






Dr Sara Anne Thornton BSc (Hons) PhD

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CURRENT APPOINTMENT

ESRC Postdoctoral Fellow (2018-2019)

University of Leicester School of Geography, Geology and the Environment and University of Nottingham School of Geography

Project entitled: 'Sustainable Livelihoods in Indonesian Tropical Peatlands'

Role: Principal Investigator

LANGUAGES

English Fluent (speaking, reading and writing)
Dutch Fluent (reading); conversational (speaking); basic (writing)
Indonesian Conversational (speaking); basic (reading and writing)

UNIVERSITY

- 2013-2017 **PhD in Interdisciplinary Conservation and Tropical Peatland Socio-Ecology**
University of Leicester School of Geography, Geology and the Environment and the Borneo Nature Foundation (BNF)
Supervision: Prof Susan Page (University of Leicester and BNF), Dr Caroline Upton (University of Leicester) and Dr Mark Harrison (University of Leicester and BNF).
Doctorate entitled: *(Un)tangling the Net, Tackling the Scales and Learning to Fish: An Interdisciplinary Study in Indonesian Borneo*. Available online: <https://bit.ly/2KshuSO>
- I led a team of 6 research assistants to collect ecological and socio-cultural data over 1.5 years of fieldwork
 - Together we conducted the most extensive fish surveys ever done in a tropical peat-swamp habitat
 - Included fish surveys, water quality surveys (temperature, pH, nutrient analysis, turbidity, depth etc), interviews, focus groups and questionnaires
- 2009-2013 **BSc (Hons) Ecological Science (Conservation and Ecological Management)**
University of Edinburgh School of GeoSciences
Awarded 2:1. Dissertation entitled: *Reconciliation of the Causes of Deforestation in Central Kalimantan with the Implementation of the EU/Indonesia FLEGT-VPA: A Literature Review*.
Courses included: Spanish (Intermediate); Sustainability, Society and Environment; Soil, Water and Atmospheric Processes; Applied Ecology and Environmental Management; Natural Resource Management; GeoScience Outreach; Land Use Policy; Conservation Management; Current Issues in Ecology

PAST APPOINTMENTS

- 2018 **Postdoctoral Research Assistant**
University of Leicester School of Geography, Geology and the Environment
Project entitled: 'SUSTAINPEAT', looking at overcoming barriers to sustainable livelihoods and environments in smallholder agricultural systems on tropical peatland.
Role: Transcribed interviews
- 2018 **Postdoctoral Research Assistant**
University of Leicester Department of Genetics and Biology

Project entitled: 'Enhancing the development of field skills and student engagement through multimedia technology', purpose of this study is to understand the current use of mobile technologies in field teaching and identify possible areas for enhancing field teaching in the future at the University of Leicester.

Role: working with Dr Moya Burns and Dr Will Norton. I designed the online questionnaires to collect information on the importance of fieldwork for undergraduate experiences and the use of mobile technologies in field courses across the University.

2017-2018 **Postdoctoral Research Associate**

University of Leicester School of Geography, Geology and the Environment

Project entitled: 'Development of Research Impact on the Ecosystem Services Provided by Tropical Peatlands'

Role: I designed a teaching support booklet using tropical peatlands as a case study for the new A-level Geography curriculum in the UK, and I also put together policy briefs on tropical peatlands and the main threats that they face. The teaching resource has been shared widely and is open access (see 'Outreach Publications'). I also organised a teacher away-day focusing on the importance of tropical peatlands (See 'Workshops Organised'). Ten Geography A-level teachers from across Leicestershire were invited to talks held by peatland experts which gave them the chance to ask questions to support them in incorporating tropical peatland case studies into their teaching.

PAPERS (Peer-reviewed Articles, PRA, and Conference Papers, CP)

Published:

- (PRA) Husson, S.J., Limin, S., Adul, Boyd, N.S., Collier, S., Cheyne, S.M., D'Arcy, L.J., Dowds, N.W., Dragiewicz, M.A., Dudin, Harsanto, F.A., Houlihan, P.R., Jarrett, B., Kulu, I.P., Marchand, N.C., Morrogh-Bernard, H.C., Page, S.E., Perlett, E.D., Purwanto, A., Rieley, J.O., Capilla, B.R., Salahuddin, Santiano, Schreven, S.J.J., Shinta, E., Struebig, M.J, **Thornton, S.A.**, Tremlett, C., Yeen, Z. and Harrison, M.E. (2017) Biodiversity of the Sabangau Tropical Peat-swamp Forest, Indonesian Borneo. *Mires and Peat*, 22(05):1-50 (Online: <http://mires-and-peat.net/pages/volumes/map22/map2205.php>); 10.19189/MaP.2018.OMB.352
- (PRA) **Thornton, S.A.**, Dudin, Page, S.E., Upton, C. & Harrison, M.E. (2018): Peatland fish of Sebangau, Borneo: diversity, monitoring and conservation. *Mires and Peat*, 22(04), 1-25. (Online: <http://www.mires-and-peat.net/pages/volumes/map22/map2204.php>); 10.19189/MaP.2017.OMB.313
- (PRA) Wijedasa, L.S....**Thornton, S.A.**, *et al.* (2017). Denial of long-term issues with agriculture on tropical peatlands will have devastating consequences. *Global Change Biology*, 23(3):977-982.
- (CP) **Thornton, S.A.**, Dudin, Limin, S.H., Page, S.E., Upton, C. and Harrison, M.E (2016). Peatland fish of Sabangau, Borneo: Ecology and implications for future monitoring and conservation. International Peatland Congress, 2016, Kuching, Malaysia.
- (CP) **Thornton, S.A.**, Setiana, E., Kris yoyo, Limin, S.H., Page, S.E., Harrison, M.E. and Upton, C. (2016). Fishing communities of Sabangau, Borneo: Knowledges, practices and values. International Peatland Congress, 2016, Kuching, Malaysia.
- (CP) Harrison, M.E., Ripoll Capilla, B., **Thornton, S.A.**, Cattau, M.E and Page, S.E. (2016). Impacts of the 2015 fire season on peat-swamp forest biodiversity in Indonesian Borneo. International Peatland Congress, 2016, Kuching, Malaysia.

In review:

- (PRA) **Thornton, S.A.**, Cook, S., Astiani, D., Hapsari, K.A., Varkkey, H., Cole, L.E.S., Dargie, G.C., Sjogersten, S., Zawawi, N.Z., Page, S.E. (2018). "Pushing the limits": Women in Tropical Peatland Research. *Marine and Freshwater Research*, Special Edition.

In progress:

- (PRA) **Thornton, S.A.**, Page, S.E., Harrison, M.E. and Upton, C. (2019). Beyond Ecosystem Services: The Interdisciplinary Assemblage Approach for Biocultural Conservation. *People and Nature* [In prep. for submission Dec 2018]

(PRA) **Thornton, S.A.**, Setiana, E., Kris yoyo, Page, S.E., Harrison, M.E. and Upton, C. (2019) Fishing Activities of Tropical Peatland Communities in Sebangau, Indonesian Borneo. *Journal of Fisheries Research*.

Planned:

(PRA) **Thornton, S.A.** (x) What is 'Interdisciplinary'? Taking the within-individual perspective which fosters more equitable approaches to biocultural conservation

(PRA) **Thornton, S.A.**, Setiana, E., Kris yoyo, Page, S.E., Harrison, M.E. and Upton, C. (x). Threats facing fish and fishing activities in Sebangau, Indonesian Borneo.

OUTREACH PUBLICATIONS

- *Tropical Peatlands: Their global importance and role in the water and carbon cycles* (2017). This resource is aimed towards supporting teachers in Geography AS and A-levels, as well as other higher-level high school Geography courses. It has been shared widely by the Geographical Association (<https://www.geography.org.uk/Tropical-peatlands>) and IUCN UK Peatland Programme (<https://bit.ly/2Qf0p04>). To date, it has been downloaded over 80 times. It is also available in Indonesian (<https://bit.ly/2KbhpSR>).

WORKSHOPS/EVENTS ORGANISED

2019

"Into the Swamp: Stories from the Peatlands of Borneo", 2-8th April

Event blurb: This week-long exhibition in Leicester city centre takes you into the swamps of Borneo, through the photographs and stories of field researchers from the University of Leicester and Borneo Nature Foundation. Dr Sara Thornton takes you on a journey of what it's like to work in peat-swamp forests, their ecology and beauty, the threats they are facing including her personal experience of the catastrophic 2015 fires and haze, and why peatlands matter to us all. Photographs from the field and videos of the Sabangau peat-swamp forest will be accompanied with educational materials and demonstrations that explain the science and ecology of tropical peatlands, why they are relevant to even us in Leicester, and what you can do to help. You will see what a day in the life of a tropical ecologist looks like. There will also be opportunities throughout the week to ask tropical peatland researchers questions about their work, how they got to doing this research, and any other questions you can think of!

2017

Tropical Peatland Away-Day for A-level Geography Teachers, 5th December

Geography A-level teachers from across Leicestershire were invited to come and listen to peatland experts and have the chance to ask questions to support them in incorporating tropical peatland case studies into their teaching. Talks covered: an introduction to global peatlands, an introduction to tropical peatlands, the role of tropical peatlands in the water and carbon cycles, some of the threats that they face and their importance to communities and livelihoods (globally and locally). Participants reported being extremely likely (7/10) or very likely (3/10) to use the information presented in their future lessons.

"Reconnecting Struggles", 5th June

A one-day workshop, which brought together academic staff, students, activists, artists and members of the public to engage in interactive conversations to align and share strategies of solidarity. Scholars were invited who have actively been involved with the Black Lives Matter campaign, activists from the No Dakota Access Pipeline (NoDAPL, North Dakota), Palestinian activists and human rights spokespersons, along with local feminist artists, scholars and authors from Leicestershire. Through interactive presentations speakers shared knowledge on their particular struggles, and with participants explored how different struggles can be recognised, (re)connect and aligned through solidarity, be they anti-colonial, environmental or anti-racist, tackling sexism or capitalism. See the website documenting the workshop here: <https://reconnectingstruggles.wordpress.com/>

AWARDS/GRANTS

- 2018 **ESRC Postdoctoral Fellowship (£110,382)**
UK Economic and Social Research Council. Awarded for research under the mentorship of Dr Caroline Upton, Prof Susan Page (University of Leicester) and Dr Sarah Jewitt (University of Nottingham). Project entitled: 'Sustainable Livelihoods in Indonesian Tropical Peatlands'.
British Ecological Society Outreach Grant (£1,895)
British Ecological Society. Awarded to support the exhibition: 'Into the Swamp: Stories from the Peatlands of Borneo'.
- 2017 **School of Geography, Geology and the Environment (£500)**
University of Leicester. Awarded to support the workshop '(Re)connecting Struggles'.
Research Fund of Professor Goodwin (£500)
University of Leicester. Awarded to support the workshop '(Re)connecting Struggles'.
The Graduate School Researcher Development Fund (£500)
University of Leicester. Awarded to support the workshop '(Re)connecting Struggles'.
- 2016 **Allan Robertson Grant (€250)**
The International Peatland Society. Awarded to help cover costs to attend the IPC 2016 in Kuching, Malaysia
- 2015 **Allan Robertson Grant (€500)**
The International Peatland Society. Awarded to help me complete my PhD data collection in Indonesia.
- 2014 **Rufford Foundation Small Grant (£5,678)**
The Rufford Foundation. Awarded to support PhD fieldwork in Indonesia.
- 2013 **College of Science & Engineering Match-Funding PhD Studentship (£57,893)**
University of Leicester. Awarded for PhD research under the supervision of Prof Susan Page, Dr Caroline Upton and Dr Mark Harrison.
- 2012 **James Rennie Bequest (£500)**
The University of Edinburgh. Awarded to support travel to Indonesia for position as volunteer coordinator for BNF
Peter Marsh Prize (£400)
The University of Edinburgh. Awarded to support travel to Indonesia for position as volunteer coordinator for BNF
- 2011 **James Rennie Bequest (£500)**
The University of Edinburgh. Awarded to support travel to Indonesia for position as volunteer for BNF
- 2010 **James Rennie Bequest (£500)**
The University of Edinburgh. Awarded to support travel to Peru for position as volunteer for Operation Wallacea.

PRIZES

- 2017 **Best Postgraduate Researcher Image**
Images of Research, the University of Leicester. Photograph entitled "Senyum".
<http://www2.le.ac.uk/news/blog/2017-archive/february/from-black-holes-to-ancient-fossils-innovative-images-highlight-university-research>
- 2011 **Stebbing Commemoration Prize**
The University of Edinburgh School of GeoSciences. Awarded for my performance as best student in 'Applied Ecology and Environmental Management'

ADDITIONAL FIELDWORK & RESEARCH EXPERIENCE

- 2012 **Volunteer Coordinator**
Borneo Nature Foundation, Sabangau Forest (Indonesia)
Worked as organiser and main point of contact for volunteers participating in the summer volunteer program. I led data collection activities in the field and ensured volunteers were collecting data correctly in accordance with relevant protocols.
- 2012 **Deer Monitoring Assistant**
Scottish Natural Heritage, Taynish National Nature Reserve (Scotland)
Assisted reserve staff with deer monitoring transects including the recording of tree regeneration, damage assessments and dung counts.
- 2011 **Research Assistant for Ecological Monitoring and Forest Research Team**
Borneo Nature Foundation, Sabangau Forest (Indonesia)
Worked collecting data on density and behavioural surveys of orangutans and gibbons, and biodiversity studies on butterflies, turtles and amphibians. I collected data on forest regeneration and condition; DBH and reproductive phenology data.
- 2011-2012 **Biodiversity and Conservation Officer**
Countryside Ranger Service, Edinburgh (Scotland)
Work included participating in biodiversity surveys of the Local Nature Reserves (LNR) in the city; butterflies, bumblebees, birds etc. Furthermore, it included conservation work such as tree trimming and path fixing at the LNRs.
- 2010 **Research Assistant**
Operation Wallacea, Pacaya-Samiria Nature Reserve (Peru)
Collected data on primate, dolphin, macaw, fish, amphibian and caiman surveys, as well as mist-netting of understorey birds.

INVITED WORKSHOP PARTICIPATION

- 2019 **Sundaic Freshwater Fishes IUCN Red List Review Workshop, Singapore**
IUCN Global Species Programme, Freshwater Biodiversity Unit

INVITED KEYNOTE SPEAKER

- 2017 **“On Peatlands, Haze and Hope”**
Invited Keynote speaker at the International School of Hilversum International Baccalaureate Graduation Ceremony (The Netherlands)

ORAL AND POSTER PRESENTATIONS (Conference/Workshop, CW, and Project Outreach, PO)

- 2018 **(CW) “An interdisciplinary study of the peatland fish and fishing in Sebangau, Indonesian Borneo”**
Tropical Peat Ecosystem and Restoration Conference, Palangkaraya, Central Kalimantan, Indonesia, 21-22nd November 2018. [Oral].
- (CW) “The importance of fish(ing) to tropical peatland communities in Borneo”**
50th IPS Anniversary Jubilee Symposium “Peatlands: past, present and future”
Rotterdam, Netherlands 11 - 13 September 2018. [Oral]
- (CW) “The diversity of peatland fish of Sabangau, Central Kalimantan (Indonesia)”**
50th IPS Anniversary Jubilee Symposium “Peatlands: past, present and future”
Rotterdam, Netherlands 11 - 13 September 2018 [Poster]
- (PO) “The Tropical Peatlands of Borneo”**
Invited Guest Speaker for the Leicestershire and Rutland Wildlife Trust Group meeting, 14th February (UK) [Oral]

- 2017 **(PO) “Peatlands Matter: Ecosystem Services and their importance for livelihoods”.**
Presentation at the University of Leicester, Tropical Peatland Teacher Away-Day, 5th December. [Oral]
(CW) “An interdisciplinary study of the peatland fish and fishing in Borneo: Ecology, values, and implications for future conservation”
Workshop: *Developing International Collaborations to Address Fire and Other Conservation Issues in Central Kalimantan, Indonesia*. Organised by the Borneo Nature Foundation and University of Exeter, Falmouth Campus (UK). [Oral]
(PO) “On Peatlands, Haze and Hope”
Invited Keynote speaker at the International School of Hilversum International Baccalaureate Graduation Ceremony (The Netherlands) [Oral]
(PO) “The Importance of Fish and Fishing to Local Communities in Indonesian Borneo”. Presented to A-Level Geography students at Rugby School, Rugby (UK) [Oral]
- 2016 **(CW) “Peatland Fish of Sabangau, Kalimantan: Surveys for future monitoring and conservation”**
International Peat Congress, Kuching (Malaysia) [Oral]
(CW) “Fishing communities of Sabangau, Borneo: Knowledges, practices and values”
International Peat Congress in Kuching, Malaysia (August 15th-19th, 2016) [Poster]
(PO) “Peat-swamp forests of Indonesia and the fires of 2015: Why we should all care”
Presented to staff at Alaska Community Action on Toxics (ACAT) in Anchorage (U.S.A) [Oral]
- 2015 **(PO) “Evaluating the ecological and cultural services provided by tropical forest ecosystems: A case study in Central Kalimantan, Indonesia”**
Presented to the Indonesian Ministry of Research and Technology (Indonesia) [Oral]
- 2014 **(CW) “Ecosystem and cultural values of forest in Indonesia”.**
The Annual Conference of the Society for Tropical Ecology (gtö) in Freising, Germany (February 24th-March 1st, 2014) [Poster]
(CW) “Ecosystem and cultural values of forest in Indonesia”
The Scottish Tropical Ecology and Biology Conference in Glasgow (January 25th, 2014) [Poster]
- 2013 **(PO) “Working as a Tropical Ecologist”**
Presented at the International School of Hilversum to children aged 10-11 years (The Netherlands) [Oral]

BLOG POSTS, NEWSLETTER ARTICLES AND PROJECT FEATURES

- November 2018: “21st of November: Celebrating fish and the strange species of Sebangau”. The Borneo Nature Foundation (<http://www.borneonaturefoundation.org/en/research/21st-of-november-celebrating-fish-and-the-strange-species-of-sebangau/>)
- January, 2018: “(Un)tangling the Net, Tackling the Scales, and Learning to Fish”. The Borneo Nature Foundation (<http://www.borneonaturefoundation.org/en/research/untangling-net-tackling-scales-learning-fish/>)
- March 2017: “Stunning images showcase project to support conservation of Indonesian river and forest habitats to protect wildlife”. The University of Leicester, News and Events (<http://www2.le.ac.uk/news/blog/2017-archive/march/research-project-to-support-conservation-of-indonesian-river-and-forest-habitats-to-protect-wildlife>)
- March 2017: “Project to support conservation of Indonesian river and forest habitats to protect wildlife”. The University of Leicester, Press Release. (<http://www2.le.ac.uk/offices/press/press-releases/2017/march/project-to-support-conservation-of-indonesian-river-and-forest-habitats-to-protect-wildlife>)

- March 2017: “*An Interdisciplinary Project: Fish and the Importance of Fish(ing) to Human Communities in Sabangau, Indonesia*”. UK Tropical Peatland Working Group (<https://tropicalpeat.wordpress.com/2017/03/17/an-interdisciplinary-project-fish-and-the-importance-of-fishing-to-human-communities-in-sabangau-indonesia/>)
- March 2016: “*From the river to writing up: the journey of a fish PhD student*”: The Borneo Nature Foundation (<http://outrop.blogspot.co.uk/2016/03/from-river-to-writ-journey-of-fish-phd.html>)
- October 2015: “*The fires of Indonesia: the ongoing human and natural crisis*”. UK Tropical Peatland Working Group (<https://tropicalpeat.wordpress.com/2015/10/>)
- October 2015: “*Sabangau at risk: Fires raging across Bornean Rainforests and Peatlands*”. EcoPost (<https://ecopostblog.wordpress.com/2015/10/15/sabangau-at-risk-fires-raging-across-bornean-rainforests-and-peatlands/>)
- April 2015: “*Discovering the fish of the Sabangau Forest and what they mean to local communities*”: The Borneo Nature Foundation (<http://outrop.blogspot.co.uk/2015/04/discovering-fish-of-sabangau-forest-and.html>)
- September 2014: “*Evaluating the ecological, economic and cultural services provided by freshwater fishes in Central Kalimantan, Indonesia*”. Newsletter of the IUCN Freshwater Fish Specialist Group (page 35-37: <http://www.iucnffsg.org/wp-content/uploads/2014/09/Sept.-FFSG-Newsletter.pdf>)
- June 2014: “*Hello Monday: Sara and her fish*”: The Borneo Nature Foundation (<http://outrop.blogspot.com/2014/06/hello-monday-sara-and-her-fish.html>)

TEACHING/SUPERVISION EXPERIENCE

Courses completed:

Preparing to teach in Higher Education, 2013, University of Leicester

Supervision:

Field supervision of two BSc students (University of Leicester) in Indonesia. Project fieldwork lasted one month for each project and projects were entitled:

- “*Testing fish traps for the purposes of conservation research on the Sabangau River, Central Kalimantan*”
- “*Comparison of fish populations between canals with differing conditions in Sabangau*”

Lectures/Seminars:

Living with Environmental Change (2016): Seminar entitled “*Interdisciplinary approaches to environmental change: a case study in Indonesian Borneo*”

Contemporary Environmental Challenges (2015 and 2016): Lecture entitled “*Learning to Fish: Practices, Knowledges and Management in an Indonesian Fishing Assemblage*”

Demonstrating/Tutorials:

Research Design and Methods (with Dissertation Planning) (2017): Demonstrating (7 hours)

Landscape-Ecosystem Dynamics (2017): Tutorials (4 hours)

Working with Geographical Information (2016): Demonstrating (36 hours)

Marking:

Fieldwork Skills for Professional Geographers (BA and BSc) (2017) (8 hours)

Environment Nature and Society (2013 and 2015) (18 hours)

PROFESSIONAL MEMBERSHIP

UK Tropical Peatland Working Group

International Peatland Society:

- Peatlands and Environment Commission
- Scientific Advisor for Communication Team (Peatland and Environment Commission)
- Peatlands and Society Commission

British Ecological Society
WI-IUCN SSC Freshwater Fish Specialist Group
Society for Conservation Biology

PROJECTS

2012-2015

EcoPost

Founder and Blogger

Along with four other fourth year undergraduates of the University of Edinburgh, helped create and run an environmental- and ecology-focused blog providing news and views, principles of ecology, academic articles and opportunities and events within the ecological discipline. This allowed me to develop skills in social media, using both wordpress blogging and twitter. See blog at: <http://ecopostblog.wordpress.com/>

ADDITIONAL SKILLS AND INTERESTS

Microsoft Office (including Microsoft Access), Adobe Illustrator, SPSS statistical software, MiniTab statistical software, MapSource, Social media (Facebook, Twitter, Wordpress blogging), Scuba Diving (Open Water Certified), activist for Leicester Friends of the Earth, Reclaim the Power and Leicester Stand up to Racism.

(Un)tangling the Net, Tackling the Scales and Learning to Fish: An Interdisciplinary Study in Indonesian Borneo

Sara Anne Thornton

In the face of continued environmental degradation worldwide, interdisciplinary research is needed to better understand and find practical solutions to this degradation and to better understand the complicated relationships between humans and nonhumans (the 'environment'). However, interdisciplinary research is often challenging due to problems of integrating different stakeholder concerns (e.g. government and local communities) and bridging academic disciplines. I propose a new approach – the Interdisciplinary Assemblage Approach (IAA) – which I use to study human, fish and spirit communities in the Sabangau (Indonesian Borneo), and explore relationships between these communities and 'environmental' aspects such as river depth and seasons. This case study was chosen due to the important tropical peat-swamp forest habitat in the area, the understudied nature of the fish assemblages in this habitat, and the understudied dependence of human communities on fishing around the forest and other peatlands across Sabangau. I conducted the first in-depth fish surveys in the Sabangau River and Forest, along with surveys in two human communities (Kereng Bangkirai and Taruna Jaya). Using results from these, I discuss how human-nonhuman relationships lead to Sabangau being an overfished and fire-prone area, showing both resilient and non-resilient characteristics. Taking the progressive interdisciplinary and biocultural approach to conservation, the IAA can also challenge dichotomies and hierarchies that are often imposed between different knowledge systems ('local' versus 'scientific' knowledge) and academic disciplines ('social' and 'natural' sciences). Ultimately, the project provides recommendations for future research and management actions, such as the impacts of canal damming and fish pond building on fish populations, to improve fish and fisher wellbeing and recommendations and considerations that will be useful for future peatland restoration projects. It evaluates the IAA, its use as a framework for interdisciplinary research along with its wider applicability for conserving environments that so many humans and nonhumans depend on.