ACCIDENT

Aircraft Type and Registration:	Europa XS, G-BYSA	
No & Type of Engines:	1 Rotax 912 ULS piston engine	
Year of Manufacture:	2000 (Serial no: PFA 247-13199)	
Date & Time (UTC):	10 August 2016 at 1015 hrs	
Location:	Hollym Airfield, East Riding of Yorkshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - 1 (Minor)	Passengers - N/A
Nature of Damage:	Aircraft destroyed	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	60 years	
Commander's Flying Experience:	918 hours (of which 438 were on type) Last 90 days - 49 hours Last 28 days - 11 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

While landing on a clifftop runway, the landing gear's right outrigger failed and the aircraft ran off the edge of the runway, over the cliff and into the sea. The pilot evacuated the aircraft and activated his Personal Locator Beacon (PLB) but had reached safety before help arrived. Coastal erosion had noticeably reduced the runway's surroundings since the pilot had last used it four years before.

History of the flight

Hollym Airfield is an unlicensed grass airfield near the village of Withernsea, Yorkshire. The airfield is Prior Permission Required (PPR), so the pilot had telephoned the airfield operator for permission to land. He had previously landed at Hollym on four occasions, therefore the owner granted permission without a detailed briefing.

When the aircraft arrived overhead the airfield, the windsock showed the surface wind to be from about 310° at less than 10 kt. Therefore, the pilot decided to land on Runway 32, which he had last used four years before. The first approximately 150 m of Runway 32 is bounded by a fence on its left side and a cliff, down to the sea, on its right. The fence then stops and the area to the left of the runway opens out onto the main grass airfield, with Runway 32 continuing to parallel the cliff.

The pilot reported that he flew a normal approach and landing to Runway 32, although

he was aware that both the fence and the cliff edge were unexpectedly close. During the landing roll he heard a noise, possibly from the right side of the aircraft, and it slewed to the right. He attempted to control the aircraft and apply braking, resulting in the aircraft rolling out on the extreme right side of the runway. As the aircraft slowed, the tailwheel went over the edge of the cliff and, at low speed, the aircraft fell tail-first off the cliff into the sea.

The accident was not witnessed by anyone else, so the emergency services were not initially alerted. The pilot escaped from the aircraft and after a few minutes was able to retrieve and activate his 406 MHz PLB. After another approximately thirty minutes, he was able to make his way up the cliff to a nearby house. Help then arrived and he was transferred to hospital for treatment to minor injuries sustained after he had exited the aircraft.

Airfield information

The pilot commented that the last time he had landed on Runway 32, the mown runway strip was bounded on both sides by significant fallow ground, providing some margin for error. Reviewing the airfield entry in commercially available flight guides had appeared to confirm to him that this remained the case. At the time of the accident the runway was reported as being 15 m in width, with a sketch diagram showing a clear area on each side. However, coastal erosion in the area is an average of two metres per year, with the cliff on the right of the runway being undermined by the sea and then collapsing in stages. This had resulted in the runway being moved to the left, until it abutted the fence, while the sea continued to erode the ground to the right of the runway, to its current width.

The pilot reported that, following the accident, he determined that the runway was approximately 14 m wide for this initial portion.

CAA Guidance

The CAA issues guidance for the operation of unlicensed aerodromes. *CAP 793 'Safe Operating Practices at Unlicensed Aerodromes'* states:

> *'The contents of this CAP are not mandatory, nor do they purport to be exhaustive. However, they do provide what can be considered as sound practice that has been developed in consultation with industry representative bodies.'*

In Appendix B *'Deciding Minimum Runway Dimensions'* it recommends that, for light aircraft of less than 2730 KG Maximum Take-Off Mass, the minimum runway width is 18 m.

Aircraft information

G-BYSA was the monowheel variant of the Europa, with a wingspan of 8.27 m and retractable outrigger wheels mounted on each wing. The outriggers are described in the aircraft owner's manual as:

> *'exceedingly strong and pliable so there is no need to be overly concerned about turning sharply or rough field operation. The outriggers will, if necessary, bend through 90 degrees.'*

However, they are not designed to take significant vertical loads and, on rare occasions, do fail. Following the accident, the right outrigger was located on the runway near the cliff edge. It had failed in the plastic section below its attachment to the wing. Why this occurred was not explained.

Personal locator beacon

The pilot's PLB was equipped with a 406 MHz transmitter, which is detectable by satellites of the Cospas-Sarsat Programme. In order to determine an approximate position of the activated beacon, more than one satellite pass was required.

At 1036 hrs, a downlink from a satellite pass alerted the UK Aeronautical Rescue Co-ordination Centre (ARCC) to the activation of the beacon. A further satellite pass at 1056 hrs was required to resolve the beacon's location in the approximate area of the accident. The ARCC attempted to contact the beacon's registered owner (the pilot) and made further enquiries, to determine the nature of the incident and decide on the appropriate response[1]. At 1108 hrs, a land-based Coastguard rescue team was tasked to the area of the accident. This was followed later by the deployment of RNLI lifeboats and a SAR helicopter.

The ARCC commented that GPS-enabled PLB's will generally allow much quicker location of the transmitter than those without this capability. Additionally, the more information and, in particular, contact details that owners include when registering a PLB, the quicker the ARCC can respond and the higher the probability of them deploying the correct rescue assets.

Additional information on what happens when a PLB is activated can be found at www.cospas-sarsat.int/en/

Flight guides

Various commercially available flight guides contain information on unlicensed airfields. These publications generally advise that the information they contain should be considered as guidance and may be inaccurate. This may apply particularly where the landscape, airfield and runway dimensions are constantly changing.

Footnote

[1] PLBs are registered to an individual and can be used during a range of activities, onshore, at sea and in the air.

Safety action

The airfield operator has informed the publishers of various flight guides that the runway width is now 10 m and requested that they include a warning to '*Beware cliffs on the east side of the airfield*'.

The Light Aircraft Association included this accident in their October 2016 *'Safety Spot'* feature to advise their members of the circumstances.

Conclusion

While landing on a clifftop runway, the landing gear's right outrigger failed and the aircraft ran off the edge of the runway, over the cliff and into the sea. The failure of the aircraft's right outrigger was not explained. However, there was little margin for variation in landing track when using Runway 32, which was narrower than recommended by the CAA in CAP 793 because of coastal erosion (Figure 1).

The airfield operator has informed publishers of various flight guides of the revised width of Runway 32 and warned about the cliffs on the east side of the airfield, for inclusion in their publications.

Figure 1

Coastal erosion at Hollym Airfield