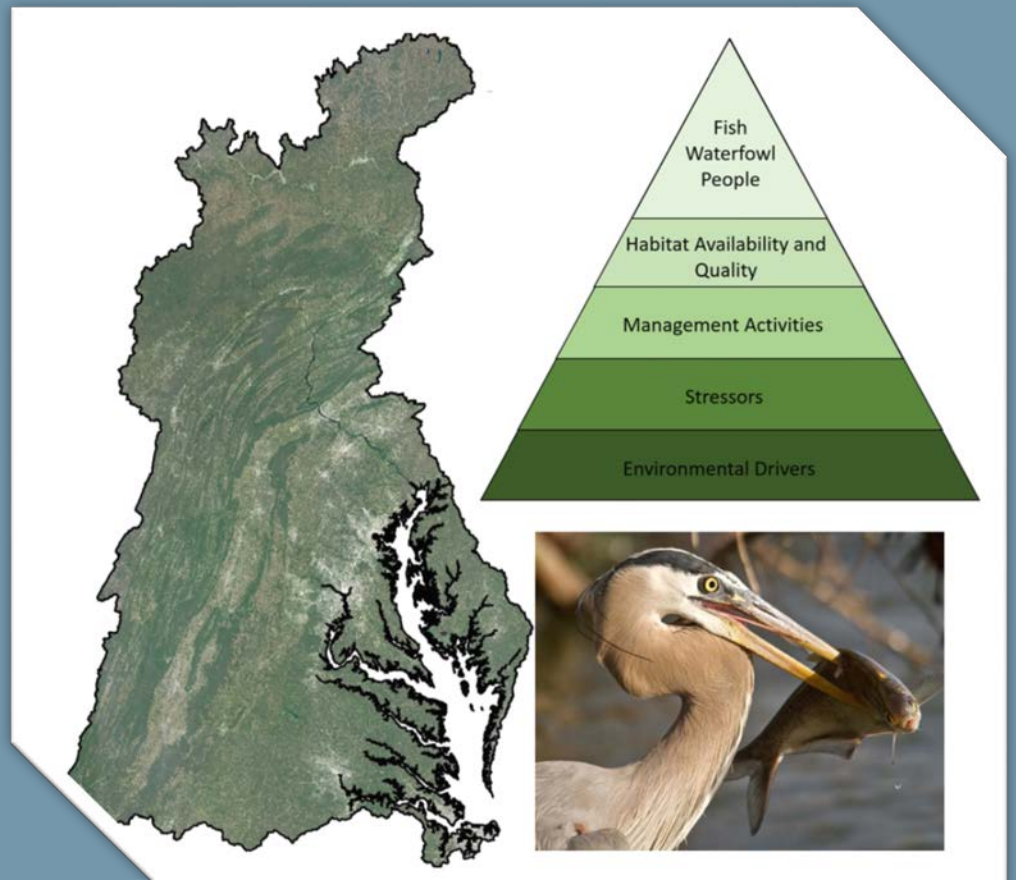
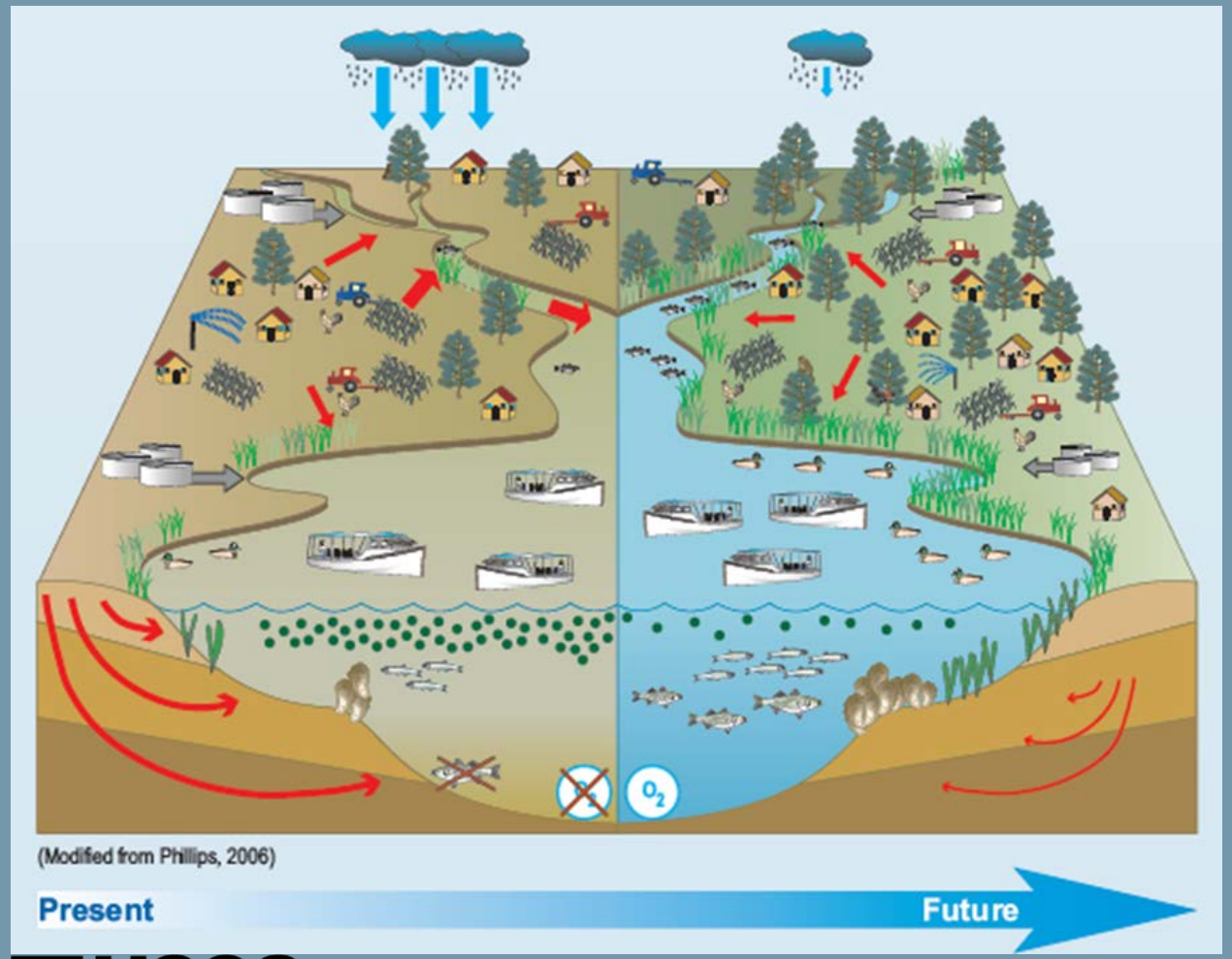
USGS Chesapeake Themes and Multi-year Work Plan



Scott Phillips
USGS Chesapeake Bay Coordinator

Fish Habitat WG meeting
Sept, 2019

USGS Chesapeake Studies: Providing Science and Evolving for the Future



USGS Role and Contributions:

- Monitor conditions….assess progress
- Explain ecosystem change…focus and evaluate management approaches
- Forecast…..emerging issues
- Translate science…inform difficult decisions

TMDL Midpoint assessment:

- 2010-2025
- New water-quality insights
- Informing state implementation plans

Evolving USGS Science:

- Fish, waterfowl, and people
- Integrated science to address complex issues

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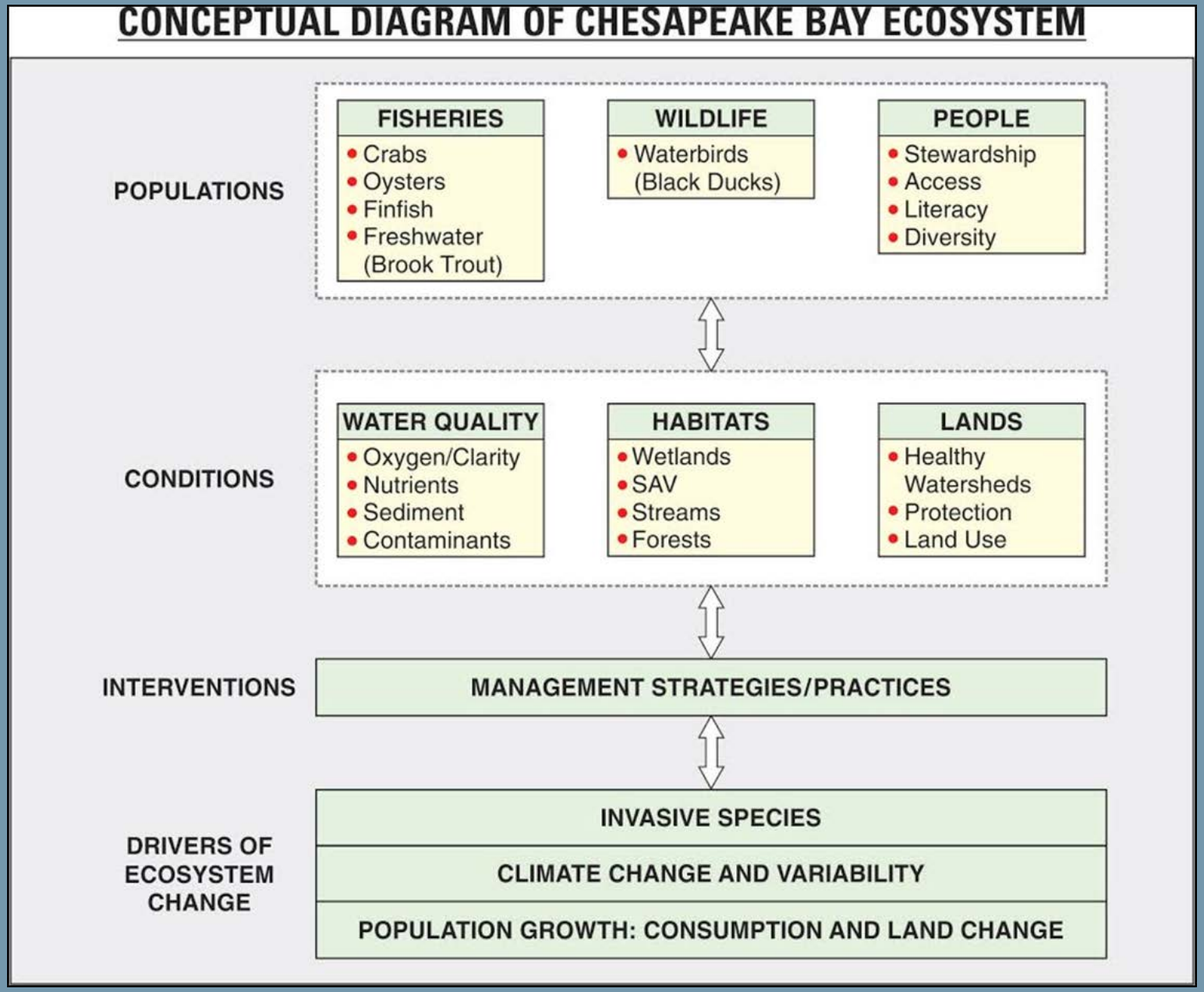
USGS Chesapeake Needs and Science Themes



USGS Themes:

1. Fish habitat, health, and aquatic conditions
2. Coastal habitats and waterbirds
3. Land change and watersheds
4. Integrate and engage stakeholders

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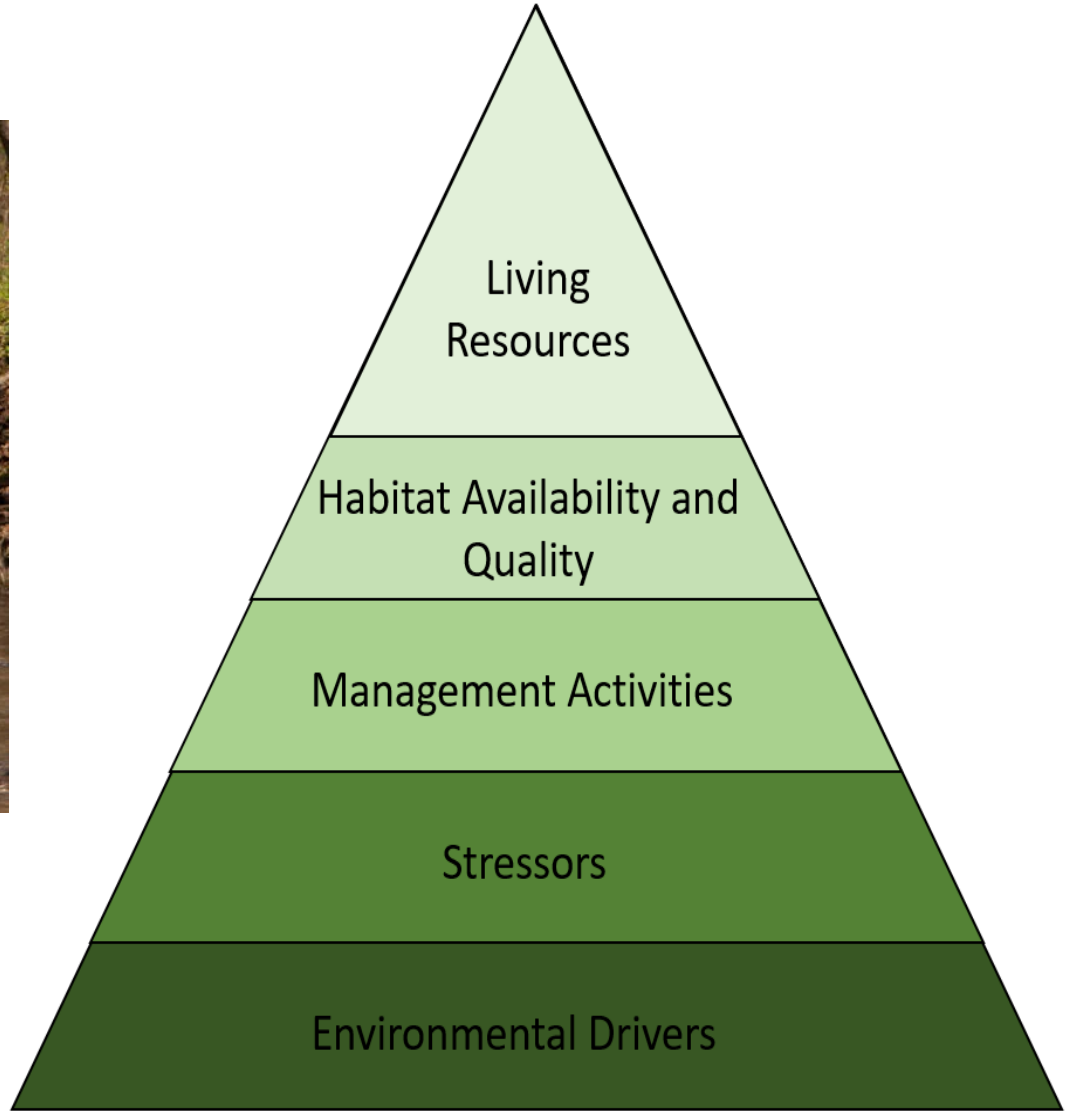
Theme 1: Fish Habitat, Health, and Aquatic Conditions

CBP:

- Fish habitat
- Stream health
- Brook trout
- Fish passage
- Toxic contaminants
- Water quality

DOI/USGS:

- Biological threats (invasive species, disease)
- Fish health
- Aquatic conditions



Fish Habitat Assessments

STAC workshop

- National assessment every 5 years
- Limited variables and scale

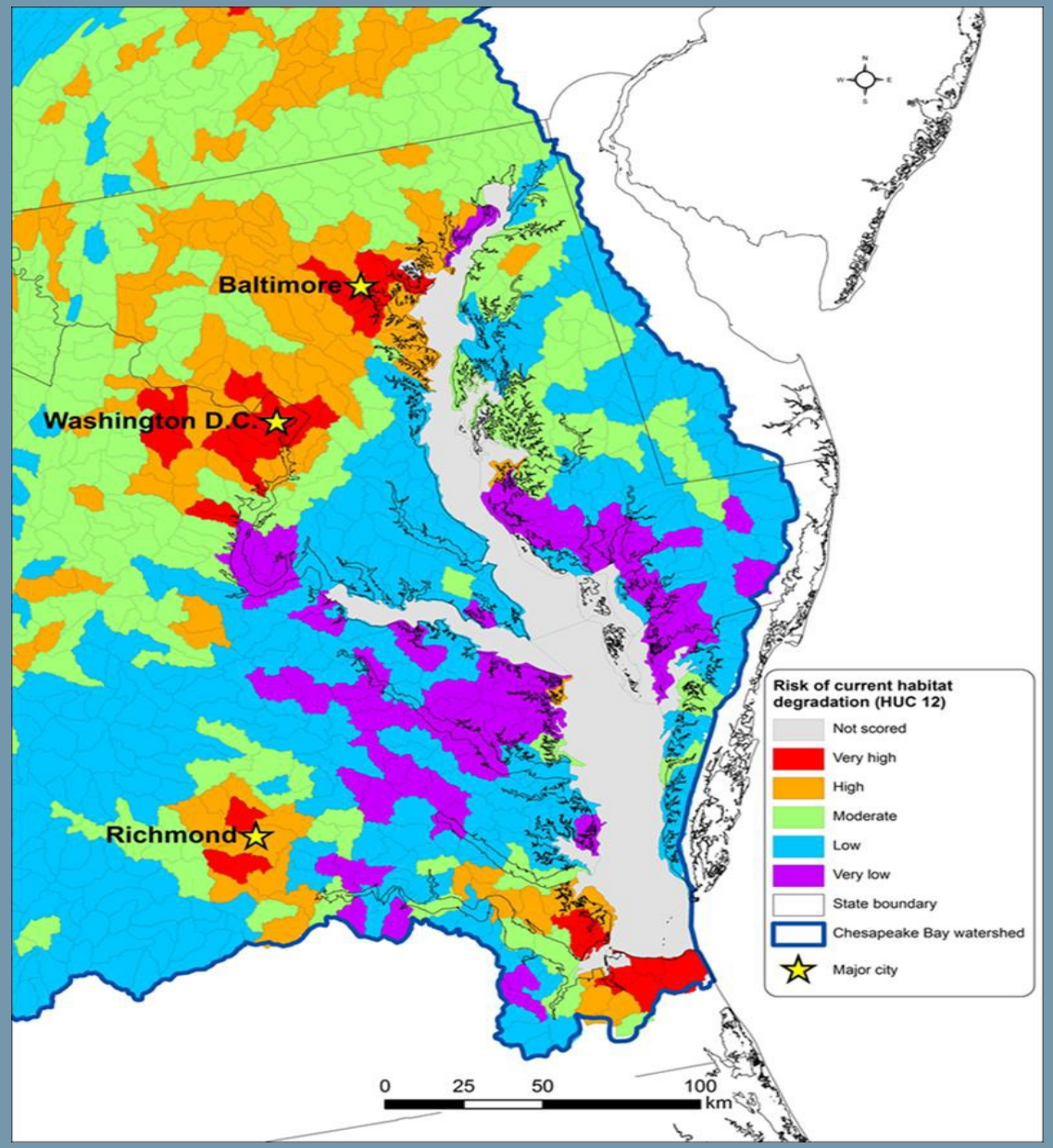
User survey and additional needs

- Protection/restoration areas
- Nutrients, sediment, contaminants
- Urban and ag land use
- Invasive species

- Finer scale & complement local tools

USGS-NOAA collaboration

- Watershed & estuary



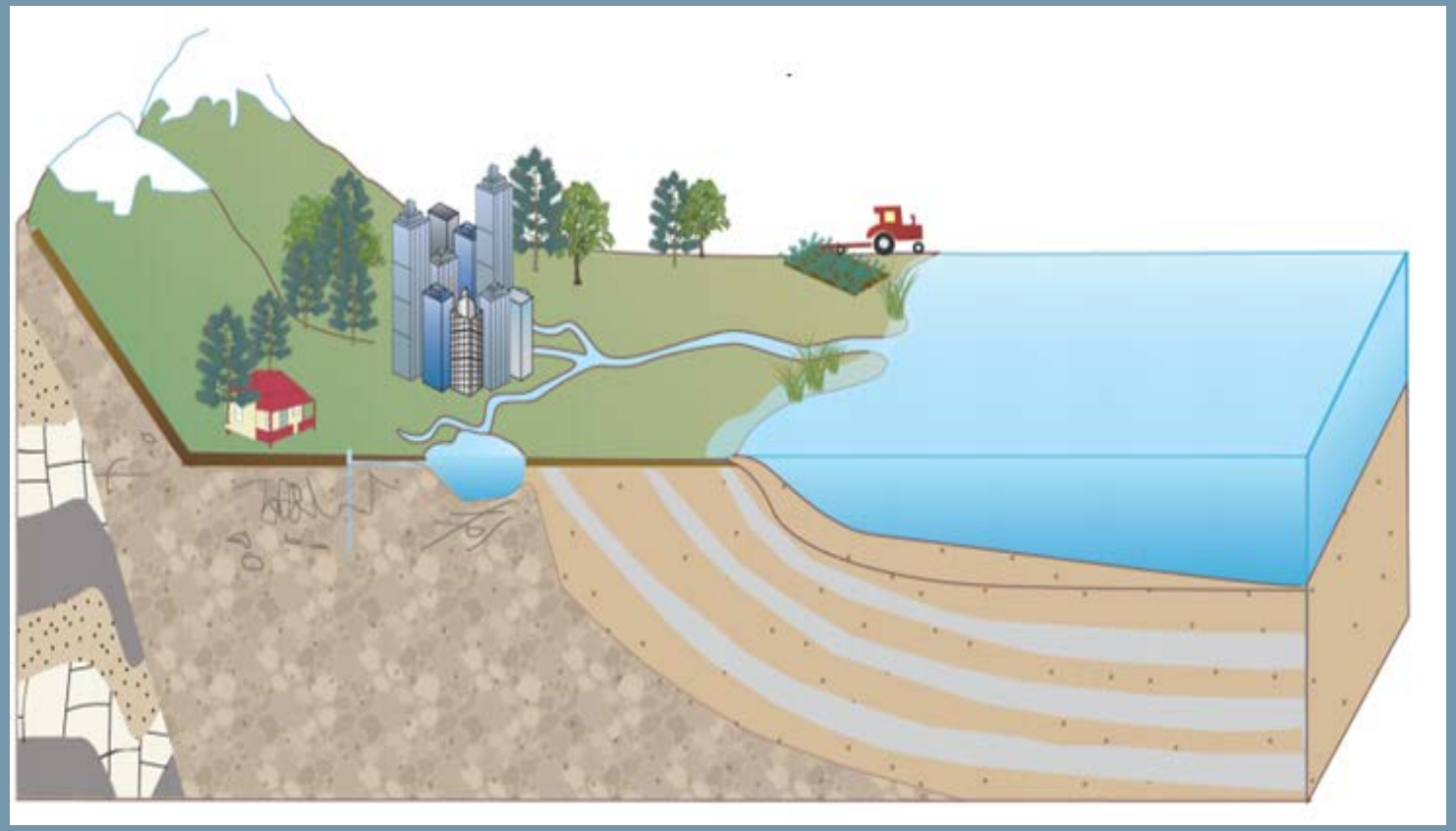
USGS-NOAA Collaboration for Fish Habitat

Habitat Settings:

- Cold headwaters
- Streams and Rivers
- Tidal Fresh
- Estuary

Planning Efforts

- Data availability
- Methods testing
- Pilots in different settings
- Estuary-watershed pilot



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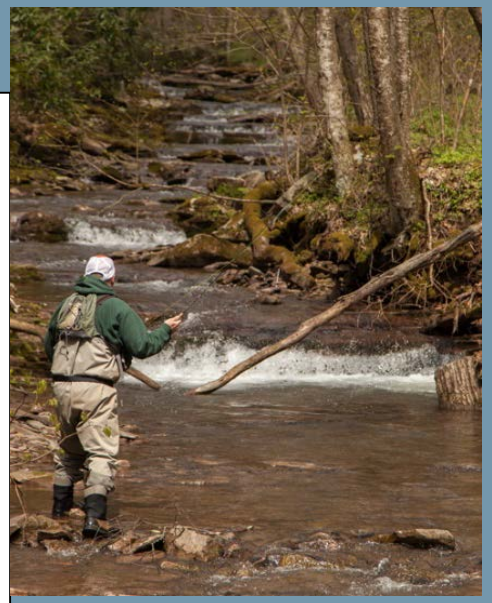
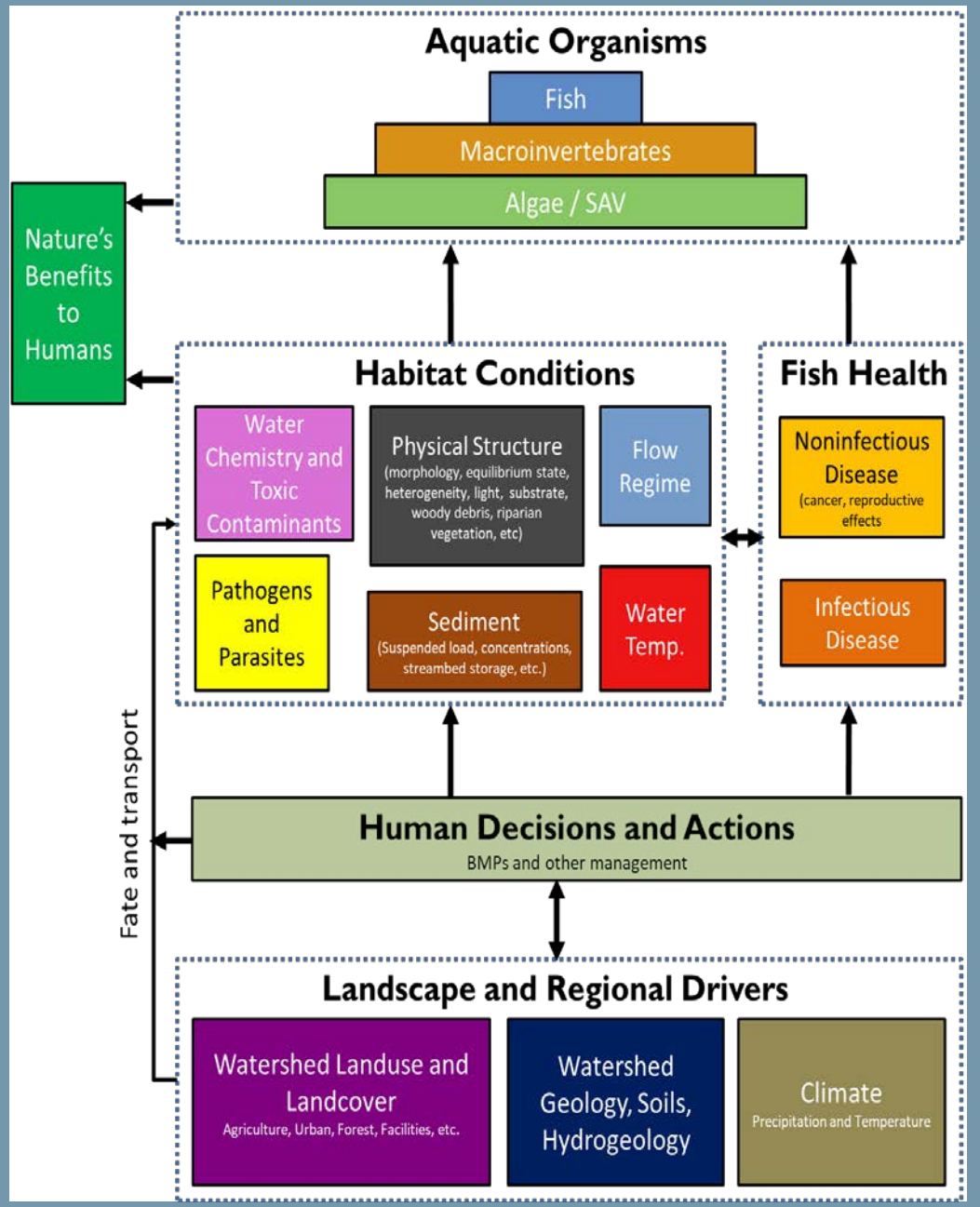
USGS Efforts

- Nontidal Habitat Settings
  - Relate stream and fish habitat conditions
  - Complex interactions
- Assess condition, and factors, of streams, fish habitat, an fish health
  - Stressors
  - Local and regional
- Explain changes, and response to management efforts
- Status and Trends





USGS Fish Habitat Efforts

Streams and Rivers

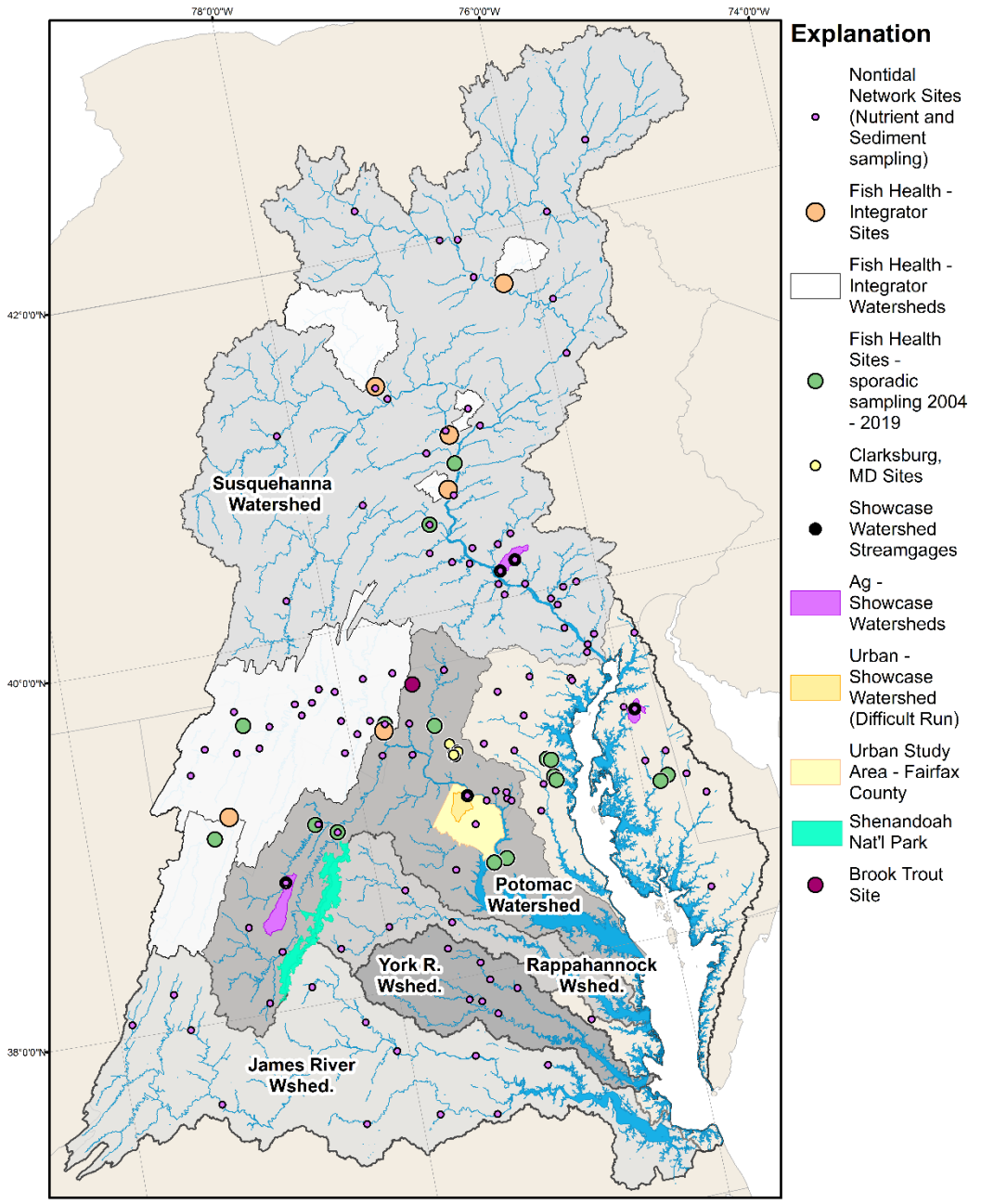
- Stream conditions & fish habitat
- Fish health, disease, QW
- Response to BMPs

Cold headwaters

- Temperature, climate, groundwater
- Passage and culverts

Tidal freshwater/estuary

- Support estuary efforts
- Invasive species
- NOAA-USGS watershed-estuary pilot



Next Steps and Contacts

- USGS finalize science directions for 2020-2025
- Tasks updated annually

- Contacts:
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- Ken Hyer (Kenhyer @usgs.gov

- More information: https://www.usgs.gov/centers/cba