

Indirect and Cumulative Effects Evaluation for the AGSM Bridge Replacement Environmental Assessment

Indirect Effects

Indirect impacts are “caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.” 40 CFR 1508.8(b).

WVDOH considered the potential for indirect effects due to the project. The Preferred Alternative will be widening the bridge, allowing more traffic than is currently allowed. However, because of the topography, existing residential community, and relatively isolated location of the project area, induced development is unlikely. The northwest side of the bridge is steep hillside with no land available for development. The southeast side of the bridge is dominated by steep hillsides beyond a small residential community. Within the residential community, houses are already positioned relatively close to one another with no large lots of undeveloped land. This side of the bridge leads to narrow, windy roads that are not conducive to attracting non-local traffic.

In the Elk River, temporary indirect effects from ponding, sedimentation and scour to adjacent mussel populations and suitable habitats may occur during construction. A scour analysis of the existing stream condition versus the temporary conditions during construction of Preferred Alternative 2C was completed (Michael Baker Jr., Inc., 2013) to consider the hydraulic modification of the project. The analysis showed that high quality mussel habitat only begins to be affected in a 50-year flood event, and only in a 500-year event did any sediment in the “very high” mussel habitat begin to move. The construction process may also cause some sedimentation as flows are slowed down near the temporary in-stream structures (causeways). As stated in the Biological Assessment (BA) for effects to endangered species (EnviroScience, 2014), these indirect effects are anticipated to be minor and will primarily affect marginal habitats along the northwest bank rather than high quality habitats that include threatened and endangered populations. Also, effects will be minimized through the translocation of mussels prior to construction.

Over the long-term, there will be a minor change to the riverbed from the new bridge; however, the long-term effects are minor and possibly advantageous. The one pier that is currently in the river (the one on the northwest side) will be re-located 10 feet farther into the middle of the stream (farther southeast). This new location places the pier farther from suitable mussel habitat. The footprint of the new pier will also be approximately 120 square feet smaller than the existing pier.

Cumulative Effects

The cumulative effect from a project is defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” 40 CFR 1508.7.

To assess the potential for cumulative impact, WVDOH researched other reasonably foreseeable actions that could impact resources affected by the project. Because the only substantial effects (either direct or indirect) are to mussel species and habitat, the geographic reach of the analysis included areas where other construction projects could impact the Elk River in the project area. The study area extended up the slopes to either side of the river in the

immediate vicinity of the project area and upstream and downstream a distance of approximately one mile. For purposes of cumulative effects assessment in the BA, EnviroScience considered the entire Elk River watershed, and results of that study were considered here as well (EnviroScience, 2014).

With regard to non-federal projects, which are the only ones considered in a BA analysis, present and planned horizontal wells for the next five years (using data from the WVDEP available as of April 2014) and present land use (using data from the WVU Natural Resource Analysts Center) were the only reasonably foreseeable actions (EnviroScience, 2014). No existing or planned wells were identified within several miles of the Project Area. The impacts of untreated or poorly treated domestic sewage from dwellings within the watershed is noted in the BA, though no calculations are possible.

Coal mining activity has declined in the region, and a search of WVDEP mining permits showed no mines within the study area (WVDEP, 2015). The closest mine that has been permitted and not yet started is the JASF Energy Queen Shoals #1 underground mine, which is over 3 miles to the southwest of the project and not adjacent to the Elk River.

According to plans from the Regional Intergovernmental Council (RIC) for Boone, Clay, Kanawha, and Putnam Counties, Clay County has recently (2014) added waterline extensions to the Clay County and Clay-Roane public water district systems and have plans for more extensions and upgrades to the systems (RIC, 2014). Connecting more households to the public water systems increases withdrawals from the Elk River. However, it is also important to note that subtle changes in flow in the Elk River can be dwarfed by the regulation of the water level by management of releases from the Sutton Dam.

According to the 2014 Statewide Transportation Improvement Program (STIP), two other construction projects have recently (2014) taken place in the general project vicinity: Camp Creek (AC Bank) resurfacing and Wallback-Clay Road resurfacing. These projects lie several miles from the proposed project and do not include substantial construction disturbances. No transportation projects are currently planned within the Project Area or within a mile upstream (WVDOT, 2014).

Conclusion

With the direct effects and potential indirect effects of the proposed project considered in conjunction with effects from past, current, and reasonably foreseeable federal and non-federal actions, the project is not anticipated to incrementally cause a collectively significant effect. Especially considering the small scale of the project and the close coordination between the WVDOH and the agencies responsible for the impacted resources (the Elk River and protected species therein), no further analysis is required at this time.

References

- EnviroScience. 2014. Biological Assessment and West Virginia Coordination Document for Replacement of the PFC Abraham G. Sams Memorial Bridge (Camp Creek Truss Bridge) over the Elk River in Clay County, WV. Prepared for WV Department of Transportation, Division of Highways and Federal Highway Administration. November 13, 2014.
- Michael Baker Jr., Inc. 2013. Hydrologic & Hydraulic Report (TS&L) for Camp Creek Truss Bridge County Route No 4/5 S308-4/5-2.95 00 Over Elk River. Submitted to WV Department of Transportation. August, 2013.
- Regional Intergovernmental Council (RIC). 2014. FY 2014 Update Regional Developmental Plan. Region III – Boone, Clay, Kanawha, Putnam Counties. September 2014.
- West Virginia Department of Environmental Protection. 2015. Mining Permit Search. <http://www.dep.wv.gov/insidedep/Pages/miningpermitsearch.aspx>. January 8, 2015.
- West Virginia Department of Transportation. 2014. Final 2014-2019 Federal Fiscal Year Statewide Transportation Improvement Program (STIP). Produced in cooperation with the Federal Highway Administration and the Federal Transit Administration. January 2014.