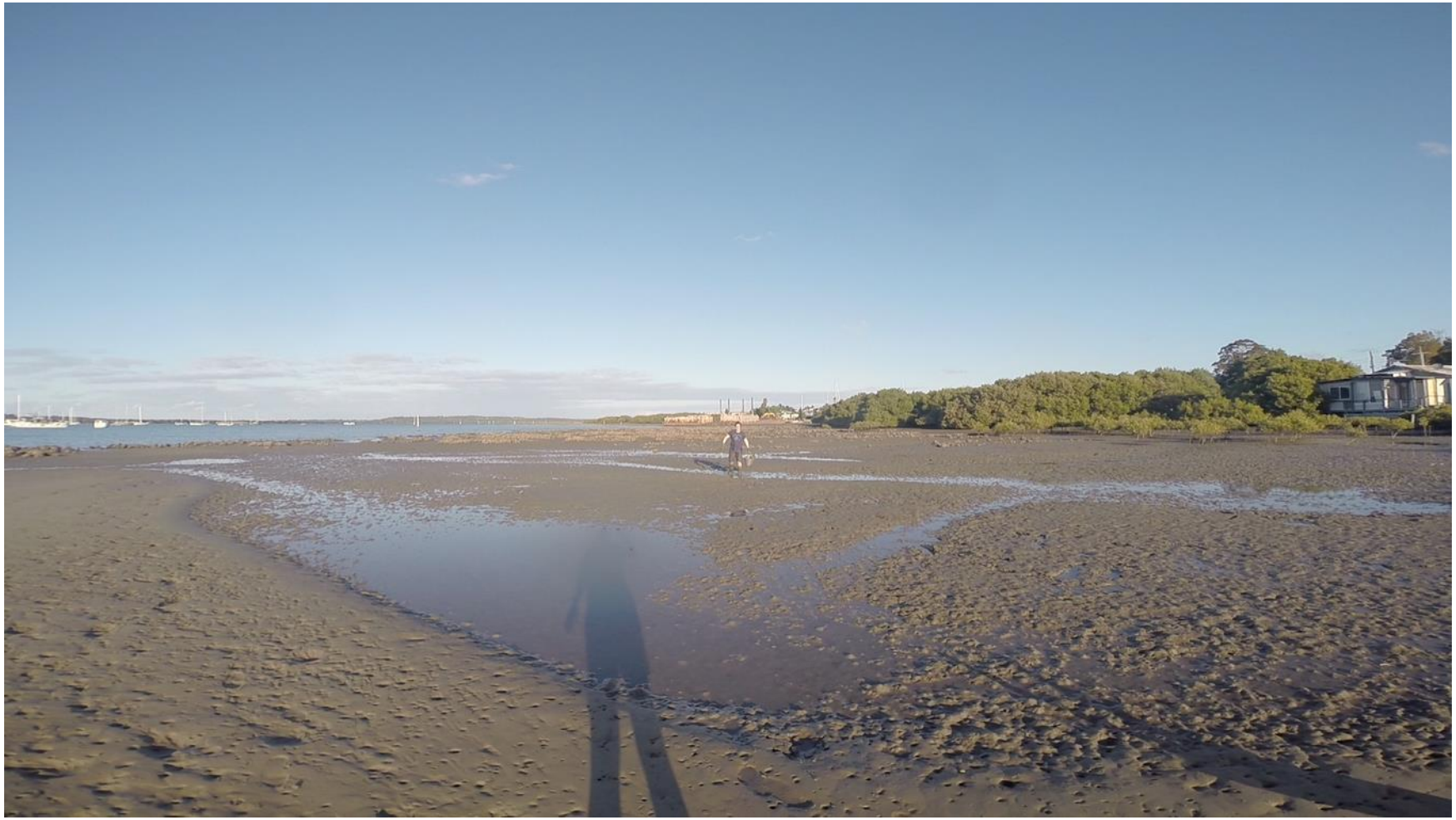
VALUING NATURE

Valuing coastal services: Stressor induced impacts, tipping points and societal wellbeing

Joseph Kenworthy

University of St Andrews

Background



Background:

Multiple stressor impacts on ecosystem function in benthic estuarine systems in the UK and Australia

Joseph Kenworthy,[1, 2] Melanie Bishop[2] and David M. Paterson[1]

[1] University of St Andrews, UK; [2] Macquarie University, Australia

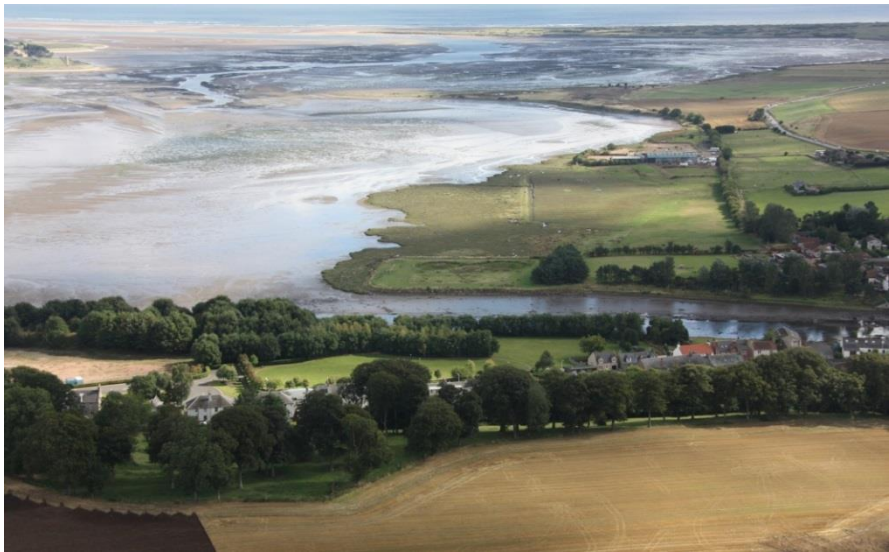
jmk6@st-andrews.ac.uk

University of St Andrews

MACQUARIE University
SYDNEY · AUSTRALIA

Pressure on estuarine systems

- Nutrient enrichment
  - Eutrophication
  - Urbanised or agricultural
- Physical disturbance
  - Climate change induced changes influencing storm events
  - Coastal development



Motivation

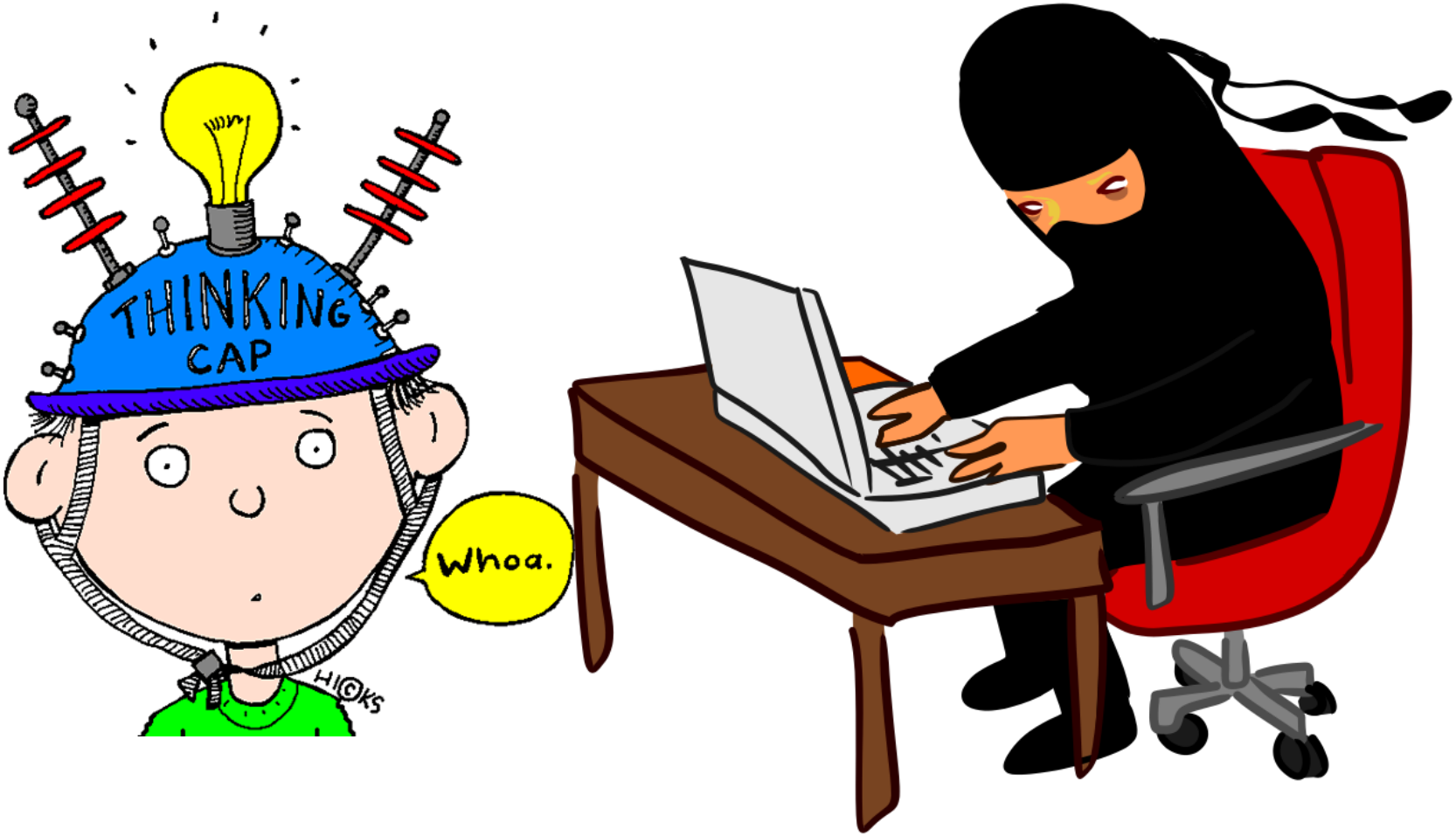
- Build on previous research
- What are the societal impacts?
- How can it be used to support policy and management?
- Tipping points

CBESS

Coastal Biodiversity & Ecosystem Service Sustainability

http://synergy.st-andrews.ac.uk/cbess/

Expectations



Contribution to valuing nature debates

- Analysis of the how ecosystem service values might change as the tipping point is exceeded
  - Examining the impacts of natural stressors

- Improve our understanding of the role biodiversity and ecosystem processes play in human health and wellbeing

Outputs and Outcomes

- Assign values for multiple ecosystem services upheld by sedimentary habitats

- Apply these values to assess the consequences of multiple stressors

- Assess the differences before and after a tipping point resulting from increased stress

- Identify how human health and wellbeing will be impacted by stressors

Thank you for listening

- Joseph Kenworthy
- jmk6@st-andrews.ac.uk
- Sediment Ecology Research Group
- University of St Andrews

- Nick Hanley
- ndh3@st-andrews.ac.uk
- Environmental Economics Research Group
- University of St Andrews