Analysis of stakeholder concerns identified in the Treaty Creek-Wabash River Watershed: Stakeholder concerns identified via the watershed inventory, steering committee and public meetings are included as concerns in the table below. The committee attempted to answer the following questions:

* Is the concern supported by our data?
* What evidence is available for support or refute the concern?
* Is the concern quantifiable?
* Is the concern outside of the plan’s scope?
* Does the group want to focus on the concern?

| **Concern** | **Supported by our data?** | **Evidence** | **Able to Quantify?** | **Outside Scope?** | **Group wants to focus on?** |
| --- | --- | --- | --- | --- | --- |
| River is muddy – where does sediment originate? |  | 51.4 miles of tributary streambank were identified as eroding during the windshield survey. 73% of the watershed is covered by agricultural land use while urban lands uses cover 9% of the watershed. More than 75% of Wabash River fixed station samples exceed TSS targets. 8% of turbidity and 6% of TSS samples exceed targets. |  |  |  |
| Flooding impacts from non-natural stream flows –Salamonie dam releases |  | Floodplain covers 7.6%of the watershed. 99% of historic wetlands have been modified or lost. There is anecdotal evidence of historic flooding following Salamonie Dam releases but no analysis of these impacts has occurred. |  |  |  |
| Flooding impacts/topsoil loss/impacts from agricultural land |  | 73% of the watershed is covered by agricultural land use. 7.6% of the watershed is mapped in floodplain with more than 97% of floodplain in agricultural land uses. |  |  |  |
| Impacts of impaired waterbodies on the watershed |  | Waterbodies are listed as impaired for *E. coli* (19.2 miles), impaired biotic communities (13.1 miles), nutrients (19.2 miles), mercury and PCBs (19.2 miles). Based on the development of the Wabash River Nutrient and Pathogen TMDL Development the *E. coli* and nutrient impaired segments are considered category 4 impaired waterbodies, while impaired biotic community, and mercury and PCB impaired segments are considered category 5 impairments. |  |  |  |
| Nutrient concentrations are elevated |  | 58% of nitrate and 38% of TP samples exceed targets during the current sampling period. IDEM documented elevated N and P concentrations in the Wabash River, Mill Creek, and Treaty Creek. 2015 WRD monitoring indicate elevated N and P concentrations at all stream sites. The City CSO assessment indicates elevated P and BOD in Charley Creek and the Wabash River downstream of outfalls. |  |  |  |
| Fertilizers and pesticides flowing into the river |  | An estimated 9953 tons of nitrogen and 4923 tons of phosphorus are applied in Miami and Wabash Counties. An estimated 84tons of atrazine and 112 tons of glyphosate are applied in Miami and Wabash counties. |  |  |  |
| Ecoli concentrations are elevated |  | 12% of E.coli samples exceed current targets. . IDEM documented elevated E coli concentrations in the Wabash River, Mill Creek, and Treaty Creek. 2015 WRD monitoring indicate high E. coli concentrations at all stream sites. The City CSO assessment indicates elevated E coli in Charley Creek and the Wabash River downstream of outfalls. |  |  |  |
| Livestock and manure impacts to the River and its tributaries |  | Approximately 44,900 animals per year are housed in CFOs and small unregulated animal operations in the watershed, generating approximately 510,183,400 pounds of manure per year spread over more than 3,200 acres in the watershed. Manure produced on permitted CFOs contains nearly 538,340 pounds of nitrogen and 392,490 pounds of phosphorus. |  |  |  |
| Livestock access to Wabash River tributaries |  | Livestock access was documented along 8.4 miles of tributaries during the watershed inventory. |  |  |  |
| Engaging local individuals with the river |  | Anecdotal evidence based on communication with stakeholders. |  |  |  |
| Agricultural producer & landowner participation in existing conservation programs |  | Anecdotal evidence based on communication with stakeholders. |  |  |  |
| Redside dace (ETR) occurs in Mill Creek- impacts of water quality/habitat on this species? |  | The redside dace was documented in Mill Creek during 2009 through 2012 assessments and in Asher Branch in 2012. |  |  |  |
| Landfill – is this impacting the Wabash River |  | Anecdotal evidence suggests that the landfill may negatively impact the Wabash River. The landfill assesses the fish population annually – those reports are not currently available. No documented water chemistry impacts could be identified. |  |  |  |
| Indiana American Water drinking water supply – Wabash River in wellhead protection area |  | The Indiana American Water wellhead protection area is 100% located within the watershed. IAC collects samples from the Wabash River to assess surface water impacts with no adverse impacts identified during recent sample collection. |  |  |  |
| Septic impacts |  | More than 97% of the watershed is mapped in soils which are severely limited for septic tank usage. Unsewered, dense housing (more than 25 houses/sq mi) were mapped on 370 acres within the watershed. |  |  |  |
| Habitat loss along the river and its tributaries |  | Anecdotal evidence based on communication with stakeholders as data have not been compiled. |  |  |  |
| Invasive species impacts to water quality |  | There are more than 20 documented invasive plant species in the 2 counties covered by the watershed. Several invasive species were observed in riparian areas during the windshield survey. |  |  |  |
| Streambank erosion – mouth of Treaty Creek, areas along Mill Creek, island erosion, near Lagro, along River and tributary sharp bends |  | More than 26% of the watershed is mapped in highly erodible or potentially highly erodible soils. Nearly 14 miles of streambank erosion were documented during the windshield survey. |  |  |  |
| Hardscape impacts/water quantity impacts during stormwater runoff events |  | 9% of the watershed is mapped as developed land. 7% of the watershed is mapped as more than 25% covered by hard surfaces. 8 combined sewer overflow points are located within the City of Wabash. The City’s LTCP identifies nearly $13 million in projects to reduce CSO impacts to the river. |  |  |  |
| Industrial impacts to the Wabash River including materials from manufacturing process and/or inputs from runoff |  | 8 documented NPDES permitted located occur in the watershed. Two of these are industrial in nature; neither possess documented releases that affected their permit. |  |  |  |
| Long-term efforts to remove trash –are there still sources and if so, where? |  | Individual observations during the watershed inventory indicate trash accumulation is a problem. More than 96 tons of materials have been removed from the Wabash River over the past 7 years. |  |  |  |
| Preserving local high quality areas |  | Salamonie State Forest, Ross Run and Hanging Rock, Asherwood Nature Preserve, Paradise Springs Historic Park and Riverwalk, Hanna Park, Charley Creek Park, Broadmore Park and Lagro Parky offer current protection for high quality areas. |  |  |  |
| Impact of potential Riverwalk on wildlife |  | A portion of the current projected Riverwalk lies within the Wabash River floodplain. Impacts to the floodplain could adversely impact wildlife that use that portion of the watershed. |  |  |  |
| Gravel pits/gravel pit overflow as source of sediment |  | Several gravel pits occur within the watershed; no documentation of these as a source of sediment is available. |  |  |  |
| Potential for spills from the railroad |  | The railroad crosses the Wabash River; no documented spills occurred in the last 25 years. |  |  |  |
| Miami County impact may be limited – land is largely owned/managed by one owner and is already in conservation programs |  | Maps document that most of the agricultural land in Miami County within the watershed are owned/managed by one individual. Anecdotal information suggests management practices may be impacted but no data are available. |  |  |  |