



Updating the Management Strategy and Work Plan

Toxic Contaminant Workgroup, July 2018

Goal: *Toxic Contaminants Goal*

Outcome:

Continually increase our understanding of the impacts and mitigation options for toxic contaminants. Develop a **research agenda** and further characterize the **occurrence, concentrations, sources and effects** of **mercury, PCBs and other contaminants** of emerging and widespread concern. In addition, identify which best management practices might provide **multiple benefits of reducing nutrient and sediment pollution as well as toxic contaminants** in waterways.

Contaminant Groups and Strategies

Widespread
Severity and
Occurrence

PCBs



**Policy/Prevention
Strategies**

Local Effects

Mercury



Potential policy strategy:
what else needed?

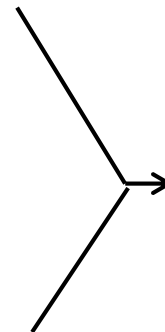
More
information
needed

Dioxin, Petroleum,
Insecticides,
Metals
PAHs

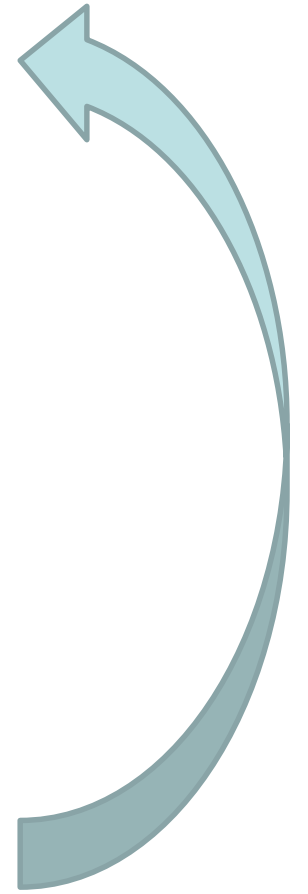


Local impairments
and TMDLs

Pesticides
Herbicides
Pharmaceuticals
Hshld/Personal Care
Flame Retardants
Biogenic Hormones



**Research
Agenda:**
Effects,
occurrence,
sources,
Co-benefits



Organizing Issues

- Fish and shellfish safer for human consumption;
- Contaminants degrading the health, and contributing to mortality, of fish and wildlife;
- Occurrence, concentrations and sources;
- Assess relative risk of contaminants, and options for mitigation, to inform policy and prevention strategies,
- Issues of emerging concern

Baseline and Current Conditions

Concept for Determining Highest Priorities for Research to Increase Understanding Impacts and Mitigation Options for Toxic Contaminants (Color codes are examples)

Contaminant Groups	Occurrence	Concentrations	Sources	Effects	Uncertainty
PCBs	Small	Mid	Mid	Small	
Dioxins/Furans	Small	Mid	Small	Small	
PAHs	Small	Small	Small	Small	
Petroleum Hydrocarbons	Mid	Mid	Small	Small	
Pesticides	Large	Large	Mid	Mid	Priorities for an agenda to increase certainty?
Bio. Hormones	Large	Large	Mid	Large	
Pharms.	Large	Large	Mid	Large	
HPCP	Large	Large	Mid	Large	
PBDEs	Large	Large	Mid	Mid	
Metals	Mid	Mid	Mid	Small	
Mixtures	Large	Large	Large	Large	

- Update based on improved understanding

Modifications to Factors

- Different assumptions about fish consumption
- Causes of the degradation to fish and wildlife
- Lack of consistent information
- Lack of toxicity thresholds
- Prioritizing contaminants and addressing mixture
- Resource constraints
- Less emphasis on relative risk
- Synthesis and implications
- Using existing nutrient and sediment tools

What we learned...

- Address Mercury
- Less focus on impacts of individual contaminants
- More use of state monitoring and academic activities
- Less emphasis on risk assessment
- Greater focus on potential mitigation approaches
 - Co-benefits: WWTP, storm water, and agriculture
 - Remediation practices
- More syntheses
- Management implications and WQ GIT WGs

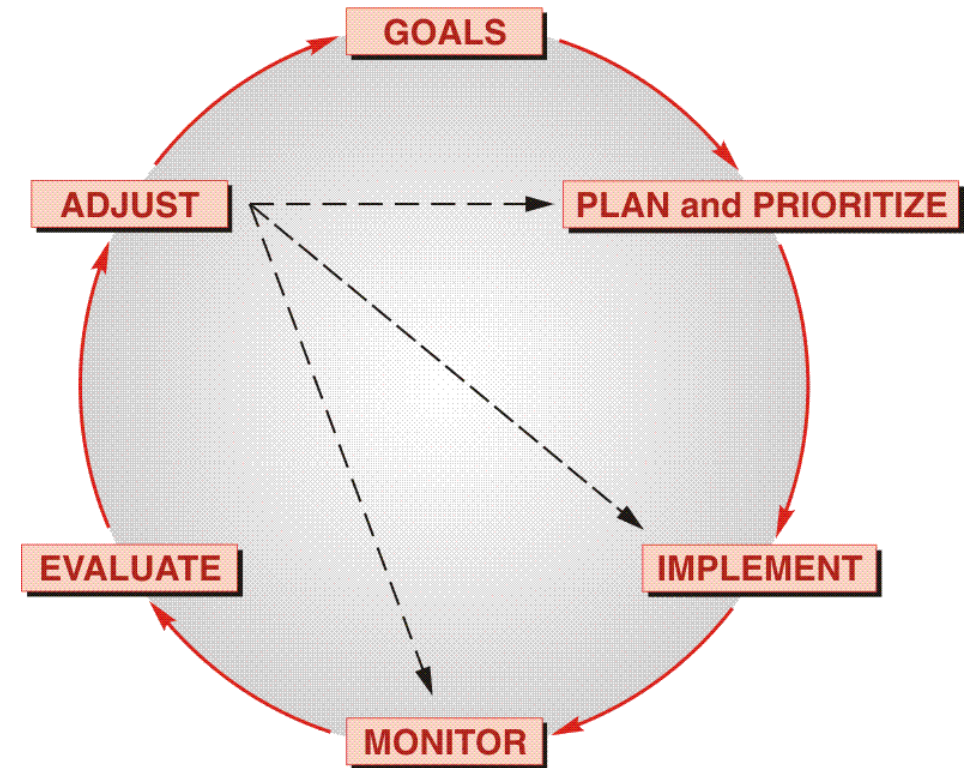
Discussion

- Keep framework of our 5 issues
 - “priority order”
 - Modifications for relative risk
- Update baseline conditions
- Include new factors

- Next: Discuss each issue
 - What we learned
 - Discussion of new items and scope
 - Changes to work plan

ADAPTIVE MANAGEMENT FOR ECOSYSTEM DECISION MAKING

[Modified from Williams and others (2007)
and Levin and others (2009)]



What we learned

- Consolidate PCB science into P&P strategy
- Address mercury

Discussion:

- Mercury: data inventory; potential for status and trends, ongoing studies
- Fish consumption advisories and subsistence fishing
- Oysters
- Recreational issues: fishing, swimming (pathogens, bacteria)



Changes to work plan activities

What we learned

- Multiple factors affecting fish health, including disease
- Wildlife synthesis
- More synthesis and implications



Discussion

- Extent of fish health issues;
- Other factors affecting fish health: pathogens, disease
- Which fish health issues most important to address
- Efforts and gaps for wildlife



Changes to work plan activities

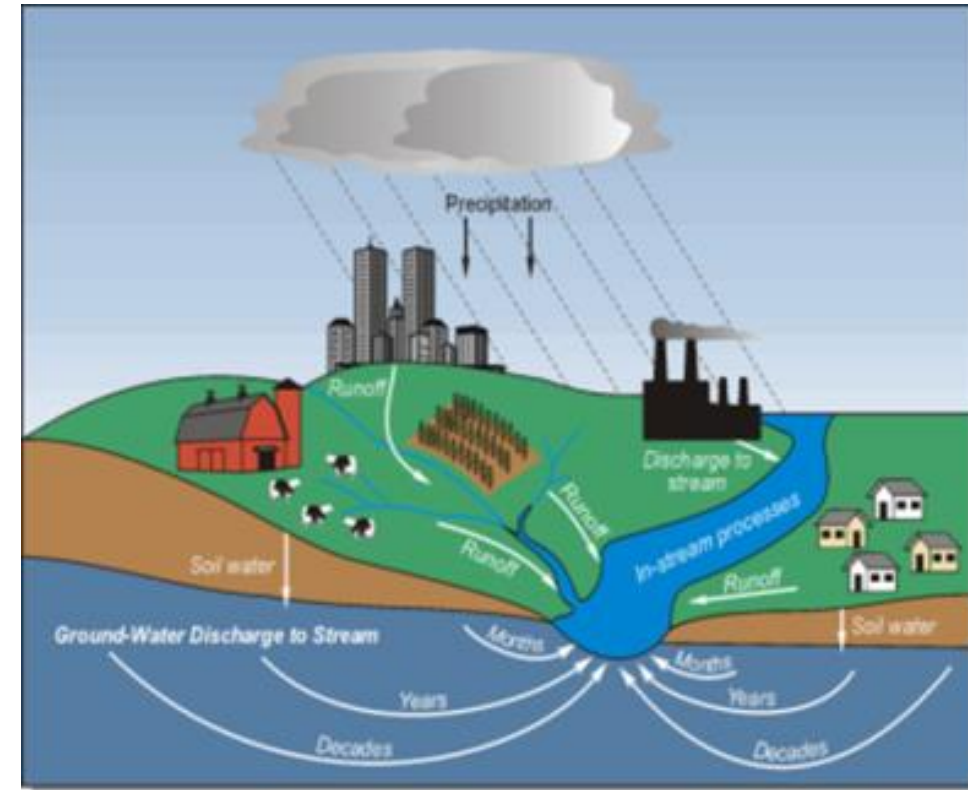
What we learned

- EDCs in ag settings
- More use of state/academic activities

Discussion

- Co-occurrence of contaminants
 - Sources, pathways, indicators
 - Ag, urban, WWTPs
- Relation with nutrient and sediments
- Algal toxins?

Changes to work plan



What we learned

- Difficultly for relative risk; Interest in co-benefits
- Synthesis and implications
- Interaction with WQ GIT and teams

Discussion

- Modify to focus on management implications
- More emphasis on mitigation studies
- Effectiveness of BMPs
- Use of CBP tools (CAST) and connect with source teams

Changes to work plan



What we learned

- Microplastics

Discussion

- Other issues?
- Capacity to address more issues

Changes to work plan

