

Drone Guidance

For small unmanned aircraft weighing less than 20kg

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Contents

Contents.....	2
1 Introduction.....	3
2 The law	3
3 The legislation explained.....	3
3.1.1 Non-commercial drone use in uncongested areas.....	3
3.1.2 Commercial drone use in uncongested areas	4
3.1.3 Non-commercial drone use in a congested area or at an event.....	4
3.1.4 Commercial drone use in a congested area or at an event	5
3.1.5 How to obtain the CAA’s Permission for Commercial Operations (PfCO)	5
3.1.6 Insurance	5
3.1.7 UK airspace.....	6
3.1.8 What to do if someone is using a drone incorrectly.....	6
4 Where to find approved operators	6
5 Drone usage permission requirements	7
6 Decisions to be made when flying a drone	7
Table I – Drone usage permission requirements.....	8
Figure I – Decisions to be made when flying a drone.....	9
Appendix I - Air Navigation Order 2016.....	10

DISCLAIMER: This Drone Guidance document provides general guidance to anyone who would like to fly a drone. It is however the responsibility of each drone operator to maintain up-to-date risk assessments and define and monitor their own safety practices, guidance and procedures specific to the environment and activities.

Whilst every effort is made to ensure that the legal and other similar information and guidance in this document is accurate and reflective of best practice at the time of publication, it is the users’ responsibility to ensure that such information and guidance is up to date before acting upon it. British Rowing accepts no responsibility for the content of third party websites accessed through links in this publication.

1 Introduction

Drone usage within the rowing community is becoming increasingly popular, for general filming and coaching purposes, providing an opportunity to capture the sport in a way that has not previously been possible. This has been helped by low cost and easy access to, as well as rapid advancements in, drone technology.

With the aim of supporting good practice, this paper provides guidance on the use of drones (Unmanned Airborne Vehicles or UAVs) within rowing, according to Civil Aviation Authority (CAA) legislation. It considers the law, additional rules, qualifications required depending on proposed use and location, as well as where to find approved operators.

2 The law

Please note that this guidance only relates to drones weighing less than 20kg. The CAA has different legislation for those weighing more than 20kg.

All UAV operations in the UK are governed by the CAA and specifically the Air Navigation Order 2016 (ANO) sections 94 and 95 (see Appendix I) <http://www.legislation.gov.uk/uksi/2016/765/contents/made>. This applies to anyone who operates a drone).

The CAA has published an easy to read summary of the legislation called 'The Drone Code' <http://dronesafe.uk/drone-code/>, but it should be noted that additional rules apply for those filming/taking photographs, as outlined below.

If you wish to fly your drone abroad, always abide by the local legislation, a guide to which can be found at <http://www.thedroneinfo.com/the-current-state-of-global-drone-regulations/>.

It is important to note that legal responsibility always lies with the drone operator.

Failure to fly responsibly could result in a criminal prosecution and a prison sentence of up to five years if the drone endangers the safety of aircraft.

3 The legislation explained

3.1.1 Non-commercial drone use in uncongested areas

The following rules apply when drones are used for non-commercial purposes (the operator is not being paid for the footage) in uncongested areas, as might be the case when drones are used for coaching:

- Land/water owner's written permission is needed for take-off and landing.
- The subject's (crew's) written permission is required before filming takes place. Keep all images safe and think before sharing them.
- It is critical that those being filmed are fully briefed beforehand by the drone pilot or a designated member of the aerial team and are able to respond appropriately to any emergency commands given by them.

- The drone must be at least 50 metres away from people, vessels, vehicles, structures, etc. that aren't under the control of the operator.
- People, vessels, vehicles, structures, etc. under the control of the person in charge of the aircraft eg. crew can be within 50 metres of the drone if the conditions above regarding permissions and briefings have been met.
- During take-off and landing no person must be within 30 metres of the drone, except for the drone operator.
- The drone can be no higher than 120 metres above the ground or water.
- The person in charge of a small unmanned aircraft must maintain direct, unaided visual contact with the aircraft sufficient to monitor its flight path in relation to other aircraft, persons, vehicles, vessels and structures for the purpose of avoiding collisions. This means that two people are always required when flying a drone for coaching purposes, one to monitor what is being filmed and one to control the drone.
- If flying a drone that weighs more than 7kg, then air traffic control permission is required if flying in any controlled air space.
- The drone operator is responsible for the safety of the flight at all times.

3.1.2 Commercial drone use in uncongested areas

The CAA states that if “valuable consideration is given or promised in respect of the flight or the purposes of the flight” then this is considered to be commercial work. The CAA Air Navigation Order 2016 article 94 states that:

“The person in charge of a small unmanned aircraft must not fly the aircraft for the purposes of aerial work except in accordance with a permission granted by the CAA.”

This means that, in addition to the rules detailed in 3.1.1, if anyone wishes to get paid specifically for filming/taking photographs of a crew either in training or at an event, they will need to apply for a Permission for Commercial Operations (PfCO) from the CAA, following the process detailed in 3.1.5.

3.1.3 Non-commercial drone use in a congested area or at an event

A congested area is defined as an area of a city, town or settlement which is substantially used for residential, industrial, commercial or recreational purposes or an area with more than 1,000 persons, as would typically be the case during a rowing event.

The following rules apply:

- CAA Permission for Commercial Operations (PfCO) must be obtained to land or operate within a congested area.
- Only drone operators who can demonstrate they meet the CAA criteria are eligible for a CAA Permission for Commercial Operations (PfCO). See 3.1.4.
- Permissions granted are considered on a case-by-case basis and can be given for a period of up to 12 months.
- Permissions cost between £112 - £214. Price correct at the time of publishing.
- All the rules outlined in 3.1.1 apply and additionally:
- The drone must be a minimum of 150m away from an assembly of more than 1,000 persons and from a congested area as defined above. It must be a minimum of 50m away from any isolated building not under the control of the operator.

3.1.4 Commercial drone use in a congested area or at an event

All the rules in 3.1.2 and 3.1.3 are applicable, except:

- If the drone is lighter than 7kg, it can fly a minimum of 50m away from a congested area.

In addition only individuals with enhanced CAA permissions (ie. greater than a PfCO) can fly drones at lesser minimum distances when either in a congested area or when close to an assembly of more than 1,000 persons. Typically these permissions are only given to very experienced commercial drone operators of which there are currently a limited number in the UK.

3.1.5 How to obtain the CAA's Permission for Commercial Operations (PfCO)

As detailed in 3.1.2, 3.1.3 and 3.1.4 a CAA Permission for Commercial Operations (PfCO) is required for all drone use in congested areas when being undertaken for both non-commercial and commercial purposes and in uncongested areas when being undertaken for commercial purposes.

Permission can be applied for at <https://www.caa.co.uk/Commercial-industry/Aircraft/Unmanned-aircraft/Apply-for-a-permission-to-fly-drones-for-commercial-work/>.

To be eligible for a PfCO from the CAA, the operator needs to:

- Demonstrate a sufficient understanding of aviation theory (airmanship, airspace, aviation law and good flying practice).
- Pass a practical flight assessment (flight test).
- Develop basic procedures and risk assessments for conducting the type of flights you want to do and set these out in an operations manual.
- Have aviation specific liability insurance.

There are a number of recognised assessment organisations called National Qualified Entities (NQE) that can help you meet these requirements. NQEs will generally help drone operators develop an operations manual and will offer advice on completing any additional paper work.

The cost of a basic course is approximately £1,340 plus VAT for a two day theory and one day flight course including theory exam, flight test and submission to the CAA for the PfCO.

or

£990 plus VAT without the one day's flying course – although the drone operator would still need to pass the flying test. Prices correct at time of publishing.

CAA approved flying courses can be found here:

<http://www.upliftdronetraining.com/?gclid=CM-1xjSlgdMCFsSq0wodtE8CpQ>

3.1.6 Insurance

Everyone who flies a drone commercially needs insurance. Please note that insurance under British Rowing membership does not cover flying a drone. Aviation specific insurance can be bought from The British Model Flying Industry <http://bmfa.org/Info/BMFA->

[Insurances/Insurance.](#)

Whilst it is not a requirement, British Rowing recommends that when operating a drone non-commercially, insurance and public liability cover of at least £5 million and preferably £10 million is obtained. It is important to remember that the primary function of the insurance is to protect the insured (the drone operator) in the event of a claim being made against them following an incident. If a drone operator were to be found responsible for an incident and carried no insurance, then they would be personally liable for any damages or costs awarded under the jurisdiction of a civil court.

3.1.7 UK airspace

When flying a drone it is important to be aware that the UK's airspace is extremely busy with light aircraft, military jets and helicopters operating at low level. There are companies that offer short introductory lessons for new drone users that will help them to both fly safely and also teach the basics of controlling the drone to avoid accidents. A link to where to book a course is given in Section 3.1.5.

The National Air Traffic Service (NATS) is the UK's main air traffic control provider and it has developed an app. called 'Drone Assist'. It presents users with an interactive map of airspace used by commercial air traffic controllers so that the areas to avoid or in which extreme caution should be exercised, as well as ground hazards that may pose safety, security or privacy risks when flying a drone, can be seen. The app. also contains a 'Fly Now' feature that enables drone operators to share their drone flight location with other app. users and the wider drone community, helping to reduce the risk of a drone related incident in the UK's airspace.

The app. can be downloaded from <http://dronesafe.uk/drone-assist/>.

A link to temporary airspace restrictions can be found on the Aeronautical Information Service (AIS) website: <http://www.nats-uk.ead-it.com>.

No flight should be undertaken if the weather exceeds the safety guidelines of the drone. The drone should not be flown in the rain (either heavy or light), snow, fog, poor visibility, hail, lightning, tornadoes or hurricanes. The flight may also be aborted if there is significant chance of any of these weather conditions occurring during the flight.

3.1.8 What to do if someone is using a drone incorrectly

If a member of the rowing community is seen using a drone in a way that contravenes the drone code please make them aware of the existence of this guidance document. If they still fail to follow the guidance, then please complete an incident report available here <https://incidentreporting.britishrowing.org>.

4 Where to find approved operators

British Rowing advises anyone considering using a drone for coaching purposes or at an event, to contract an approved operator that has had a PfCO for at least a year. Recommendations should be obtained where possible and the selected operator should provide a copy of their public liability insurance and approvals to operate.

A link to the CAA's list of operators with PfCOs can be found at www.caa.co.uk/cap1361.

5 Drone usage permission requirements

Drone usage permissions requirements are summarised in Table I on Page 8.

6 Decisions to be made when flying a drone

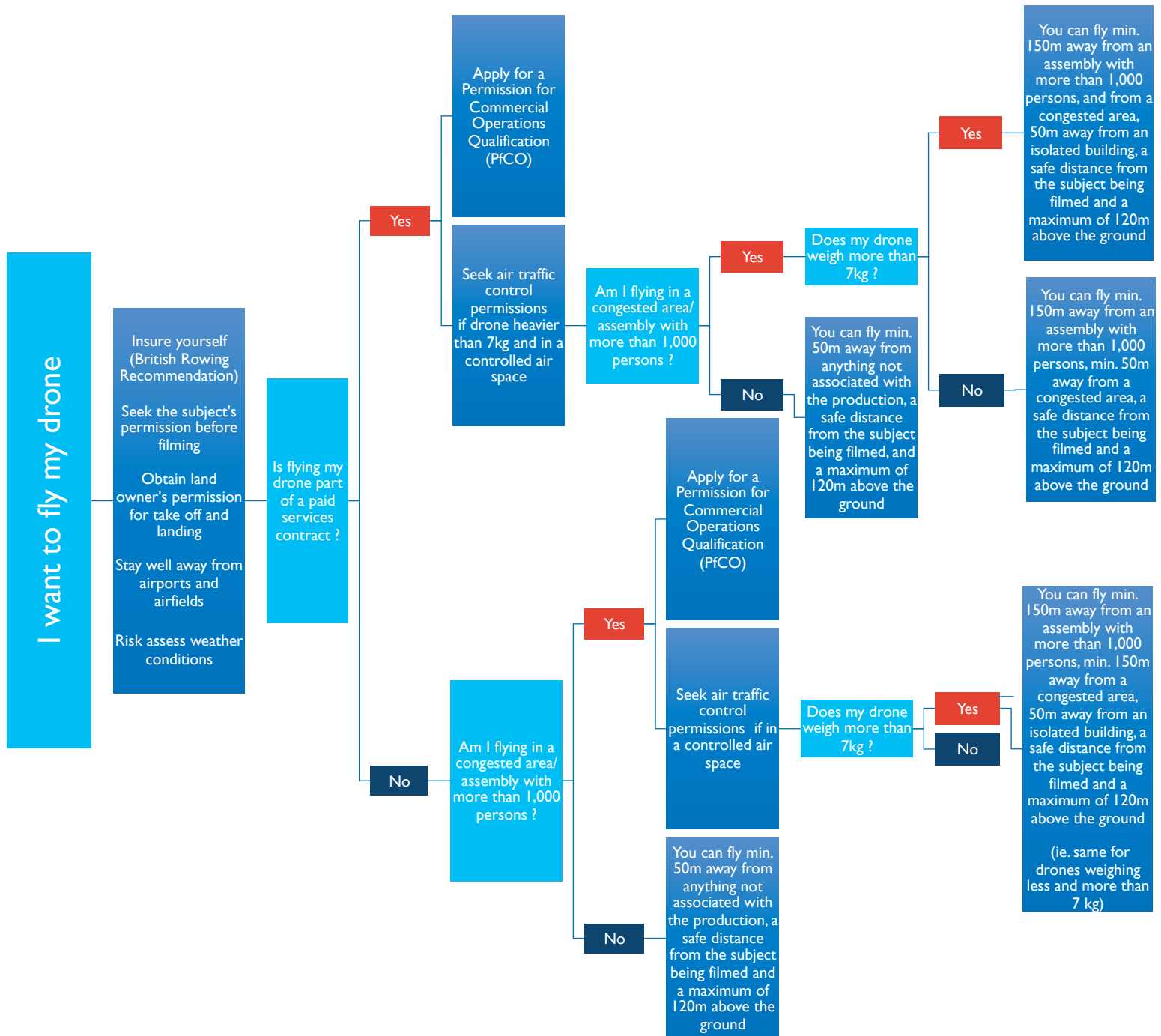
Key decisions to be made when flying a drone are illustrated in Figure I on Page 9.

Table 1 - Drone usage permission requirements

Congested or uncongested area	Drone Weight	Legal Requirements	Drone distance to subject being filmed	Possible use	British Rowing Recommendations
Non-commercial filming					
Uncongested. (ie. not within 150m of a congested area).	Lighter than 7kg. (gross weight excluding fuel).	<p>Drone operator is responsible for each flight.</p> <p>Land owner's permission for take-off and landing is required in writing.</p> <p>Subject's (crew) permission is required in writing before filming.</p> <p>Subject (crew) must be fully briefed and able to respond to emergency commands before filming.</p>	<p>Height - drone to be no higher than 120m from the ground/water.</p> <p>Distances – drone to be minimum 50 metres away from any person, vessel, vehicle or structure not associated with the production. An area of 30m must be kept from any person (except the operator) during take-off and landing.</p> <p>Sightlines the drone must always be in sight of the operator therefore two people are required to be present – one monitoring the drone and the other the data/footage.</p>	<p>Coaching.</p> <p>Non-commercial promotional filming eg. rowing club or to promote event.</p>	<p>Public liability insurance £5 million minimum.</p> <p>Overhead filming is not recommended and the drone must be no higher than 120m above the ground/water.</p> <p>Adverse weather – drone operators should not work in adverse weather conditions such as rain, either heavy or light, snow, fog, poor visibility, hail, lightning, tornadoes or hurricanes.</p>
Uncongested.	Heavier than 7kg.	<p>As above and additionally:</p> <p>Not permitted to fly in any Class A, C, D, or E airspace (controlled airspace) or aerodrome traffic zone without permission from the air traffic control unit.</p>			
Congested area (area of a settlement which is substantially used for residential, industrial, commercial or recreational purposes) or an area with more than 1000 spectators.	Lighter or heavier than 7kg.	As per uncongested filming for lighter than 7kg drones plus:	As above plus:	As above.	As above plus:
		Permission for Commercial Operations qualification from the CAA. (PfCO)		<p>Distances – 150 metres away from any congested area or assembly of more than 1000 persons. Minimum distance away from an isolated building is 50 metres.</p>	As above.
Commercial filming					
Uncongested.	Lighter and heavier than 7kg. (gross)	<p>As per uncongested non-commercial filming for lighter than 7kg drones plus:</p> <p>Public liability insurance.</p> <p>Permission for Commercial Operations qualification from the CAA. (PfCO)</p>	As per non-commercial filming in an uncongested area.	<p>Filming for promotional/paid use.</p> <p>Filming for event.</p>	As above plus:
Congested area and area with more than 1000 spectators.	Lighter than 7kg.	As above.	<p>Distances – as per non-commercial filming but the drone can fly a minimum of 50 metres (instead of 150 metres) from a congested area. The min. 150 distance applies for areas with more than 1000 spectators.</p>	As above.	As above.
As above.	Heavier		Distances – as per non-	As above.	As above.

	than 7kg.	As above.	commercial filming in a congested area.		
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Figure 1 - Decisions to be made when flying a drone



The aim of this chart is to show the decisions that need to be made when a drone is flown and necessary permissions and rules that apply according to the particular situation.

Appendix 1 - Air Navigation Order 2016

Small unmanned aircraft - Article 94.

- (1) A person must not cause or permit any article or animal (whether or not attached to a parachute) to be dropped from a small unmanned aircraft so as to endanger persons or property.
- (2) The person in charge of a small unmanned aircraft may only fly the aircraft if reasonably satisfied that the flight can safely be made.
- (3) The person in charge of a small unmanned aircraft must maintain direct, unaided visual contact with the aircraft sufficient to monitor its flight path in relation to other aircraft, persons, vehicles, vessels and structures for the purpose of avoiding collisions.
- (4) The person in charge of a small unmanned aircraft which has a mass of more than 7kg excluding its fuel but including any articles or equipment installed in or attached to the aircraft at the commencement of its flight, must not fly the aircraft—
 - (a) in Class A, C, D or E airspace unless the permission of the appropriate air traffic control unit has been obtained;
 - (b) within an aerodrome traffic zone during the notified hours of watch of the air traffic control unit (if any) at that aerodrome unless the permission of any such air traffic control unit has been obtained; or
 - (c) at a height of more than 400 feet above the surface unless it is flying in airspace described in sub-paragraph (a) or (b) and in accordance with the requirements for that airspace.
- (5) The person in charge of a small unmanned aircraft must not fly the aircraft for the purposes of commercial operations except in accordance with a permission granted by the CAA.

Small unmanned surveillance aircraft - Article 95.

- (1) The person in charge of a small unmanned surveillance aircraft must not fly the aircraft in any of the circumstances described in paragraph (2) except in accordance with a permission issued by the CAA.
- (2) The circumstances referred to in paragraph (1) are—
 - (a) over or within 150 metres of any congested area;
 - (b) over or within 150 metres of an organised open-air assembly of more than 1,000 persons;
 - (c) within 50 metres of any vessel, vehicle or structure which is not under the control of the person in charge of the aircraft; or
 - (d) subject to paragraphs (3) and (4), within 50 metres of any person.
- (3) Subject to paragraph (4), during take-off or landing, a small unmanned surveillance aircraft must not be flown within 30 metres of any person.
- (4) Paragraphs (2)(d) and (3) do not apply to the person in charge of the small unmanned surveillance aircraft or a person under the control of the person in charge of the aircraft.
- (5) In this article, “a small unmanned surveillance aircraft” means a small unmanned aircraft which is equipped to undertake any form of surveillance or data acquisition.