2015 Patuxent River Conference

Small Group Discussion: Red

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Watershed / Upland Species and Habitat

What is the most fundamental scientific question concerning watershed / upland habitat and species that would enhance our understanding of the Patuxent River ecosystem?

> **Fundamental Question:** What interventions would be most effective in reducing sediment and nutrient loading?

Elaboration:

- Interventions are needed to protect the permeable surfaces of the Patuxent River watershed.
- Evaluate land use in the watershed more frequently than every 5 years.
- Educate and incentivize property owners, farmers, and homeowners to adopt control / restoration practices.
- Enhance outreach to local and city councils.
- Undertake additional targeted studies regarding the impact of stormwater runoff on nutrient loading.
- Improve the monitoring of the effectiveness of management plans.
- Evaluate the effectiveness of wetlands in removing nutrients, that is, the effectiveness of wetlands as a means of controlling “nutrient obesity” in their role as the “kidneys of the watershed”.
- Evaluate carbon cycling in wetlands.
- What actions should be taken to control chicken waste on the Eastern Shore?

Tidal Species and Habitat

What is the most fundamental scientific question concerning tidal habitat and species that would enhance our understanding of the Patuxent River ecosystem?

> **Fundamental Question:** What is the most significant impact of climate change on tidal systems?

Elaboration:

- Determine the influence of the Bay on the tidal system of the Patuxent River.
- Determine the influence of the Patuxent River on the Bay.

Conservation, Restoration, Management, and Monitoring

What is the most significant conservation, restoration, management, or monitoring strategy that would enhance water quality in the Patuxent River over the next 5 years?

Fundamental Question: Can we put together a dynamic, complete, and current database to reveal gaps in the data in order to determine additional research needs?

Elaboration:

- Education and outreach to the public is key.
- Provide simple tools to help volunteers evaluate the impact of storms on the Patuxent River system post-storm.
- Train citizen scientists in good data management and encourage watershed stewardship.
- Gain an understanding of biomass movement in the Patuxent River watershed and determine what implications are important in its management.
- Put together an atlas or equivalent comprehensive report of the river system profiling the Patuxent River's physical, chemical, and biological characteristics, trends, issues, and gaps in knowledge, as well as recommended actions, including policy implications and regulations. Make this product available online. Consider providing a summary for decision-makers in the form of a white paper.
- Establish a clearinghouse for data gathering and analysis, and share with all parties including the general public.
- Coordinate efforts along the entire length of the Patuxent River.
- How can the anticipated impacts of climate change on the watershed and the Patuxent River, such as sea level rise, salinity change, invasives, etc., be managed?