

## NCSLSC Drone Training

North Cottesloe Patrols fly drones for surveillance of marine hazards. Patrol members are encouraged to acquire the *CASA credentials* and *skills* to fly them. Practical training can be done on Patrol with one of our experienced trainers. To start you need CASA credentials, and the course is outlined below.

### CASA Drone Credentials

To gain your CASA Drone credentials follow either of these pathways.

1. Email our Drone Officer at [drones@ncslsc.com](mailto:drones@ncslsc.com) , or
2. Click [here](#) to start a myCASA account, apply for an ARN and complete a quiz.

Drones are **Remotely Piloted Aircraft** or **RPA**. CASA the Civil Aviation Safety Authority require our pilots to have **RPA Operator Accreditation** and our drones are classified as very small RPA. On passing an easy short quiz about drone regulations you will have your **RPA Operator Accreditation**. Here is an example of the certificate.



Please send yours to [drones@ncslsc.com](mailto:drones@ncslsc.com) and book a practical training session with one of our trainers. These are run on Saturday mornings from 7-11am from November to March as needed.

### Course Outline

#### Practical Sessions

One on One hands-on flying instruction with an experienced trainer (3-4 hours) covering.

1. Conditions, Beach set up and communication, or Can I Fly assessment and comms.
2. Pre-flight checks, or are the flight settings and drones OK to fly?
3. 4 Flights as Pilot 1) basic operation and menus, 2) fly a set task 3) flight and surveillance tasks and 4) operate safely with compromised systems.
4. Post flight maintenance and documentation or documentation and charging.

#### Theory Modules

Complete online theory modules 1, 2 and 3 (20-30mins)

1. Admin: myCasa Account and Air Registration Number (ARN) application
2. Drone operator course – learn about drones and flying safely at the beach.
3. CASA Drone Operator quiz and accreditation certificate.

### Flying on Patrol

On completion of the theory modules, you are qualified to train, and you can train on Patrol. To fly surveillance missions on Patrol under supervision of the PC you need to complete the practical training or M3E orientation if you have a RePL. You sign on to Patrol as the UAV (*unmanned autonomous vehicle*) or Drone Operator. Log your flights with the Fly Freely App and synch the flight data to the cloud. Flight duration is posted on the Club Drone WhatsApp Group Chat.

### SLSWA Drone Patrol Award

To fly solo, at other club activities or locations you'll need the SLSWA Drone Patrol Award. This is issued after completing the theory modules, the practical session, and a series of surveillance missions on Patrol and providing support and mentoring for new Pilots.

## NCSLSC Drone Operations Summary

We operate drones at North Cottesloe Beach according to CASA regulations, under the North Cottesloe SLSC ARN as part of our service contract with the Town of Cottesloe. Operations are under the direction of the Patrol Captain. The club has two CASA registered Mavic 3 Enterprise drones for patrols, training, and other authorised club activities. Pilots are required to have CASA credentials, either a RePL (drone pilots license) or RPA Operator Accreditation (pass a drone regulation quiz).

### 1. Locations

#### Prepare a report

We fly offshore to monitor marine hazards and film club activities between BEN CT 21 (Peters Pool, Napier St) and BEN CT 4 (Vera View Pde, Dog Beach). The beach and 30 meters beyond the surf zone are designated as a no-fly zone (Figures 1 and 2 below). Recommended surveillance flight paths are annotated in yellow and red. Launch and Landing areas are located at the ramp (CT 13), Power Craft Area (CT 10) or the OBH (CT 16).

#### Flight Procedures

We contact the SLSWA Surf Comm radio control centre by mobile (92076688) prior to commencing operations and discuss Life Saver 68's flight scheduled. We monitor Metro Wide Channel 1 for communications with LS68 and Surf Comm. We set out marked landing/take-off areas and identify alternative landing strategies before beginning operations. We use Apps to monitor air traffic, weather, shark sightings and document flights, pilots, and drones. We maintain 30m separation from the public and respect their privacy. On approach of manned aircraft we land or drop to below 10m to maintain separation. Pilots only fly during daylight hours and below 120m. We use observers to assist with operations and to maintain visual line of sight of the drone. We fly with added caution in onshore winds to avoid "no-fly zone" ingress.

Where possible pilots engage other patrol members to assist in set up, landing and observing. They operate under the guidance of the Patrol Captain and follow the club's recommended procedures.

#### Documentation of Flights, Drones and Pilots

The club as the organisational ARN holder and owner of the drones is required to record flight, drone, and pilot data. Fly Freely is SLSWA licensed app for paperless documentation of this data. Pilots use the mobile app to plan and document their flights. Flight data on the RC's is synched to the cloud at the end of Patrols and as a backup to this flight duration, drone and Pilot are posted to the Clubs Drone Operator WhatsApp Chat Group.

#### Storage and Maintenance

1. Drone maintenance and all equipment are reviewed annually. Elk Fish Robotics is the recommended maintenance company.
2. Do not leave drones unattended at any time. When unattended lock them in their cases in a secure cupboard and room.
3. Post flight drones are prepared for the next patrol/pilot/flight. All gear is checked and locked away and batteries put on charge.

#### Contacts

NCSLSC [drones@ncslsc.com](mailto:drones@ncslsc.com)

Surf Comm mobile 92076688

LS68 and Surf Comm: - Metro Wide Channel 1

ATSB (Aviation: call ATSB on 1800 011 034 (available 24/7) or (02) 6122 1602 (office hours only))

## Reportable Incidence

2. Accidents involving death, injury or serious damage are [immediately reportable](#) to the ATSB. Phone the ATSB and follow up with a written report within 72 hours.
3. Any minor non reportable accidents, faults, minor damage, system failure or loss of the drone should be recorded in the Fly Freely app and reported to Surf Comm and the club Drone Officer asap. including pilots, drone operation, damage, system failure, incident description and last sighting location, speed, direction, height and distance from Pilot.

## North Cottesloe Beach Fly&No-Fly Zones and Landing & Take-Off Areas



Figure 1 ramp BEN CT 13 area 30m radius landing area 1



Figure 2 North Cottesloe Beach No-Fly and Fly-Zones: red - nearshore path. Yellow- offshore path. Yellow Circle shows alternative area BEN CT 16 in front of the OBH.



Figure 3 Tagged Shark Bouy Detection

### Equipment

The drones are DJI Mavic 3 Enterprise. They are classified as very small drones. Ancillary gear includes 2x Cases and locks, 14x batteries, 4x charging hubs, 2x anemometers, 6x ND polarising filters, 4x SD cards, 2x remote controllers, 1x loudspeaker attachment, 1x shoulder bag and 1x backpack, 2x RC hoods, instruction manuals and pre and post flight guides. We have fluoro vests and battery fire personal safety gear. Landing pads, take off zone cones, signage, a lightweight gazebo and a beach trolley. The IRB, Jet Skis and ATV are available to assist in drone operations such as catching at sea or landing in an alternative safe area.



Figure 4 M3E Drone #1



Figure 5 M3E Drone #2