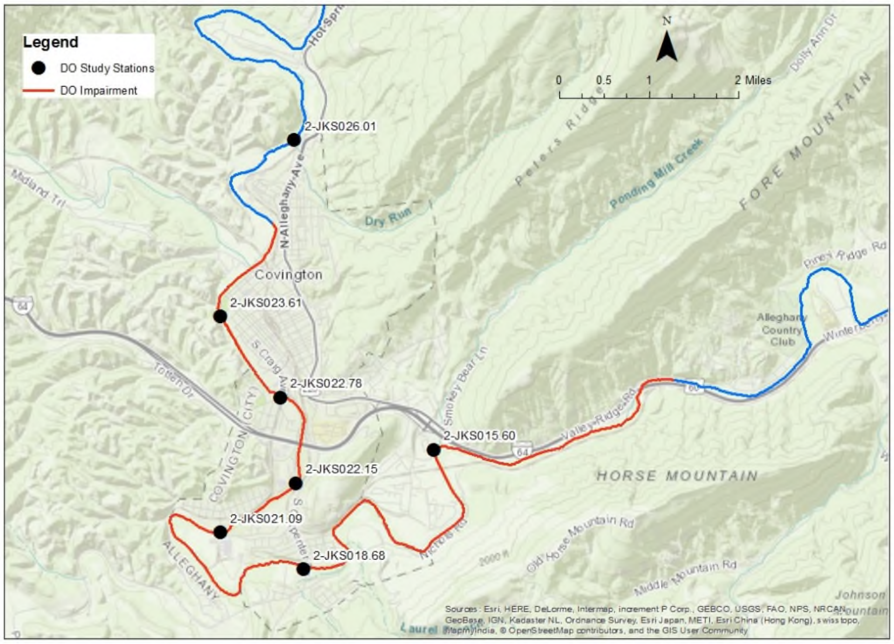
The Jackson River was listed for a dissolved oxygen (DO) impairment in 1996. Approximately 11.36 miles of stream, from river mile 24.21 to river mile 13.00 are impaired for DO. Implementation of the Jackson River nutrient TMDL by point source dischargers and flow augmentation of the Gathright Dam has resulted in improved water quality on the Jackson River as evidenced by healthier macroinvertebrate communities and reduced nutrient concentrations. This recent data has shown that parts of the Jackson and upper James Rivers that previously had been listed for benthic impairments are no longer impaired, resulting in delisting a total 29.16 miles of the two rivers. However, there are still 14.37 miles impaired for aquatic use that have yet to be delisted on the Jackson River.

In light of this recent data, DEQ biologists suspect that the dissolved oxygen sag that contributed to the original DO impairment has substantially improved. The initial dissolved oxygen impairment in 1996 had approximately 500 data points contributing to the impaired assessment. In order to evaluate the current status of the Jackson River DO impairment, DEQ recognized the need for intensive monitoring that accounts for variation in season, flow, and daily DO swings. To confirm the suspicion of improved DO concentrations, DEQ and WestRock partnered to conduct a special study to collect a robust dissolved oxygen dataset (along with temperature and specific conductivity) throughout two full years (April 2019 - April 2021). Field parameters were collected during early morning hours (6am - 9am) when dissolved oxygen is expected to be at its lowest. During more stressful periods (September – November 15) when flows are lower and temperatures can remain high, a higher sampling frequency was conducted. A third-party technician from ONE Environmental Group, was contracted to collect data during these months. During less stressful seasons, winter and spring DEQ or WestRock collected one early morning sample at each station once a month.

The first year of DO monitoring showed no DO exceedances of DEQ's water quality standards. Monitoring will continue throughout 2020 as outlined in the QAPP. Depending on the results of the 2020 monitoring effort, data will be used to pursue a delist of the Jackson River for dissolved oxygen or to move forward with a Total Maximum Daily Load (TMDL). At the completion of the study, DEQ will present a summary of the results. Preliminary project information including the 2019 data, project QAPP , and 2019 project presentation have been posted on DEQ's website. Please contact Lucy Baker (lucy.baker@deq.virginia.gov; 540-562-6718) for more information.


Legend
DO Study Stations
DO Impairment
N
0 0.5 1 2 Miles
2-JKS026.01
2-JKS023.61
2-JKS022.78
2-JKS022.15
2-JKS021.09
2-JKS018.68
2-JKS015.60
Covington
N Alleghany Ave
S Craig Ave
Dry Run
Ponding Mill Creek
Peters Ridge
FORE MOUNTAIN
HORSE MOUNTAIN
COVINGTON CITY
ALLEGHANY
Midland Trl
Totten Dr
Smokey Bear Ln
Valley Ridge Rd
Piney Ridge Rd
Alleghany Country Club
Old Horse Mountain Rd
Middle Mountain Rd
Dolly Ann Dr
Hot Springs
Laurel
Johnson Mountain
2000 ft
Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community