



## Introduction to Structured Decision Making

---

---

Michael C. Runge  
*USGS Patuxent Wildlife Research Center, Laurel, MD*  
Ellen Bean  
*Independent Consultant, Raleigh, NC*  
  
Capital Area Groundwater Conservation Commission  
24 July 2019

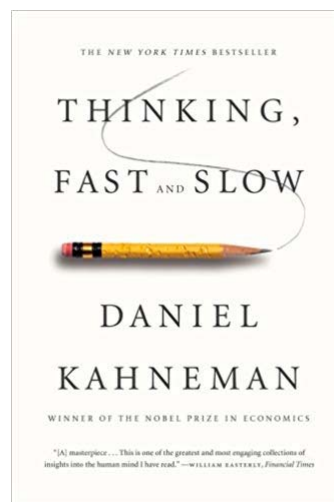
## Human Decision Making

---

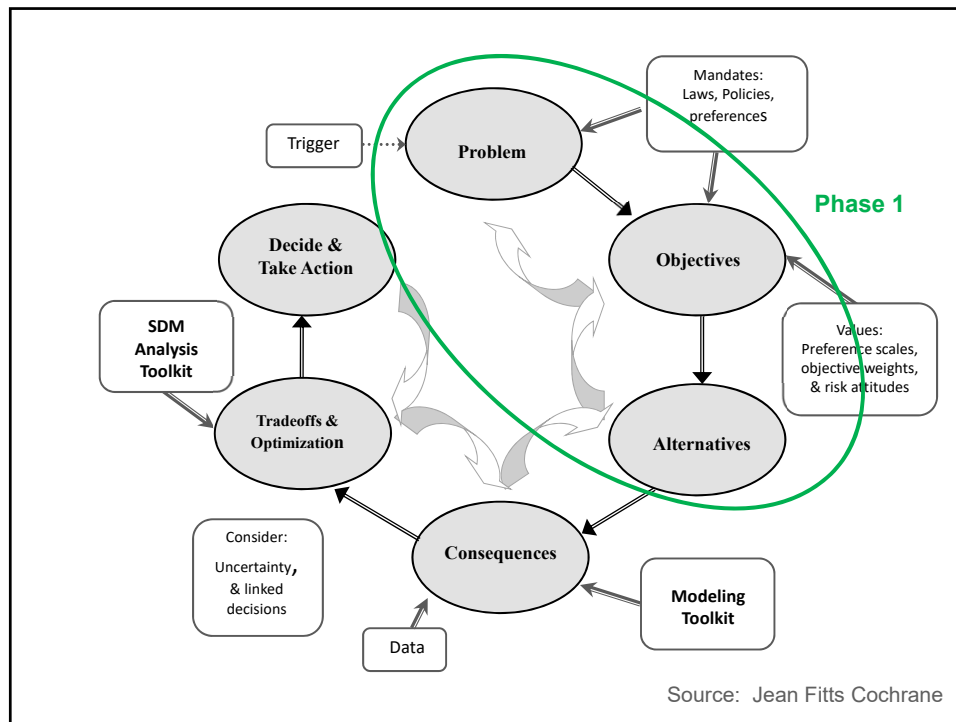
---

**Daniel Kahneman**  
2002 Nobel Prize in Economics

For work he did in partnership with  
Amos Tversky on how people make  
decisions







## Decision Context

- Who is the decision maker?
- What is their authority to act?
  - How does their authority guide their long-term aims?
- What decisions do they face?
- What is the timeframe and spatial scope of the decision?
- What is the trigger for the decision?



## Objectives

---

- The *fundamental objectives* are the desired future conditions that the decision maker is seeking to achieve
- The objectives may be multi-faceted, conflicting, and contentious
- The objectives guide the rest of the planning

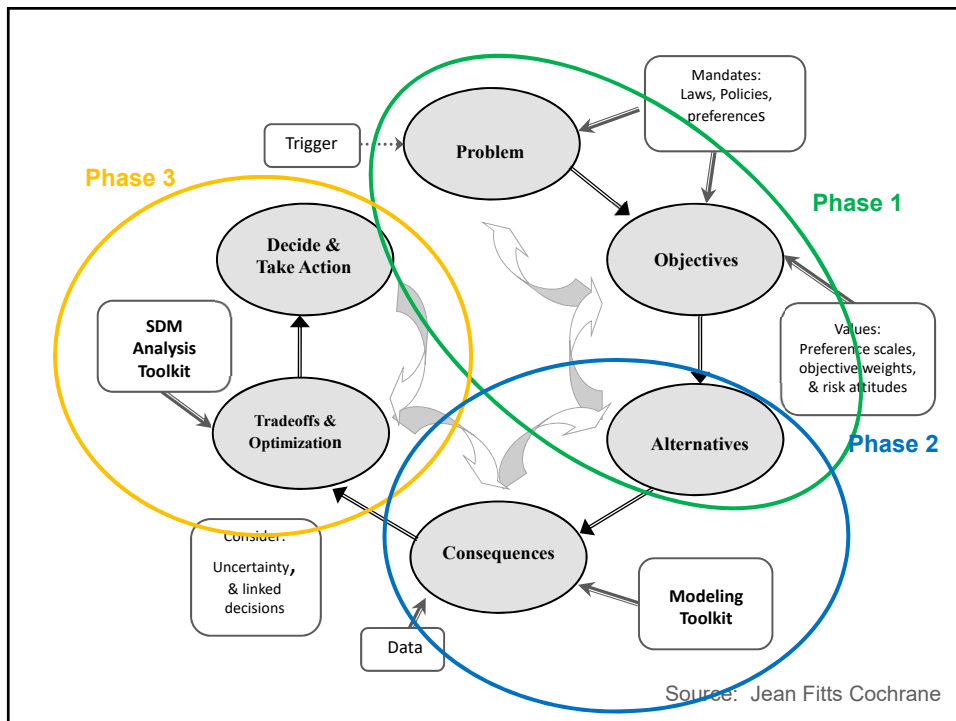
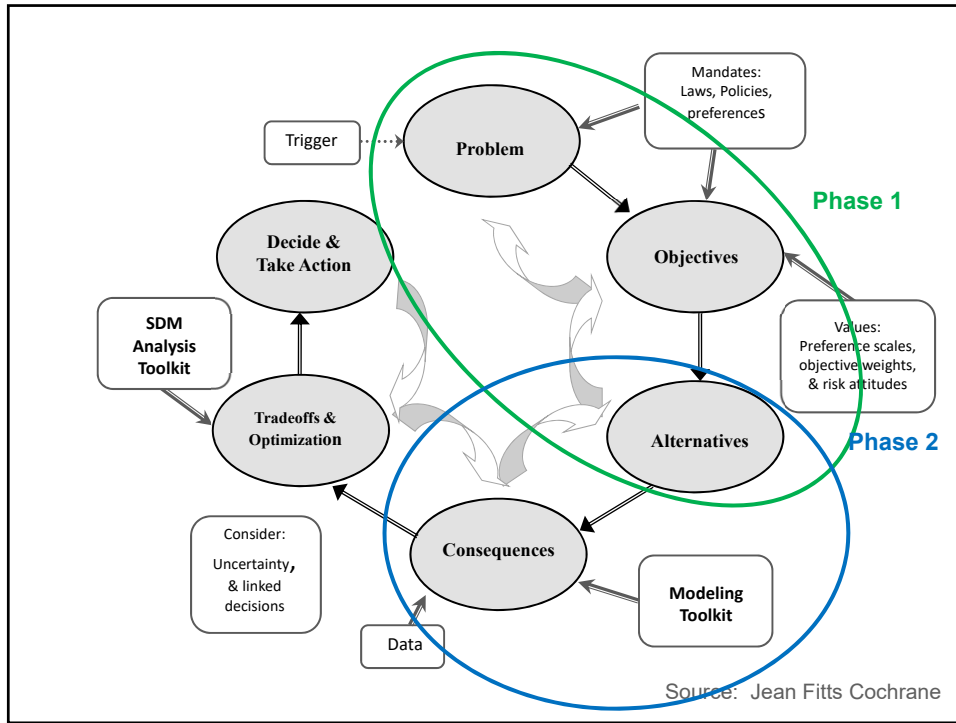


## Alternatives

---

- A decision is a choice among alternatives
  - But we often fail to consider the range of alternatives that are possible
- There is value in creative development of alternatives
  - Often we reject creative ideas before we've analyzed them





## Process

---

- Responsibility
  - It's the Commission's job to develop a long-term plan; we're here to help create a constructive environment and process to do that
- Collaboration & Respect
  - There is a lot of diverse expertise, and multiple viewpoints about values; we will ask you to listen for all of those insights
- Creativity
  - We will encourage you to be careful of pre-conceived notions, and to think creatively about how to develop a robust and enduring long-term strategy



## Today's Agenda

---

- Purpose: to present background information regarding the regulatory, economic, and scientific context relevant to the Commission's long-term planning
- Information-sharing only
  - We're not seeking to deliberate and resolve any topics yet



---

---

CAGWCC Planning: Phase 1

## **UPCOMING MEETINGS**



## **Meeting 1: Framing & Objectives**

---

---

- Aug 1, 1:30-3:30; Aug 2, 8:30-10:30
  - USGS Office
- Decision context (day 1)
  - Discuss the Commission's desires for a long-term strategic plan. What is the context in which this is being developed?
- Fundamental objectives (day 2)
  - What are the desired future conditions the Commission is aiming to achieve through this long-term plan?



## Meeting 2: Alternatives

---

---

- Aug 22, 1:30-3:30; Aug 23, 8:30-10:30
  - The Water Institute
- Review context, objectives, & performance metrics
- Action elements
  - Brainstorm and organize all the sorts of actions the Commission and its partners can undertake
- Alternative strategies (if time)
  - Design and assemble several long-term strategies that could be pursued



## Meeting 3: Evaluation Plan

---

---

- Sep 12, 1:30-3:30; Sep 13, 8:30-10:30
  - USGS Office
- Alternative strategies
  - Design and assemble several long-term strategies that could be pursued
- Review Phase 1 framework
- Discuss the evaluation needs that arise from that framework

