USGS
science for a changing world

Triple Loop Learning:
The Varieties of Adaptive Management and What They Might Mean for the CBP

Michael C. Runge, *USGS Eastern Ecological Science Center at the Patuxent Research Refuge*

Chesapeake Bay Program
Science & Technical Advisory Committee
Quarterly Meeting
8-9 March 2022

STAC Word of the Day #1

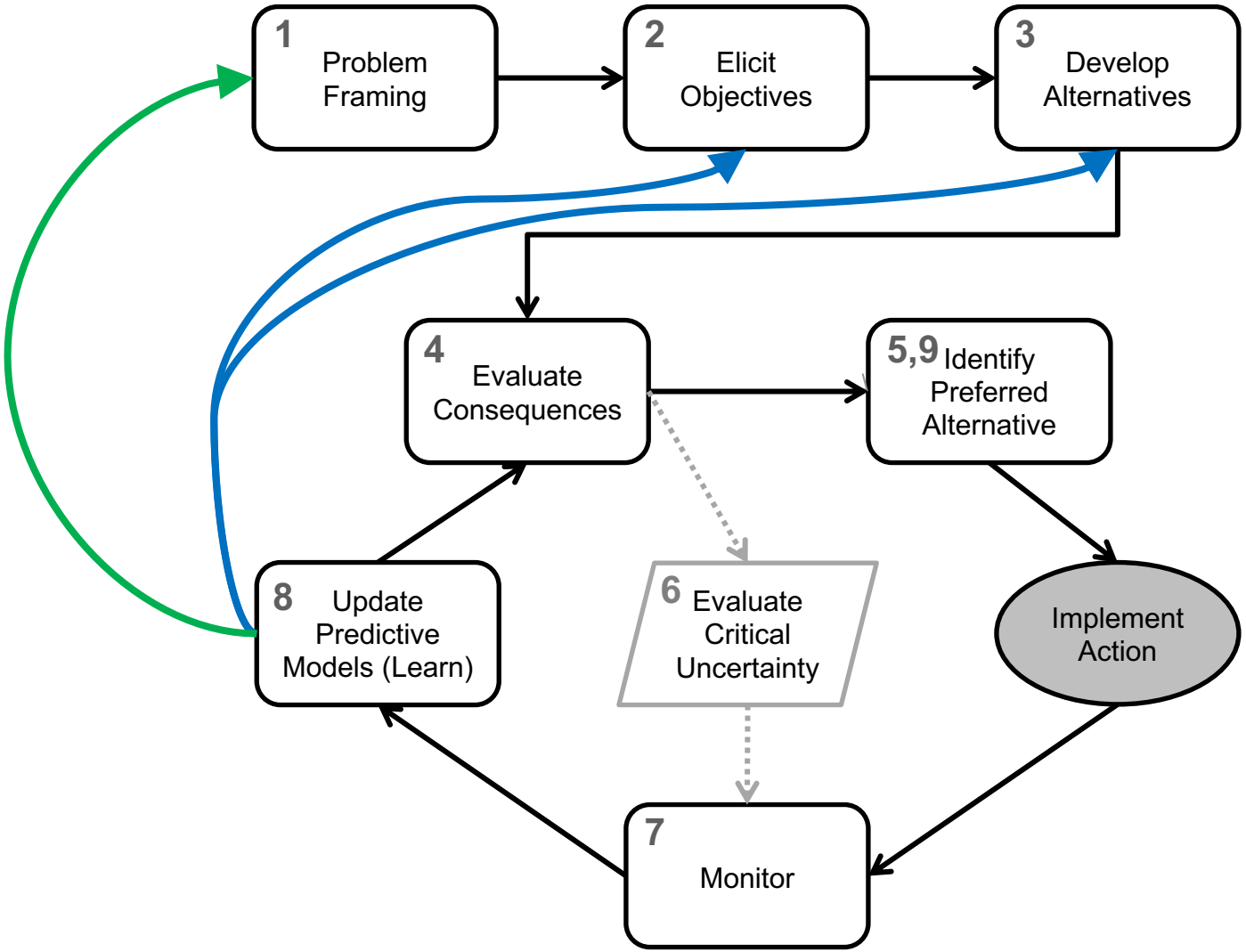
Panchreston

An explanation that is used in so many different cases that it becomes almost meaningless

STAC Word of the Day #2

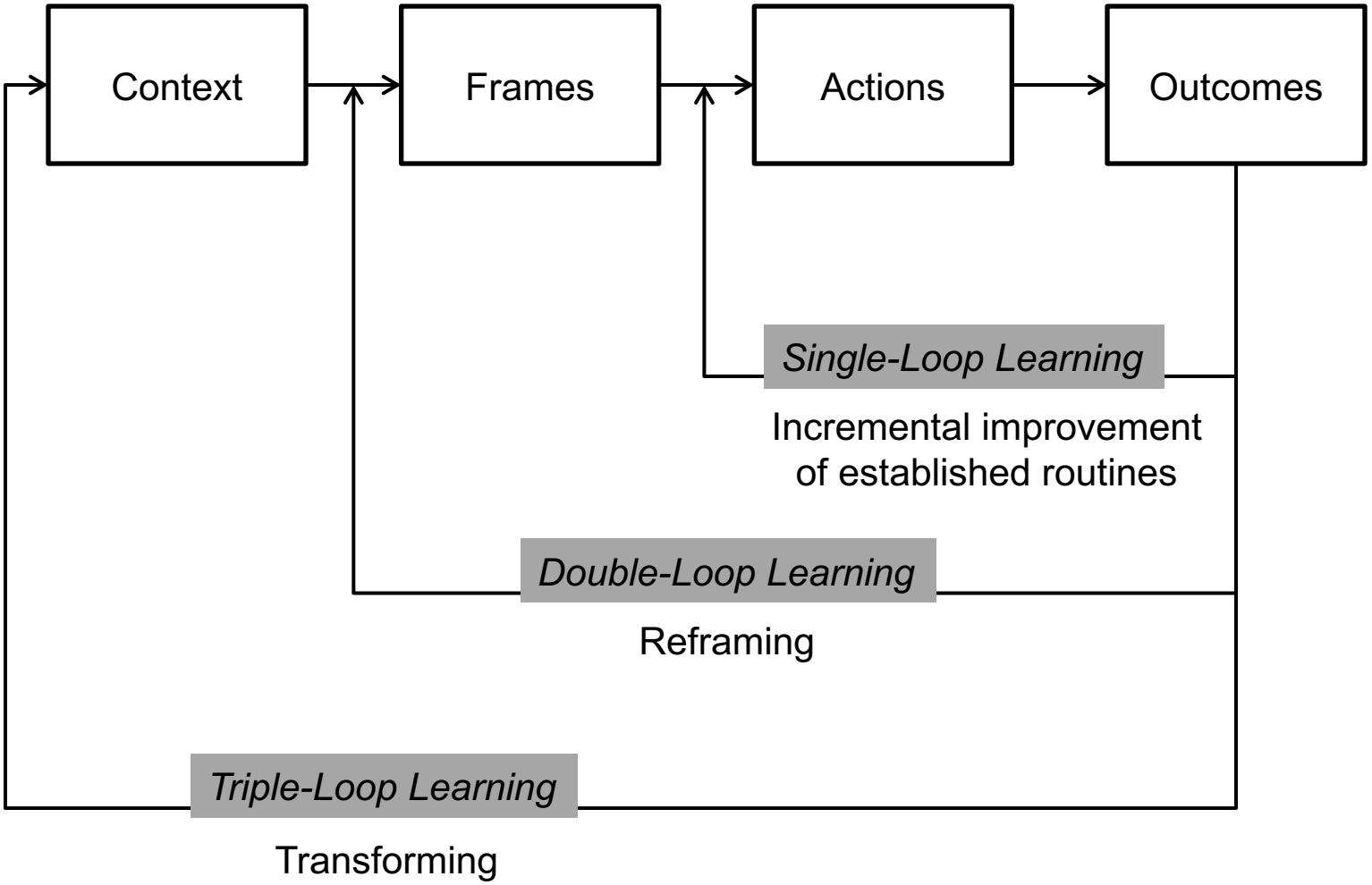
Adaptive Management

See “panchreston”



USGS

from Runge MC. 2011. An introduction to adaptive management for threatened and endangered species. Journal of Fish and Wildlife Management 2:220-233.



from Pahl-Wostl C. 2009. A conceptual framework for analysing adaptive capacity and multi-level learning processes in resource governance regimes. Global Environmental Change 19:354-365.

USGS

How can CBP adapt?

- Single-loop
  - How do we better articulate critical uncertainty?
  - How do we improve monitoring?
  - How do we improve feedback from monitoring to models (learning)?
  - How do we improve feedback from learning to action?
- Double-loop
  - Do we have the right objectives and targets?
  - Are the models we're using comprehensive enough?
- Triple-loop
  - Are our institutions structured to most effectively restore the Bay?
  - Are we offering the right motivations to partners?

USGS

Today

- Session 1
  - How is adaptive management practiced now, at three scales?
- Session 2
  - What opportunities are there to advance adaptive management in the future?
- Breakout
  - How might CBP adapt and how can STAC help?

USGS

Photo credit: M.C. Runge, © 2012.
Used with permission