

# Adaptive management



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# Outline

- Do we need Adaptive Management?
- What is Adaptive Management?
- How are we approaching it in Scotland?



# The need for adaptive management

- inertia and paralysis
- is qualitative discourse really informative?
- gap between science and society
- natural resilience

INTERNATIONAL SERIES ON  
APPLIED SYSTEMS ANALYSIS

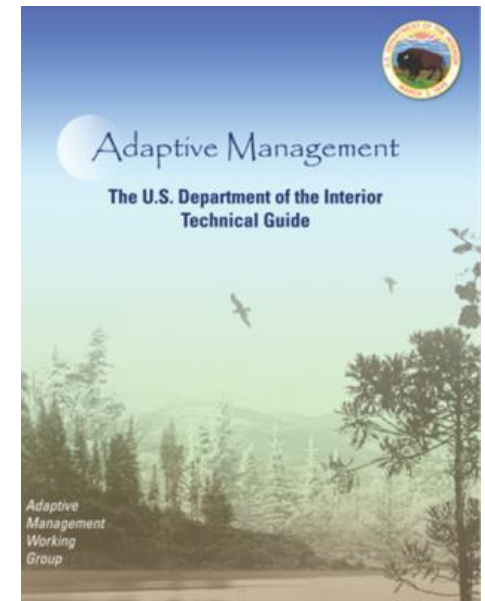
ADAPTIVE  
ENVIRONMENTAL  
ASSESSMENT AND  
MANAGEMENT

Edited by  
C.S. HOLLING

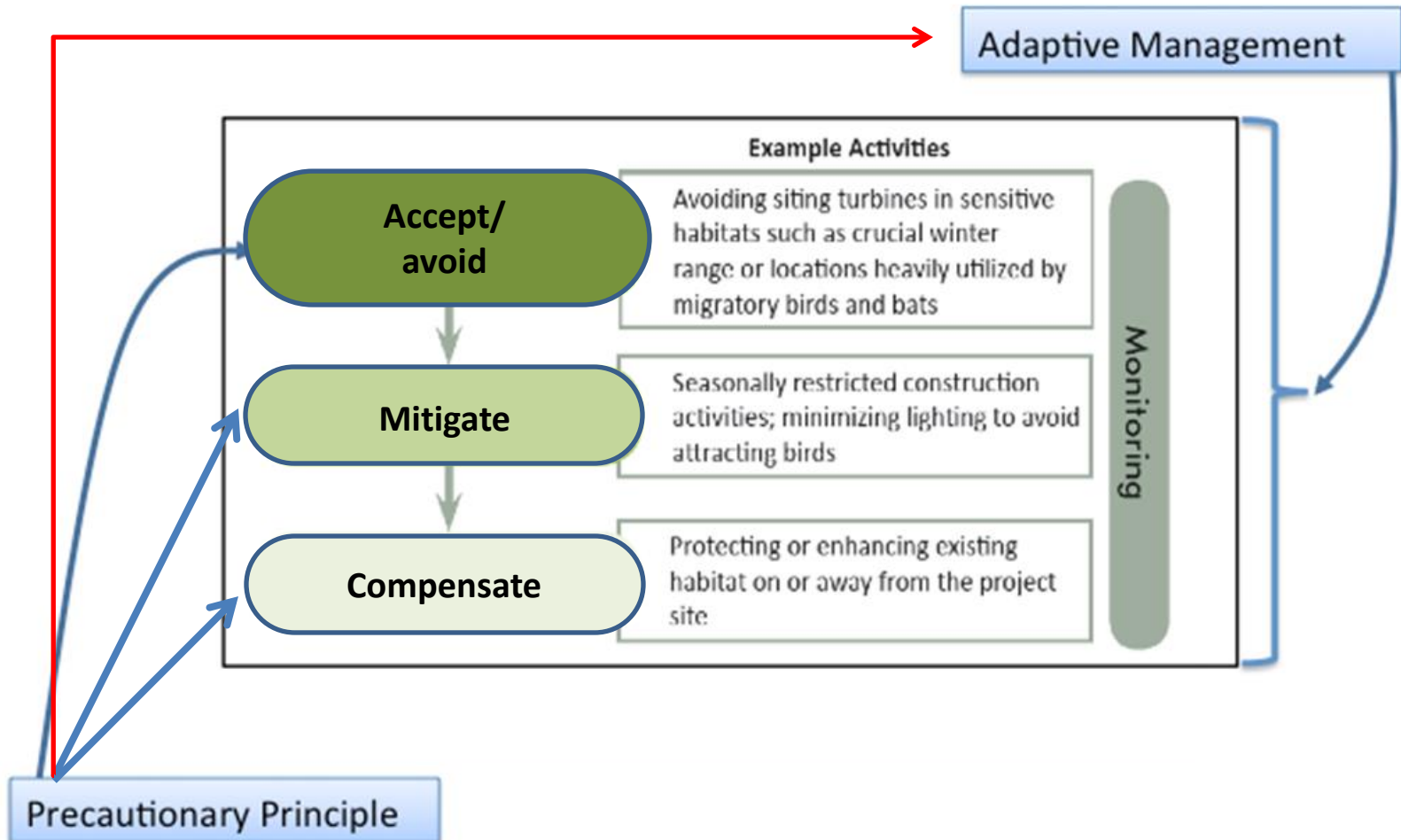
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Applied Systems Analysis

# What is adaptive management?

- reducing uncertainty
- improving confidence in models
- tolerance thresholds of (modelled) impact
- avoid DRIPy monitoring
- affordable



# Precautionary principle & adaptive management



# Implementation in practice

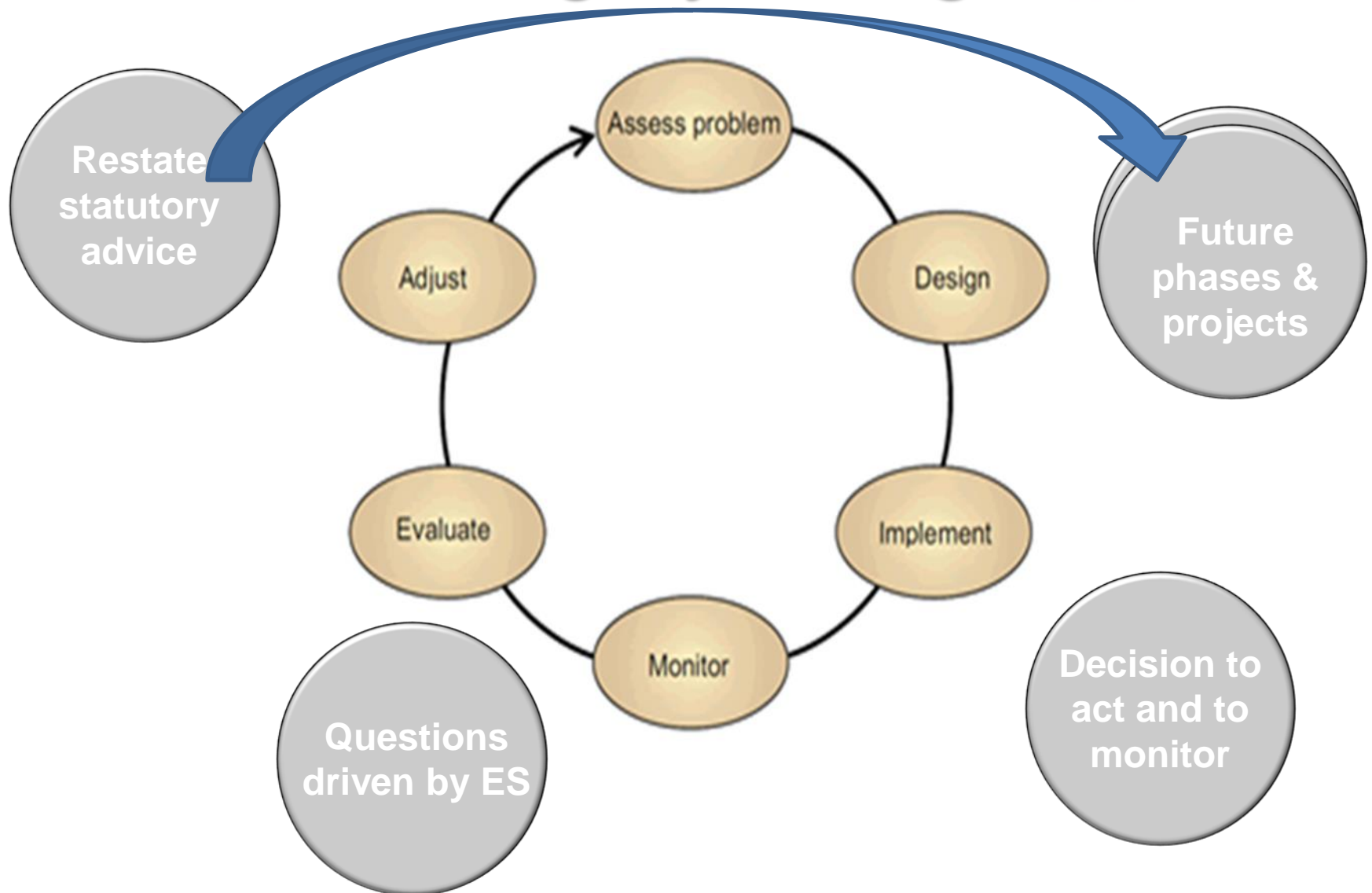
- 16 (terrestrial) US wind farm plans reviewed
  - Unclear definitions and variable content
  - Adaptive management plan  $\neq$  mitigation plan
  - Increased financial uncertainty for industry
  - Underpowered studies
- UK experience is very similar
  - MMO post-consent monitoring review (2014)
  - DRIPy underpowered monitoring



**Implementation seldom cost effective and unlikely to meaningfully reduce scientific uncertainty**

# Learning by doing

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# Summing up

1. Use the Department of Interior's Technical Guidance
2. Poor implementation
3. Avoid DRIPy monitoring.
4. Addresses concerns that assessments are overly precautionary.





A photograph of two birds in a grassy field. One bird is on the left, and another is on the right. The text 'Task 34' is overlaid on the image.

Task 34

WREN

Working Together to  
Resolve Environmental Effects  
of Wind Energy

Acknowledgement:

“Adaptive management at wind farms: challenges and successes”  
prepared by Jocelyn Brown-Saracino, U.S Department of Energy,  
Washington

**WREN Hub:** <http://tethys.pnnl.gov/>



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**thanks**