

Spearheading Citizen Science Participation and Multimedia Outputs at the Tasmanian Land Conservancy: A Proposal

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Tasmania is an ecological wonderland, scientific powerhouse, and a world-renowned tourism destination. The Tasmanian Land Conservancy is a leading proponent of conservation land management. Tasmanian Geographic, as part of its efforts to promote scientific and ecological literacy, is positioning itself to work with land holders within Tasmania to spearhead a novel form of visitor participation. We propose working with the TLC to build a Field Institute program which will:

- build a photo-monitoring database that can be used for land management and recording of current conditions
- demonstrate a model program for science-based tourism and participatory documentary-making
- build active and ongoing engagement between visitors and TLC reserves
- provide abundant material to inject into a social media stream
- create a win-win framework for educational and tourism outcomes
- use simple data-models to create versatile multimedia products

TG will build a “toolkit” of crowdsourcing techniques that can be used for efficient long-term monitoring of wild spaces and for before-after assessment of land management activities. Using a network of fixed geographical points on TLC lands, visitors can conduct: own surveys for citizen science, participatory photo documentation, and artistic expression.

A Citizen Science Toolkit

Imagine we are on site at the Vale of Belvoir with a team of volunteers, a class of students, or even a group of paying science-tourists. After a site orientation and an introduction to science documentary practices, we set forth on the trail. At six points along the path, there are fixed metal markers permanently placed at a known geographical spot.

We have three tools in our kit, and we'll apply all three at each site. We'll capture all our work using a simple smartphone form, which will then upload to a server for automatic archival, processing, and publishing.

First, we will take a fixed sequence of photographs: up, down, north, east, south west, and finally a fully spherical panorama photograph. These timestamped and geotagged photos will add to our ongoing photo-monitoring of conditions at the TLC site. Second, we will as a group spread out along the trail, and spend ten minutes taking art-orientated smartphone photographs, video, and audio of whatever interests each participant. Third, we will record our observations of tree buds and plant flowering, to contribute to global phenology studies.

On-site education

This could be enhanced beyond fixed points to develop a new concept in interpretive signage.. These signs will not merely tell the visitor about the forest in a generic sense, but will invite participation in scientific research and community storytelling. Alternately, the interpretation signs could be recompiled as a website page, a smartphone app screen, or a page in a map booklet. Each fixed point can be at once:

- a lesson in "reading the forest"
- a spot for crowd-sourcing photographs that contribute to social media marketing



- a data point for long term research projects
- a platform for sharing the latest knowledge from the scientific endeavour
- location from which to interpret past times of indigenous and European impact.
- a part of a larger course in natural history
- a chapter in a community-based storytelling project about the site

Creative outputs

Our toolkit can be modified to suit specific purposes, but our data-handling procedures will be built around maximising conservation monitoring ability and innovative multimedia output.

The new materials can also be made available online through the TLC website, collectively as a printed book, or bundled as educational activity sheets. This variety of formats will allow for precise refinement of both content and interactive elements. Incoming information will be gathered with a mix of social media #hashtags, email servers, web forms, or paper data sheets.



As the project develops, participating scientists will refine and propose hypotheses that can be tested to answer specific questions. Future generations of land managers will be able to view high-resolution time-lapses of changes on the ground, and to interpret and understand new ideas from this archive. Imagine if we had a century of fixed-point photographs to help us understand the current conditions- we can prepare this for future citizens and TLC participants.

At all stages, there will be a new source for of social media marketing to highlight the unique aspects of the Tasmanian landscapes and the participation of visitors. The infrastructure needs will be minimal and all of the media content will be potentially viral, re-publishable, and endlessly definable. With a small additional investment in on-site teaching, the trails could form a scaffold for certificates and practical experience in field ecology.

A model for versatile citizen science and science-based tourism

Combining conservation ecology, environmental education, and crowd-sourced social media, our vision is to make the TLC sites as prominent flagships for participatory citizen science. This could serve as a model for sustainable science-based tourism around Tasmania. Within the tourist market, there is an unrealised market for these seeking active participation in science and ecology. Tasmanian Geographic is working to plant the seeds of an innovative tourism experience in Tasmania's wild spaces.



We reckon that the TLC can most effectively leverage resources for on-going conservation by working with the widest possible audience. In addition to creating media publicity, educational linkages, and enjoyable days in the field, we believe we can spearhead a new direction in Tasmanian conservation biology.

The Next Step!

If you're available at the TLC for a cuppa and a chat, I can visit the TLC office in the weeks to come. Or, even better, let's go for a field trip!

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A bit about OE:

- **Outreach Ecology** is a Hobart-based consultancy working at the intersection of science, storytelling, technology, and environmental education. Under the business name **Tasmanian Geographic**, we have built an online media presence promoting stories and projects of a documentary nature.

Our goal is to connect with and support upskilling and nature conservation, and to share stories about this amazing island. **TG/OE** has been involved in interactive citizen science tourism infrastructure at the Royal Tasmanian Botanical Gardens, amongst the A-bombed Trees of Hiroshima, at famous trees across India, and many other sites. You can learn more:

- Online at <http://www.tasmaniangeographic.com>
- Online at <http://www.outreachecology.com>

About YDB:



Yoav Daniel Bar-Ness is an outreach ecologist, writer, and web designer with internationally recognised experience as a research tree-climber in North America and Australia, and as a creative documentarian of notable trees around the world.

In recent years, he has worked for **The Nature Conservancy** as a research project lead (canopy and ground arthropod biodiversity of old-growth coastal rainforests), climbed into **some of the world's tallest trees** with for science and documentary work, published illustrated poster-maps with the **World Wildlife Fund**, conducted as a **Fulbright Scholar** a world-class documentation of **Landmark Trees of India**, completed the first aerial-photographic mapping of the **giant banyans of India** (the world's broadest trees), and contributes regularly for the award-winning Singapore-based photojournalism magazine **Asian Geographic** as a Field Editor. Based in Hobart, he stays connected to various projects via his role as editor at **Tasmanian Geographic**, a free online magazine that you will enjoy!