

State Water Board's Constituents of Emerging Concern (CECs) Progress Since 2012

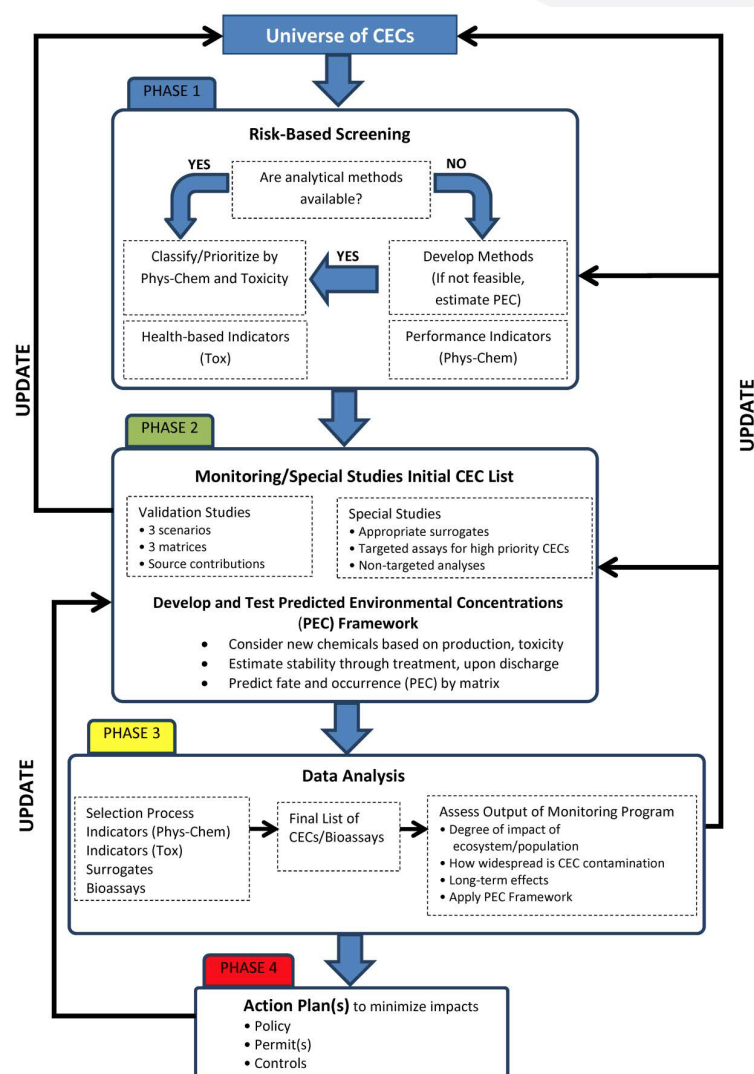
2020 Science Advisory Panel for CECs in Aquatic Ecosystems

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Sustainable Water Plans and Policies
Division of Water Quality



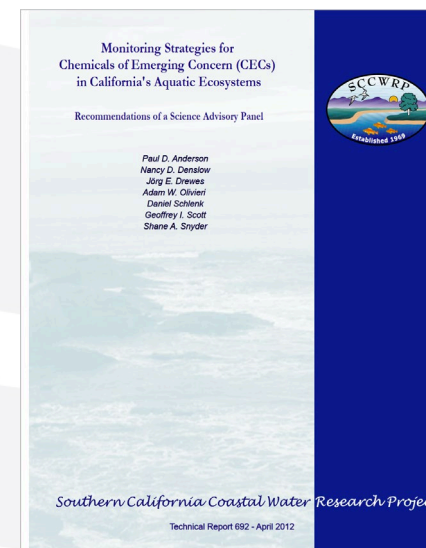
October 13, 2020

2012 Science Advisory Panel Recommendations



Use risk-based framework

Recommendation 1



Use adaptive, phased monitoring approach

Recommendation 2




Promote and support research

Recommendation 3

Use risk-based
framework

Recommendation 1

Completed by 2012 Panel:

 Complete
 In Progress
 Not Started

Developed Risk-Based Approach to Assess and Identify CECs

Develop monitoring trigger levels (MTLs)

Compile measured or predicted environmental concentrations (MECs and PECs)

Identify CECs with greatest potential to pose risk

Apply risk-based framework to inland, coastal, and marine receiving water systems

Applied Risk-Based Screening Framework to ID list for monitoring

Bis(2-ethylhexyl) phthalate	17-beta estradiol
Bisphenol A	Galaxolide (HHCB)
Bifenthrin	Diclofenac
Butylbenzyl phthalate	p-Nonylphenol
Permethrin	PBDE -47
Chlorpyrifos	PBDE -99
Estrone	PFOS
Ibuprofen	Triclosan

Use risk-based
framework

Recommendation 1

Review & Update List Using Framework

- Complete
- In Progress
- Not Started

UPDATED RISK-BASED SCREENING

- Aquatic Science Center (ASC) Data Synthesis Project
 - ✓ Targeted analytical data from ~2005 to current
 - ✓ Comparison to ecotoxicity risk thresholds
 - ✓ Four-tiered risk framework

In-Scope
CEC
Classes

- Per- and Polyfluoroalkyl Substances (PFAS)
- Brominated Flame Retardants
- Organophosphate Esters
- Bisphenols and Phthalates
- Alkylphenols and Alkylphenol Ethoxylates
- Pharmaceuticals and Personal Care Product (PPCPs) Ingredients
- Current Use Urban Pesticides (and Degradates)

Data
Sources

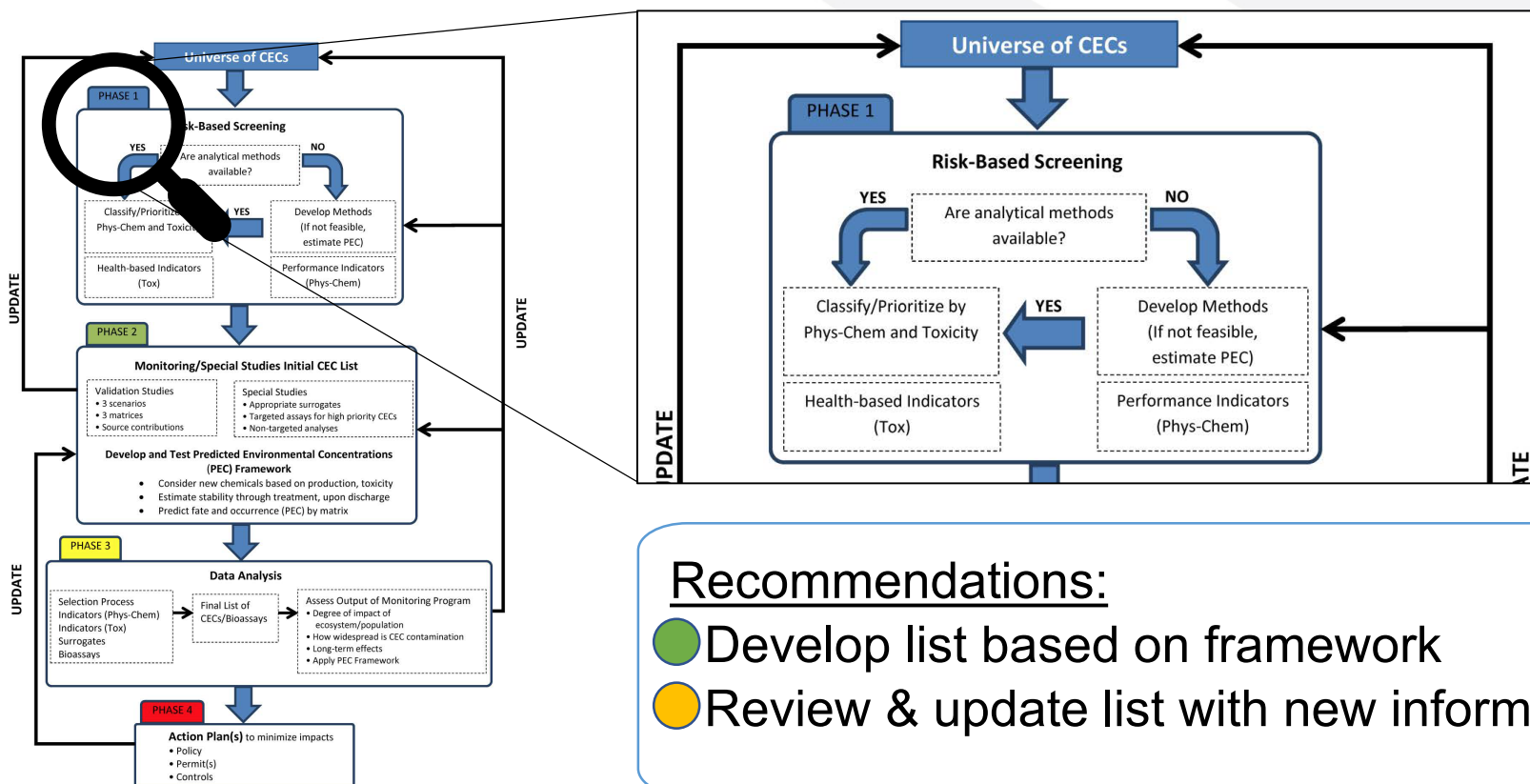
- CEDEN
- CIWQS
- SDWIS
- Water Quality Portal
- Peer-Reviewed Literature and Regional Reports
- Databases of relevant risk thresholds

Use adaptive,
phased monitoring
approach

Recommendation 2

Phase 1: Identify relevant CECs

- Complete
- In Progress
- Not Started



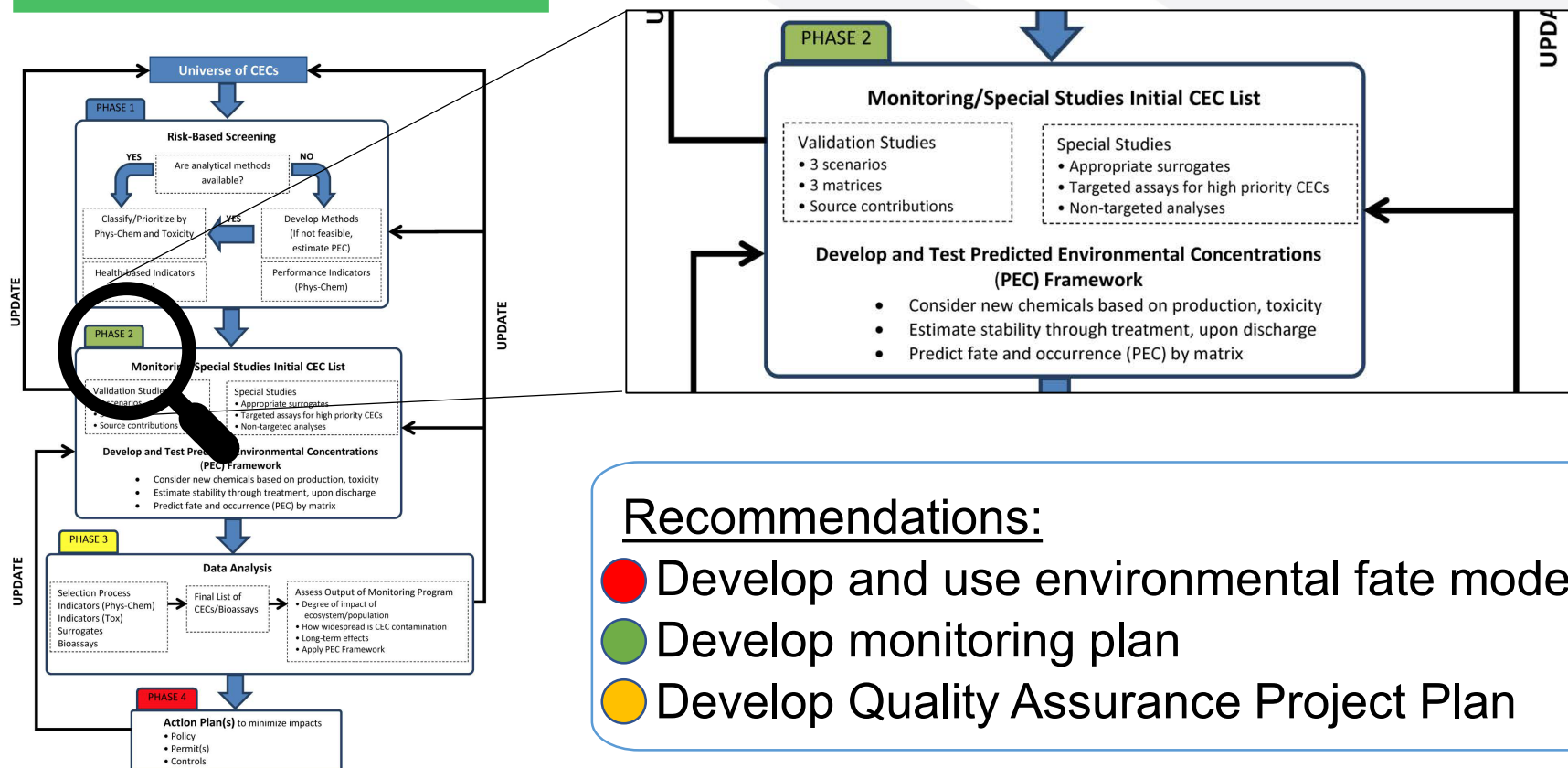
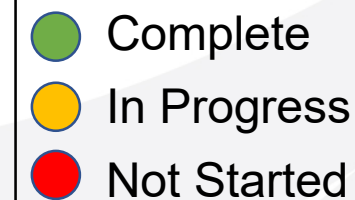
Recommendations:

- Develop list based on framework
- Review & update list with new information

Use adaptive,
phased monitoring
approach

Recommendation 2

Phase 2: Develop & Implement Pilot Monitoring



Recommendations:

- Develop and use environmental fate models
- Develop monitoring plan
- Develop Quality Assurance Project Plan

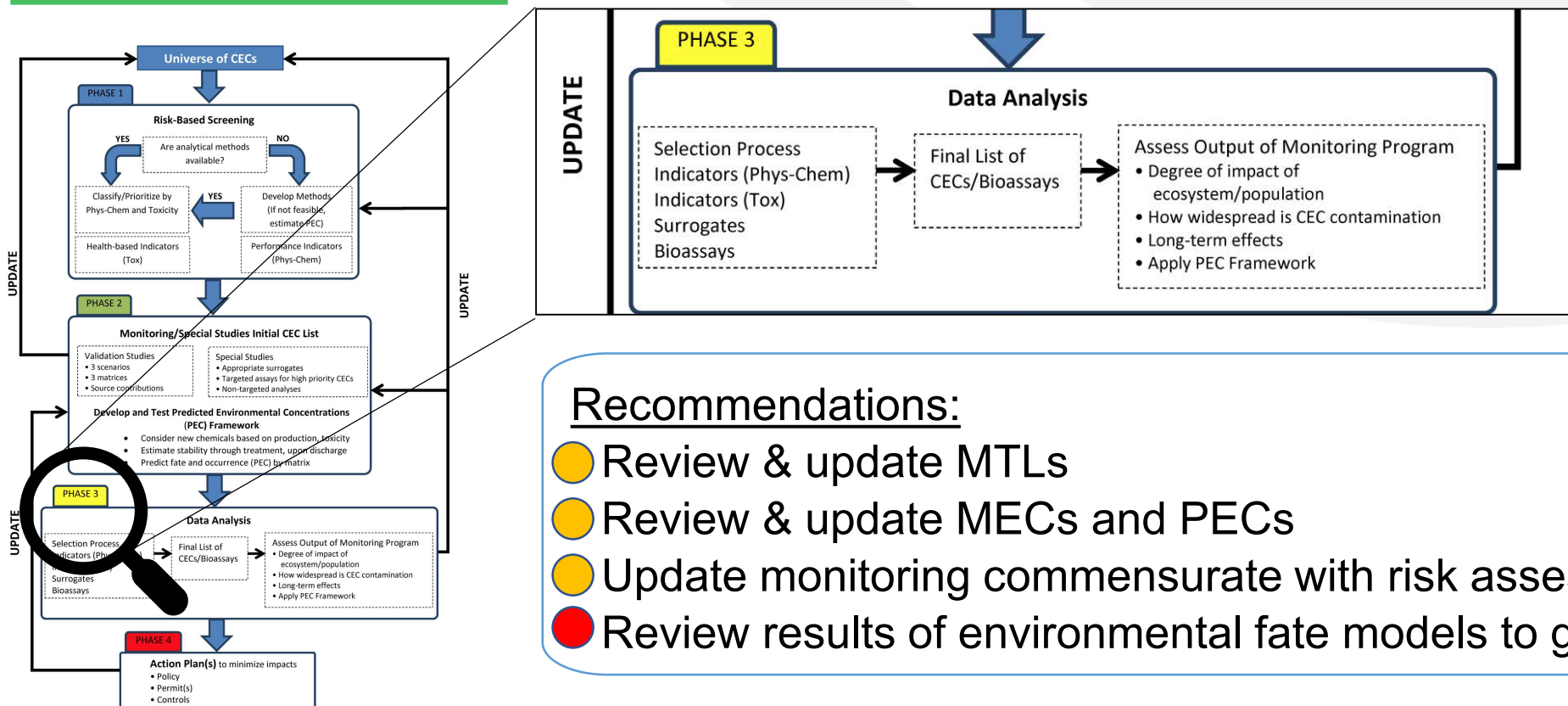


Use adaptive,
phased monitoring
approach

Recommendation 2

Phase 3: Review & Update Monitoring & Response Plans

- Complete
- In Progress
- Not Started



Recommendations:

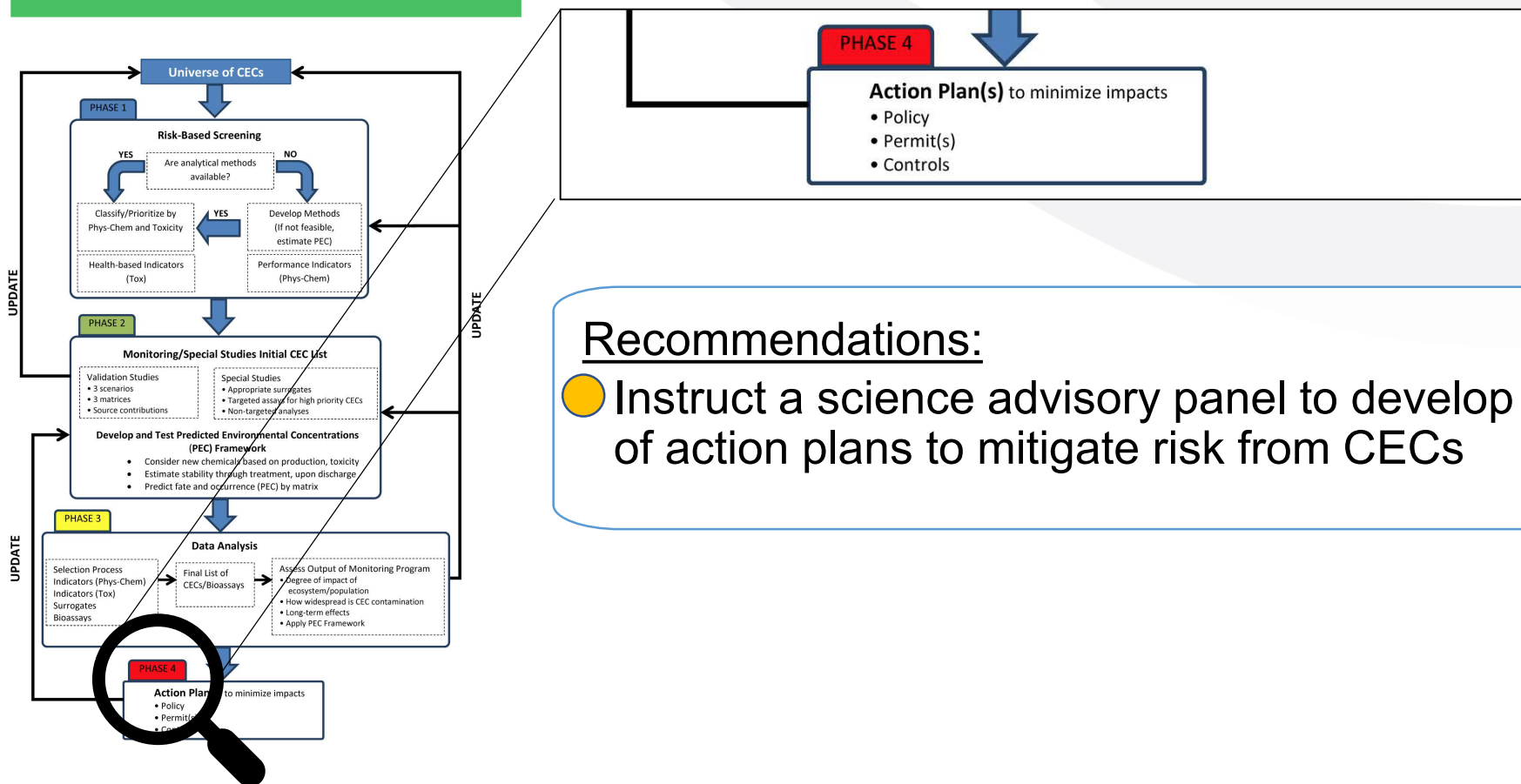
- Review & update MTLs
- Review & update MECs and PECs
- Update monitoring commensurate with risk assessment
- Review results of environmental fate models to guide follow-up actions

Use adaptive,
phased monitoring
approach

Recommendation 2

Phase 4: Implement Action Plans

- Complete
- In Progress
- Not Started






Recommendations:

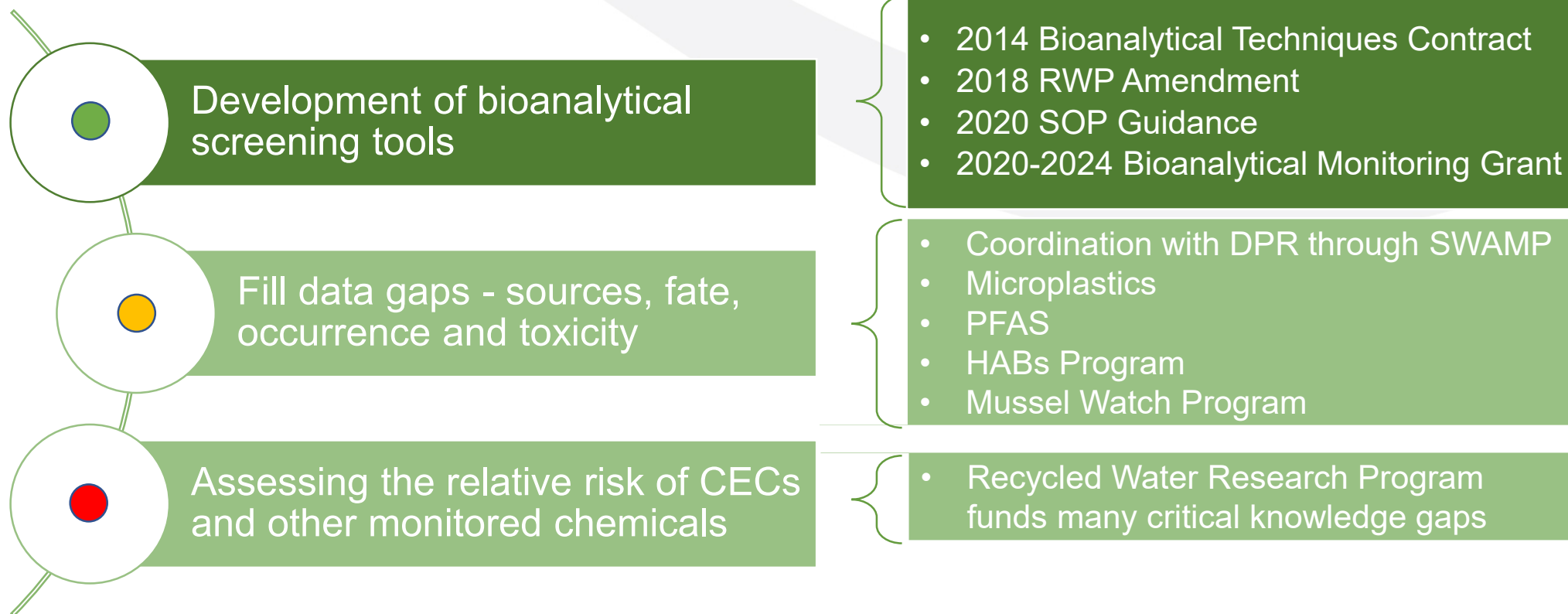
- Instruct a science advisory panel to develop guidance on development of action plans to mitigate risk from CECs

Promote and support research

Recommendation 3

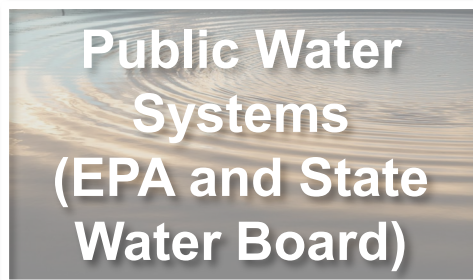
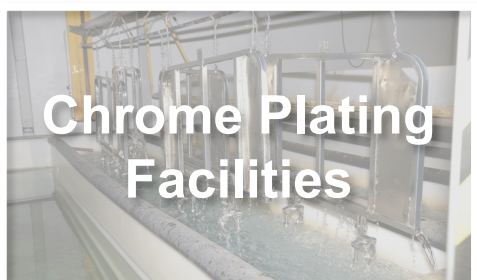
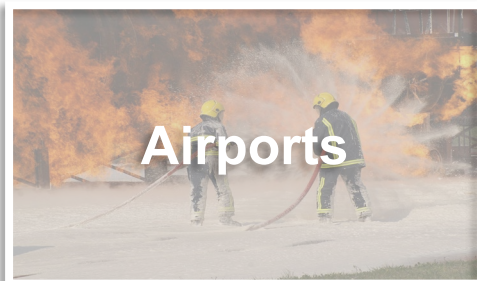
Recommended Research, Completed & In Progress:

-  Complete
-  In Progress
-  Not Started



Statewide PFAS Investigation

STATEWIDE ORDERS:



LESSONS FOR CEC PROGRAM:

- Inherent challenges because CECs do not fit our standard regulatory paradigm
- Early communication/ stakeholder engagement
- Early coordination with CalEPA
- Define data quality objectives early in the process

Regional Board Updates

Panel will hear from:

- Region 1 – North Coast Region
- Region 2 – San Francisco Bay Region
- Region 5 – Central Valley Region

Brief overview :

- Region 3 – Central Coast Region
- Region 4 – Los Angeles Region
- Region 6 – Lahontan Region
- Region 8 – Santa Ana Region
- Region 9 – San Diego Region



CEC Monitoring Summaries

Central Coast Region

Central Coast Ambient Monitoring Program (CCAMP)

Toxicity, pesticides, and algal toxins

Permit required monitoring for certain CECs

Lahontan Region

Collaboration with dischargers, F&W, and local watershed groups

Cyanotoxins in waters experiencing HABs

Permit required monitoring for endocrine disrupting compounds (EDCs)

CEC Monitoring Summaries (continued)

Los Angeles Region

SCCWRP (2011, 2013; 2016) and Stormwater Monitoring Coalition (SMC) Program (2015)

Targeted chemistry for wide range of CECs, bioanalytical screening, and non-targeted analyses

Permit-required monitoring for suite of CECs

Santa Ana Region

Santa Ana Watershed Project Authority (SAWPA) and the SMC Program

Targeted chemistry for wide range of CECs, bioanalytical screening, and non-targeted analyses

San Diego Region

Collaboration and coordination with stakeholders and the SMC Program

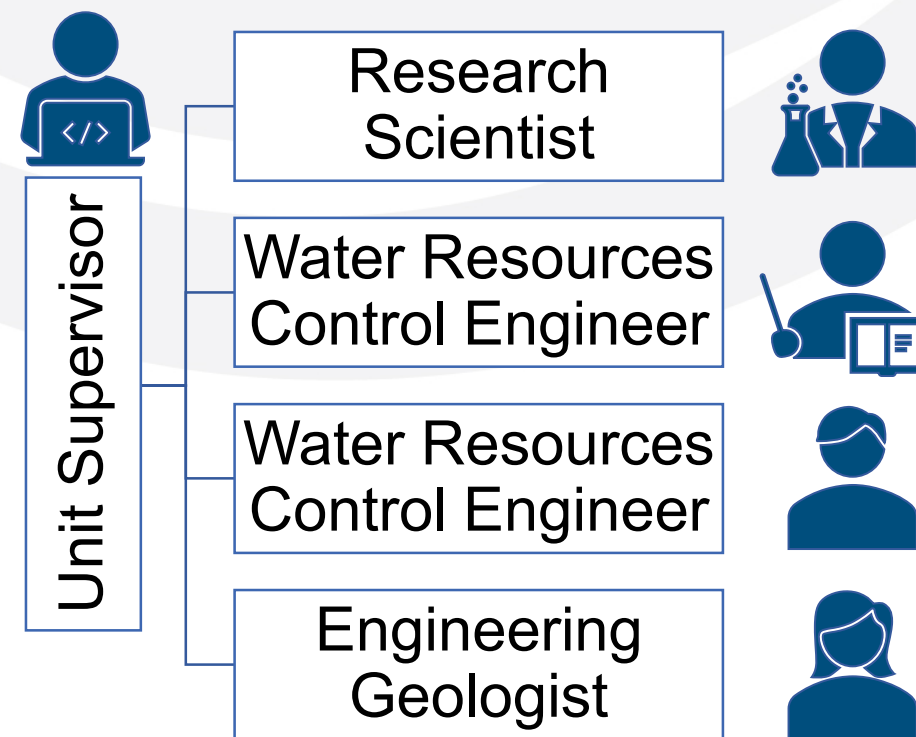
PPCPs, cyanotoxins associated with HABs, plastic debris

Closing Remarks

ONGOING CHALLENGES

- Number of CECs, class versus constituent approach, degradates
- Use of standard methods versus available methods
- Strategies for consistent statewide monitoring
- Conceptualizing a cohesive process for managing CEC monitoring results
- Prioritizing resources and research
- Moving from monitoring to action

NEW PRETREATMENT AND CEC UNIT!



Thank You

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October 13, 2020