# Conservation Decision Making


Wildlife Management Institute

Contact Aforstchen@wildlifemgt.org

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# MSCG Project Intent

- Not to replicate or create conservation social scientists in state agencies
- Provide basic information to increase awareness of and about the acquisition and application of conservation social science in agency decision making
- For the purposes of these modules, we'll use the more modern and broader terminology of conservation social sciences rather than human dimensions of wildlife management
- Our use of the term wildlife includes mammals, fish, birds, insects, reptiles, etc.
- WMI deeply appreciates the contributions of Dr. Daniel J. Decker and Dr. Lou Cornicelli to this project

# Basics of Decision Making

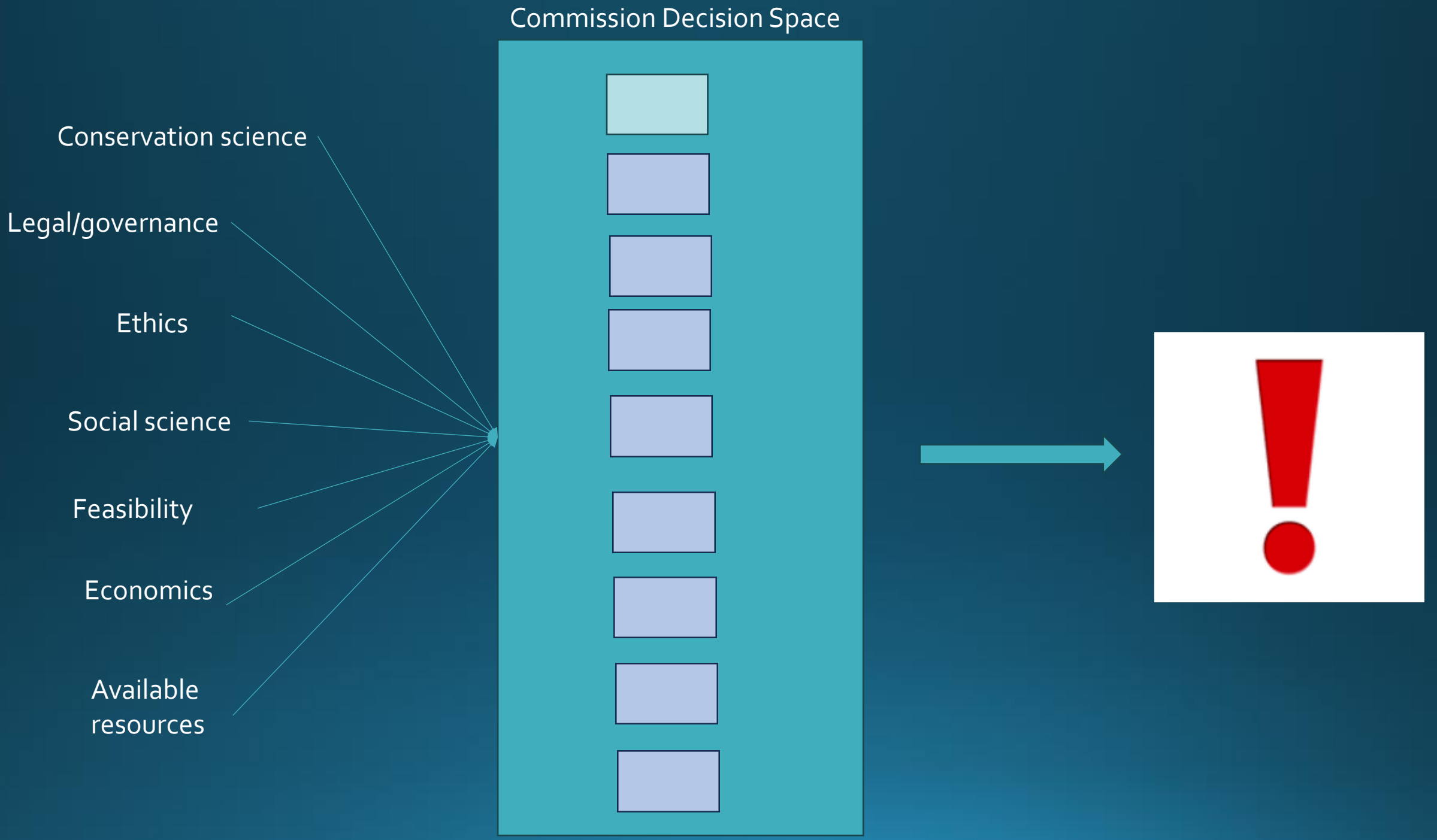
- Identify the decision to be made
- Identify who the decision maker is (e.g., staff, supervisor, Commissioner(s))
- Gather information
- Identify alternatives
- Weigh the evidence (e.g., who is impacted, who benefits, who loses)
- Choose among the alternatives
- Identify metrics of success
- Communicate about decision
- Take action
- Evaluate action

# Conservation Decision Making

- Decision making is the essence of wildlife management (see Riley et al. 2002)

- Types of decisions
  - Routine – habitual, repeated, familiar
  - Operational – govern daily activities and processes
  - Tactical – carefully planned to achieve specific goal
  - Strategic – policy level

- Complicated – address with rules and recipes
- Complex – high uncertainty, learning and adaptation needed
- May take years for results to occur


Commission Decision Space
Conservation science
Legal/governance
Ethics
Social science
Feasibility
Economics
Available resources

# Why are Conservation Decisions Difficult?

- Require integration of science and values
- Objectives are sometimes contradictory, disputed
- Management actions are messy, unidentified
- System is poorly understood and/or highly variable (i.e., uncertainty)
- Conservationists are typically risk averse

# Decision Making is a Courageous Act

- Most important decisions test courage rather than intelligence
- The right decision may be obvious but pressure to opt for the wrong (easy) decision can be overwhelming
- The right decision may be the most difficult to execute
- Strive for durable decisions

# Commission Decisions – Policy Level

Why and purpose

- Determine appropriate harvest level and set seasons
- Provide hunting opportunities
- Prescribe methods of harvest
- Restore habitat
- Acquire property
- Classify wildlife as threatened or endangered
- Implement prohibitions on harmful animals
- Reduce human-wildlife conflict

# Staff Conservation Decisions

Where, who, when and how

- Decide where and when to do prescribed burn
- Select monitoring method to use to detect population trends
- Allocate staff and resources across projects
- Determine method to monitor for disease detection
- Develop habitat succession models
- Conduct social science inquiries
- Investigate impact of harmful substances on wildlife

# Biases in Conservation Decision Making

- Consumptive/non consumptive user
- Gender, race, ethnicity
- Physical ability
- Longevity of participation
- Method of participation
- Wealth and access
- Source of science and information
- Rural/urban and geographic location
- Large charismatic species / small obscure species
- Social connections & affiliations

# Decisions

- Can be rational or irrational – many are not made logically
- Based on values, preferences, beliefs and previous experience
- Not taking action is a decision
- Decisions are usually judged by their outcomes
- Science (ecological or social science) informs decision making (it doesn't make the decision)
- Can't take emotions out of the process – helps to understand people's motivations and attitudes
- Leave time/room to make small adjustments to actions based on evaluation and learning

# Decision-making Methods

- Consensus – avoid winners and losers
- Voting based
- Structured decision making
- PROACT
- Random (e.g., flip a coin)

Method depends on context, timing, available resources, etc.

# Decision Making Skills

- Understand, identify and prioritize the decision
- Think broadly/systematically
- Understand available resources and constraints
- Be decisive
- Be creative and innovative
- Be adaptable
- Be ethical, fair, inclusive and transparent
- Use good judgment in problem solving

# Decision Traps

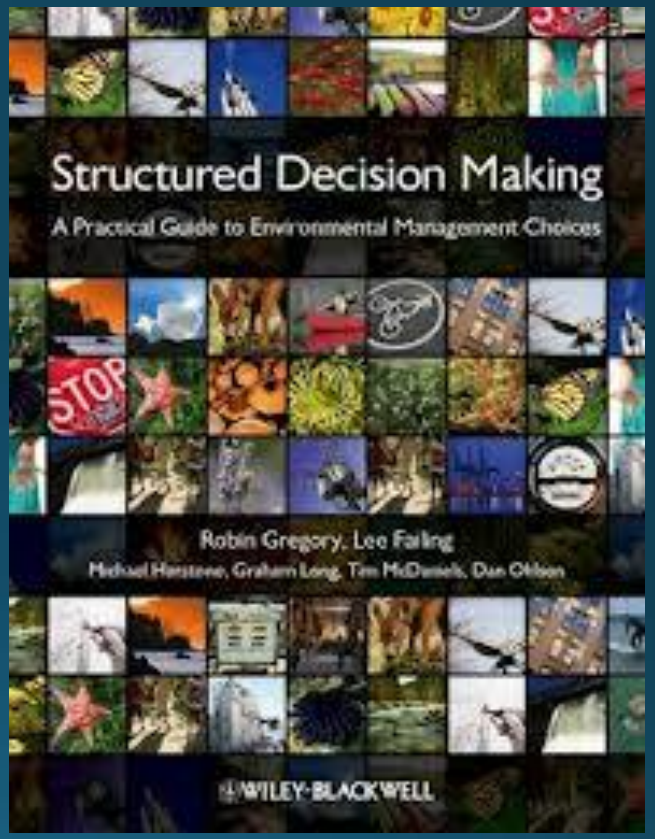
- Misidentified the decision
- Lacked relevant or sufficient information
- Didn't seek out and consider all perspectives
- Failed to consider risks or subsequent consequences
- Let bias cloud judgment
- Didn't communicate effectively to ensure all on same page
- Let groupthink take over
- Didn't fully explore alternatives

# Decision Traps

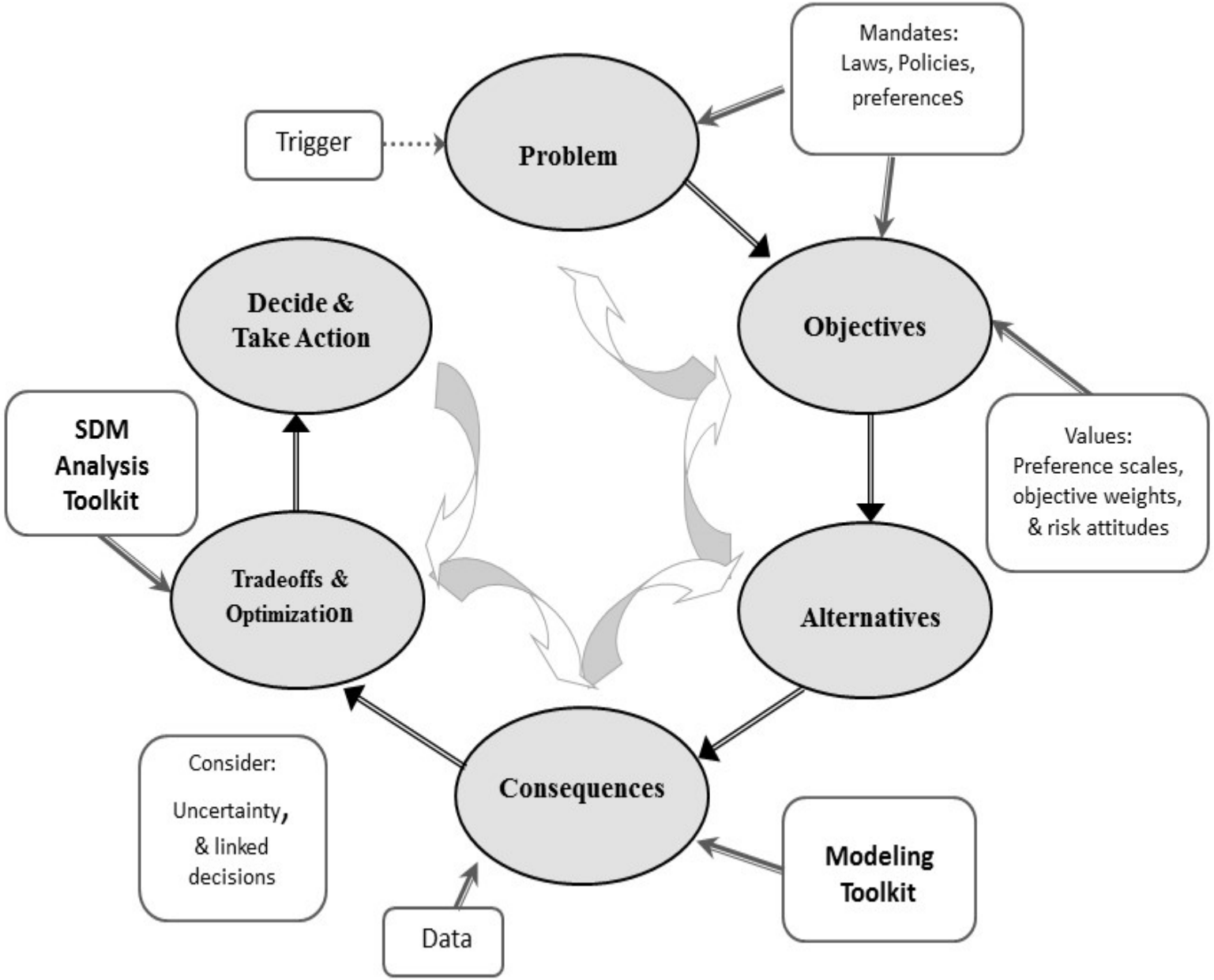
- Business as usual – default to previous decision
- Extinction by instinct – no planning or analysis
- Accepting first possible solution – anchoring
- Defer to the preference of others (e.g., influential or higher-ranking individuals)
- Not knowing when to stop (analysis paralysis)
- Information overload
- Decision fatigue
- Give in to emotions

# Structured Decision Making

Structured decision- making (SDM) is an approach to identifying and evaluating objectives and a set of alternatives to achieve those objectives based on trade- offs, assuming predicted consequences of alternatives.



# Structured Decision Making




Source: Jean Fitts Cochrane

# Why SDM?

- Decisions that are more likely to achieve objectives
  - Deconstruct complex decisions
  - Deliberative, thorough
  - Robust to uncertainty, relies on science
  - Avoid psychological traps

    Intuition – only reliable for frequently encountered problems

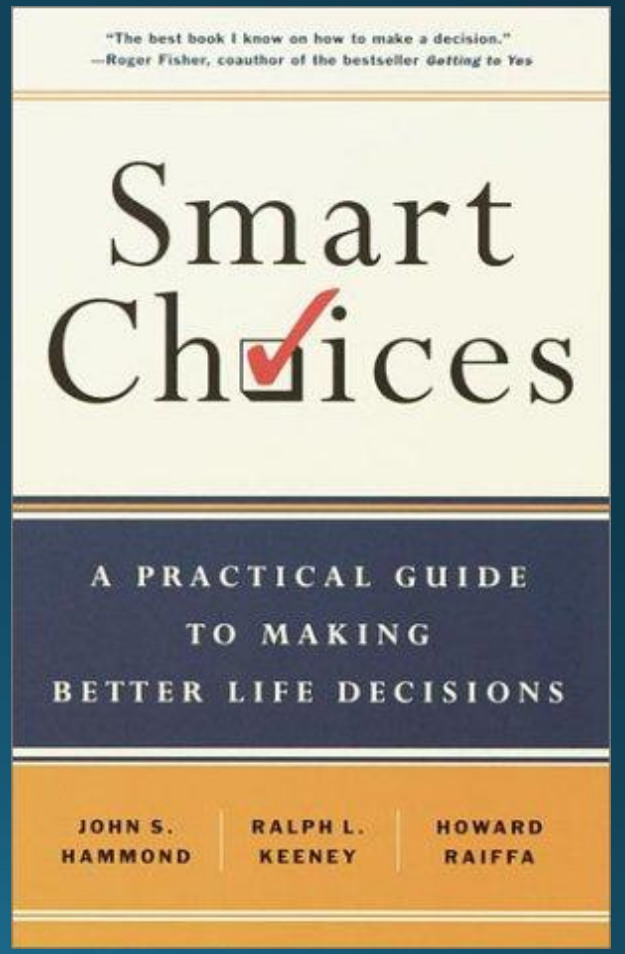
    Instincts – only reliable for evolutionary problems

# Why SDM?

- Decisions that are more likely to be accepted by others
  - Based on values, clarifies roles of science & values
  - Transparent
  - Explicit
  - Documentable
  - Replicable

# **PROACT** (Hammond et al. 1999. Smart Choices)

- Problem definition or framing
- Objectives
- Alternatives
- Consequences
- Tradeoffs



# Problem Framing – Situational Analysis

- Most important step
- Why are we considering this issues?
- Is the choice yours to make?
- Who else should be included in process (e.g., partners, stakeholders, colleagues)?
- What type(s) of information are needed to make a decision?
- What is context of the decision?
- How does this decision fit into the practice of good governance?

# Objectives

- Characterized by describing an object and a preference for outcomes (e.g., increase ruffed grouse population in NY by 20% in 5 years)
- They help you achieve your goals because they represent values
- Form the basis for evaluating the alternatives.  Objectives become decision criteria.
- Helps determine what information is needed
- Help explain alternatives to others

# Alternatives

- Suite of potential actions that address objectives
- Think broadly and systemically
- Create alternatives first, then evaluate them
- Identify constraints of implementation (e.g., resources, skills, $)
- Understand tolerance of risk
- What are measures of success?

# Consequences

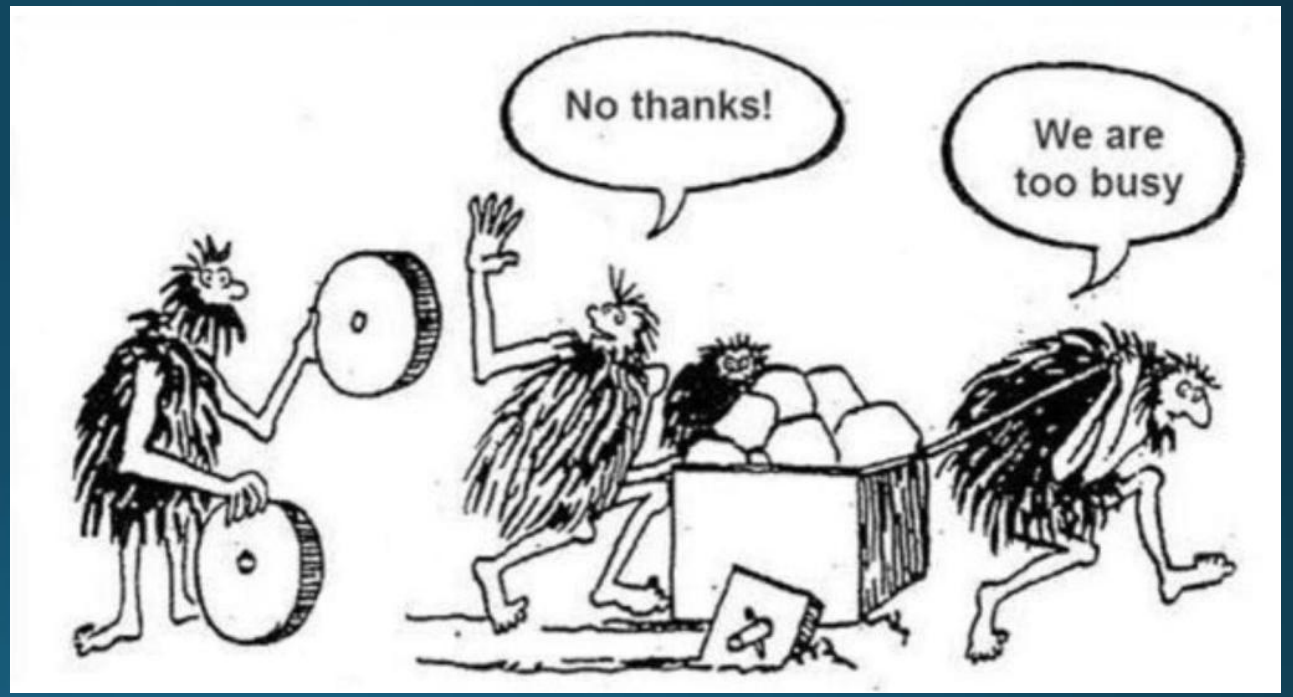
- Who will be positively impacted?
- Who will be negatively impacted?
- What are subsequent consequences?
- Address level of uncertainty
- If possible, run a pilot test
- Consider scale of decision

# Tradeoffs

- Acknowledge that there are always tradeoffs
- Requires balancing considerations of outcomes and process
- Develop a transparent, defensible process and follow it
- Apply explicit criteria to all alternatives to better describe tradeoffs

# Taking Time to Think

- More thorough problem framing
- Better informed alternatives
- Better identification of impacts, consequences and tradeoffs
- More durable decisions



# Questions to Consider

- What is the decision to be made?
- Who is the decider?
- What is the urgency?
- What is the broader context?
- Who is impacted?
- What is the desired outcome?
- Are we optimizing or satisficing?

# Questions to Consider

- What perspectives are known, who's are missing?
- What info is required to make the decision?
- What is needed for a durable decision?
- What is common ground?
- What are the trade-offs?
- What opportunities have emerged?