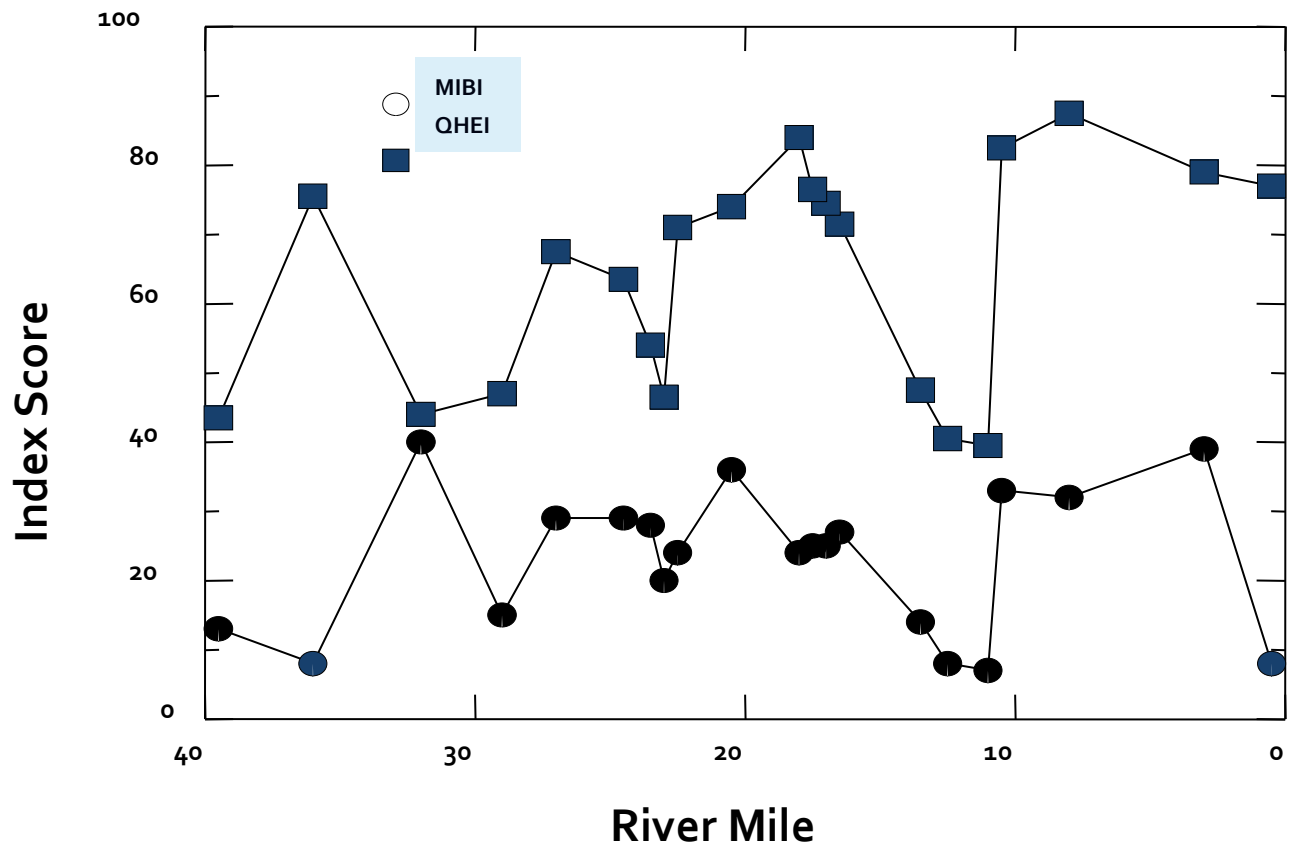
TKN

BOD

NH₃N

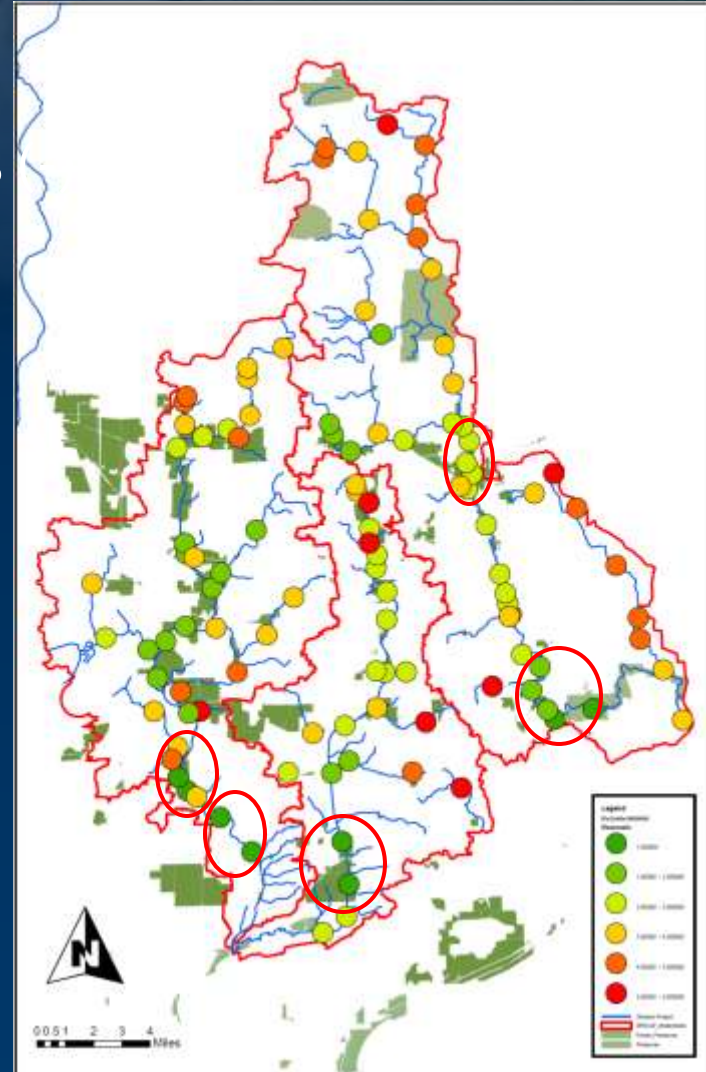


Aquatic Insects and Habitat Scores for Salt Creek (2007)

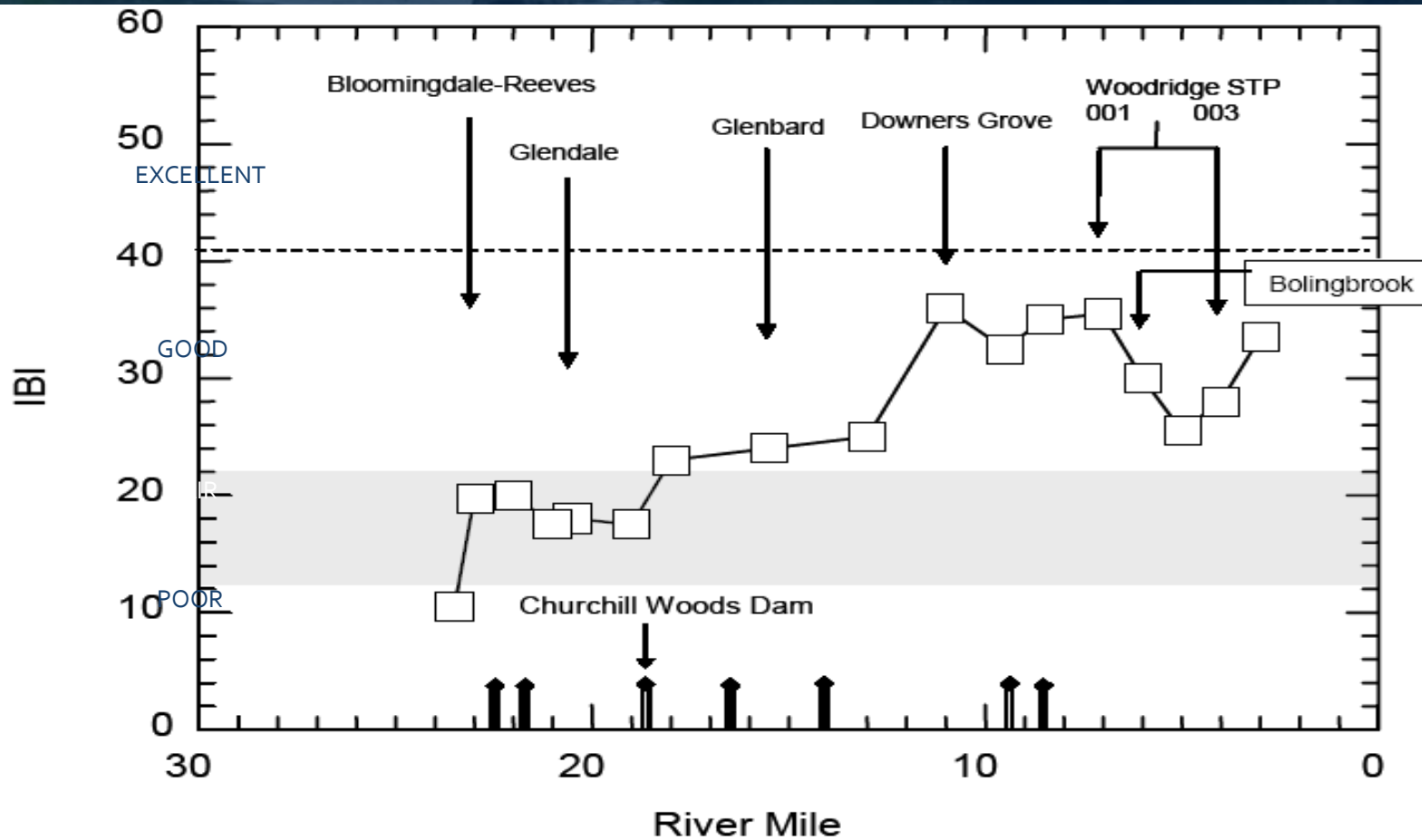


IPS Priority Sites Graded 1-6

- Number of proximate stressors
- Deviation from biological end point (-)
- Presence of open space (+)



Fish IBI East Branch 2007



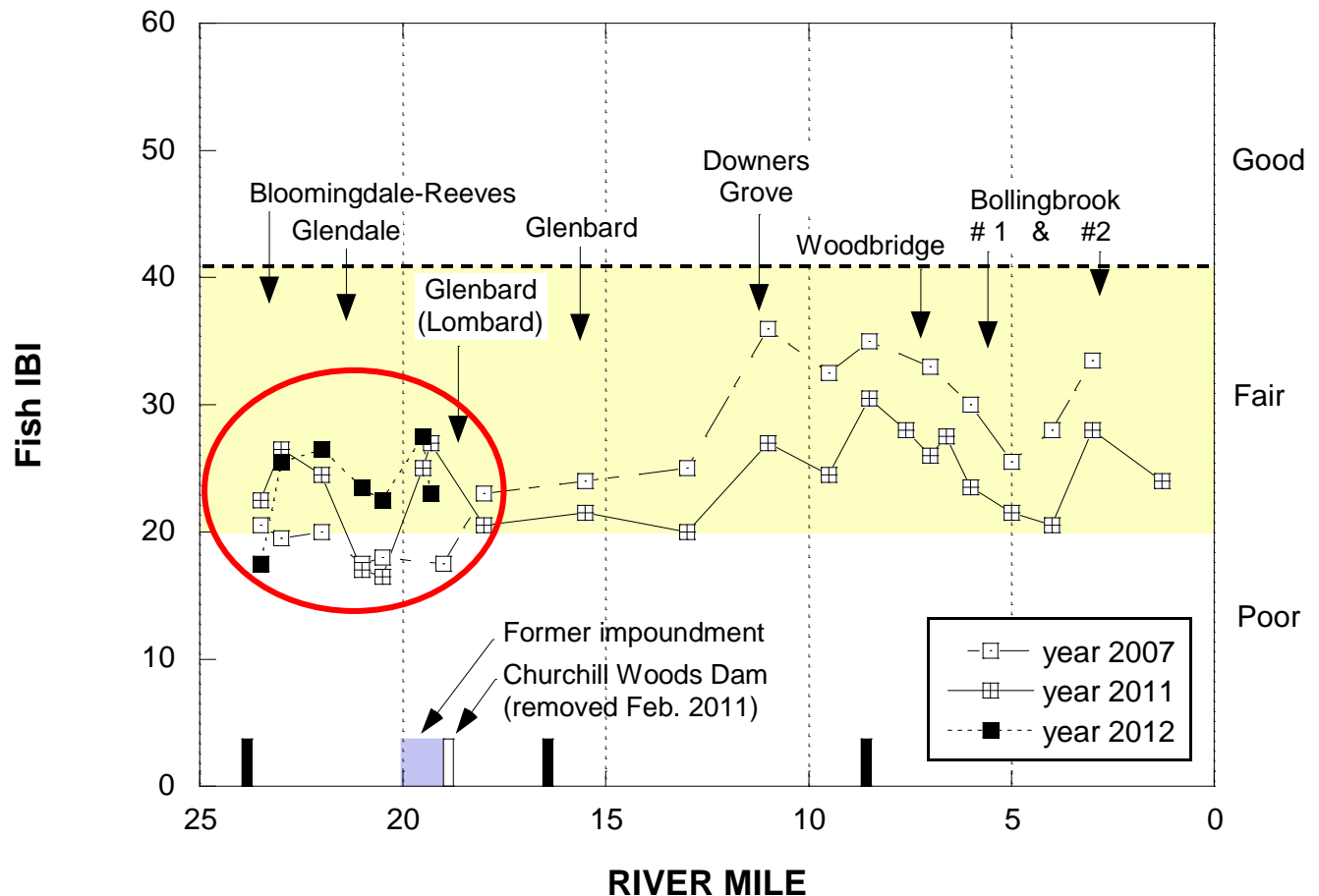


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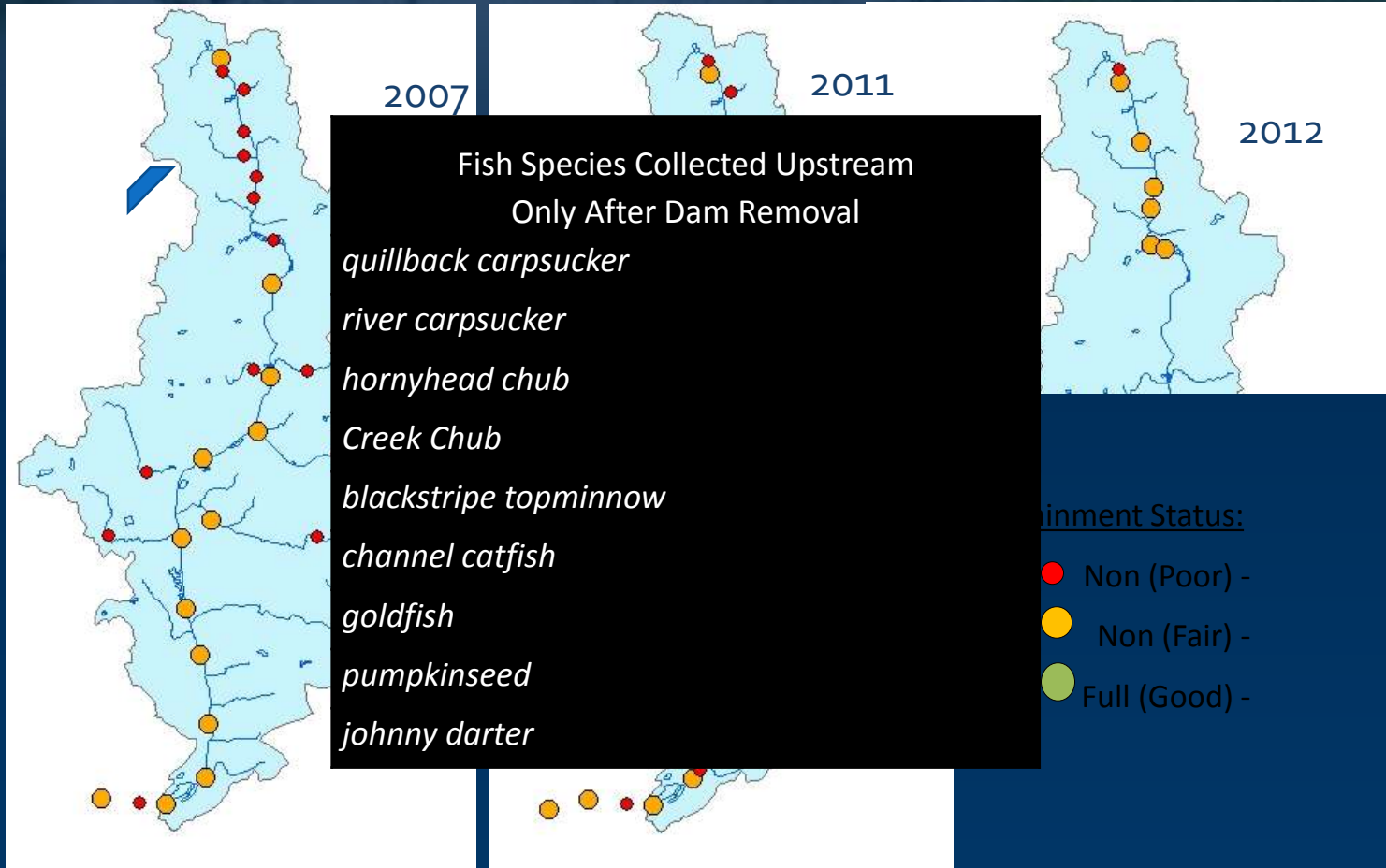


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E. Branch Fish 2007, 2011, & 2012



Aquatic life use attainment map for E. Branch DuPage River biological sampling sites in 2007, 2011, and 2012 (upper mainstem only)





DRSCW Innovative
Funding

- Members Dues
- Match to Grants
- NPDES Permit Fees
- Tollway Chloride Offset Program
- NPDES Permit Special Conditions



Take Away Points

- A clear and inspiring objective
- People have to be invested (time and \$)
- Stakeholder driven/transparent
- Champions
- Be open to what the analyses present
- Science is cool, use it
- Do your benefits outweigh your costs?





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Questions ?

Fish Communities as Scored by FIBI, West Branch DuPage River 1983, 2006 and 2009

