

COLUMBIA-WRIGHTSVILLE BRIDGE LIGHTING AND MAYFLY STUDY

The Columbia-Wrightsville Bridge is currently undergoing a study by PennDOT to investigate mayfly attraction to the bridge lighting with a goal of potentially including changes to the lighting as an enhancement with the future bridge rehabilitation project. The lighting was replaced in 2014 with historic reproduction lanterns and had an unforeseen effect of attracting mayflies to the top of the bridge. As a result, the local communities turn off the bridge lighting during the annual mayfly season to avoid the swarming and the problems that have arisen from it.

This study, in partnership with the local municipalities of Columbia, Wrightsville and West Hempfield, aims to target certain characteristics of the lights and determine the reason that mayflies are attracted to the lighting on the bridge. The intention is to devise a solution that may reduce the number of mayflies attracted to the bridge's above deck lighting. This may ultimately include minor changes to the above bridge lighting and/or the addition of under bridge lighting based on the testing study outcome anticipated to be known in the Fall of 2020. The City of Harrisburg is also a cooperative partner in the study by allowing the Market Street Bridge's under bridge lighting colors to be varied as part of the testing to determine its attractiveness or deterrence on mayflies.

PennDOT's consultant leading the light testing study effort includes staff from Brinjac Engineering's, Inc., Lighting Studio who are planning a series of light tests on the Columbia-Wrightsville Bridge. It will involve leaving the majority of lights turned off across the bridge, while three groupings of lights, each consisting of four light fixtures will remain on and will be evenly spaced across the bridge. The illuminated fixtures will have different colors or shades of light; and for part of the testing may have shielding material to partially block the light from leaving the fixture in certain directions. Additionally, floodlight fixtures will be suspended from the edge of the bridge at select locations, to shine light underneath the bridge. Independent researchers, as part of the broader team, will analyze the collected data and develop recommendations.

The anticipated testing is scheduled for the following timeline (weather dependent):

- Contractor to temporarily modify light fixtures: June 8-9, 2020
- Data collection of lighting and mayfly interaction: June 10-24, 2020
- Contractor to return light fixtures to original set up: June 25-26, 2020

An electrical contractor will perform the lighting modifications during the day-time hours with traffic control support. Motorists may experience minor delays in crossing the bridge while the work is being performed. Pedestrians should use caution along the sidewalk when passing the contractors vehicle.

Public notification will occur locally and regionally in advance of the testing phase. Dynamic Message Signs will be placed on each end of the bridge and will display alert messages to motorists, bikes and pedestrians, but only on the nights of actual testing, anticipated to be up to three nights under optimal weather and mayfly conditions, during the entire two-week data collection period. Workers will be on site at various times during the night-time testing period observing the mayfly interaction with the lights, recording light level readings, and taking photographs. Motorists are advised to slow down and use extra caution during the testing events for their own safety and for that of PennDOT's workers.