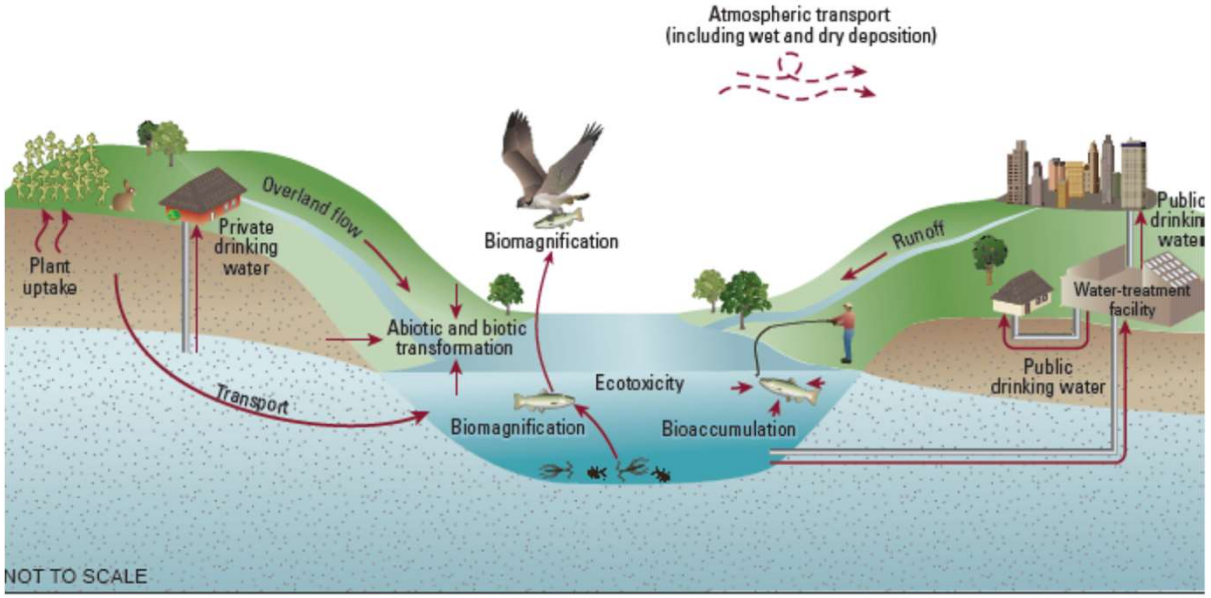
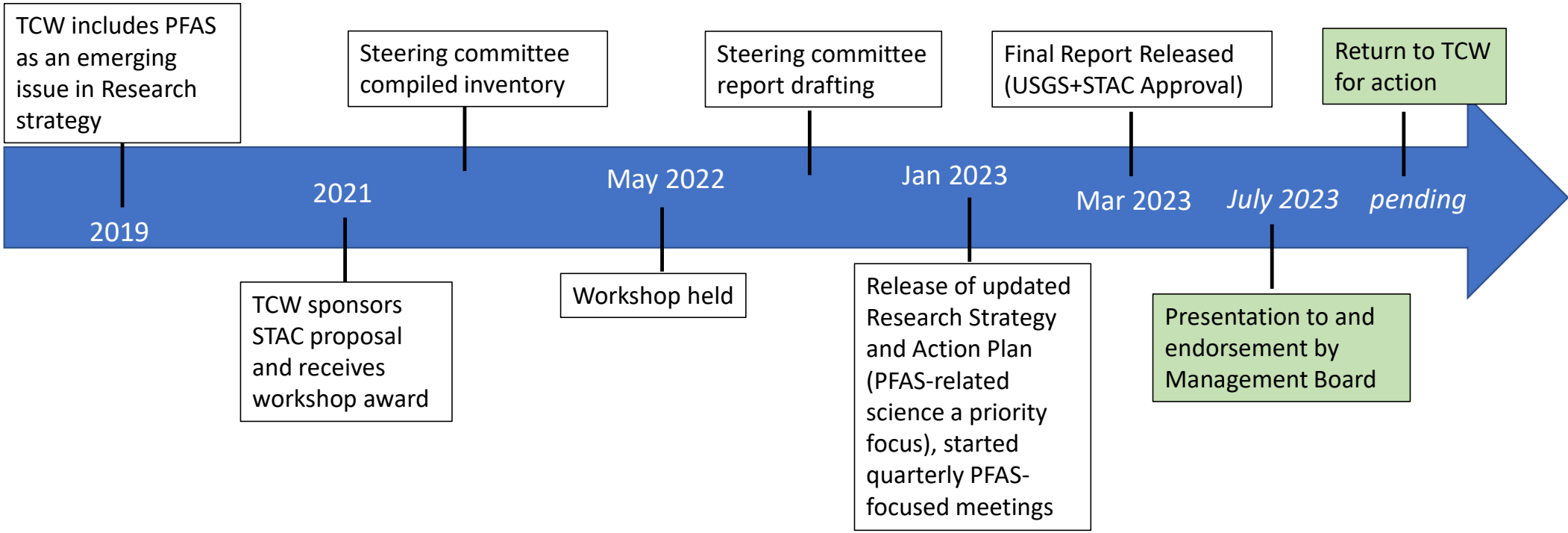
Improving the Understanding and Coordination of Science Activities for PFAS in the Chesapeake Watershed- STAC Workshop

Request for Endorsement of Recommendations and Implementation by Toxic Contaminant Workgroup of the WQGIT



(figure from Tokranov and others, 2021; USGS Circular 1490, https://pubs.usgs.gov/circ/1490/cir1490.pdf)

Timeline of STAC PFAS Workshop and Toxic Contaminant Workgroup Related Activities

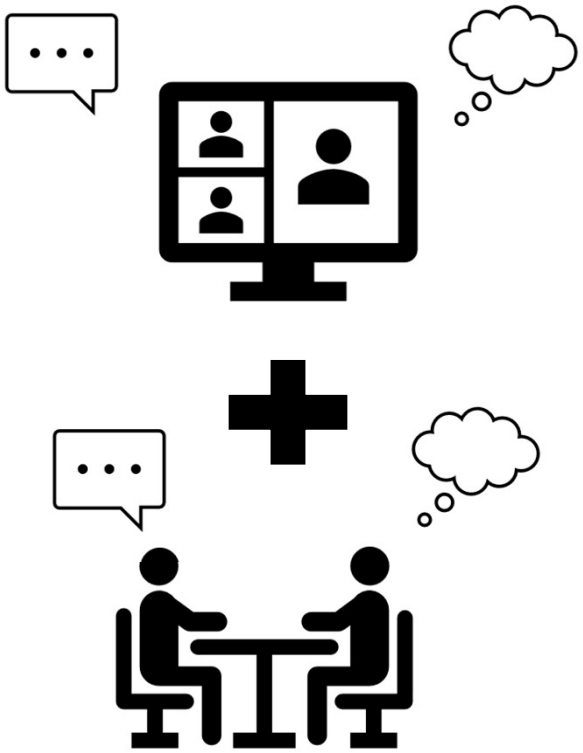


A “State of the Science” STAC Workshop

- *Workshop Purpose and Report* : Evaluated existing knowledge on the fate and effects of PFAS, identified data and knowledge gaps, and proposed approaches to fill these gaps.

- *Decision Request*: MB endorsement of the Toxic Contaminant Workgroup (under WQ GIT) to lead the development of a response to the report recommendations.
- *Proposed Action by TCW*: “Response” to consist of working to adapt the Research Strategy to accommodate these recommendations and prioritize topics as outlined in the report

Hybrid workshop format: Maximizing collaboration and capacity



- Focused presentations on current information
  - Presence
  - Sources
  - Ecological effects
  - Fish consumption advisories
  - Sampling and analysis
- Breakout groups to discuss gaps and needs

Takeaways

- Drinking water and surface water sampling are the primary focus.
- Methods are not standardized.
- Tissue matters for fish sampling and depends on the study goals.
- Communication and transparency is extremely important.

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High priority science needs

Urgent, short-term

- ✓ Temporal and spatial assessment in tributaries
- ✓ Coupled fish and surface water sampling

Near-term

- ✓ Regionally uniform approach for consumption advisories.
- ✓ Effects on different life-stages of fisheries.

Near- to mid-term

- ✓ Land-use impacts.
- ✓ Biological effects are low concentrations.
- ✓ Movement through the food web.

Long-term

- ✓ Multiple stressor studies
- ✓ Non-lethal toxicity with emphasis on long term exposures
- ✓ Interface between water and land.

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Actionable Recommendations

Study Design and Approaches

- Consider a monitoring network and uniform approaches to directly assess PFAS.
- Design studies that relate PFAS occurrence and effects in different land-use settings.

Consistency in Data Collection

- Develop and adopt similar methods to better compare data among studies.
- Collect standardized data for ecological risk assessments across a range of species to better protect aquatic resources.

Communicate and Collaborate

- Enhance integration to facilitate broad coordination across the Watershed.
- Collaborate amongst jurisdictions to develop data needs for fish consumption advisories.

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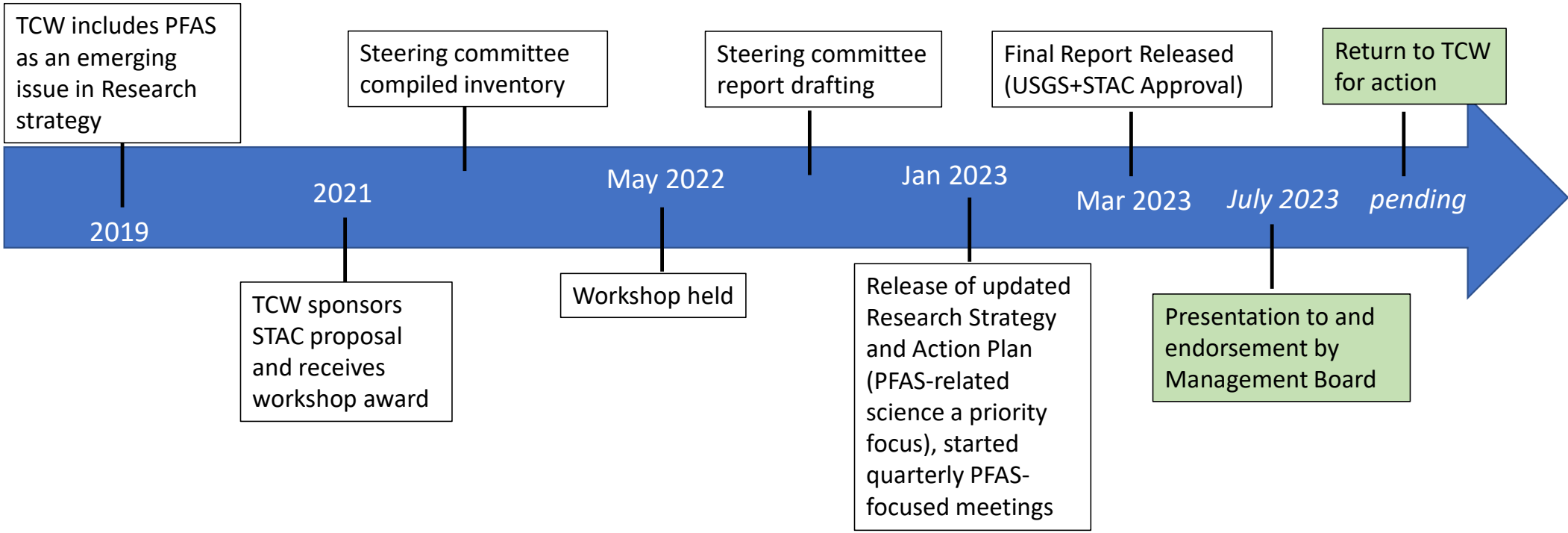
Timeline of STAC PFAS Workshop and Toxic Contaminant Workgroup Related Activities



Research Outcome Management Approaches and STAC Report Science Needs

Synthesize scientific information to make fish and shellfish safer for human consumption	• Fish consumption advisories	2023 Quarterly Meeting 2
Understand the influence of contaminants in degrading the health, and contributing to mortality, of fish and wildlife	• Fish and wildlife health effects and ambient water quality criteria development and basis	2023 Quarterly Meeting 2
Document the occurrence, concentrations, and sources of contaminants in different landscape settings	• Sources, occurrence, transport – Consistency in PFAS collection and analysis methods, analyte lists, study design, and data storage	2023 Quarterly Meeting 1