

Howard County Environmental Sustainability Board Meeting
Robinson Nature Center – Columbia, MD
December 13, 2018
7pm-9pm

Attendees

Christ Tsien	ESB
Kelly Hensing	ESB
Kim Drake	CA Climate Change & Sustainable Advisory Committee
Nancy McAllister	ESB
Georgia Eacker	ESB
Mark Southerland	ESB
Chein-Chi Chang	ESB
James Palmer	Resident
Jonathan Watson	MDNR
William Harbold	MDNR
Grace Kufocik	Patapsco Heritage Greenway
Matthew Hoover	OCS

Minutes

7:08 PM – Mark Southerland started the meeting and had everyone in the room introduce themselves.

7:10 PM – William Harbold, from the Maryland Department of Natural Resources (MDNR), began his presentation “Fish Passage No Longer Impeded in the Lower Patapsco River After 112 Years.” Bloede Dam was built as a hydroelectric dam in 1906 and power generation occurred from 1907 to 1924. A fish ladder was installed in 1992. Bloede Dam was breached on September 11th, 2018 after a long period of pre-removal monitoring. The Maryland Biological Stream Survey (MBSS) has been monitoring in the Patapsco since 2009 and a specific emphasis on migratory alosines (shad and herring species) began in 2011.

Some of the research questions were what fish species currently enter the Patapsco River during the spring, what upstream extent of each anadromous species distribution in the river, do any species currently reach Bloede Dam, how much of a barrier is the dam to migration and do the distributions and abundance of spring migrating species change following dam removal?

They completed electrofishing, attached a hoop net on the Bloede Dam fish ladder and deployed a DIDSON acoustic camera to help with their research. They completed fish research upstream and downstream from the dam. They observed fifty-four species of fish in the Patapsco River since 2009. Fifteen fish species, in addition to Hickory Shad and River Herring, have only been observed downstream of Bloede Dam, which meant one third of Patapsco fish diversity was restricted by the barrier. Some of the fifteen are spring migrants for the Chesapeake Bay, some are potamodromous migrants within the

river system, some are dispersing from the tidal freshwater habitats downstream, and some are recent arrivals potentially looking for new territory. No matter their intentions none of them were getting past the Dam, or at least not enough in detectable numbers. This should now change since the dam has been removed. The positives of the removal should be increased access to spawning and nursery habitats for migratory species, better connectivity between habitats for resident species and a higher diversity spread throughout the river system. A potential negative could be easier pathway for dispersal of invasive species, but the hope is the benefits outweigh the negatives. Monitoring should continue in 2019 and beyond.

7:35 PM – Johnathan Watson started his presentation on “Implications of Removed and Existing Dams on Benthic Macroinvertebrate Assemblages in the Patapsco River.” Several studies have examined the response of benthic macroinvertebrates to dam removals. A couple key similarities are coarsening of sediment upstream increases density/abundance of organisms that prefer riverine substrates and sedimentation downstream temporarily impacts those aquatic organisms. The Patapsco is a very flashy system, so these organisms are exposed to frequent flow and turbidity disturbances.

They collected samples from 2009 to 2018. The samples were collected from around the Simpkins and Bloede Dam areas. One method they used for collection was a D-frame net with a 500-micron mesh net from a total of 20 square meters of preferred habitat, which were riffles, root wad, woody debris, leafy pack and macrophytes. Most of the samples were taken in the Spring, but some were taken in the Summer too. Once collected, they randomly selected subsamples until they reached 100 organisms, which are identified to genus. The benefit of this method is the speed of processing and the concentration of bugs, but the bugs over-represent habitats that can be a small portion of the Patapsco sites.

They examined several metrics to look for a signal in dam removal. EPT richness (number of species of stream bugs) and the proportion of burrowers showed the strongest signal across sites. Over sixteen thousand organisms were identified, 97% to genus, seventeen orders represented, and 158 genera were represented. Dipterans were most prevalent at 53%, which was followed by amphipods at 17%. EPT taxa was collectively at 23%.

EPT richness increased upstream following the Simpkins Dam removal. EPT richness decreased downstream immediately following the Simpkins Dam removal but increased back up after two years. The site immediately downstream contained no EPT taxa in 2011 then rebounded to higher than pre-removal values. The D-net sampling conclusion showed several metrics reflect expected patterns, other organism groupings were highly variable across years and multivariate analyses indicate high inter-annual variability.

Another method they used to collect data was Hess sampling, which started annually in 2013. Two samples were collected per site from selected 15m grids. Advantages to using this method is it ties assemblage characteristics to habitat characteristics, it answers questions about changes to richness and

it is a better distinguish between assemblages. A disadvantage to this method is the processing time and it limits spatial coverage.

During the Hess sampling over thirty thousand individuals were processed, 92% to Genus, 21 Orders represented, and 117 Genera represented. Dipterans dominated again at 48% and EPT constitute 34% of individuals. The Hess sampling conclusions were that all patterns were consistent with the D-net data. There was lower inter-annual variability, greater ability to distinguish between sites and the links between habitat and assemblage characteristics are stronger. It was concluded that benthic macroinvertebrate assemblages are highly variable in Patapsco. For more information please visit <http://dnr.maryland.gov/Pages/default.aspx>.

8:05 PM – Mark gave the floor to James Palmer who is a Howard County resident that wants to encourage and promote the use of renewable energy in Howard County. He wants the community to consider solar arrays and the use of renewable fuels. He wants the County to increase solar usage in schools and in county buildings. He wants the Howard County Government to consider using electrical vehicles. He came to the board to see if the board would take an active role in encouraging the use of renewable fuels in the county.

8:10 PM – Committee Reports:

Mark gave an update on the Environmental Sustainability Legislative Breakfast. It is on January 8, 2019 from 7:30AM to 9:30AM and will be held at the Howard County Community College. Money has been donated from the Howard Hughes Corporation to help fund the breakfast.

Mark gave an update on the Building Bird Collision committee. They are working with Safe Skies Maryland. They still have the bill but changed the name of it.

An Awards Committee update was provided by Mark. Matt Hoover will send out the award documentation, by email, to the Environmental Sustainability Board members. A vote on the award will take place during January's meeting. They are contemplating having a reward for commercial groups too.

The Plastic Committee is working with Less Plastic Please. They are currently discussing having a bag fee for Howard County and how to get it into legislation.

8:35 PM – Roundtable

Chris Tsien advised that a Pedestrian Master Plan is coming up, which was brought up during the budget hearing.

A discussion was brought up about the bus system changing to electric and natural gas vehicles. They want to think of ideas on how to incentivize bus company owners into making the transition.

An Impact fee bill is coming up and it was advised that it should be monitored.

The Columbia Association Climate Change and Sustainable Advisory Committee had its second meeting. They are currently gathering ideas to present to Calvin Ball.

It was advised that Washington DC has banned the use of gas powered leaf blowers and one of the reasons is because of the impact they have on birds.

Georgia stated that The University Maryland is working on their budget. The University of Maryland Extension (UME) is currently under PAYGO.

UME is partnering with the community college to promote Stormwater management.

8:58 PM – Meeting Adjourned.