

# Approach to the BDCP Effects Analysis

---

Bay Delta Conservation Plan  
Steering Committee Meeting  
October 8, 2009

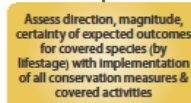
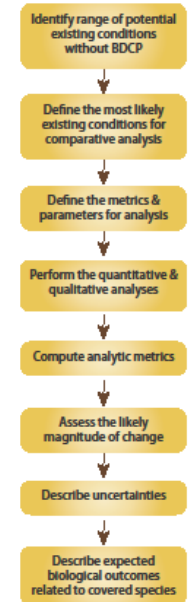
DRAFT – NOT FOR DISTRIBUTION

# Approach to Effects Analysis

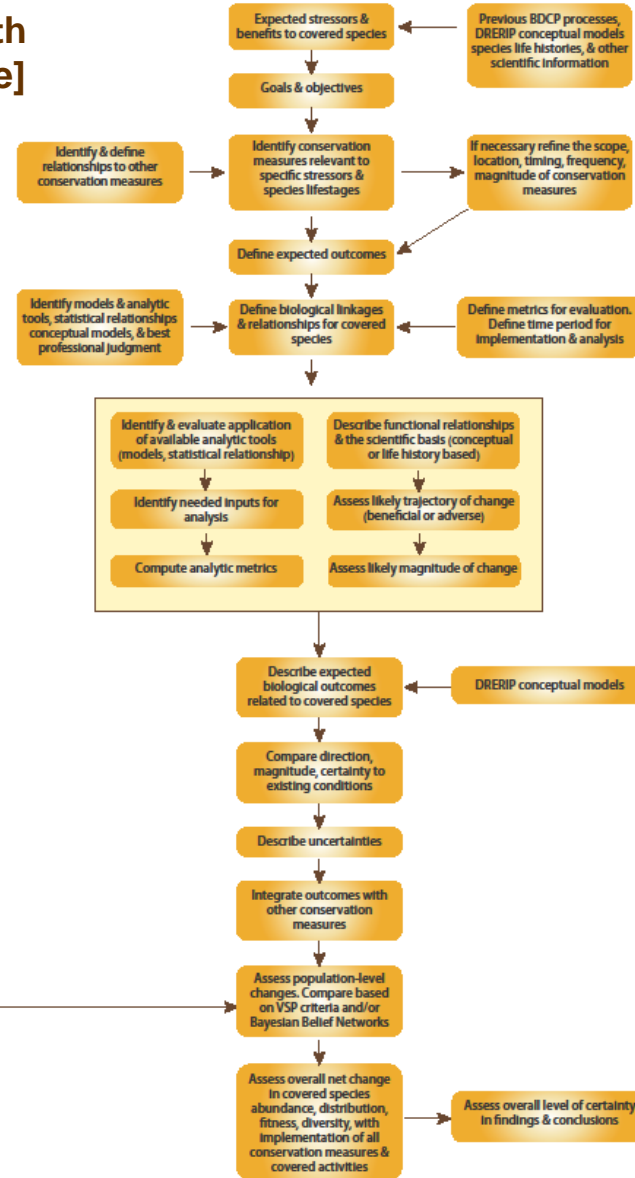
- Overview general strategy for effects analysis
- Process for identifying key tools, assumptions, points of agreement
- Technical subgroup input
- Technical consultants

# Overall Approach

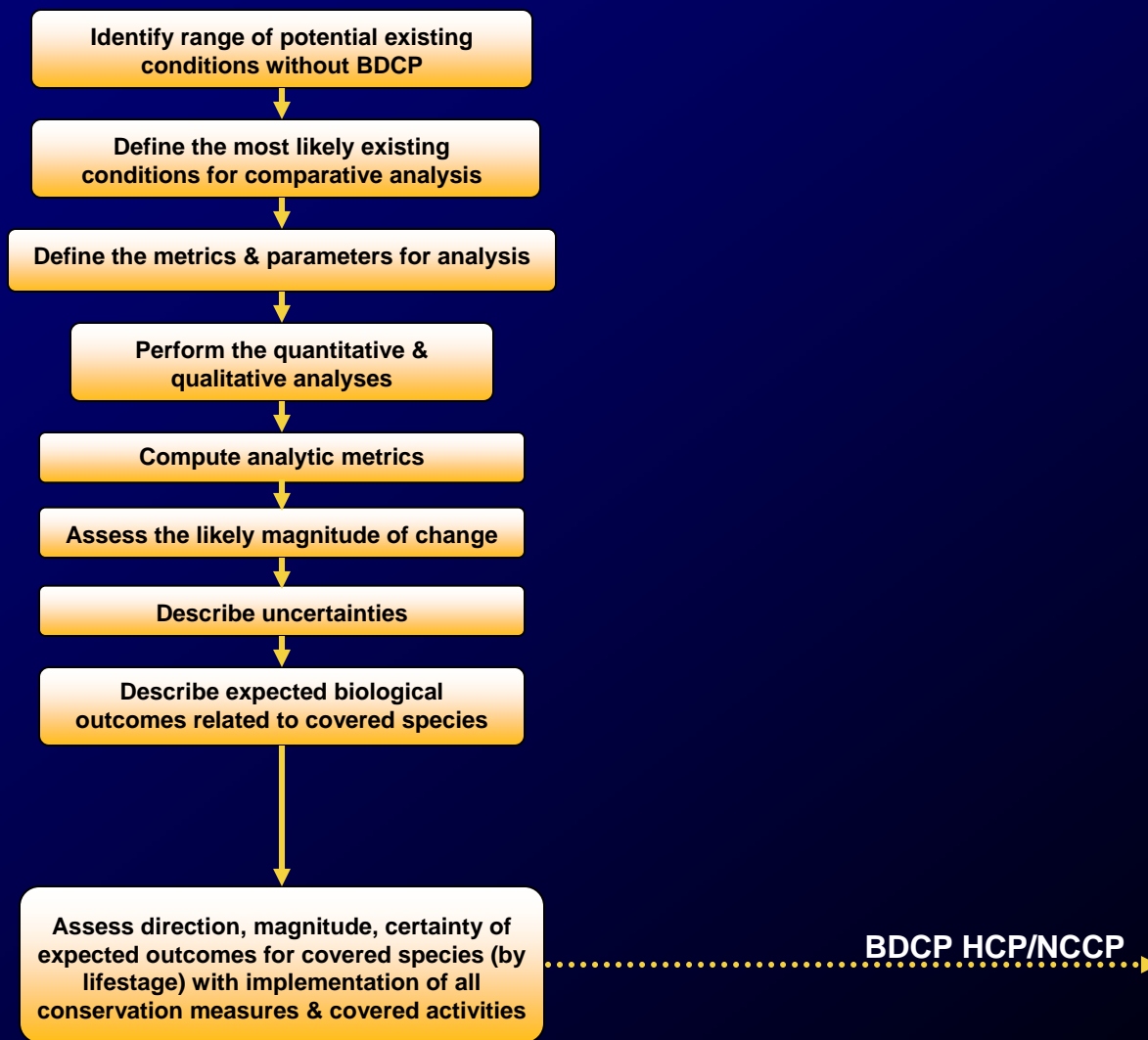
## Existing Conditions [And Future with Climate Change]



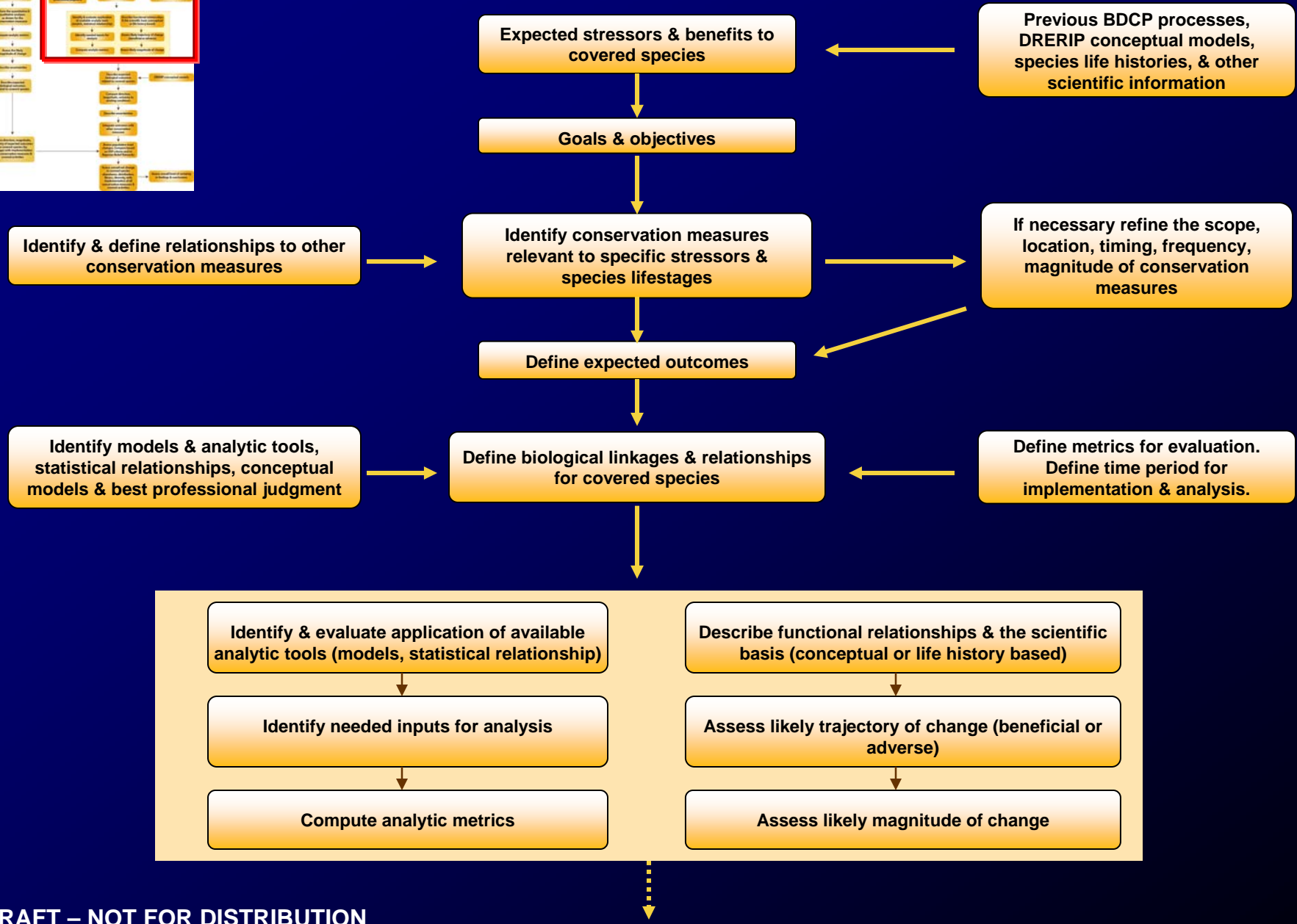
## BDCP HCP/NCCP



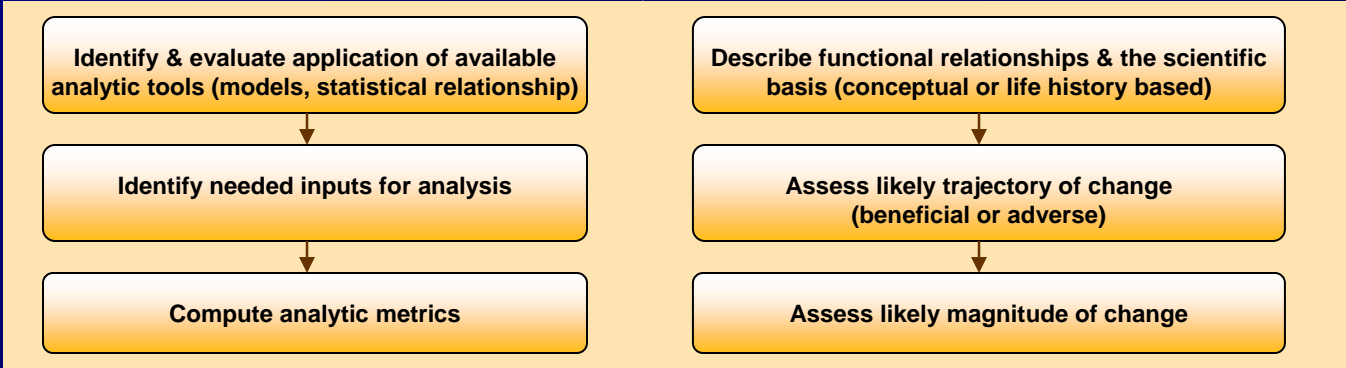
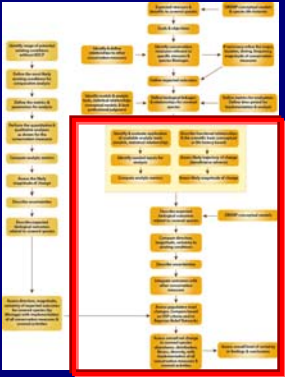
# Existing Conditions [And Future with Climate Change]



# BDCP HCP/NCCP



# BDCP HCP/NCCP – cont'd



Describe expected biological outcomes related to covered species

DRERIP conceptual models

Compare direction, magnitude, certainty to existing conditions

Describe uncertainties

Integrate outcomes with other conservation measures

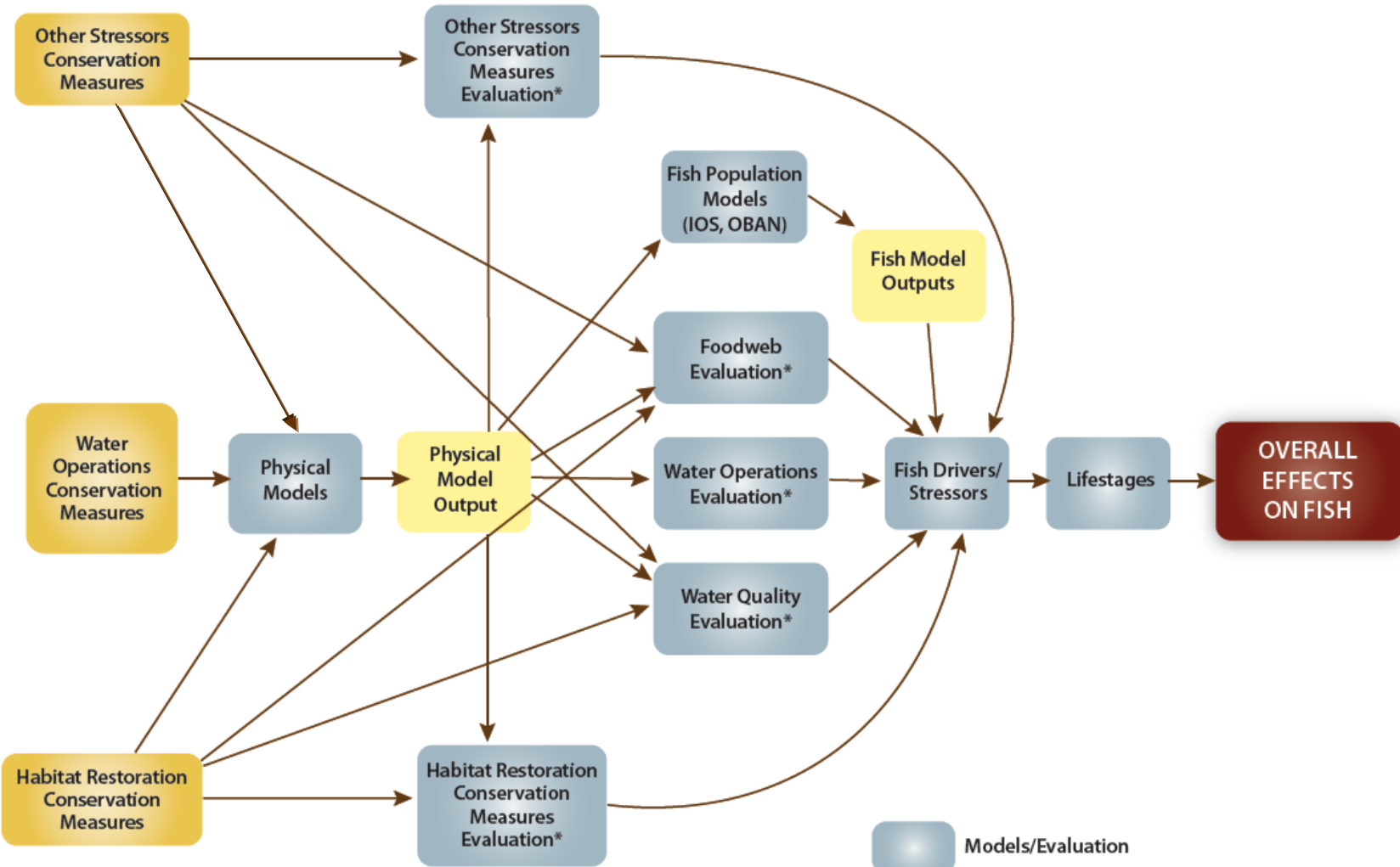
Assess population-level changes. Compare based on VSP criteria and/or Bayesian Belief Networks

Existing Conditions

Assess overall net change in covered species abundance, distribution, fitness, diversity with implementation of all conservation measures & covered activities

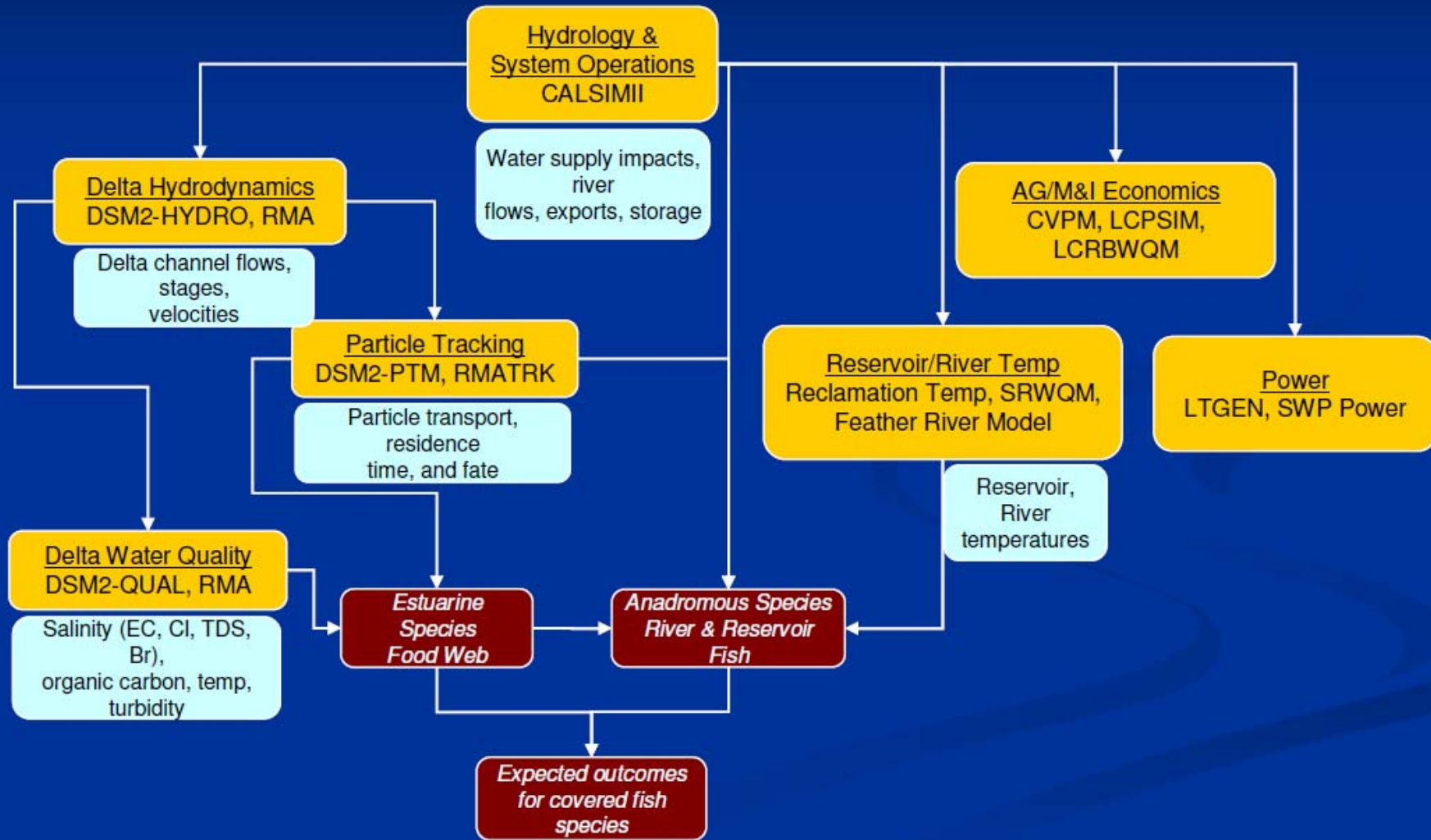
Assess overall level of certainty in findings & conclusions

# Path from Conservation Measures to Fish Effects



\* Supported by DRERIP Conceptual Models

# Physical Modeling Tools and Information Flow



# Possible DSM2 Derived Metrics

- Hydrodynamics and Water Quality
  - Time series results at location (standard output)
  - Time-varying spatial distributions
  - Spatial distribution by season or time period
  - Animation
- Transport and Fate
  - Fate mapping
  - Residence time mapping
  - Reach-specific travel time and paths
  - Animation
- Suitability indices (combined parameter analysis)
- Similar outputs can be provided by RMA
  - Additional capabilities with respect to behavioral modeling, focused analyses of tidal marsh, and particle tracking

# Population-Level Effects

- IOS and OBAN as examples of population-level effect (Cramer/R2)
- Viable salmon population (VSP)
- Primary constituent elements (PCE)
- Population viability assessment (PVA)
- DRERIP conceptual models
- Best professional judgment

# Integration-Net Species Effect

- Climate change
- Probability of extinction
- Probability of recovery
- Bayesian belief network
- Best professional judgment