

IRSAE Int. PhD Summer School
Fuglsøcenteret, 21 August 2013

Adaptive management

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Program

09:00-09:15 Introduction; goals and format for the day (Jesper Madsen)

09:15-10:15 Introduction to Structured Decision Making and Adaptive Management (Fred Johnson)

- Key concepts and elements of structured decision making
- Key features of adaptive management and knowing when it is appropriate
- Guidance for constructing management objectives, alternatives, and models
- Managing to learn and learning to manage

10:15-10:30 Break

10:30-11:30 Case study: the Svalbard population of pink-footed geese (Jesper Madsen)

11:30-13:00 Interactive session: learning how to specify objectives, alternatives, models, and monitoring for adaptive management (Fred Johnson)

13:00-14:00 Lunch

14:00-14:45 Case-based group work

Adaptive management

- Old wine on new bottles?
- Common sense?
- A new perspective to wildlife management?

Types and locations of AM applications

Table 1

Properties of identified AM Projects (see text for details of selection methodology). Key to AM criteria: (1) Identification of management goals, (2) Specification of ≥ 2 management options, (3) Discussion of a rigorous statistical process for interpreting how the system responds to management interventions (quantitative conceptual models and/or a rigorous experimental design), (4) Number of management actions implemented (ideally ≥ 2), (5) Regular monitoring of system response to management interventions, (6) Adjust management practice in response to results from monitoring. Stars show cases where a criterion has been attained, while question marks show that information is not available in the identified sources.

Project	Country	Duration (years)	AM Criteria						References
			1	2	3	4	5	6	
Waterfowl management	United States	25	*	*	*	Many	*	*	Conn and Kendall (2004), Lyons et al. (2008), Johnson et al. (2002), Williams et al. (1996), Williams and Nichols (2001)
Colorado River, Glen Canyon	United States	13	*		*	1	*		Cross et al. (2011), Hughes et al. (2007), Walters et al. (2000)
Northwest Forest Plan	United States	10	*	*	?	Many	*		Bormann et al. (2007), Gray (2000), McAlpine et al. (2007), Molina et al. (2006), Stankey et al. (2003)
Wolf management – Yellowstone	United States	9	*		*	1	*		Varley and Boyce (2006)
– Yukon	Canada	17	*	*	*	2	*		Hayes et al. (2003)
Reintroduction of Hihi (Mokoia Island)	New Zealand	8	*	*	*	4	*	*	Armstrong et al. (2007)
Predator control – Kokako (North Island)	New Zealand	8	*	*	*	2	*		Innes et al. (1999)
– Whio (Fiord-land NP)	New Zealand	6	*	*	*	2	*		Whitehead et al. (2008)
Woodland management	Australia	7	*	*	*	5			Rumpff et al. (2011)
Restoration of sand-mined locations	Australia	3	*	*	*	6	*	*	Cummings et al. (2005)
Restoration of woodland bird habitats	Australia	2	*	*	*	3	*		Howes et al. (2010)
Management of Sika Deer	Japan	10	*		*	1	*	*	Kaji et al. (2010)
Monitoring of agri-environment schemes	UK	6	*	*	*	2	*	*	Perkins et al. (2011)

From Westgate et al. 2013, Biological Conservation

We measure things
differently





We talk different languages



Commonalities and differences in waterbird management

NORTH AMERICA	EUROPE
<ul style="list-style-type: none">• Conservation of species and populations, maintain harvest	<ul style="list-style-type: none">• Conservation of species (and populations)
<ul style="list-style-type: none">• Habitat conservation and restoration	<ul style="list-style-type: none">• Habitat conservation and restoration
<ul style="list-style-type: none">• Critical sites networks for migratory waterbirds	<ul style="list-style-type: none">• Critical sites networks for migratory waterbirds
<ul style="list-style-type: none">• Coordinated international management - focus on harvest	<ul style="list-style-type: none">• No overall international coordination of management
<ul style="list-style-type: none">• Adaptive harvest management approach – ‘hands on’	<ul style="list-style-type: none">• Reactive and rigid management approach – ‘hands off’
<ul style="list-style-type: none">• Targeted population monitoring and strategic research	<ul style="list-style-type: none">• Broad population monitoring and diffuse research