



## UAV Aerial Survey of a Wetland Recreation Site

- Geo rectified image mosaics for vegetation
- Topography



### Background

[Marine Science Support Ltd](#) (MSS) were commissioned to undertake a [UAV aerial survey](#) of a newly constructed Tidal Wetland Recreation Site in South West England. The client required the aerial survey to obtain geo-rectified high resolution aerial imagery. This was used alongside ground based vegetation surveys to monitor vegetation changes and colonisation of saline species to newly flooded areas.



Figure 1: Geo-rectified Aerial Photo Mosaics.

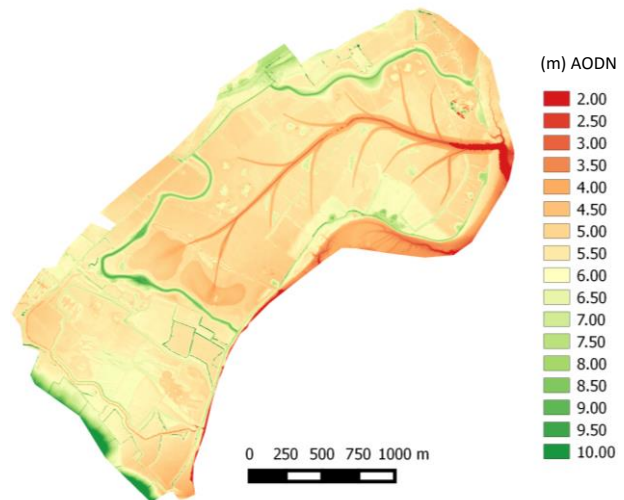


Figure 2: Digital Elevation Model (m AODN)

### Services Delivered

Marine Science Support Ltd (MSS) conducted the UAV aerial survey using their QuestUAV Q-200, a fixed wing UAV or Remotely Piloted Aircraft (RPA). UAV flights were undertaken during neap tides where vegetation is exposed throughout the day. The QuestUAV was fitted with a 24MP Sony Nex 7 camera (sensor) to obtain high resolution (RGB) aerial imagery. The Aerial Survey consisted of 11 flights at 120m altitude to obtain high resolution aerial imagery with a ground sampling distance of 3.1 cm. Higher resolution imagery can be obtained by flying at lower altitude. MSS processed the aerial imagery using Pix4D software on our in-house computing facilities to generate the Geo-Rectified Aerial Photo Mosaics (Figure 1) and Digital Elevation Models (figure 2). A [3D flyover animation](#) of the Tidal Inlet can be viewed by clicking the image below (Figure 3).

- **Survey Type:** Aerial Survey
- **Aircraft:** QuestUAV Q-200
- **Sensor:** Sony NEX 7 (RGB)
- **No of Flights:** 11
- **Area covered:** 7.8 km<sup>2</sup> (780Ha)
- **Images:** 5225
- **Ground Sampling Distance (GSD):** 3.1 cm
- **Output:** Geo-rectified Aerial Photo Mosaics, Digital Elevation Model



Figure 3: A 3D Flyover animation of the inlet (click image to play)

[Marine Science Support Ltd](#) comply with all UK legislation in regard to commercial use of Small Unmanned Aerial Systems (sUAS).

- CAA Permission for Aerial Work (PFAW)
- Liability Insurance
- CAA approved Operations Manual
- Qualified Pilots (RPQs)

### New

MSS now have CAA permission to conduct extended range Aerial Mapping exercises (EVLOS). Reducing time and costs for Aerial Survey jobs. [Contact us](#) to discuss your project