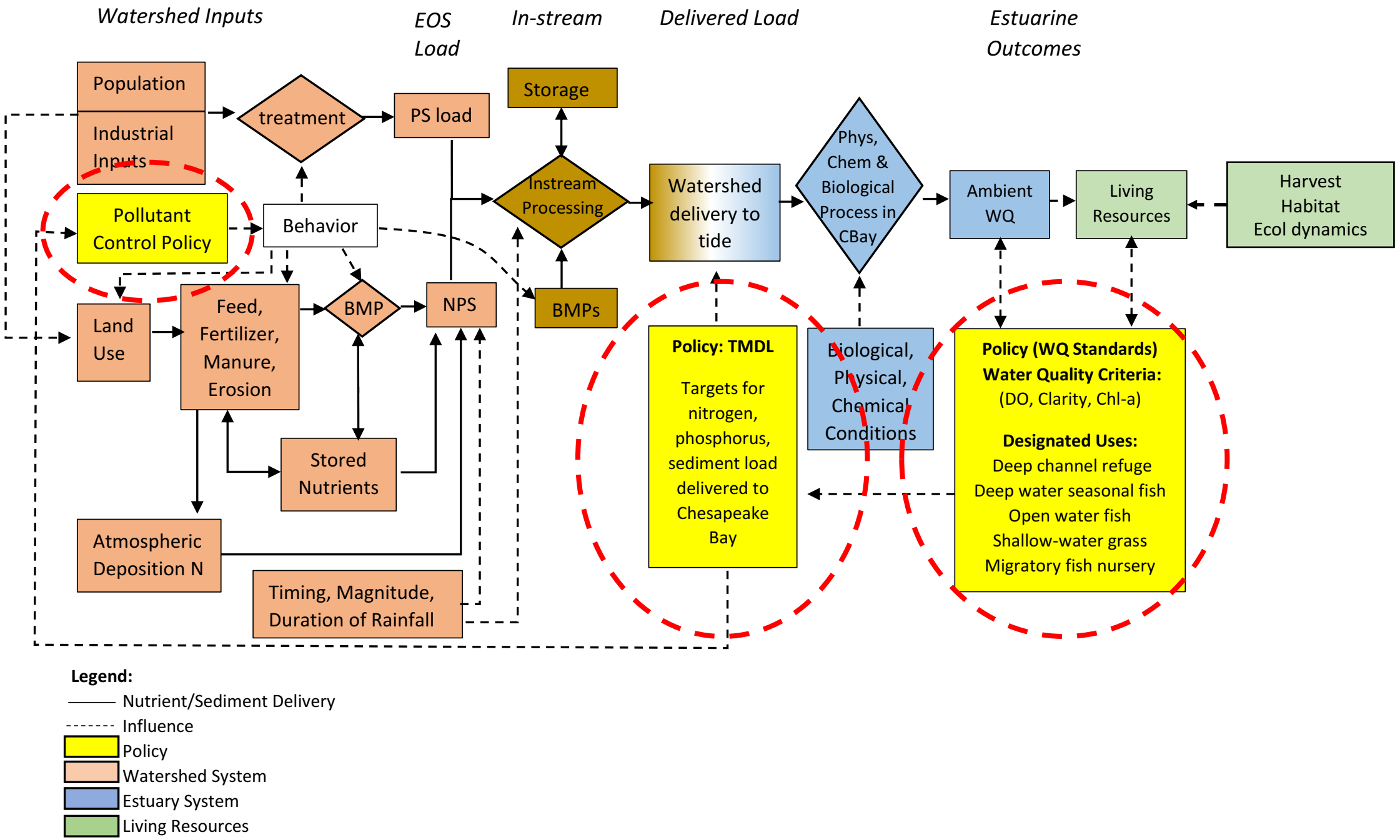
SGA Process Update and Discussion

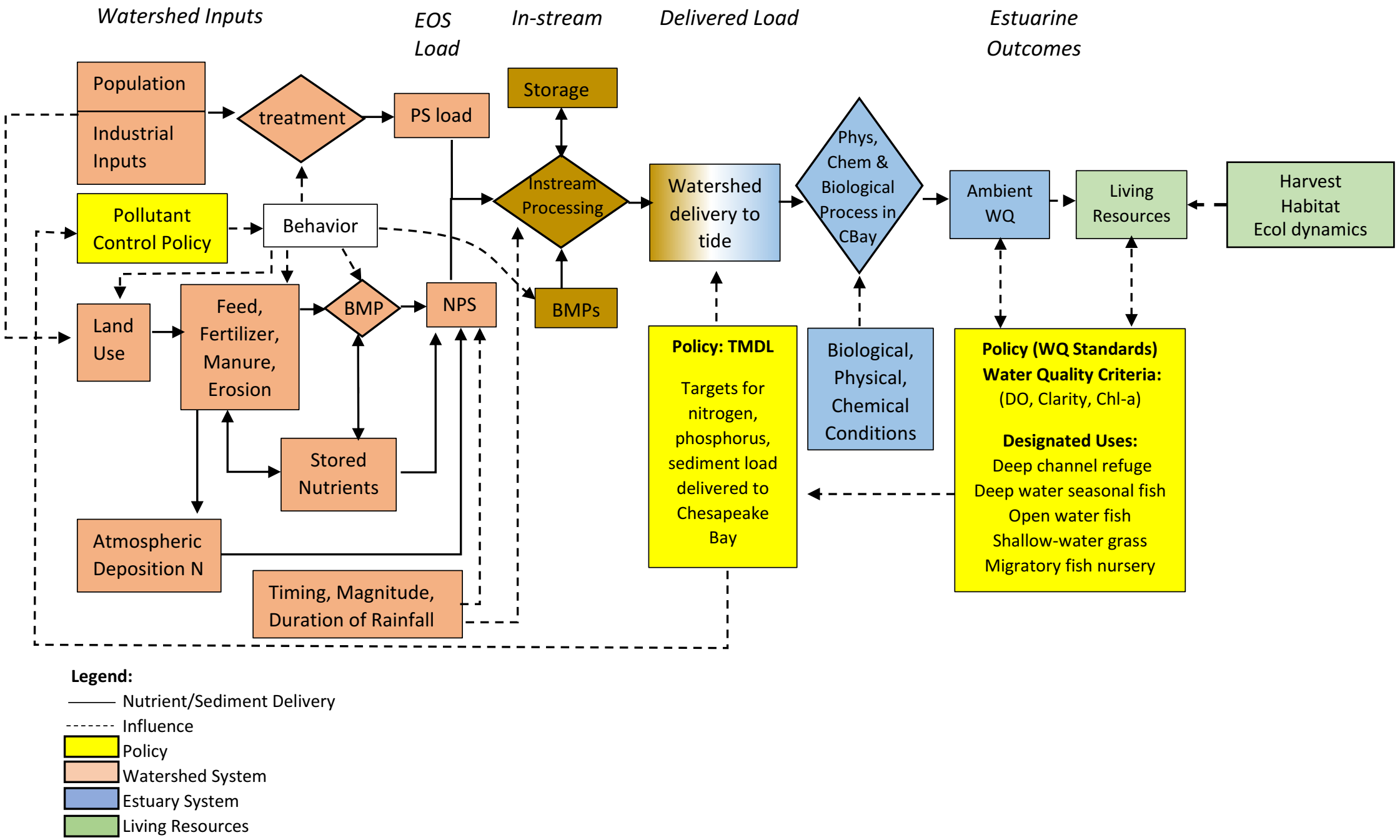
June 11, 2020

Achieving Water Quality Goals in the Chesapeake Bay: Evaluation of System Response

Objectives

- Identify gaps and uncertainties in system response —physical, chemical, biological, and socioeconomic— that impact efforts designed to attain WQS.
- Identify recent scientific developments that can shed light on the gaps and uncertainties in system response to advance efforts to attain WQS, and
- Recommend research strategies that improve understanding of system response to support informed decision making to attain WQS.
- Recommend strategies for integrating scientific and technical analysis with active adaptive management in order to aid decision-making under uncertainty.


Watershed Inputs
EOS Load
In-stream
Delivered Load
Estuarine Outcomes
Population
Industrial Inputs
treatment
PS load
Storage
Instream Processing
Watershed delivery to tide
Phys, Chem & Biological Process in CBay
Ambient WQ
Living Resources
Harvest Habitat Ecol dynamics
Pollutant Control Policy
Behavior
Land Use
Feed, Fertilizer, Manure, Erosion
BMP
NPS
BMPs
Stored Nutrients
Atmospheric Deposition N
Timing, Magnitude, Duration of Rainfall
Policy: TMDL
Targets for nitrogen, phosphorus, sediment load delivered to Chesapeake Bay
Biological, Physical, Chemical Conditions
Policy (WQ Standards)
Water Quality Criteria:
(DO, Clarity, Chl-a)
Designated Uses:
Deep channel refuge
Deep water seasonal fish
Open water fish
Shallow-water grass
Migratory fish nursery
Legend:
Nutrient/Sediment Delivery
Influence
Policy
Watershed System
Estuary System
Living Resources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The Value of this Effort

1. *What's the concern?*
   Summarize & focus managers and engaged public's attention on key system response gaps related to achieving WQS
2. *What do we do with the findings in #1?*
   Recommend ways in which science can be better integrated with policy to improve decision-making under uncertainty.

Where are we?
What has been going on since March?

Tentative Report Outline:

I. Introduction
II. Evaluating Gaps and Uncertainties in System Response: Background and Approach
III. Watershed Response
IV. Estuary Response
V. Living Resource Response
VI. A Knowledge Base for Bay Management Uncertainty

Text largely unchanged since draft distributed in March but
Revisions to section II in the works to set up objective 4 …
Conversations with Carl H. and Kirk H. about adaptive management in the CBay program.

“In achieving the advancements in knowledge about the Bay ecosystem, the efficacy of strategies, and the efficiency of the management program, there are at least four areas in which STAC can make important contributions:

1. conceptual models that frame management strategies;
2. decision making under uncertainty to develop management strategies;
3. monitoring programs that inform learning in the management effort; and
4. assessment of the effectiveness of management actions to inform future directions.”

-Carl Hershner and Kirk Havens

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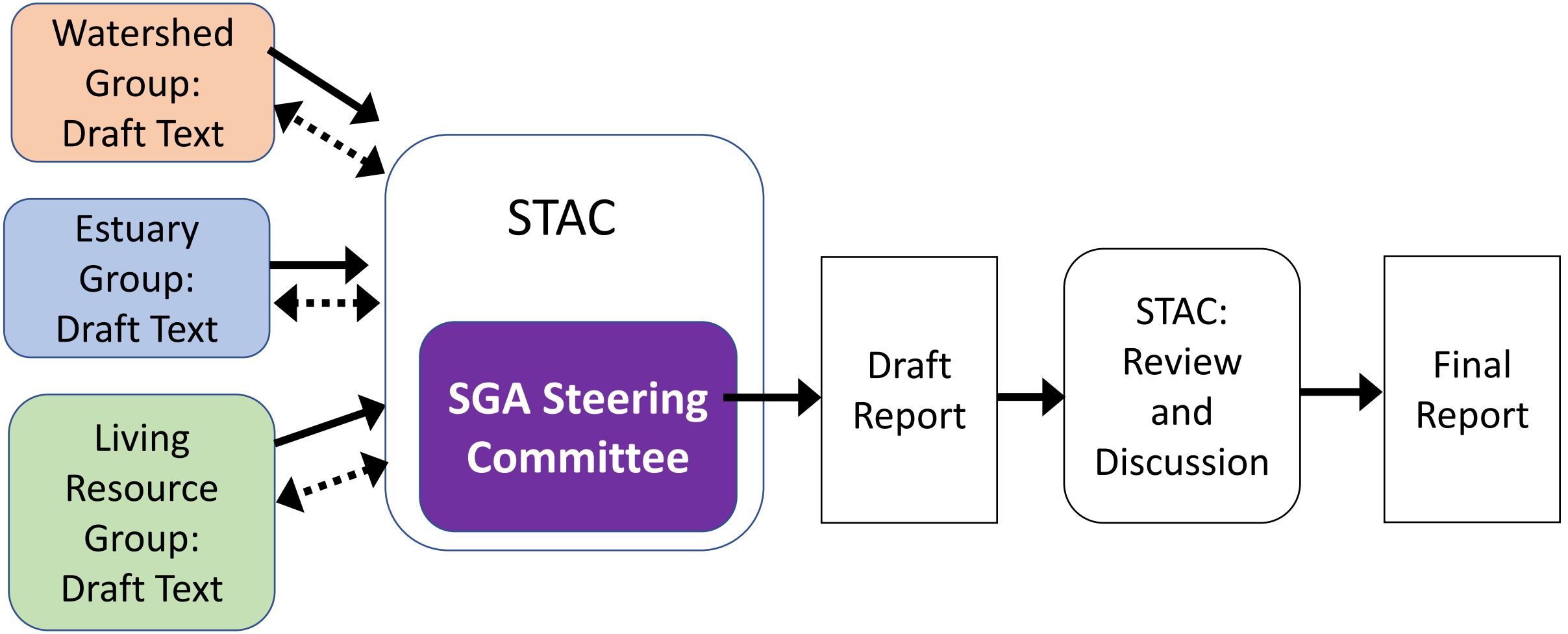
Workgroup updates to follow.

Independent and parallel interest and thoughts in this area emerging from Workgroup discussions

Next Steps

Process


Watershed Group: Draft Text
Estuary Group: Draft Text
Living Resource Group: Draft Text
STAC
SGA Steering Committee
Draft Report
STAC: Review and Discussion
Final Report

Some Emerging Cross-cutting Coordination Issues

- Common nomenclature to discuss uncertainty/variability
- Policy/Management response to scientific uncertainty
  - "Adaptive Management"
  - Techniques/Analytical Approaches

Revised Tentative Timeline

	Suggested Use of Some Meeting Time	Self-Imposed Schedule for Work Products
September 2020	L.R. Group	Watershed Text for Review
December 2020	Adaptive Management Decision-making under uncertainty	Estuary Text for Review Living Resource Text for Review
March 2021	Document Discussion/review	Section V
June 2021	Complete Draft Report for STAC review/discussion	Draft Report
September 2021	Complete Report for STAC review/discussion	Finalize Report