

St. Joseph River Watershed 319 Project
Technical Subcommittee
November 3, 2003 Meeting Summary
DRAFT

Attendees

Sandra Nordmark, FOTSJR
Steve Blumer, USGS Water Resources Division
Todd Kesselring, Elkhart County GIS
Jim Coury, Potawatomi RC & D Council
Mark Kieser, Kieser & Associates
Nicole Ott, Kieser & Associates

The meeting was led by Mark Kieser and was held at the FOTSJR office in Marshall, MI. An update on the Road-Stream Crossing Technical Subcommittee was provided. A Watershed-Wide meeting focusing on quantifying erosion from road-stream crossings will be held on Wednesday, November 5, 2003. Sandra Nordmark indicated that the confirmed attendance for the workshop is around forty and that all Michigan counties in the watershed are represented. The second Watershed-wide meeting will take place in January 2004. It was initially slated for December 2003. However, changes in the format of the workshop and the need to include other agencies apparently caused a delay in the timing.

Feedback on the nonpoint source load modeling report had been requested at a prior meeting. There were no comments mentioned at the current meeting. Therefore, Mark Kieser indicated that he would ask Chris Bauer to distribute it to the appropriate MDEQ staff before considering it finalized.

Sandra Nordmark provided the results of the Steering Committee scoring of the watershed concerns. Each concern was scored from 1-3 for importance in the watershed and for the ease of implementing BMPs to treat that concern. Concerns scoring a 6 were considered high priorities which could be effectively treated with available BMPs. For each concern, the scores from each Steering Committee member who completed the survey were summed. Sediments and nutrients tied for the top total score at 62 each.

Thirteen concerns were scored, with a spread of 17 points between the highest and lowest scoring concern. Jim Coury felt that many of the concerns were interrelated and dependent upon land use planning. Urbanization & land use is related to habitat loss and biota. BMPs affecting those concerns could also reduce sediment and nutrient loading to surface waters. It was also mentioned that, though CSOs did not rank high on the list, they may be a very high priority. However, correcting CSOs is not a simple task. Therefore, the ease of implementation score may have driven down the entire score. Scores for each category (rank in importance and ease of implementation) for each concern have not been calculated. It may be valuable to report those scores separately, as well as the total scores. It's also important to consider other concerns which scored low on the list, such as biota and litter. These concerns are easy to measure and could be used as indicators of improvements in the watershed. They are also more easy to discuss with watershed residents than concerns like nutrients.

It is important to target priorities to both areas needing mitigation and those needing preservation. Many federal agencies have cost-share programs for preservation efforts, including the U.S.

Department of Agriculture Farm Bill, U.S. Fish and Wildlife Service programs and the Michigan Department of Natural Resources. A Natural Resources Inventory can help counties and municipalities identify areas for protection and help the Watershed Management Plan meet Indiana Department of Environmental Management (IDEM) requirements. There are a good number of programs that can be built upon and that may fund demonstration projects.

Sandra Nordmark indicated that the plan should not be too “philosophical”, as it needs to be written with specific examples that planners can adopt. Additionally, she had not found many documented sites impacted by sediments, the top scoring concern. Jim Coury suggested a tiered approach in which broad “philosophical” goals are developed for the watershed as a whole. Objectives are created for specific geographic regions or specific impairments. Field level action items are implemented to achieve those objectives.

Sandra also indicated that she had read an IDEM report that listed many waters has having “impaired biotic communities”. However, she was not clear what that definition really means, as Michigan uses different terminology. Nicole Ott mentioned that Joe Foy, City of Elkhart, may be able to help her, as he conducts biological surveys for the city and is familiar with the IDEM reports. Sandra also indicated that there were several lakes listed as impaired, such as Olin Lake, which were difficult to locate on a map. Nicole indicated she would do a follow-up and identify where these lakes are located, using K&A’s GIS files.

Todd Kesselring indicated that is would be helpful for Elkhart County if the plan provided clear guidance for local government planners that allowed for measurable improvements. This information would be helpful for the municipalities obtaining their NDPEs permits. Jim Coury indicated that Michigan townships do not base their master plans on natural resources. Steve Blumer suggested including municipal and county planners in the process of developing the Watershed Management Plan. They could ensure that the plan works well with their needs. Jim Coury mentioned that Calhoun County will be revising their master plan soon, and that the county planner would probably be receptive to including natural resources in the plan. Planners should be aware of where the natural resources are located, which is typically in riparian areas.

Nicole Ott presented an example method for prioritizing critical areas. Zones of Implementation could be established in which various types of BMPs are called for in each zone. Zone A includes the surface waters and their riparian areas. Zone B lies a defined distance as a buffer from each surface water, or from the major tributaries. Zone C encompasses the remainder of the watershed and would be the location of headwater and wellhead protection activities. Two example maps were provided which illustrated buffered waters overlaid with county population and with percent forest cover by subwatershed (Attachment A). Headwater areas with high forest cover, such as subwatersheds of the Paw Paw River Watershed along the Kalamazoo-Van Buren County line, could be prioritized in this regard. Todd Kesselring indicated that the area is threatened by suburban sprawl.

Mark Kieser suggested that various BMPs by land use types be recommended. Regions of the watershed could be determined based on predominant land use and targeted for specific types of BMPs. Jim Coury indicated that the Zones of Implementation concept has been used in traditional watershed management planning. It should be stressed that preservation techniques should actually be focused in Zones A and B, where protected land has the greatest impact on surface water quality. Nicole Ott indicated that the process would call for the greatest number of implementation activities in Zone A, followed by B. This would include preservation and mitigation projects. Zone C would only need preservation and education.

The struggle lies in covering the whole watershed while not ignoring specific problems and Watershed Management Plans already developed. Areas in the watershed where concerns are known should be pinpointed. Those concerns likely relate to others targeted by the Steering Committee. Areas where concerns are not present should be targeted for protection. Many conservation districts have ranked subwatersheds in their counties by priority beginning in the 1980s, as they saw the need to prioritize agricultural subwatersheds. It was suggested that these stakeholders be interviewed.

An approach in which subwatersheds are prioritized was decided upon. Initially subwatersheds will be scored by their need for protection based on presence of trout streams, percentage of forest/open land or wetlands and proximity to urban areas. The latter parameter would indicate whether the subwatershed is threatened. Subwatersheds needing mitigation could be scored by county level population and agricultural data and by number of impairments. A memo highlighting the technique for scoring each subwatershed will be distributed to the Technical Subcommittee prior to the next meeting which as not yet been scheduled.

Prepared by Nicole Ott, Kieser & Associates

Task 4 Prioritization of Concerns: Scoring System

Zones of Implementation Example

The first step is to define the geographic scope. Do we define critical areas by subwatershed, county, river valley segment? The Rocky River Watershed Management Plan focused on Zones of Implementation. Three zones were defined by their proximity from the Rocky River and its tributaries. Zone A lay adjacent to the stream banks and called for the greatest number of implementation activities. With sediment and nutrients being the primary pollutants of concern for the St. Joseph River Watershed, Zone A activities can focus on restoration of stream bank erosion and protection of riparian habitats as two methods to prevent these pollutants from reaching the surface waters.

Concerns voiced by Steering Committee members, such as Joe Foy, regarding drain maintenance can also direct Zone A activities. That is, Zone A is defined across the entire watershed, but tributaries such as Turkey Creek (IN), which have been extensively dredged, can be prioritized for immediate Zone A activities.

Zone B can include areas further away from the waters where overland runoff from agricultural and construction areas; stormwater from urban areas; manure lagoons and septic systems can contribute nutrients and sediments to surface waters. As an example, Yellow Creek (IN) has been identified through a 319 project as a subwatershed impacted by problematic septic systems. Areas with high concentrations of CAFOs or counties with the most intensive farming operations can be targeted for Zone B activities. As another example, Cass County (MI) leads the watershed in hog production.

Zone C can focus on headwater and well head protection issues. Preservation, habitat protection and education activities will be called for in Zone C. For example subwatersheds along the VanBuren, Kalamazoo County line (Paw Paw River Subwatershed) maintain high areas of forest land cover.

The attached figures illustrate the main tributaries and all rivers in the St. Joseph River Watershed with two different buffer sizes. A 5,000 meter buffer was placed around the main tributaries. Population numbers by county were mapped as a background. Areas outside of the buffer are considered Zone C and should be targeted for preservation. Those Zone C areas in regions of lower relative population can be prioritized. In the sample figure below, a large area in LaGrange County is selected. However, it should be noted that LaGrange has a large seasonal population. Several people visit the many lakes in LaGrange County (64), and several tourists visit Shipshewana. The population is also growing rapidly in this county. It is, thus, especially important to preserve this area through land use planning and other measures so that the lakes remain healthy, thus maintaining the economic vitality and tourism base of the county.

The second figure may need to have a larger buffer added. However, the aim of the figure is to identify those Zone C areas where a sufficient coverage of forest and open land remains. (Those wetland areas should also be identified.) As those areas are identified, those that are already preserved by being a part of a nature center or preserve should be dropped from consideration, but noted as good examples.

Other Considerations

The scoring system can consider items previously discussed and mapped, such as 303(d) waters, nonpoint source loading, land cover, trout streams and noted Steering Committee concerns. We could consider, for example, prioritization based on: a) specific categories of impairments by river segments; b) predominant pollutants that may cause one or multiple impairments (watershed-wide or by segments); c) already identified 319 subwatershed management priorities; d) TMDL impairments; e) education or monitoring, or; f) some combination of these and others stakeholder desires. Developing a ranking scheme that includes each of these could be considered whereby the importance of each is scored by stakeholders to more objectively identify priorities.

Other Watershed Management Plans

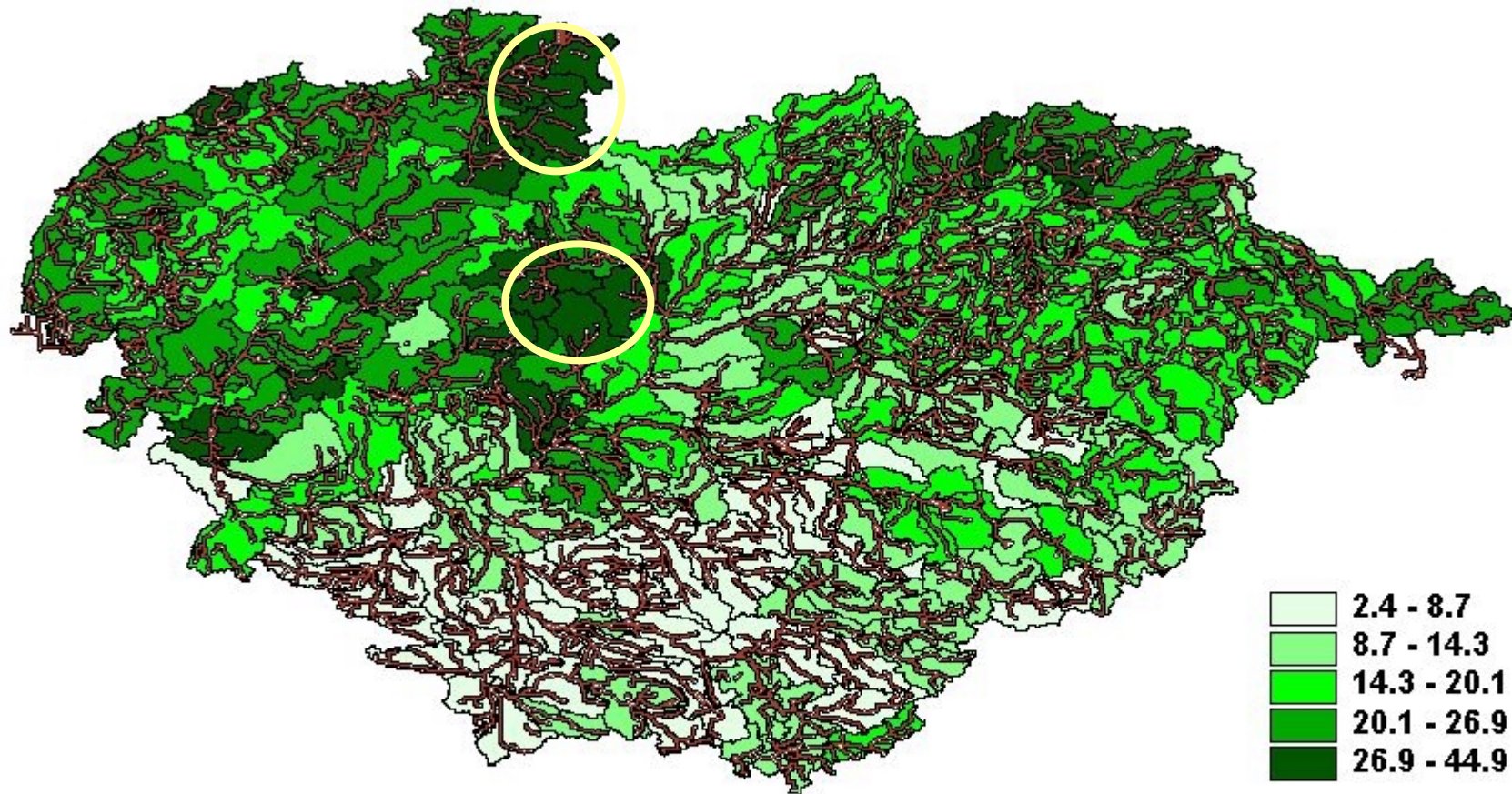
A scoring system was developed for a Watershed Management Plan project in the Portage-Arcadia Watershed (a subwatershed of the Kalamazoo River Watershed in Kalamazoo County). Because the watershed was only 44,000 acres, the scoring system focused on field observations. The riparian areas were surveyed and divided into stretches having similar characteristics. Stretch divisions were typically created at road crossings. Ten parameters were observed for each stretch and assigned a score from 1-3, with 3 being the best. Therefore, a stretch scoring 30 was a high quality stretch. Stretches scoring low were targeted for implementation efforts. The parameters scored were:

- Substrate
- Sinuosity
- Shading
- Riparian width
- Erosion
- Litter
- Water clarity
- Number of discharge points (also ascertained through storm sewer maps)
- Proximity of development (buildings, roads, etc.)
- Flood storage and connection to floodplain (also based on historical observations)

The Dowagiac Watershed Management Plan was based on the need to protect the unique trout habitats of the river system and on GIS mapping which identified prime agricultural land and sensitive areas. Prime agricultural land was identified by intersecting the areas with soils prime for agriculture with areas being used for agriculture. Sensitive areas were identified by mapping areas having steep slopes, prime farmland soils that are in agricultural use, flood prone areas, forested areas and wetlands. Those areas meeting at least three of those criteria were considered sensitive areas. Those areas tended to lie in riparian zones.

In the Nottawa Creek Watershed Management Plan, implementation activities were driven by pollutants of concern: nitrates in groundwater and sediments in surface waters. Critical surface water areas were identified by creating a quarter mile buffer around all surface waters. Critical groundwater areas were identified by locating known sites of contamination and area subject to development pressures. Field surveys identified sites of litter, streambank erosion, livestock access, soil erosion from cropland and drain wetlands, golf course runoff and road-stream crossings.

St. Joseph River Watershed rivers and creeks surrounded by 1000 foot buffer and forest/open land cover percentages by subwatershed.



**St. Josph River main tributaries surrounded by
5,000 meter buffers and 2000 population by county.**

