



Prioritization of Emerging Contaminants for Management Response: Pesticides Example

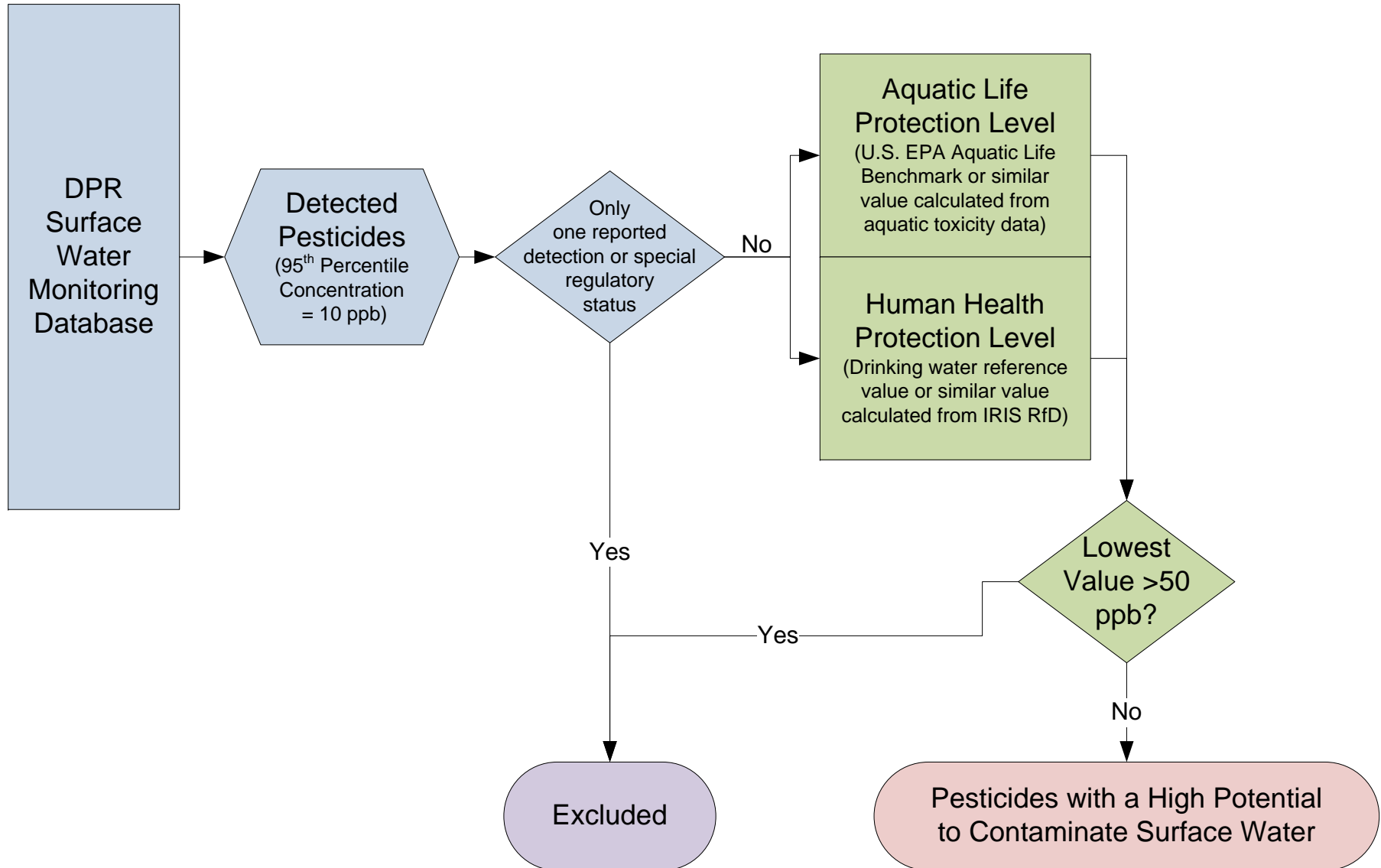
Kelly D. Moran
TDC Environmental



Examples

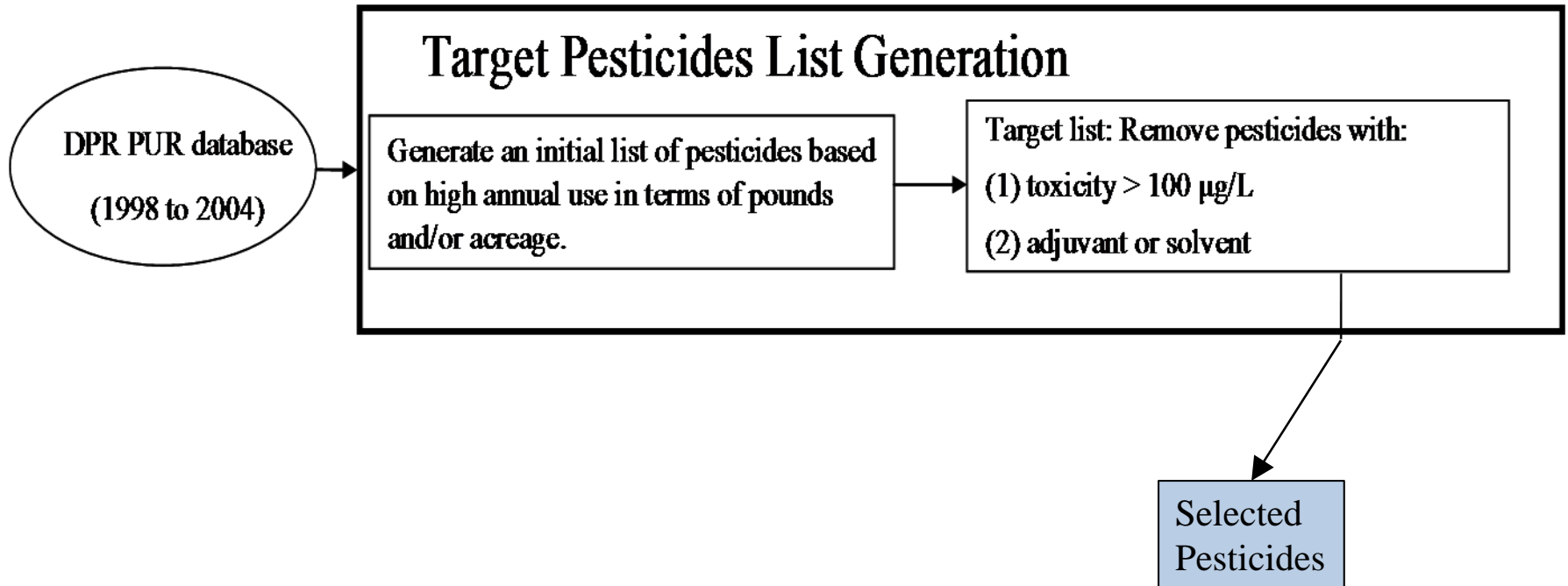
- **DPR Surface Water Regulatory Concept**
 - Pepple, M. California Department of Pesticide Regulation (DPR) (2009). Procedure for Identifying Pesticides with a High Potential to Contaminate Surface Water.
- **Central Valley Pesticide Relative Risk Evaluation**
 - Lu, Z. & G. Davis (2009). Relative-Risk Evaluation for Pesticides Used in the Central Valley Pesticides Basin Plan Amendment Project Area, Central Valley Regional Water Quality Control Board.
- **Sacramento Source Water Protection Program**
 - PBS&J (2008). Pesticide Tracking Fiscal Year 2007 – Fiscal Year 2008. Prepared for the Sacramento River Source Water Protection Program.
- **Urban Pesticide Pollution Prevention Project**
 - TDC Environmental (2010). Pesticides in Urban Runoff, Wastewater, and Surface Water. Annual Review of New Scientific Findings 2010. Prepared for the Urban Pesticide Pollution Prevention Project.

DPR Process to Identify Pesticides with a High Potential to Contaminate Surface Water



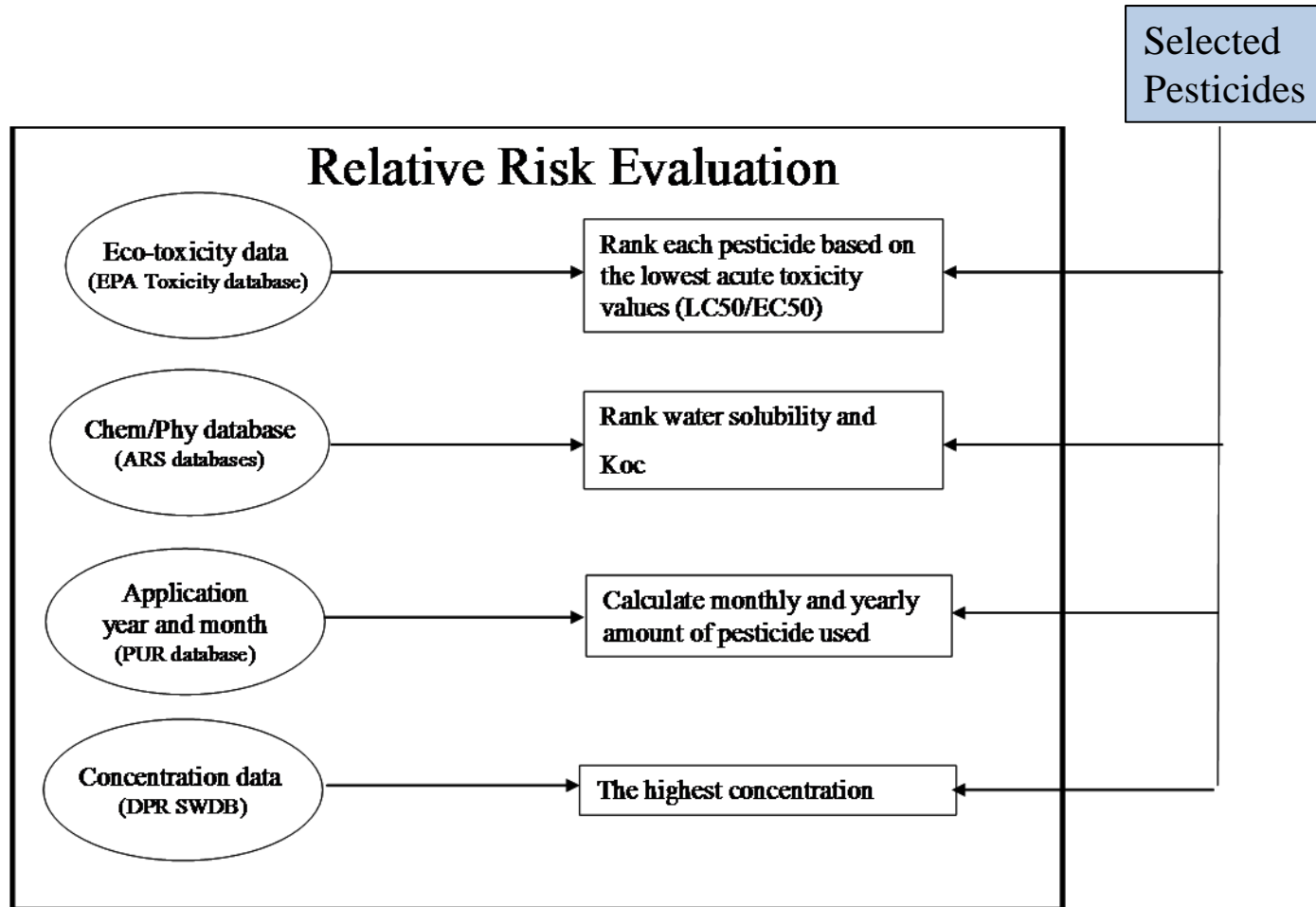
Central Valley Water Board Relative Risk Evaluation Process

Pesticide Selection



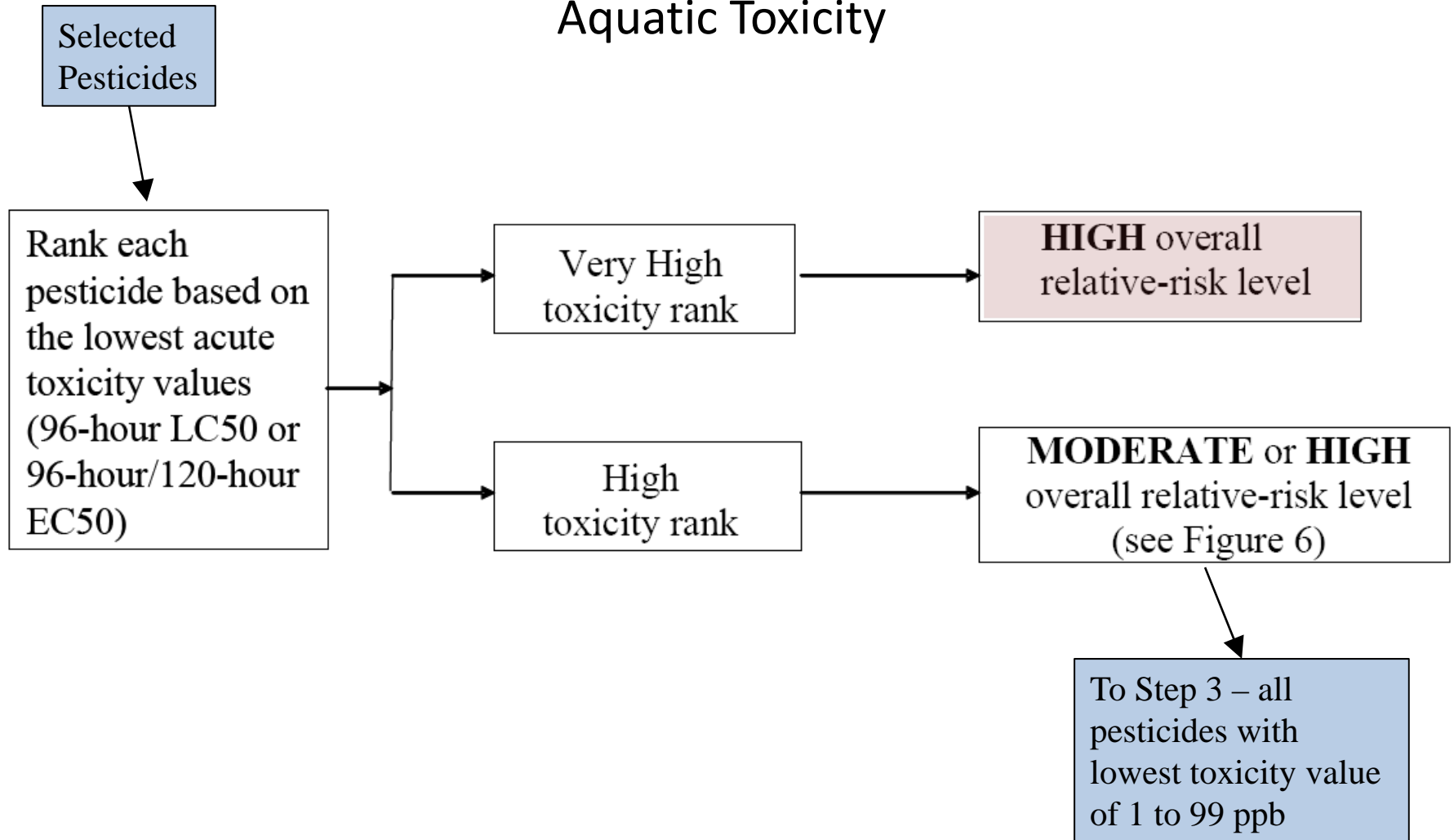
Central Valley Water Board Relative Risk Evaluation Process

Prioritization Step 1: Assemble Data



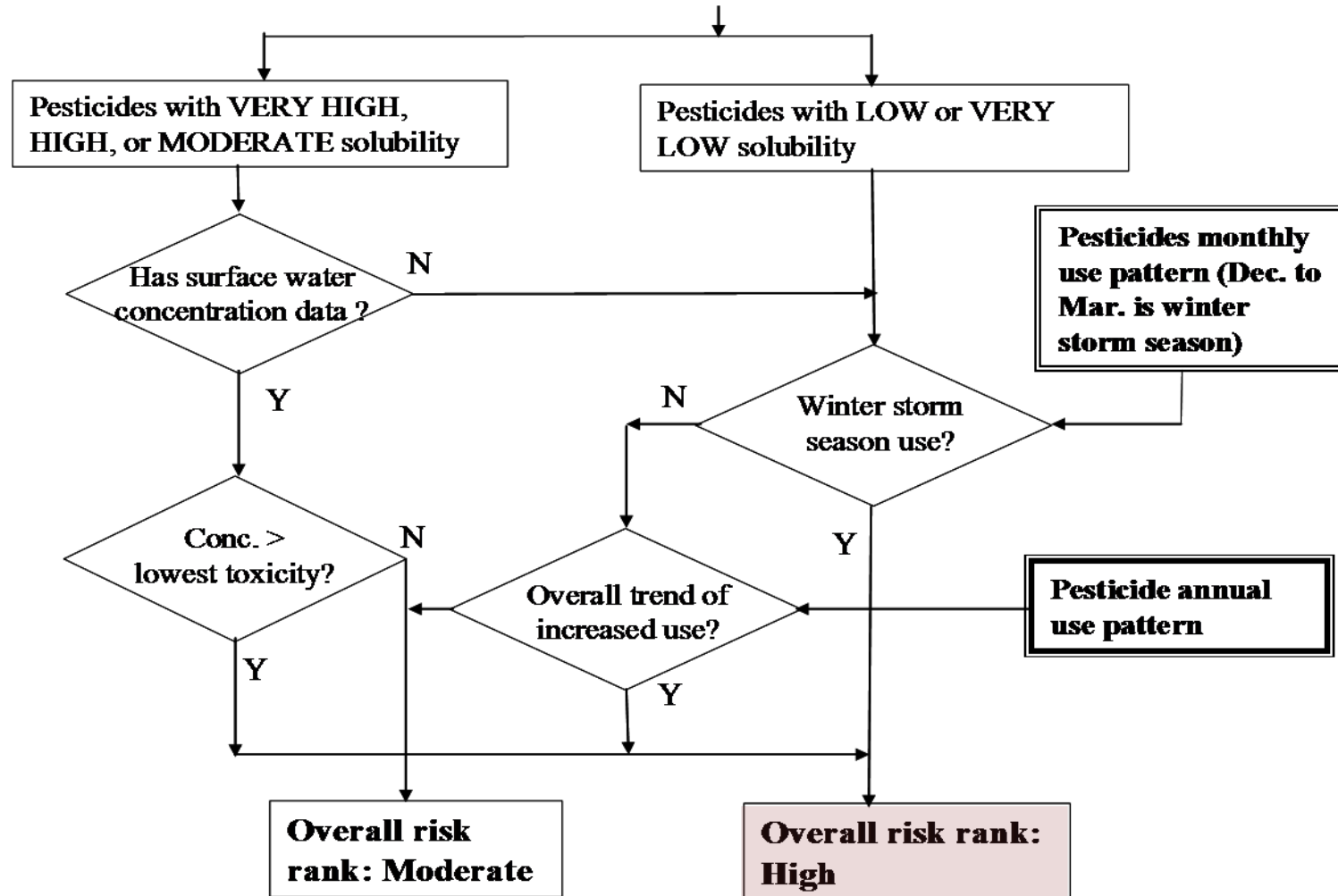
Central Valley Water Board Relative Risk Evaluation Process

Prioritization Step 2: Aquatic Toxicity



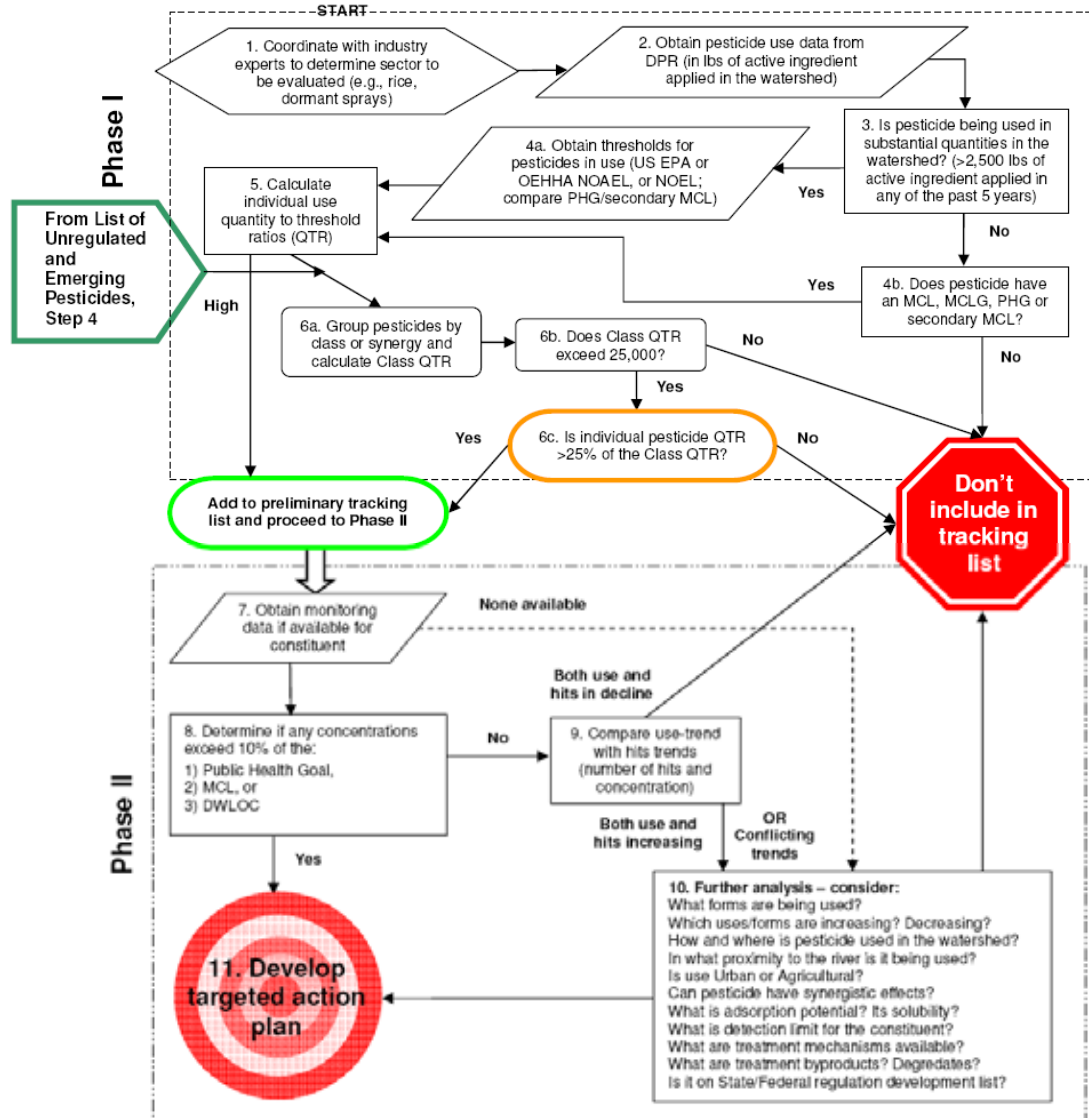
Central Valley Water Board Relative Risk Evaluation Process

Prioritization Step 3: Use Monitoring Data & Use Patterns to Prioritize High Aquatic Toxicity Pesticides



Sacramento River Source Water Protection Program

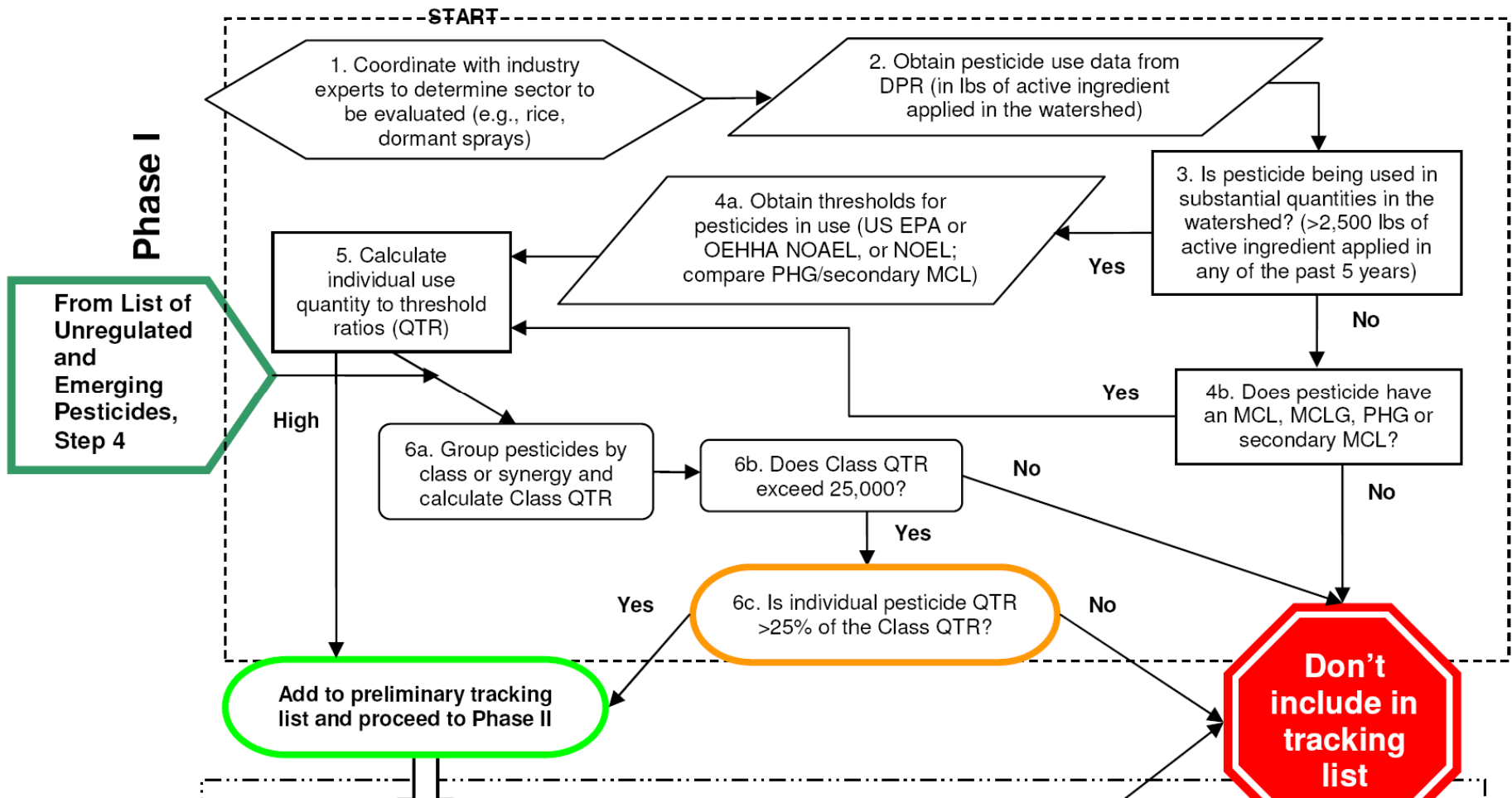
Tracking List Flow Chart For All Pesticides In-Use



Sacramento River Source Water Protection Program

Phase I:

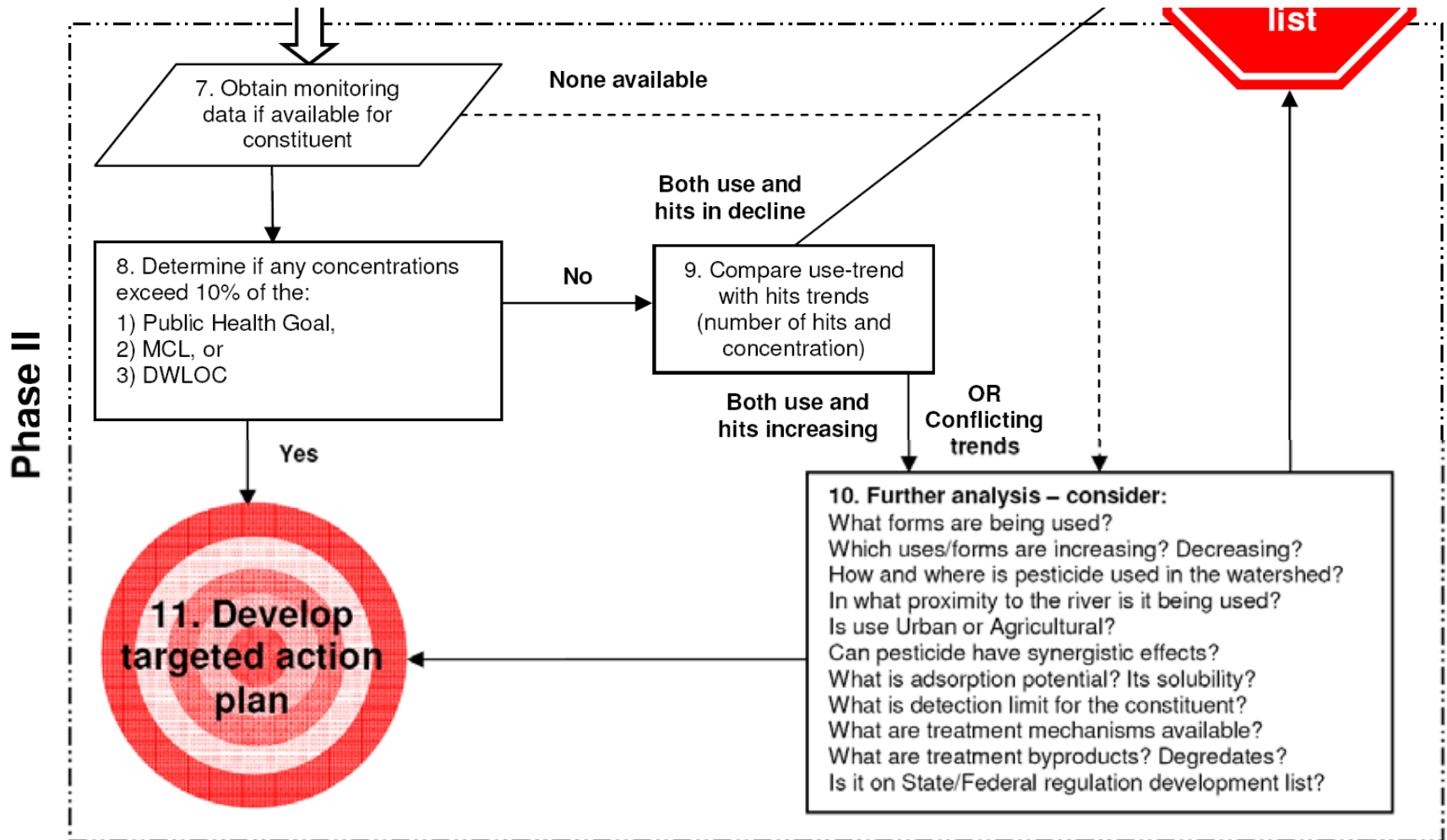
Rank based on Ratio of Use Quantity to Health Protection Level



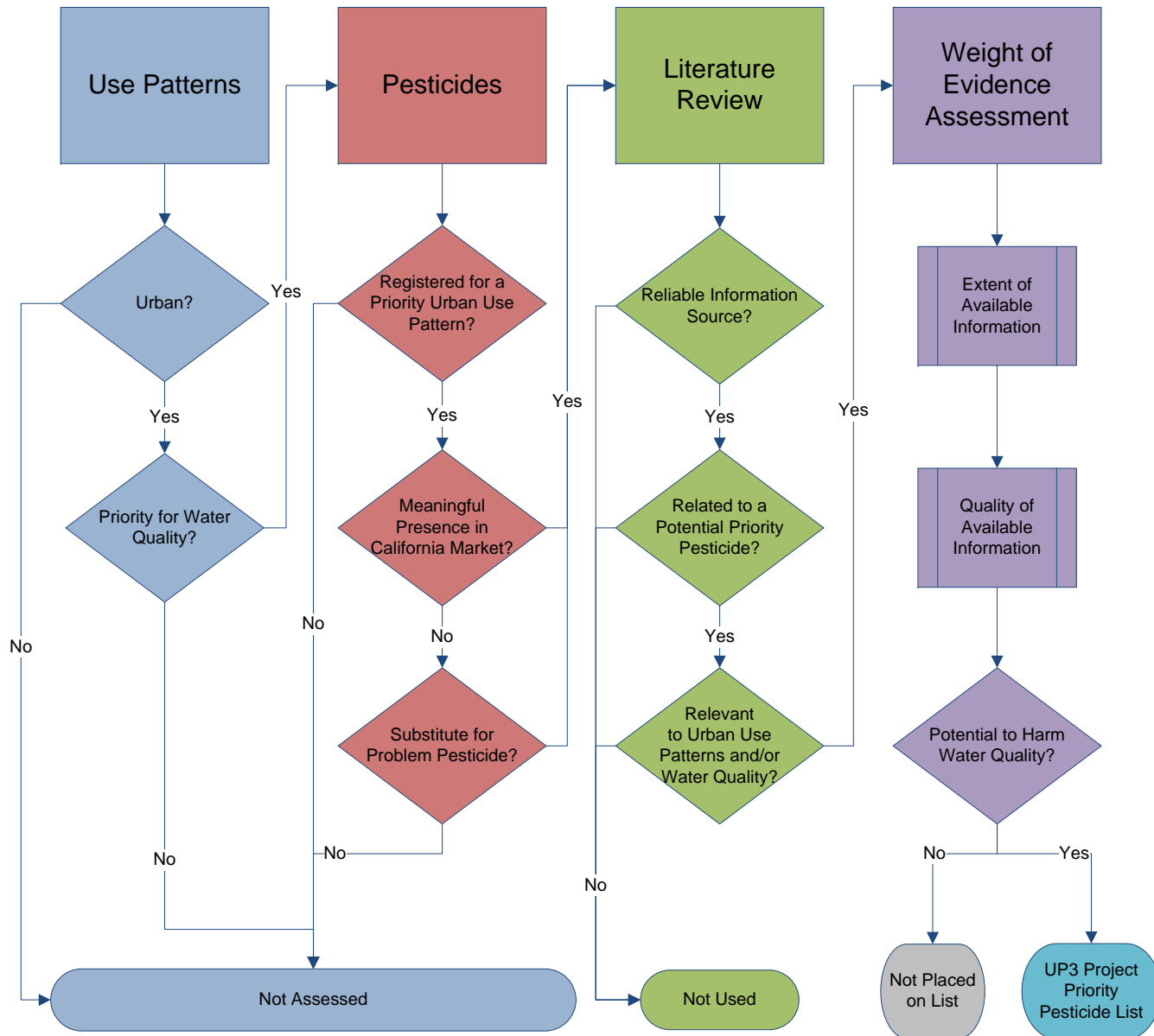
Sacramento River Source Water Protection Program

Phase II:

Use Monitoring Data, Trends, and Other Factors to Set Priorities

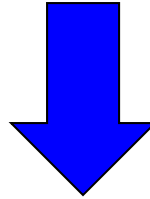


UP3 Pesticide Prioritization Process

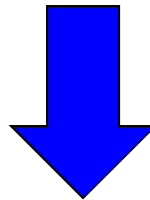




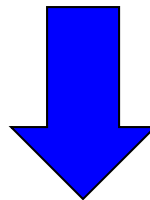
Step 1:
Priority Use Patterns



Step 2:
Identify Candidates for Pesticide List

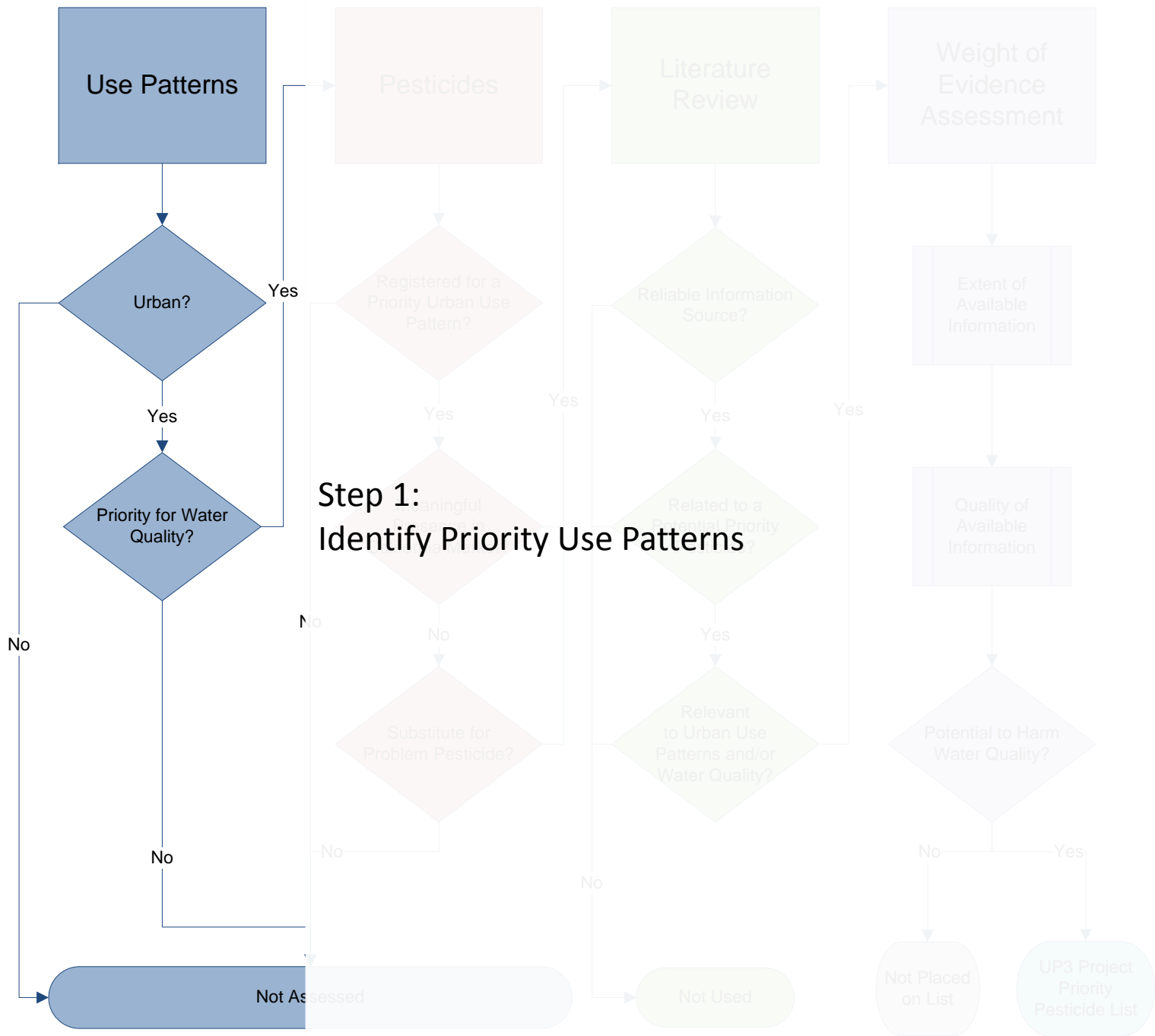


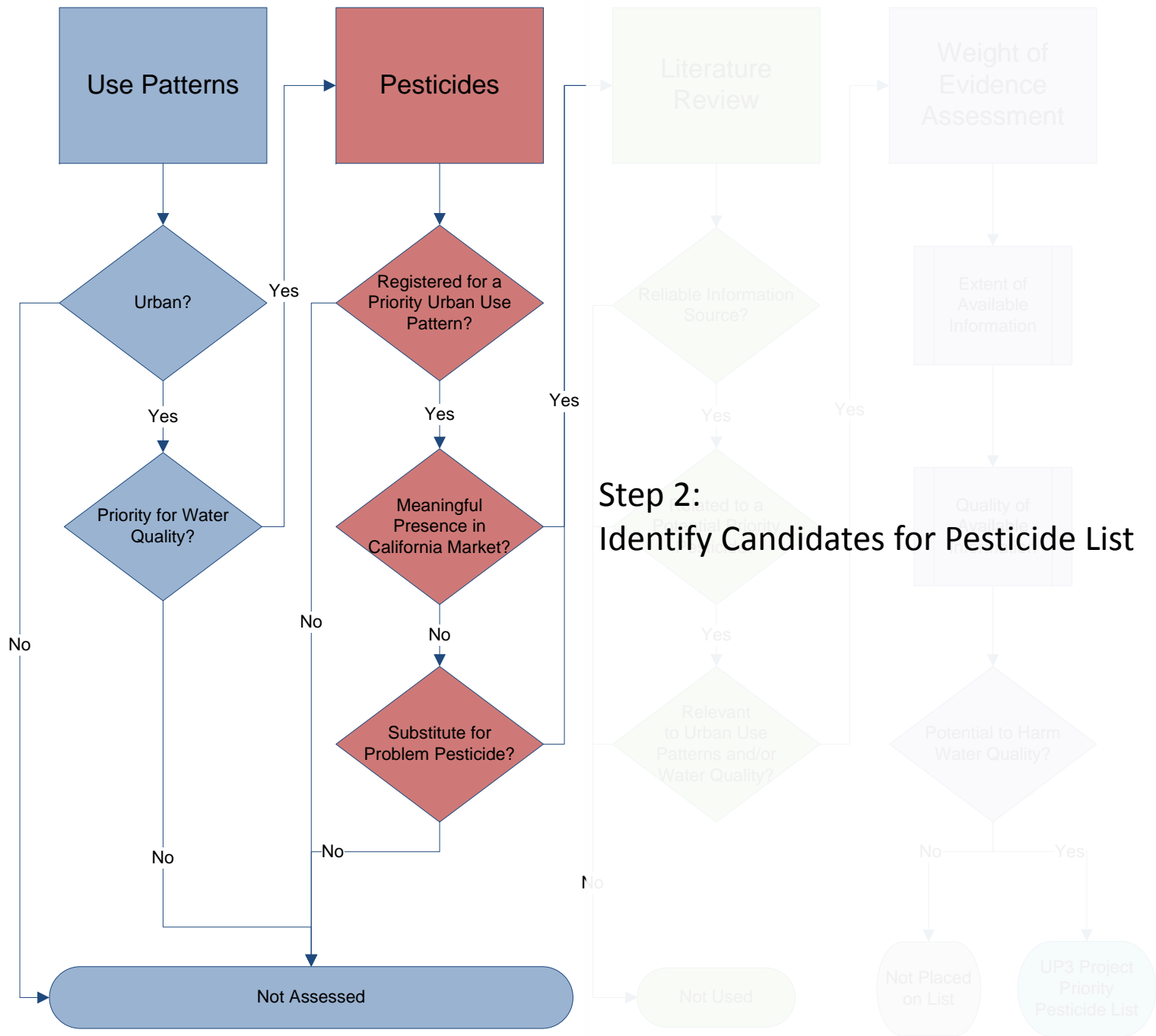
Step 3:
Do Literature Review

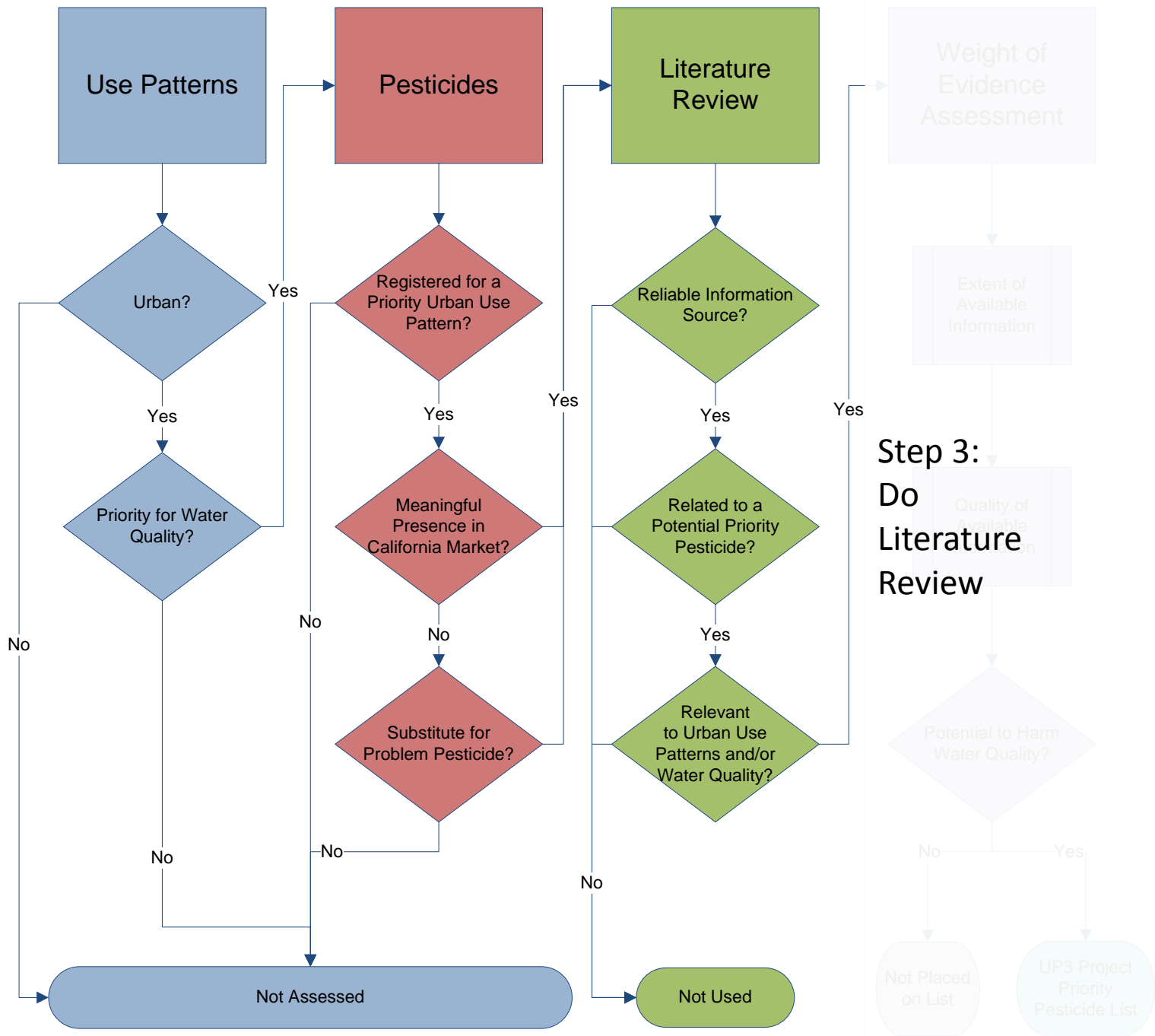


Step 4:
Weight of Evidence Assessment



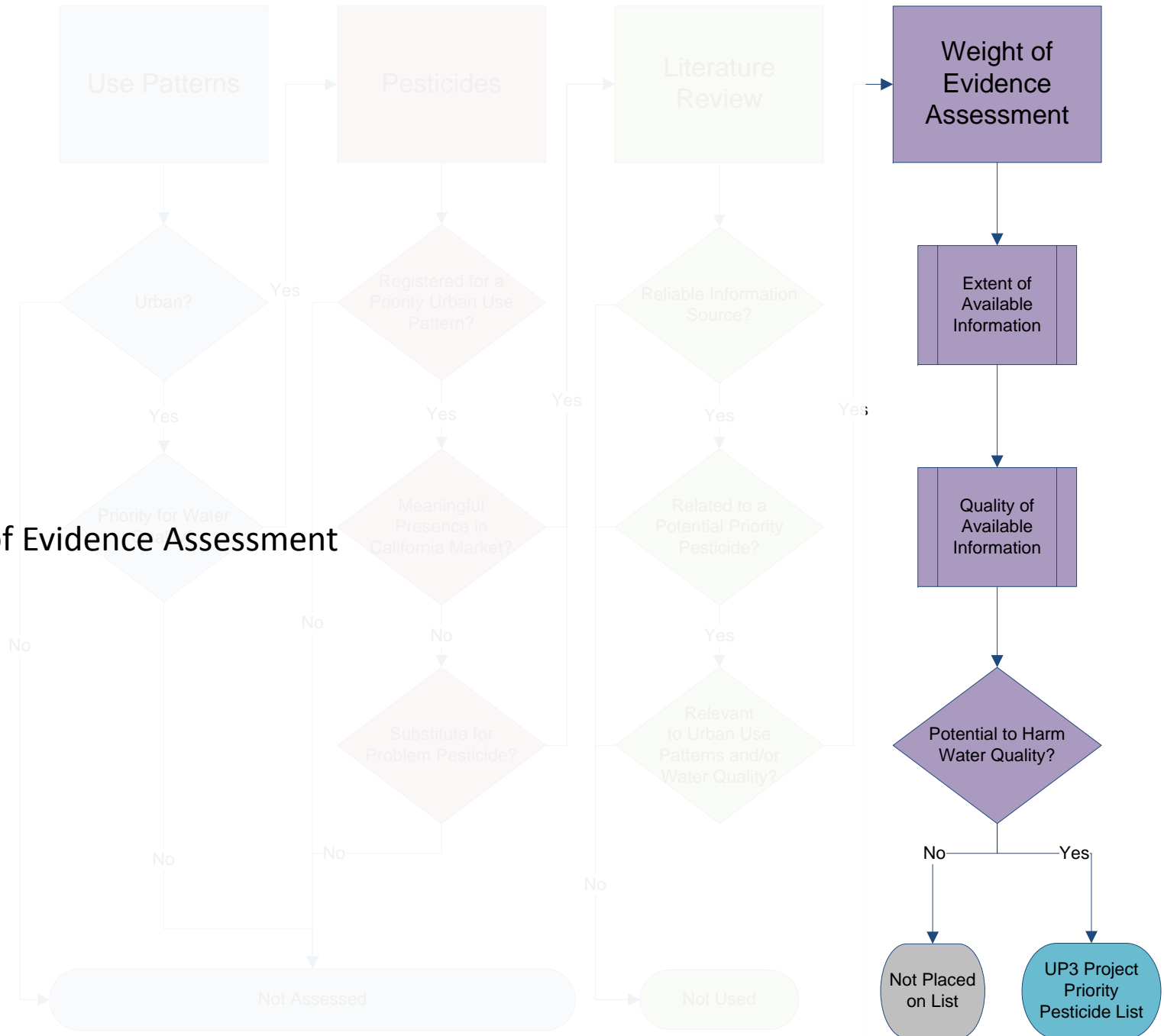






**Step 3:
Do
Literature
Review**

Step 4: Weight of Evidence Assessment





Prioritization Challenges

- Identifying future problems
 - Monitoring & use data approaches excel at identifying problems already present – but often fail to predict future problems
 - Use pattern promising alternative approach
- Data limitations
 - Aquatic toxicity - Are there good indicators?
 - Urban – POTWs & urban runoff
 - Chemical analysis methods / monitoring data