

## **Case example #1: Hardcore expedition style – Bioko, Equatorial Guinea (Jones)**

### **Site notes**

- Bioko is an island in west Africa, and politically part of Equatorial Guinea. Geologically, it is part of the Cameroon Volcanic line, and comprises of two main mountainous regions in the north of the island (Pico Basile) and the south (the Luba Caldera). Both areas are situated in national parks.
- The Luba Caldera is characterized by undisturbed primary rainforest from sea level into the caldera (0-1100masl). Pico Basile is characterised by largely primary habitat between ~1000-3000 (the summit)- below 1000m there is increasing amounts of habitat disturbance with decreasing elevation, outside of the parks boundaries.
- The Luba Caldera is remote, with all access through existing research trails and expedition camps. Pico Basile is slightly more accessible - a paved road runs to a communication compound at the summit, although requires permitting to work in the park with particular challenges in working after dark (necessary for the pre-dawn starts!)

### **Survey method notes**

- Point counts undertaken in January and early February 2023 during an expedition to the site. Like a lot of tropical avifauna, breeding phenology of many of the species here is not fully known, but breeding activity was very high, likely owing to the onset of the wet season.
- Covered an elevational gradient of 20-1100 meters in the Luba crater, and 980-2900 meters on Pico Basile
- All counts began at first light (0615) for the first three hours of daylight
- All counts were for 5 minutes (with all species detections with estimated distance), and points separated by 200-250 meters

### **Time commitment**

- An example of an intense survey effort undertaken over the course of 3.5 weeks during a Rapid Assessment Expedition, coordinated by Conservation International. Involved working in remote and temporary expedition camps, required research permits, and accessing all on foot
- The aim here was to provide a quantitative, repeatable baseline of the avifauna of Bioko in primary forest across all elevations
- I undertook point counts at 108 unique locations (67 Pico Basile, 51 Luba caldera), the majority of which (>65%) were replicated between 2-3 times

## **Case example #2: Nearby mountain w/ easy logistics style – Mt. Seymour, British Columbia (Freeman)**

### **Site notes**

- Mt. Seymour is a mountain just north of Vancouver BC that rises from sea level to ~ 1,400 m. There is some residential development at the mountain base. The rest is a mix of relatively tall secondary forests and old growth forest.
- There is a road that goes up to the ski area parking lot at ~ 1,000 m, and an extensive trail network on the mountain slope.

### **Survey method notes**

- I did point counts on Mt. Seymour in June 2021. This is the local breeding season. Late May would have been appropriate as well.
- I started at dawn (around 5 am) and finished by 8-9 am or so.
- I did 5 minute point counts along the road and along trails.
- I marked point count stations as I did point counts. That is, I would mark point count station #1 on a GPS; this would be near a trailhead after arriving just after dawn. I would then do a point count immediately at point count station #1. I would then walk until I was at least 200 m away from point count station #1, and mark point count station #2 on my GPS, then immediately do a point count at point count station #2. The point is that it can be faster to mark point count station locations as I was doing point counts.

### **Time commitment**

- I spent 7 mornings doing point counts on Mt. Seymour. In total I visited all elevational zones of the mountain, from ~150 m to nearly 1400 m.
- I did a total of 136 point counts at 50 point count stations that were roughly evenly spaced along the mountain slope. I could quickly go from one point count station to the next when driving on the road or hiking on flatter trails.
- I visited some point count stations 4-10 times, but visited most point count stations 2 times.

### **Case example #3: Oh I've already DONE this sort of thing; saving historic data style – Mt. Karimui, Papua New Guinea (Freeman)**

#### **Site notes**

- Mt. Karimui is a mountain in Papua New Guinea that rises from a plateau at ~ 1,000 m to a summit at ~ 2,500 m. It is covered in primary rainforest.
- As part of my graduate research, I led a research project to determine if birds had shifted upslope in the nearly half-century since Jared Diamond surveyed birds on Mt. Karimui in 1965. A colleague suggested I do point counts as well.

#### **Survey method notes**

- We did the study in June-July. This is thought to be the breeding season. I suspect any month of the year would be appropriate to survey these tropical birds.
- I flagged point count stations every 200 m along the ridge trail. I did point counts when I had a bit of extra time while managing mist nets. I did point counts from dawn (6 am) to mid-morning (9-10 am).
- There were 40 total point count stations, roughly evenly spaced along the gradient (though there were more in flatter sections, and fewer in steeper sections). I did 5 minute point counts, and visited each point count station on 3 different days.
- Unfortunately, I did not record any distance information.

#### **Final thoughts on this case example: unlocking the power of “lost” datasets**

- I never published this point count dataset. I should have. But this was not required by journals at the time.
- These surveys therefore remain invisible to a researcher searching the literature and functionally do not exist: a waste of the effort, time and money that went into fieldwork.
- My point count methodology could have been much improved. For example, I should have recorded distance information. Nonetheless, it is still a systematic survey of a mountain slope, and represents valuable data.
- To my shock, this point count survey (my grad school years!) could almost be considered “historic” data, useful to evaluate whether birds on this mountain have continued to shift upslope in the past decade plus of warming.
- The Mountain Bird Network is an excellent way to unlock the power of such hard-won but “lost” datasets.