

# Rising Watershed and Bay Water Temperatures— Ecological Implications and Management Responses

May 2021 Ag Workgroup

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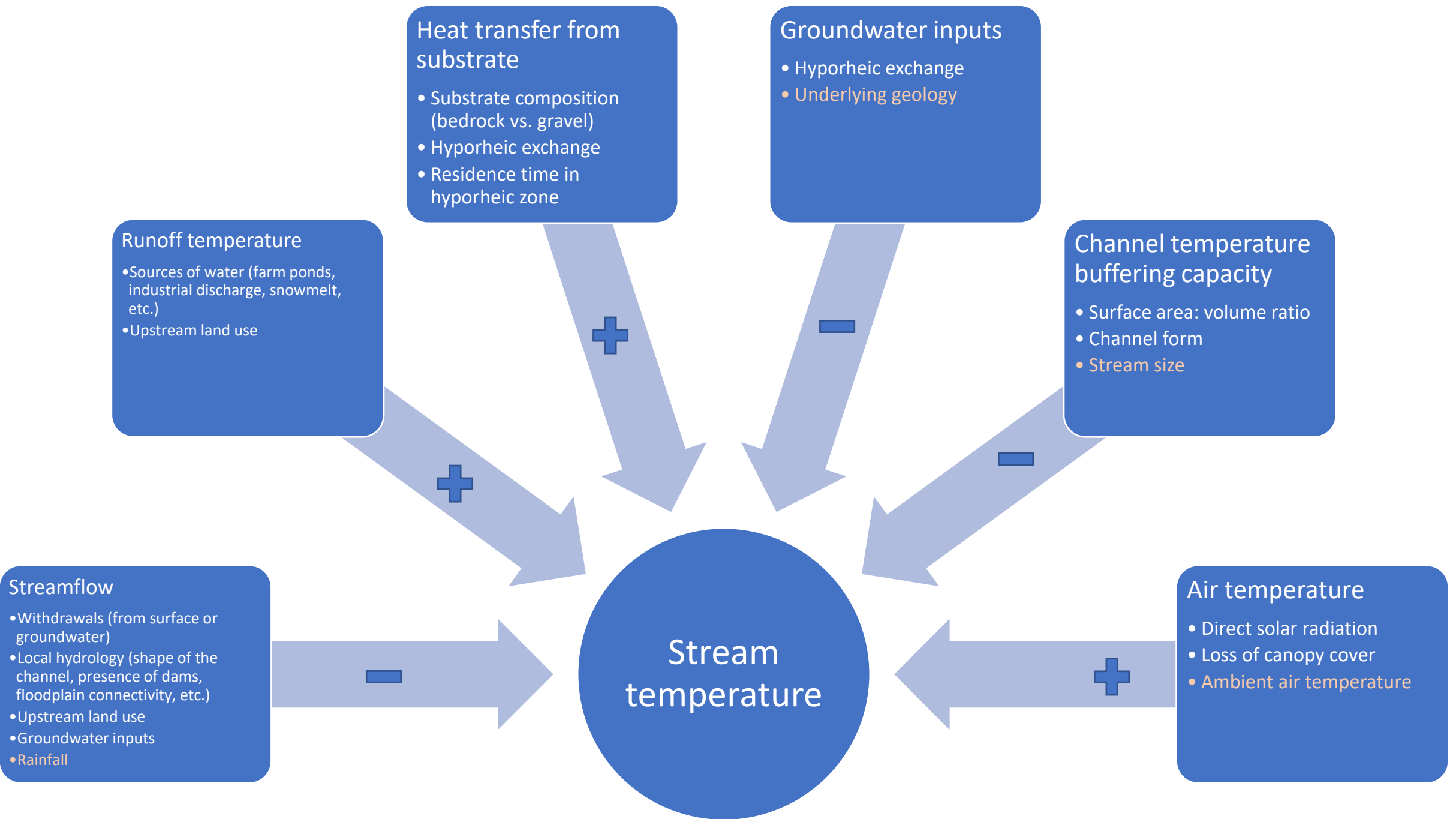
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# Workshop objectives

- \* Summarize major findings on the ecological impacts of rising water temperatures, including science-based linkages between causes and effects; and
- \* Develop recommendations on how to mitigate these impacts through existing management instruments, ranging from developing indicators, identifying best management practices, and adapting policies.

# Pre-workshop synthesis topics

1. Identification of Where Rising Stream and River Water Temperatures will Have the Most Impacts on Watershed Fish Populations and Overall Stream Health Including Identification of Critical Temperatures/ Temperature Changes
2. Identification of the Where Rising Bay Water Temperatures will Have the Most Impacts on Bay Fish, Shellfish and Crab Populations and Their Prey Including Identification of Critical Temperatures/ Temperature Changes
3. Identification of Where Rising Bay Water Temperatures will Have the Most Impacts on Submerged Aquatic Vegetation Communities and Individual Species Including Identification of Critical Temperatures/Temperature Changes
4. Identification of the Characteristics of Watersheds Which May Make Them More Vulnerable or Resilient to Stream Temperature Changes in the Absence of Certain Key Landscape Factors
5. Past, Current and Projected Changes in Watershed and Tidal Water Temperatures and Implications for Ecosystem Processes Influencing Stream, River and Estuarine Health
6. Understanding the Factors and Geographies Most Influencing Water Temperatures in Local Waters Throughout the Watershed and Across all the Bay's Tidal Waters
7. **Identification of Where Habitat Restoration Can Mitigate Rising Water Temperatures and Where Rising Temperatures Can Impair Habitat Restoration**
8. **Identification and Characteristics (and Quantification, Where Possible) of BMPs Which Can Help Mitigate (or, Conversely Exacerbate) Rising Local Stream, River, Groundwater and Tidal Water Temperatures**
9. Synthesis of Information Supporting Development of and Options for a Tidal Bay Temperature Indicator
10. Identification of Any Needs for Enhancing the Partnership's Monitoring Networks as Needed to Support Reporting of the Water Temperature Indicator or Other Instruments



# Classification of BMP Temp Effects

1. Known Heaters

2. Suspected Heaters

3. Shaders

4. Shade Removers

5. Known Coolers

6. Suspected Coolers

7. Thermally Neutral

8. Uncertain or Unknown

# Questions for Ag Workgroup

- Which agricultural BMPs would you expect to impact water temperature (either increase or decrease)
- Do you have research on the impacts of BMPs on water temperature?
- Do you want to help with our pre-workshop BMP synthesis group?

Please email me! [Katherine.brownson@usda.gov](mailto:Katherine.brownson@usda.gov)