



# VALUING NATURE

The WWT London Wetland Centre (LWC) as a case study for developing skills in assessing the individual and societal health and well-being benefits of urban wetlands

Candidate:

Jonathan Reeves - Wildfowl & Wetlands Trust

Host:

Andrew T Knight & Ans Vercammen

- Department of Life Sciences, Imperial College London

# Wildfowl & Wetlands Trust (WWT)



## In numbers

- 10 wetland centres around the UK
- 7 Sites of Special Scientific Interest
- 5 Special Protection Areas
- 5 Ramsar sites
- 3000 hectares of wetland habitat
- 211,500 members
- 1,000,000 visitors a year
- 22,000,000 visitors since 1987

## Our mission

We conserve, restore and create wetlands, save wetland wildlife, and inspire everyone to value the amazing things healthy wetlands achieve for people and nature.



# WWT: Background

- PhD in environmental genomics with CEH
- Ecosystem Health Unit at Slimbridge
  - surveillance
  - research
  - contingency planning
  - advocacy (Ramsar, CMS, AEWA)
  - policy
  - capacity building
- Lead poisoning, avian influenza, avian TB
- One health/ecosystem approach - prevention not cure - health promotion, disease prevention
- A need to develop the evidence base for the role of wetlands as a source of H & W
- Evidence to agitate policy makers / stakeholders on importance of wetlands to society



**The health and well-being benefits to people of being close to wetlands and wetland nature are better understood and recognised.**

# ICL: Background, interests and motivation



**Host: Andrew Knight**

**Senior Lecturer, Dept. Life Sciences, Imperial College London**

- Motivations: Learning how to making conservation initiatives more effective
- Contexts: Private protected areas, conservation organisations, human wildlife conflict
- Protected area network planning with NSW government, Australia (1995-2002)
- Systematic conservation planning, Australia + South Africa (1996-present)
- Psychology and organisational dimensions of conservation planning (2002-present)
- Managing failure for learning how to be more effective (2002-present)



**Host: Ans Vercammen**

**Research Associate, Dept. Life Sciences, Imperial College London**

- Background in behavioural neuro-science and psychology + conservation science
- Current interests:
  - Using experimental psychology methods to understand human connection with nature
- Pro-environmental attitudes and behaviour change
- Mainstreaming conservation-thinking

# Project aspirations



**WWT** Wetlands for life

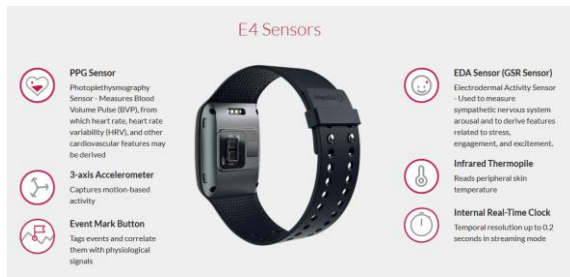
- Increase capacity to measure the H & W value of WWT's wetlands
- Trained in social science and psycho-physiological techniques
- VN network, expand WWT's cross-disciplinary network (e.g. EarthCollective)
- Evidence-based management to improve provision of H&W in wetlands
- Facilitate political agitation for wetland conservation and creation
- Stimulate greater care and concern for wetlands via wetland experiences

**Imperial College**  
**London**

- Build long-term collaboration with WWT
- Test theories in practical setting
- Expand the social research capacity of WWT
- Gain sense of utility of cognitive approaches for conservation

# What will we be doing?

- Does visiting a wetland have measurable beneficial impacts to health and well-being?
- Piloting methodologies -
  - psychometric survey of subjective/perceived/self-reported health and well-being benefits experienced at LWC
  - physiological (brain and autonomic nervous system) - portable EEG headgear + heart rate and electrodermal activity monitors
- Contrasting SSSI blue/green space and grey urban space



Empatica E4 Wristband



EMOTIV EPOC+ (EEG)



WWT London Wetland Centre

# What will we be doing? Longer term

- A longer term aim of the collaboration is to test the hypothesis that visiting wetlands encourages “meaningful” (or at least “positive”) nature experiences
- To further develop techniques to understand the cognitive (thinking) and affective (feeling) processes that people engage in during nature experiences
- To examine whether these experiences are associated with greater feelings of connectedness with nature, and whether this in turn promotes greater health and well-being, and enhances pro-environmental behaviour/attitudes

# Benefits to VN community

- Better understanding of a cultural ecosystem service provided by wetlands
- Cognitive techniques for developing this understanding
- Useful future research directions
- Potential to improve public health through health policy and urban planning via WWT's links and VN
- Promoting recognition in wider society of the importance of:
  - cultural ecosystem services
  - research
- WWT involvement increases collaborative research opportunities for wider VN community



# Outputs

- A survey instrument to measure self-reported health and well-being benefits of visiting wetlands
- A validated methodology for the psycho-physiological and biometric measurement of meaningful nature experiences
- A report on pilot data gathered at LWC
- Outreach activities, raising awareness on the benefits of wetlands and their conservation:
  - WWT communications networks
  - Promotion throughout WWT's partnership network
- Plus VN placement outputs

# Outcomes

- Greater understanding of the value of urban wetlands to human physical and psychological health and well-being
- Greater understanding of human cognitive responses in natural settings
- Greater capacity at WWT to manage wetlands to maximise health benefits to its visitors
- Increased awareness among public and research community of the role of cultural ecosystem services associated with wetlands
- Data for political leverage and advocacy
- Further collaboration between NGO, academic partners and national and local health providers/agencies