Ecological survey using drones and RC

An ecological survey provides a snapshot outline view of what a particular area is like at the time of surveying. This includes the type of vegetation and the different species of animals observed. These surveys help identify habitats, thus minimizing the impact of development on biodiversity. These surveys are time-consuming and labour-intensive, also required to be precise to avoid any damage to biodiversity. To reduce time and cost spent on labour, we propose the use of drones and RC cars to monitor and survey areas. Fitted with cameras, these vehicles offer faster surveying times because drones can aerial photographs need not move on paved roads. The information from the images can then be extracted using techniques of computer vision and this would complete the automation process. State-of-the-art computer vision models have proven to be capable of segmenting and identifying various objects in an image and should prove to be on par with human surveyors. Advancements in drone technologies allow longer flying times even at lower altitudes allowing drones to cover more area and even get close-up images.

Since the habitat can highly impact how the biodiversity is in a particular region, surveying the region can help the concerned authorities to get the data about the habitat and take necessary actions whenever needed. Our project will help to not only increase the effectiveness of the survey but also lower time and labor to a great extent.