

## Katie Prange – Osa Conservation

### Wildlife Monitoring and Conservation Technology project in the Osa Peninsula, Costa Rica, 24<sup>th</sup> April 2023 – 7<sup>th</sup> April 2024

Over the last nine months I have been working as a field assistant for the Wildlife Program at Osa Conservation. Osa Conservation is a non-profit organisation which is dedicated to protecting the outstanding biodiversity of the Osa Peninsula, Costa Rica. Having loved my experience of living and working in the tropical rainforest, I requested to extend my internship by an additional two and a half months!

As a recent Environmental Science graduate, this internship has been a great opportunity to gain fieldwork experience. I have been able to develop as an early-career conservationist, learning both practical skills in wildlife monitoring and analytic skills in data processing. In addition, the responsibility of regularly leading group activities has allowed me to develop interpersonal skills such as effective communication.

One of the central aims of the organisation is to increase biological connectivity, from the coastal areas of the Osa Peninsula up to the highlands of the Talamanca Mountains. This is a vital initiative to boost the region's resilience against the threats of climate change. The Wildlife Program plays an integral role within this initiative to monitor the abundance and distribution of wildlife to determine priority areas for conservation.

Within the Wildlife Program I have worked on a series of different projects including:

- **Long-term wildlife monitoring** – a network of 23 camera traps located throughout the different Osa Conservation properties which monitor forest floor species including pumas, ocelots, tapirs, armadillos, agoutis, peccaries, coatis etc. Each camera is revisited every three months to retrieve the data and check that the camera is functioning correctly.
- **Arboreal bridges** – a total of 29 arboreal bridges installed above roads to provide a safe crossing point for arboreal species. I have helped with both the installation of new arboreal bridges and camera trap checks every three months. Through this project I have learnt the safety protocols necessary for tree climbing.
- **Grison project** – a network of 14 camera traps strategically positioned near burrow sites to try to record the Greater Grison, an elusive mesopredator. I have led this project throughout the duration of my internship, organising fieldwork, leading activities with volunteers and student groups, giving presentations on the project and analysing all the data collected.
- **Bat box monitoring** – a total of 20 bat boxes located within an experimental area of forest restoration plots. Every month I led volunteers on a hike through the restoration plots to monitor which bat species were present within the boxes. The aim of the project is to investigate the role of bats as seed dispersers for forest regeneration.
- **Fila Costeña exploration** – a series of three expeditions in the Fila Costeña highlands to deploy and then retrieve a network of 32 camera traps. This was the most challenging project that I worked on due to the steep terrain and long hours of hiking through unexplored rainforest.
- **OBS and ABS citizen science projects** – assessing the engagement of local communities/visitors with the OBS and ABS citizen science projects on iNaturalist.

Whilst working as a field assistant I have had the opportunity to utilise a range of wildlife monitoring technologies. Primarily, we have used camera traps as the main type of technology to gather information about the abundance and distribution of species. This non-invasive method is an effective wildlife monitoring tool that allows unique insights to be gained into the lives of animals. During the initial weeks I learnt how to correctly deploy camera traps in the field and how to analyse the data recorded. From then onwards I worked on a series of projects which utilised camera trap networks both on the ground and in the tree canopy.

Furthermore, whilst at Osa Conservation I have learnt about the uses of bioacoustics in wildlife monitoring. As part of our arboreal bridge project we deployed several bioacoustic devices in the tree canopies. The purpose of this was to determine the proximity of arboreal species that may potentially use the bridges. Howler and spider monkeys were selected as the focal species, both having distinctive calls. During the data analysis stage I learnt how to recognise these calls amongst thousands of other bioacoustic recordings. Through hours of practice I improved the efficiency at which I was able to process this auditory data, a skill which I hope to utilise in the future.

Throughout my internship I have had the opportunity to participate in a variety of other Osa Conservation projects including:

- Turtle morning census to monitor the abundance and distribution of sea turtle nesting. In addition, during these surveys some egg clutches were relocated to the hatchery if the nests were deemed to be at a higher risk of predation and exposure to the sun.
- Night patrols of the beach to monitor the health of nesting sea turtles and to deter poachers.
- Beach cleans to remove man-made marine debris, thus improving the health of the coastal ecosystem.
- Night hikes with visitors and student groups to teach them about the diversity of reptile and amphibian species.
- Expeditions with the Botanic Team to identify rare and threatened tree species.
- Participating in the annual planting day as part of wide-scale restoration efforts to increase forest connectivity.
- Assisting with Global Big Day monitoring events to identify the diversity of bird species present.
- Helping at the agroecological farm to learn about the benefits of regenerative farming practices.

Working at Osa Conservation has been a formative period of both my professional and personal life. I have had the incredible opportunity to work on a wide range of exciting and innovative conservation projects. In addition, I have been inspired by the talented team of conservationists and scientists that I have worked alongside. I am very grateful to the Royal Society of Biology for the generous grant provided which has helped make all of this possible. This support has enabled me to gain crucial fieldwork skills and to experience an enriched lifestyle in the tropical rainforests of Costa Rica for a year.



Northern tamandua (anteater)



Tree climbing to check arboreal camera traps



White-faced capuchin monkey



Hiking during the Fila Costeña expedition



Olive ridley sea turtle hatchling



Checking a camera trap