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Jurisdiction

The Michiana Area Council of Governments (MACOG) is a metropolitan planning organization covering St. Joseph, Elkhart and Marshall Counties in Northern Indiana. Operational funds come primarily through the Federal Highway Administration, as the organization focuses on highway planning as well as various grants. The Council operates three transit systems and also works on sewage treatment, clean air projects and water quality initiatives. MACOG has an agreement to provide services to the St. Joseph River Basin Commission (SJRBC), a legislatively-approved organization of municipal, county and state representatives. The SJRBC's jurisdiction encompasses the entire Indiana portion of the basin. However, the interview primarily focused on St. Joseph and Elkhart Counties, through Karen's role in MACOG.

Most grants of interest to SJRBC and MACOG are awarded to MACOG. Therefore, "on the ground" projects awarded to MACOG for SJRBC interests can only be for Elkhart and St. Joseph Counties. Grants in other parts of the basin are usually awarded to the Soil and Water Conservation Districts. However, MACOG can receive grants for educational projects in which the products are distributed throughout the basin. The SJRBC receives some state funds each year.

Challenges in the watershed

Forty percent of 205(j) funds must be awarded to metropolitan planning agencies. MACOG was awarded a grant to develop a watershed management plan for Baugo Creek. The Baugo Creek Watershed was selected because it spans both Elkhart and St. Joseph Counties, it is listed on the 303(d) list for pathogen impairments, and, during the IDEM 2000 Basin Assessment, was identified as the highest recorded *E. coli* sample of all sites monitored in the Basin. However, the desired uses of the surface waters of the Baugo Creek Watershed are largely to provide drainage from agricultural fields. High *E. coli* counts are not a concern to most stakeholders because the value of the land in the watershed is tied almost exclusively to its ability to grow crops. Therefore, the primary function of the creek and its tributaries is to provide drainage. There are some residential areas along the creek. However, they are not designed to use the creek as an asset to the property. The creek simply flows behind the buildings. Lack of riparian buffers, feedlot drainage and animal access to waters are the suspected agricultural inputs of *E. coli* to the subwatershed. However, there is a strong resistance to excluding livestock from surface waters. Many dairy feedlots and one corporate (i.e., owned by many families) feedlot are located in the watershed. A few of these are required to be permitted based on the number of cattle raised. However, several fall below the threshold. Wet weather *E. coli* levels measured near a large feed lot have been as high as 56,000 counts/100 ml. When findings such as this are presented at meetings, there is a denial that the *E. coli* could be from these sources. A shortage of funds is not believed to be a cause of the reluctance to initiate watershed projects in Baugo Creek.

Stakeholders believe the wastewater treatment plant in Wakarusa is a potential source of pathogens in the subwatershed. Blue green algae have been observed at the plant's discharge, indicating possible nutrient loading. *E. coli* levels measured in the plant outfall have been in the 400-500 counts/100 ml range. There is a tendency for stakeholders in the subwatershed to blame one another for the pathogen loading and to want to pinpoint only one source. As there is a strong reluctance to implement BMPs in the agricultural areas, the Wakarusa area may be targeted for a project focusing on tile discharges. There are four subwatersheds in the Baugo Creek Watershed. Likely the one that the city is located in will be the focus. As part of its combined sewer overflow stream characterization requirement, the city conducted an outfall survey and

found 99 discharge pipes. The discharge from forty-five of these pipes had measurable levels of *E. coli*. A more in depth survey of the outfalls may be the focus of further activities under the current grant or as a goal of the final Baugo Creek Watershed Management Plan. The source of drainage of most of the pipes is unknown. The city is not designated for the MS4 Phase II NPDES program, compared to some of the neighboring communities.

The watershed also has some sedimentation issues. However, the natural soils are erodible in some parts of the watershed. A public park is located at the mouth of Baugo Creek. Some park visitors swim or wade in the creek. Therefore, pathogens are a concern in that locale. The TMDL for Baugo Creek is not scheduled to be written until the 2015-2017 cycle.

Ditch associations can be formed to assess property owners for drainage projects and prioritize projects. It was thought that these types of organizations would make good watershed stewards and watershed planning stakeholders. However, they haven't resulted in additional participation in projects. Further, jurisdictional overlaps, as with the Lower Grimes Ditch and the Grimes Ditch Associations, can cause disagreements.

Projects/beneficial watershed features

The manner in which property values are determined appear to have a direct impact on watershed stewardship. The Juday Creek Task Force was established by watershed residents interested in protecting the creek, which increases property values for riparian land owners. There appears to be a sense of belonging to the watershed and stewardship of the creek. The Task Force is an informal group including a biologist from Notre Dame, an engineer, the county surveyor, Karen Mackowiak and representatives of the Izaak Walton League, the County Health Department, the City of Mishawaka and the development community. The group serves as an advisor to the County Drainage Board. The Grape Road area of the watershed is experiencing rapid growth. Therefore, there is a high demand for commercial property in that area. In order to obtain building permits, developers have been apt to comply with Task Force suggestions for watershed protection in order to get permission to build on the land. For example, the maintenance plan for a development was adjusted so the locations used for snow removal activities were moved away from the creek. Developers have also installed infiltration systems and tiling to discharge ponds for parking lot stormwater. The ponds are designed to discharge to the creek from the bottom, so as not to add thermal pollution to Juday Creek.

Dennis Wolhuter has had success in LaGrange County, in particular, with installing BMPs on agricultural lands. He is working on his third grant and has been quite successful with small cost-share projects. One of his most successful activities is his monthly "pasture walks". Participation has frequently exceeded capacity. There is a great interest in the Amish community to implement practices after observing a successful example on a peer's farm, and Dennis has had success in getting those initial projects started.

Indiana has a filter strip law which allows for a \$1/acre assessment for property taxes for farms using filter strips of a particular size. It appears that this would serve as a good incentive for landowners to use this practice. However, many still do not use them. One suggested reason is a reluctance to use federal funding, as the use of funds may include restrictions on property rights. It may be a good idea to incorporate such a mechanism through the Friends of the St. Joe River Association, in which the organization receives funds and awards grant to landowners to install BMPs. Therefore, the direct connection in the funding is from a nonprofit agency, creating a buffer from potential concerns about infringements on private property rights through federal restrictions.

Indiana University at South Bend owns land on the north side of the St. Joseph River and has recently acquired land on the south side to use for residence halls. They will likely build a foot bridge across the river

to connect the properties. Juday Creek flows through the Notre Dame campus and is, consequently, one of the most studied creeks in Indiana. The university's golf course was redesigned to incorporate trees to shade parts of the creek. Biological studies have also been performed on the areas along the golf courses to assess restoration projects. A 1990 study of the fisheries in the creek indicated that natural reproduction was not occurring. This conclusion was based on the sizes and ages of fish collected from the creek. Much restoration work has occurred since that time with one result being the appearance of juvenile fish.

It was suggested that the Designated Use Tables for the project include an explanation in the differences in the uses defined by each state. Section 319 projects in Michigan determine whether the waters are meeting each of eight designated uses, while Indiana waters are managed to be "fishable" and "swimmable". It was also asked whether navigation should be indicated as threatened or impaired due to the dams on the river. Navigation at the mouth should be indicated as threatened or impaired because sedimentation is a problem in the harbor. Emergency ACOE actions were needed recently to dredge the harbor when Lake Michigan levels were low. Karen indicated that the Harbor Authority should be contacted for more information.

Karen described some of the Superfund sites in St. Joseph and Elkhart Counties, including the Douglas Road/Uniroyal Site in Mishawaka. Wetlands were created to treat the contaminant plume. The system was initially designed to discharge water to Juday Creek. However, the Task Force developed a new design which eliminated the discharge and cost less money. The ConRail switching yard is the largest in the Midwest, outside of Chicago. Many spills have occurred at the site. Natural attenuation is being used at the site since the plume is not migrating quickly. Several other contamination sites are being monitored, remediated or have been cleaned.

A new educational program of the St. Joseph Soil and Water Conservation District in which students canoed the St. Joseph River has been established with schools. Stops were taken at points where educators presented information on the river or on the history of the area.

The City of South Bend and St. Joseph County are both working on developing their Comprehensive Plans. The County Planning Commission covers the county area and cities, except Mishawaka. Indiana townships only employ a trustee and assessor. Therefore, land use planning for townships is conducted by the counties. In the City of Elkhart, the Envirocorps work on environmental protection. In the eastern counties of the watershed, lake associations are active. However, there is a resistance to financing sewer systems. Therefore, many septic systems remain around lakes. The Wawasee Conservancy Foundation, which works to protect the largest lake in Indiana, has purchased lake property to preserve wetlands. They host educational cruises around the lake and contacted MACOG for booklets to distribute to riparian landowners. The Trillium Land Conservancy, a three-year old organization based in Elkhart, and the Wood-Land-Lakes RC&D each work on land conservancy development.

Karen indicated that the plan should address ways to best coordinate efforts between Michigan and Indiana. A formalized mechanism for coordination or a subwatershed project that spans the state line should be pursued. However, sharing across state lines may be difficult, as it has been difficult for organizations to share information within the Indiana portion of the watershed. This may result due to the limited grant funds available, which may cause organizations to view each other as competitors. This has improved over the years.