

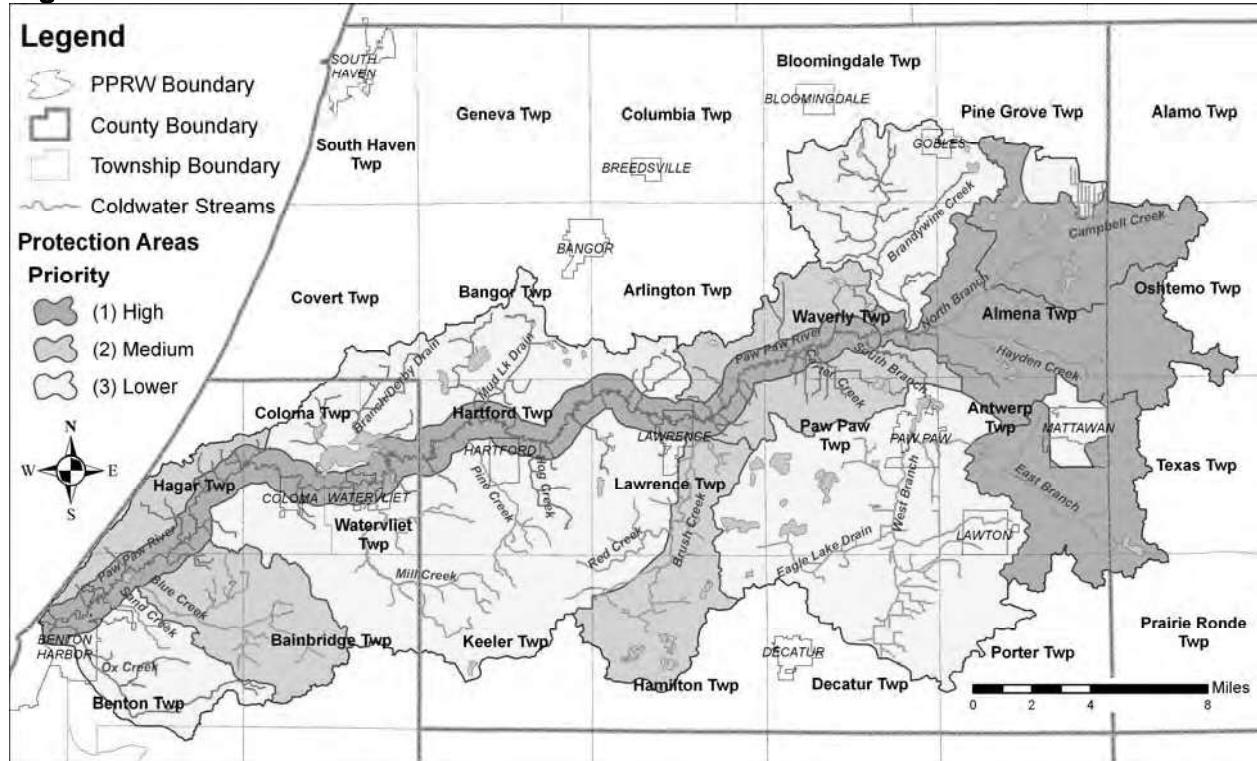
8 Prioritization - Areas, Pollutants, Sources

Priority areas were identified in the watershed based on lands that are contributing, or have the potential to contribute, a majority of the pollutants impacting water quality. By identifying priority areas, implementation can be targeted to the places where the most benefit can be achieved. Three different types of areas were prioritized in the PPRW – protection, agricultural management and urban management. Pollutants and sources of pollutants were also prioritized for each of the three areas.

8.1 Protection Areas

The prioritization of protection areas is based on the amount of natural land cover (habitat), groundwater recharge potential, intact wetland functions, the presence of high quality water bodies and development pressure. The PPRW is prioritized into three categories for protection as shown in Figure 23. High priority protection areas are generally the Paw Paw River mainstem and the PPRW headwaters (North Branch and East Branch subwatersheds). Medium priority protection areas include the Blue Creek and Brush Creek subwatersheds, the southwestern half of Waverly Township and the area near Lake Michigan. The high and medium priority areas, if not preserved or at least managed properly, have the potential to contribute large amounts of pollution, as well as disrupt hydrologic patterns in the watershed. The remainder of the watershed is lower in priority for protection efforts, but since this analysis is at a landscape level, specific sites in the lower priority area may need just as much attention as the high and medium priority areas for maintaining long-term water quality in the watershed.

Figure 23. Protection Areas



Protection Area Pollutants and Sources

In the protection areas the prioritization of pollutants and sources is based on their potential to threaten or impair water quality as development increases in these areas.

In the protection areas, the pollutants are prioritized as follows:

1. **Sediment** is a known pollutant causing impairments throughout the watershed. Construction sites in developing areas often contribute sediment to water bodies. Additional impervious surfaces alter hydrology leading to increased erosion and sedimentation.
2. **Nutrients** are currently a problem pollutant around lakes and urban areas. Nutrients are often attached to sediment. Stormwater runoff containing nutrients from lawns and golf courses is expected to increase with new development. Nutrients from additional septic systems could also be an issue with increased development in rural or suburban areas not served by municipal sewer.
3. **Temperature** is a concern because most coldwater streams are located in protection areas. With additional impervious surfaces and the removal of riparian buffers, the temperature of these streams could increase. Increased temperature could limit their ability to support coldwater fish.
4. **Bacteria and pathogens** are currently a suspected problem around lakes not served by municipal sewer systems. With increased development and additional septic systems in protection areas (especially in areas with soils not suitable for septic systems), bacteria and pathogens might become a more widespread problem.
5. **Pesticides** are suspected to become a problem with increased urbanization and the use of pesticides on lawns and golf courses.
6. **Oil, grease and metals** are not currently suspected to be a major problem in protection areas. The amount of oil, grease and metals is expected to increase with new development in these areas.

In the protection areas, the pollutant sources are prioritized as follows:

1. **Streambanks** – Increasing impervious surface in protection areas could alter hydrology and cause streambank erosion if runoff is not managed properly. Removal of the riparian corridor for waterfront development in protection areas could cause additional streambank erosion.
2. **Stormwater runoff** – Several priority pollutants could be delivered to protection area water bodies by stormwater runoff. With new development, stormwater runoff from construction sites and impervious surfaces is expected to increase in protection areas.
3. **Septage waste** – Failing septic systems are expected to become a problem with additional waterfront and suburban type development occurring in protection areas.
4. **Livestock** – There are several unrestricted livestock access sites within the protection areas; however, with increased residential development occurring in these areas, it is expected that livestock problems will become less of a concern.