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### Jurisdiction

The jurisdiction of the interview is the portion of Van Buren County, Michigan lying within the St. Joseph River Watershed. The St. Joseph River Watershed lies in the southern and middle portions of the county, while the Black River Watershed occupies the northern portion. In the St. Joseph River Watershed, the county contains three major subwatersheds, each in a different River Valley Segment: the Paw Paw River in the Mouth, Dowagiac River in the Lower and Rocky River in the Middle (Sheldon Creek). The jurisdiction contains the Cities of Hartford and Gobles and the Villages of Lawrence, Paw Paw, Mattawan, Lawton and Decatur. The county is primarily rural and supports row crops, fruits and vegetables. Soils are predominantly sandy. Livestock is primarily raised in small herds, with the exception of one confined dairy operation. The lakes are surrounded by many large, "summer" homes, and development is spreading into the county from Kalamazoo, to the east.

### Projects/beneficial watershed features

The Paw Paw River Subwatershed supports unique wildlife habitats which create parts of migratory bird corridors for species such as the Prothonotory Warbler (commonly known as the Golden Swamp Warbler). The Southwest Michigan Land Conservancy and the Nature Conservancy are working to protect these habitats. The Sarett Nature Center owns approximately 1,000 acres of land in the subwatershed. It also contains fen habitat for the Mitchell Satyr Butterfly, a federally endangered species. The butterfly requires a unique fen habitat with a specific sedge for forage. It is only known to survive in approximately fifteen sites throughout the world. It does not migrate in the winter, and therefore depends solely on these remaining habitats. Fragmentation of the habitats forces the butterflies to remain within small habitat pockets and discourages mating among the subpopulations. One of the goals of the land conservancies is to establish connections among these habitats.

The Sarrett Nature Center's property supports a population of the Mitchell Satyr Butterfly. It was noted that in the past the location of endangered species was not shared, due to collectors wishing to capture them. However, visitors are now invited to view the butterflies. The closer interaction with nature encourages watershed residents to support conservation efforts. The jurisdiction also supports other rare species including the Massasauga Rattlesnake and the Spotted Turtle.

Soil erosion was not as noted being a major concern where row crops and grapes are grown. Row crops are managed with no-till and minimum till techniques. Cover crops are typically planted in vineyards around grapes, so that sandy soils are not exposed.

### Challenges in the watershed

In contrast to above, cucumbers, tomatoes and jalepeno peppers are grown in unique ways which make prevention of soil erosion difficult. Tomatoes and peppers are grown in mounds of soil. Cucumbers grown in short vines that spread across the ground with little root structure. After the cucumbers are harvested, the vines die leaving soils exposed. Winter cover crops are rarely planted to protect soils.

Brush Creek is a designated trout stream threatened by sedimentation. Coldwater fisheries are considered impaired throughout the Mouth Segment. It has been noted that the number of fish is declining. Poor water

quality in lakes was noted as concern, with Lake Brownwood given as an example where fish populations have declined.

Sedimentation is considered a real concern in some regions of the jurisdiction and a perceived concern in other areas. A conflict between lake residents and agricultural producers exists in which agricultural lands are viewed as the source of sediments and other pollutants impacting lakes. Particularly, Maple Lake in the Village of Paw Paw is dredged frequently due to sedimentation. The South Branch of the Paw Paw River was dammed to create this manmade lake. The reduction in stream velocity at that lake causes natural sediments to drop out of the water column. The upstream watershed is primarily undisturbed. However, the lake residents believe that agricultural land uses are responsible for the required dredging. Perhaps an upstream sediment trap would help.

The Lawton Drain and South Branch of the Paw Paw River were listed on the 2000 303(d) list for impairments to aquatic biota. They were removed from the 2002 list due to being dredged and “no longer appropriate to list for biota”. It was noted that all designated drains are being removed from the 303(d) list, as they are not expected to be managed to provide habitat. It was noted that the South Branch of the Paw Paw River is more modified and channelized than the other waters of the Paw Paw River Subwatershed.

It was noted that each village in the jurisdiction supports an industry that may be a watershed concern. These include food processing and pickling plants, cold storage facilities, wineries, a former binder manufacturer and others. Representatives from those industries using particular chemicals sit on the Local Emergency Preparedness Committee.

There are several major hog operations in the jurisdiction. Some raise the hogs on pasture, while others use confined operations. Many dairy farmers also raise cattle on pasture. One large dairy herd is kept in confinement in a newly constructed facility south of Paw Paw. It was noted that this producer is very proactive and is working with the NRCS office to develop a Comprehensive Nutrient Management Plan. The remaining herds in the jurisdiction are small in size. There are some concerns with livestock access to streams. Although the regulations protecting water quality have changed, some of the producers have not changed their practices. It was noted that more education on BMPs and livestock management is needed.

The Main Branch of the Paw Paw River was noted as having good forested buffers. However, the tributaries lack sufficient riparian buffers. An additional concern in the jurisdiction is the lack of sewerage around lakes. Maple Lake in Paw Paw is one of the few having sanitary sewers. In the past, the lakes were surrounded by small cottages and septic systems designed to meet the summer occupancy of those cottages. However, construction of large homes is occurring in the place of the cottages. The lake associations around Lawton and the southern region of the county are interested in constructing sewers. However, the northern region of the county is not pursuing sewerage. No known water quality problems related to septic systems have been documented.

Waterfowl overpopulation was noted as a potential source of *E. coli* in two locations in the jurisdiction. The Lake of the Woods in the headwaters of the Dowagiac River is a public park and picnic area located in the Village of Decatur. The lake was also noted in the Dowagiac River Watershed Management Plan and by the Cass Conservation District as an area of concern. Maple Isle, an island in Maple Lake (Village of Paw Paw), also has a large waterfowl population. There has been resistance to creating no mow zones and/or planting buffers by the Village. The goose population is very tame, frequently approaching picnic baskets brought to the island. Pathogens were not noted as a concern in any other areas of the jurisdiction.

No strong examples of land protection ordinances and zoning were identified for the county. It was noted that the county is very rural with little funding to protect lands. However, land is threatened by sprawl from

the Kalamazoo area. Residents want to see farmland protected, and the county commissioners are willing to adopt ordinances to protect farmland. But the lack of funding was noted as the primary reason for lack of protection.