



Behind Door #3:

# Learning from failure in practice

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# Complementary skills

Professional  
technical skills  
(Hard skills)

+

Professional  
development skills  
(Soft skills)

*"I'm a well-trained and highly experienced biologist..."*

*If your focus stays here, you are missing a critical piece of the puzzle*

*"...but how is my leadership,  
teamwork, people management?  
And how should I think about  
failure? How do I learn?"*

**Systems that  
support learning  
from failure**

+

**Mindset being  
willing to learn from  
failure**

*"Do we document, share, disseminate, do pre-mortems, debrief, discuss..."*

*"...and what are my behavioral,  
cognitive, ego-driven  
responses?"*

## Confronting failure is tough: Part 1

### First big obstacle: Cognitive dissonance

It ain't just a river in Egypt

**DENIAL**

*I'm a smart person, and I gave away all my possessions because the world is ending*

+

*The world didn't end*

=

*God spared us because our belief was so strong!*

*I'm a well-trained, well-respected biologist/ pilot/doctor*

+

*My project failed/ I made an error*

=

~~Option 1: Maybe I messed something up and should try to learn from this.~~

Option 2: Failure? What failure? Maybe this wasn't such a failure after all!

# Confronting failure is tough: Part 2

Second big obstacle: Our cognitive biases

- ◉ We use shortcuts to speed decision making
- ◉ This process serves us well...until it doesn't
- ◉ Fails us in predictable ways
- ◉ More than 150 identified



Economics, aviation, medicine, business, political science, law, criminal justice...and now conservation!

# Answer quickly!

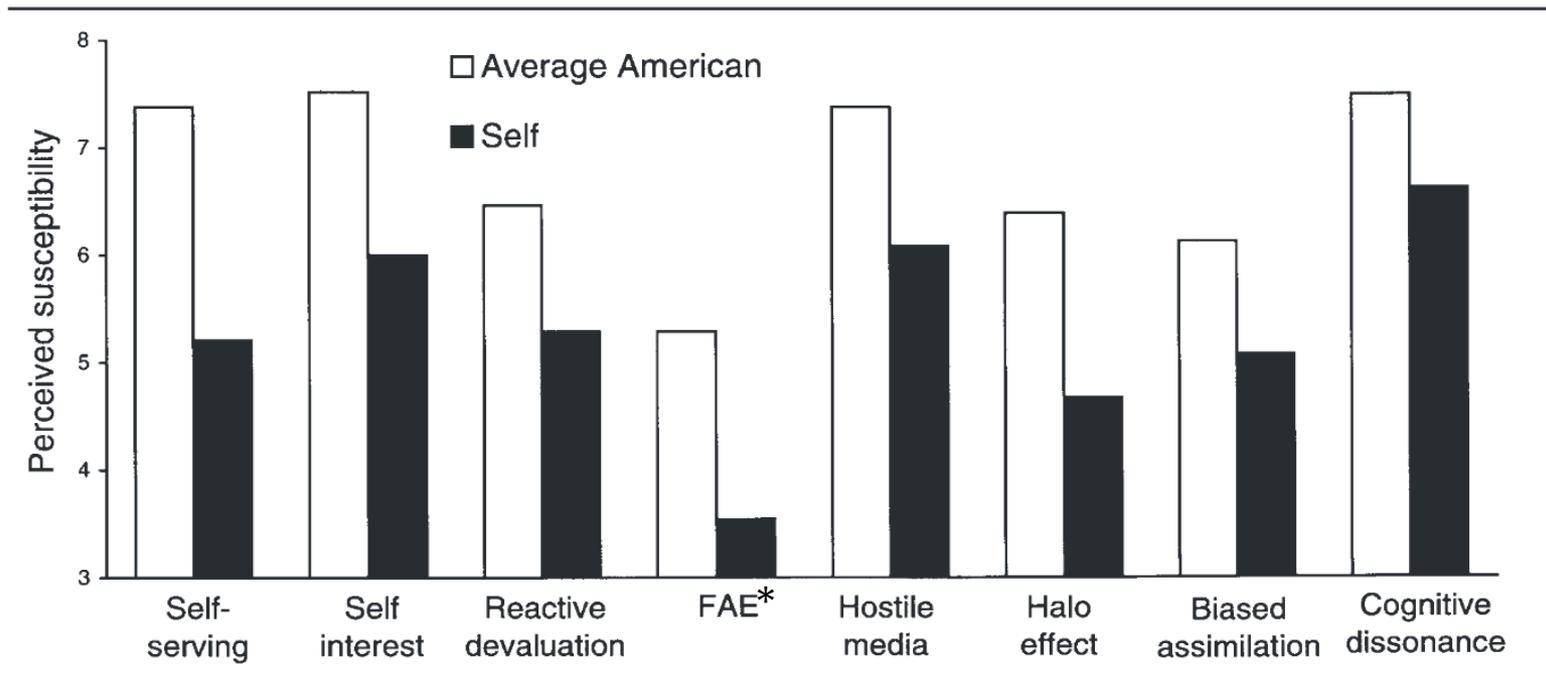
1. A bat and a ball cost \$1.10 in total. The bat costs \$1.00 more than the ball. How much does the ball cost? \_\_\_\_\_ cents
2. It takes 5 machines 5 minutes to make 5 widgets. How long would it take 100 machines to make 100 widgets? \_\_\_\_\_ minutes
3. In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half the lake?  
\_\_\_\_\_ days

What's the rule?

2, 4, 8

# The Bias Blind Spot

Researchers asked Americans about themselves and “Average Americans”

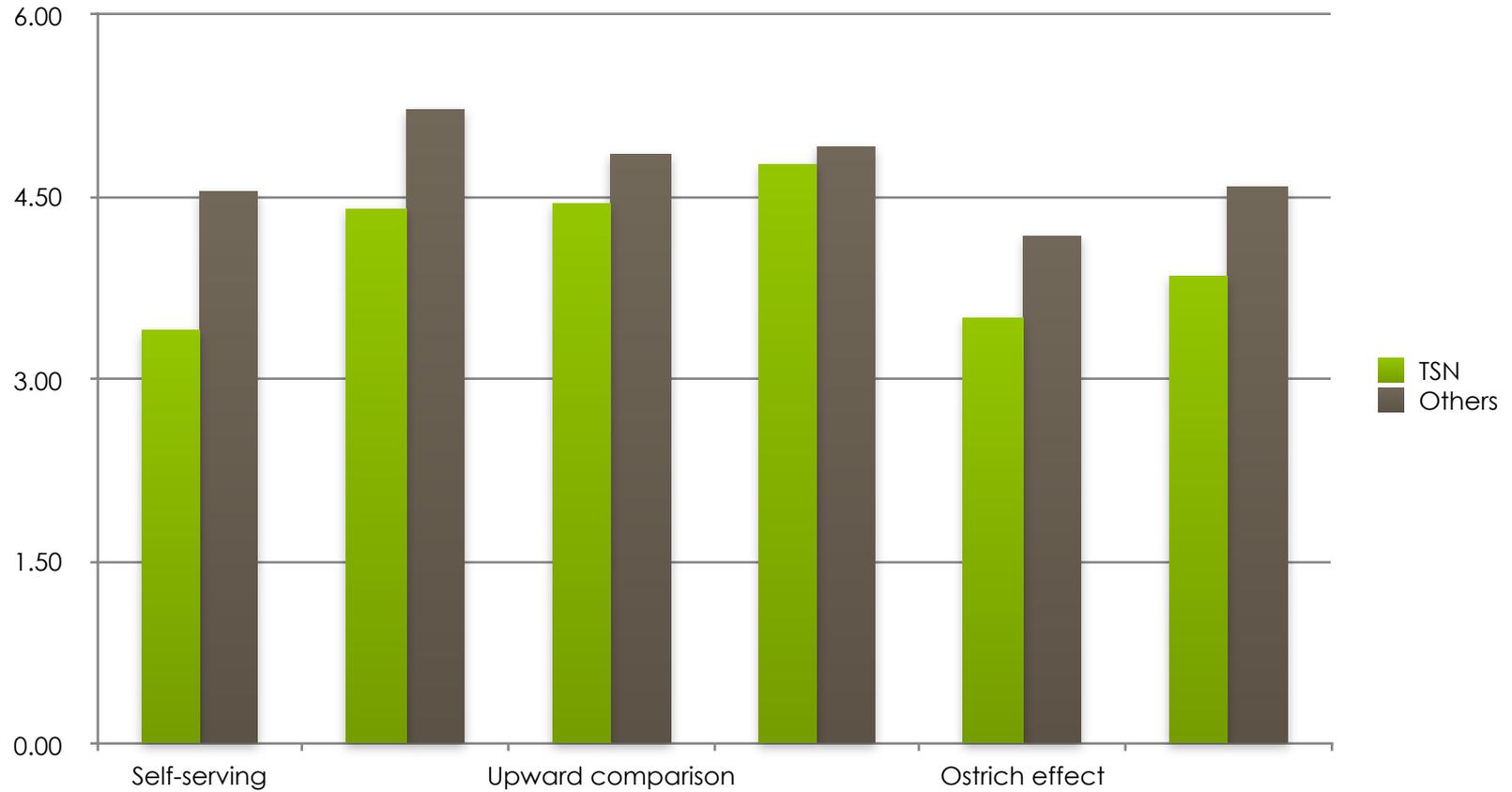


**Figure 1** Participants' perceptions of their own and the “average American's” susceptibility to eight biases in judgment and inference (Survey 1).  
NOTE: FAE = fundamental attribution error.

\* Fundamental Attribution Error

- Applies to all biases
- Smarter=more susceptible

# ...and YOU



# Some cognitive biases

- Confirmation bias
  - We seek evidence that confirms our prior beliefs and ignore or underweight evidence that contradicts them
    - Refuse to believe, dismiss and spin, or fail to look at all



- Naïve realism
  - We assume our view of the world is "objective reality"
  - So what's your problem? Blindingly obvious!

# Wait, there's more...

- Self-serving bias
  - “I’m pretty great!”
  - If I’m successful, it’s due to my personal capabilities
  - If I failed, it’s because some external factor caused it
- Fundamental attribution error
  - “What’s up with you?”
  - If you are successful, it’s because of some external factor
  - If you failed, it’s because of a personal short-coming

# Last but not least...

- Hindsight and outcome biases
  - HB overestimates one's ability to have predicted an outcome (what I should have been able to predict)
  - OB unfairly judges a decision based on knowing the outcome (what I should have known)
- Narrative fallacy
  - Our tendency to link events causally to explain them
  - BUT complexity is high, direct causality rare

# OK, just a few more...

- Survivorship bias
  - Looking at what went well in the past to predict what *will* go well in the future
  - But this is just history...and luck plays a big role
- Escalation of commitment
  - Falling prey to sunk cost fallacy: Historical, irrecoverable, and should not be considered in evaluation any future course of action
  - We should consider all alternative courses of action by evaluating only the future costs and benefits

# De-biasing

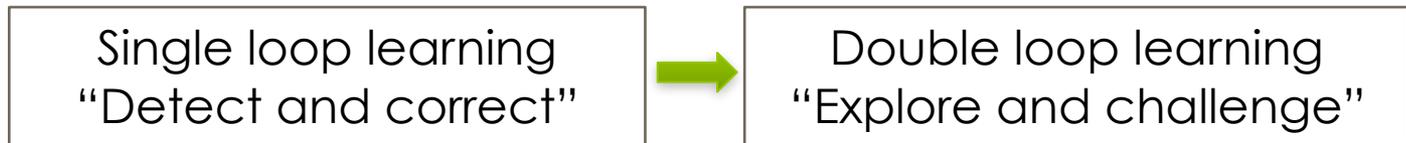
- Recognize you are susceptible...blind spot bias
- Biggest defense is to be open to challenge
  - Foster open communication
- Devil's advocate
- "Consider the opposite"
  - Insist of full exploration of pros/cons
  - Generate two logical reasons why your judgment or decision might be wrong
- Conduct a pre-mortem
  - Envision worst possible outcome
  - Consider whether and how those risks could be mitigated

## Mindset example #2: psychological safety

- Highest performing team=most errors...  
why?
- Critical in learning from failure
  - Speaking up about problems and errors
  - No fear of blame or shame
- Constructive conflict
- Leadership creates the enabling environment

# Learning from failure behaviors

- Specific processes to help us learn from failure



1. Speaking up about errors and concerns
2. Reflecting on processes and outcomes (e.g., debriefs)
3. Help-seeking and feedback-seeking
4. Innovation and experimentation
5. Boundary spanning
6. Documenting, disseminating, storing

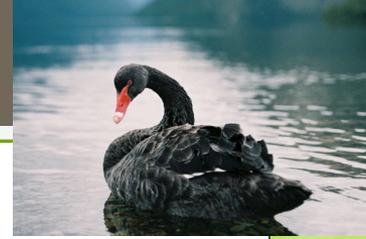
# System example: debrief

- Critical part of identifying and analyzing error
- 20-25% performance improvement
- No rank, non-punitive, non-attribution
- Each person:
  - What went well feedback (20%)
  - What went wrong feedback (80%)
  - Take responsibility and accept feedback
- Document key learning and actions going forward
  - Revisit to check outcome

# Create a template

- What is the issue?
- What is the boundary of the discussion, starting point?
- What went well?
- What didn't and why?
- What's the proposed action and by whom?
- When will group reconvene?
- How will debrief be documented/disseminated?

Make it work for you, or it won't work



# What I can do differently?

- Analyze your failures with the same (or more!) rigor as your successes
  - 80/20 + codify + disseminate
- Be aware of the influence of your cognitive biases
- Cultivate psychological safety
  - Must be able to surface dissenting views
  - Seek out black swans, don't shoot them
    - Welcome "creative abrasion"
- Reframe failure
- Recognize limitations of success

# What processes are already in place?

- What can we build on...what is missing?
  - At individual, team, organizational, levels
- How is learning captured, documented, reflected upon, stored, shared?
- Are these processes specific enough to effectively capture and store learning?
  - Accountability, incentive?

# Questions?

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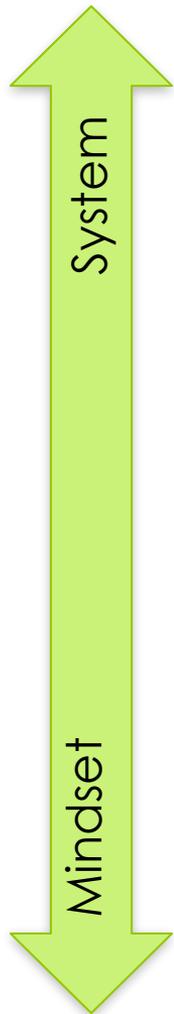
## How could these lessons apply to conservation?

- ◉ These disciplines are driven by external forces to combine rigorous data collection with recognition of the critical human dimension
- ◉ In the absence of the same impetus, how can we as a discipline learn smarter and faster?
- ◉ What opportunity does Moore have to drive a learning transformation?

# What can I do?

- Individuals – Know thyself
  - Reflect regularly on your own biases
- Systems – Implement and test learning processes
  - Debriefing sessions
- Organizations – Promote a ‘safe-fail’ culture
  - Cultivate trust and respect for what others say to embed psychological safety

# Where does change come from?



## Regulator

Qualification Standards  
Regulations

## Organization

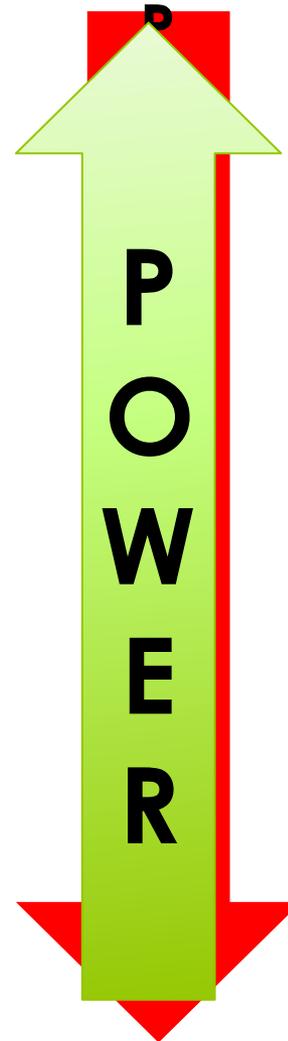
Culture/SOPs and Policy  
Safety Management System  
ALPA Code of Ethics

## Crew

CRM/TEM

## Individual

Self-Awareness  
Continuous Improvement  
Personal Error Control  
Professionalism



# What could change look like in conservation?

- ◉ We don't have the same overarching regulations and structures
- ◉ How do we build widespread support for learning processes?
  - ◉ I.e., if we have dozens of organizations ostensibly working toward the same goal, how do we align their efforts toward learning?