Chesapeake Bay Program
Science. Restoration. Partnership.

MODELING NEEDS
OF THE
GOAL IMPLEMENTATION TEAMS

Modeling WG Call

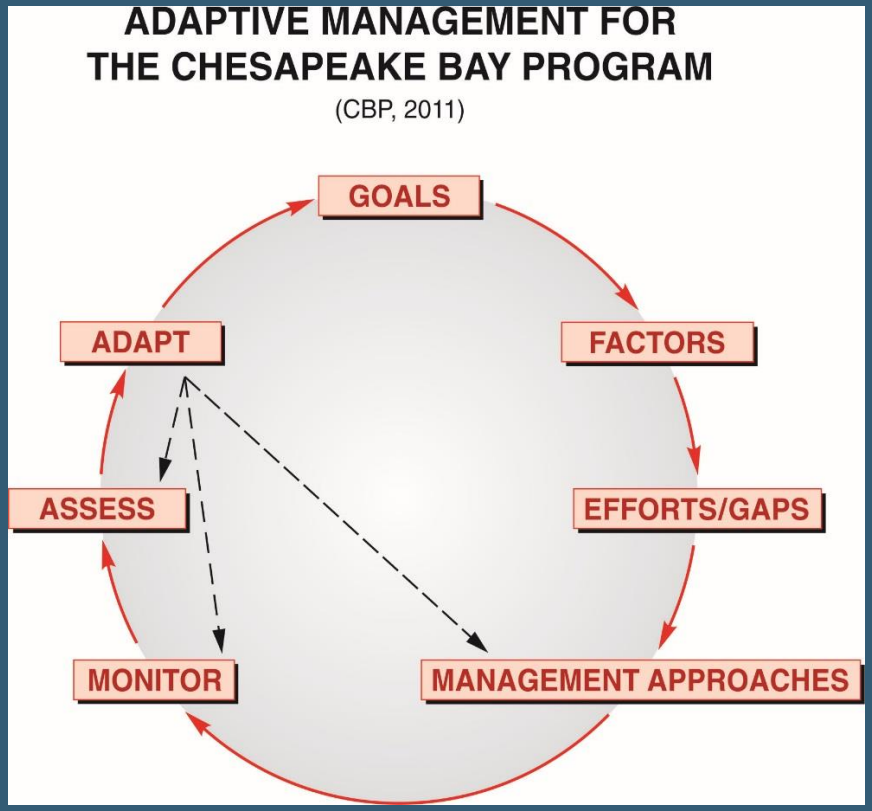
February 6, 2018

Scientific, Technical Assessment, and Reporting Team

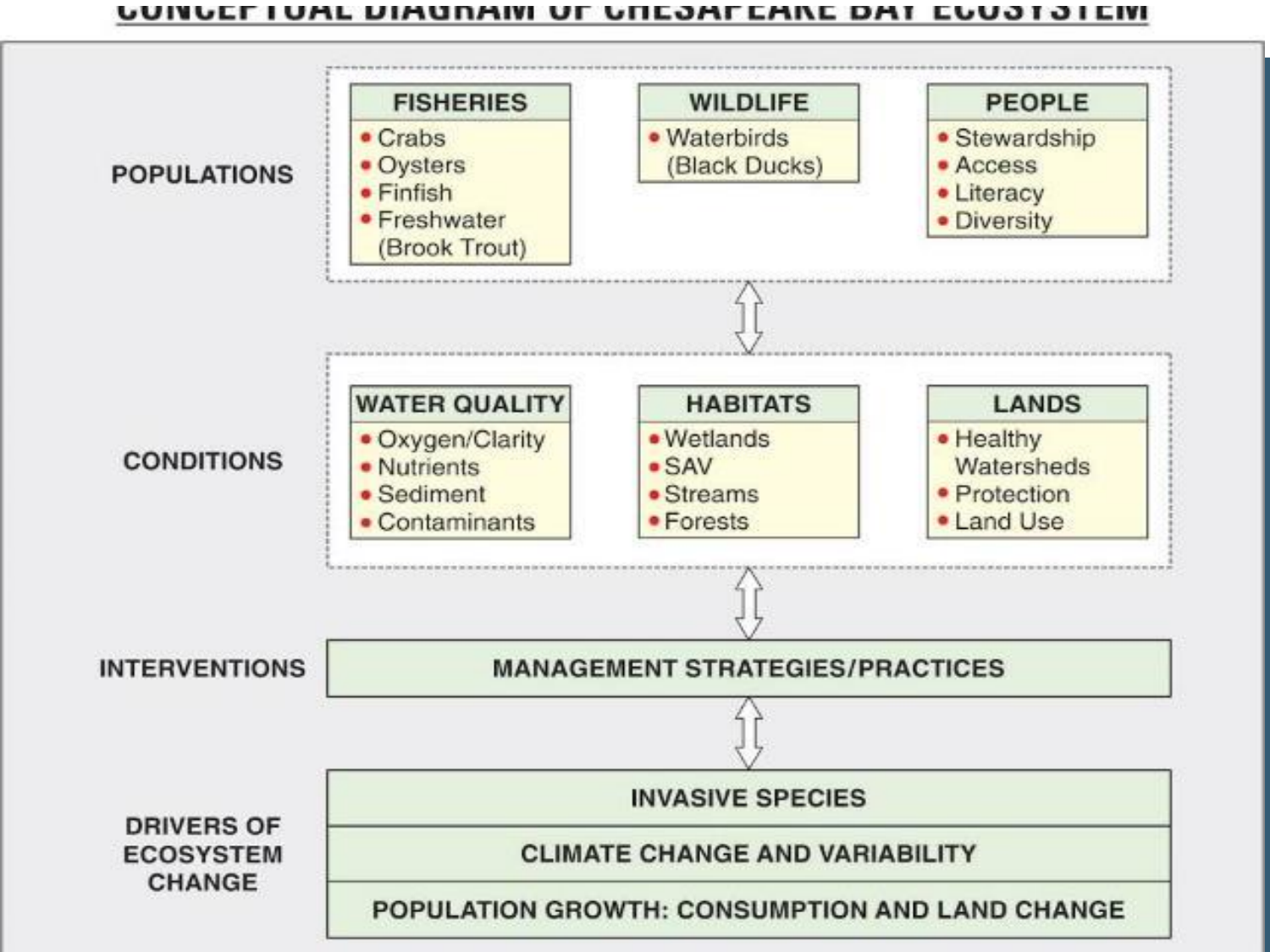
Presenter: Scott Phillips (STAR co-chair)

MODELING NEEDS AND PROCESS

- STAC modeling workshop (Jan, 2018)
- STAR gathered needs
- More needs than capacity
- Suggested process
  - Dialogue
  - Priorities
  - Build capacity



WATERSHED AGREEMENT



- 10 goals
- 31 outcomes
- Inter-relations
- Co-benefits

CHESAPEAKE SCIENCE SUPPORT

GOAL IMPLEMENTATION TEAMS: SCIENCE NEEDS

FISHERIES | HABITAT | WATER QUALITY | HEALTHY WATERSHEDS | STEWARDSHIP | LEADERSHIP

STAC: Science Advisors

- GUIDANCE
- REVIEW
- ADVICE ON PROVIDERS

STAR: Science Coordination

- MONITORING
- DATA INTEGRITY
- STATUS AND TRENDS
- EXPLAIN AND PREDICT CHANGE
- MODELING
- CLIMATE CHANGE
- INFORMATION AND GIS SUPPORT
- SYNTHESIZE AND INFORM

Science Providers

CBP OFFICE | FEDERAL | STATE | LOCAL | ACADEMIC | NGOs

FISHERIES GOAL TEAM

Crabs

Forage, harvest

Toxic contaminants and fish populations

Human consumption

Bacteria

Parasites

Fish Habitat and Populations

Habitat types (FW to estuary)

Nutrients and sediment (TMDL)

Temp, salinity

Land change and climate

HABITAT

Fish habitat

Toxic Contaminants

Stream Health

-Nutrients & Sediments

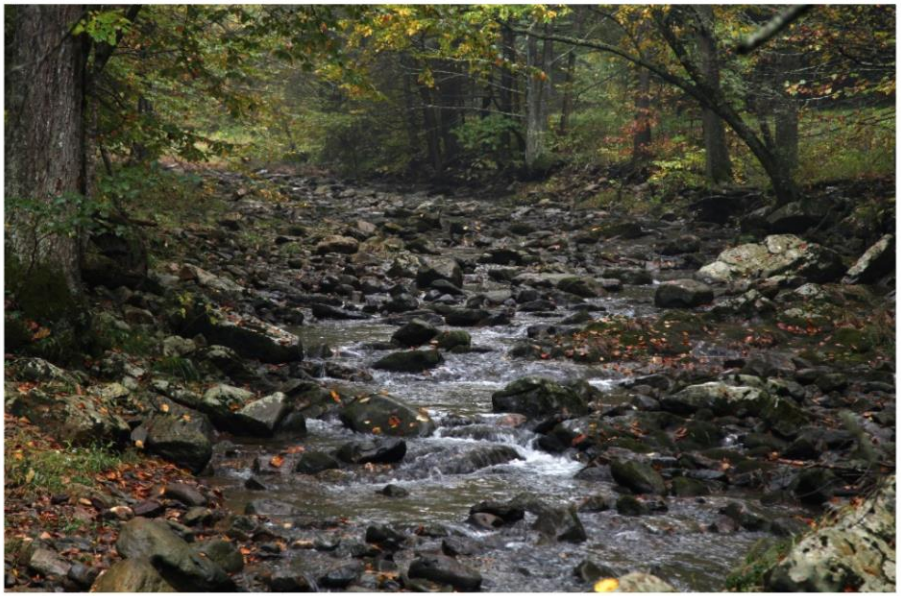
-IBI and condition

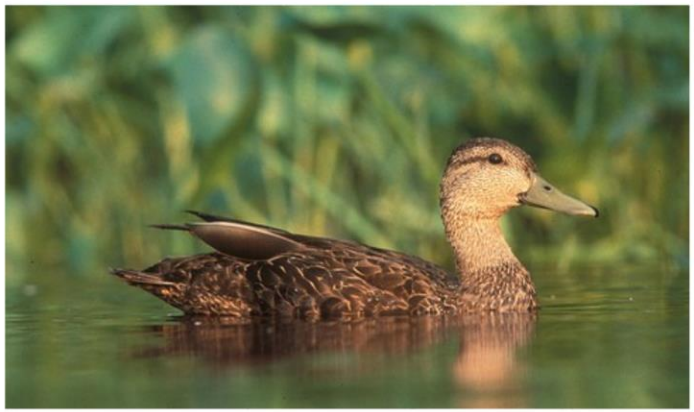
SAV

Black Duck habitats

Wetlands

Land change and climate





WATER QUALITY

TMDL outcomes

- Assess progress (2019-2025)
- Climate change impacts

Attainment Outcomes

- Standards

Toxic Contaminant Goal

Policy and Prevention:

- PCBs sources, transport, reductions

Research Strategy

- Human consumption (PCBs and Hg)
- Chemicals of concern
- Urban, ag, WWTP

HEALTHY WATERSHEDS

Inform protection and land-use planning

- Growth scenarios
- Development, energy, climate change

STEWARDSHIP

Stewardship Index

- People's attitudes and behaviors
- Consumption
- Restoration
- Conservation

Public access

- Climate change

SETTING PRIORITIES: CO-BENEFITS OF OUTCOMES

- **Outcomes in WIPs**
- **MB has identified**

Fish and Habitat

- Brook Trout
- Fish Habitat
- Stream Health
- Wetlands
- Forest Buffer
- Tree Canopy
- SAV

Water Quality

- Toxic contaminants

Healthy Watersheds

Stewardship

- Protected Lands
- Public Access

Climate Resiliency

SOME IDEAS AND NEXT STEPS

Aspirational:

- Next "phase" of modeling
- Ecosystem based
- Cross Goal Team Needs
- Inter-related outcomes

Getting a start:

- Dialogue with Goal Teams
  - STAR meetings
- Priorities
  - Start with outcomes in WIPs
- Build capacity in modeling
  - Evolve from water quality
  - Expand collaboration
  - RFPs for gaps