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UXO Newsletter

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Bombing Decoys: How the British Film Industry helped deceive the Luftwaffe

Introduction

World War Two (WWII) marked the dawn of strategic air bombardment as a fundamental tool of warfare. To reduce the detrimental impact of German bombing, the British Government devised and established a series of air defences across the country.

Of these, perhaps the most ingenious was the bombing decoy, which exploited Hollywood-style deception to deflect the Luftwaffe away from major industry, urban centres, and military targets.

Developing decoys

The Air Ministry's decoy programme was set up in September 1939. It was spearheaded by Colonel John Fisher Turner.

Turner initially produced plans for the creation of a series of airfield decoys to protect Royal Air Force (RAF) bases. The Air Ministry put out tenders to several firms to produce convincing dummy aircraft prototypes.

On inspection, Turner was most impressed by the dummy aircraft built by Sound City Film Studios, in Shepperton, Surrey.

Pre-war British filmmaking often relied on indoor sets and shrewd lighting to create convincing environments. The Sound City's technicians proved very capable in the art of visual deception, and they would become a vital part of Turner's operation.

The first two dummy airfields (K sites) became operational in February 1940. By April, 36 had been completed. These typically comprised mock grass landing grounds, with fake technical buildings and storage areas.

These sites were regularly altered to appear like functional airfields. Dummy aircraft were repeatedly repositioned on the airfield.

In April 1940 night airfield decoys (Q sites) started being established. These primarily used lighting installed by electrical engineers to mimic an operational airfield at night.

Built near operational RAF bases, the night airfield decoys were activated with the approval of the parent station.

Not all decoys successfully misled the Germans, as shown by the Luftwaffe reconnaissance photograph below, which correctly identified a decoy airfield.

By the summer of 1940, Turner had devised a new decoy type known as 'Q fire' or QF site. These used controlled dummy fires to draw attacks from enemy aircraft thinking it was a recently bombed target. QF sites were regulated remotely from a sheltered building and were typically situated in areas to deflect bombing away from strategically important industry and urban centres.

By 1941, the (P-Series) or oil QFs had been developed to divert bombing away from petroleum installations. They consisted of fuel burning in bespoke pools and channels, which from above, would resemble structures usually found on tank farms.

In total, approximately 900 decoys were constructed across Britian. These comprised:

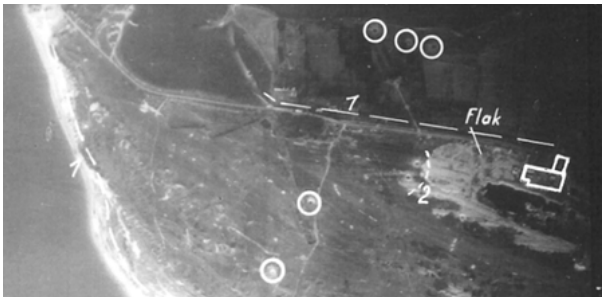
- Day and night dummy airfields ('K' and 'Q' sites).
- Diversionary fires ('QF' sites and 'Starfish').
- Dummy petroleum depots ('P' sites).
- Simulations urban lighting ('QL' sites).
- Dummy factories, towns, and buildings ('C series')
- Mobile decoys representing 'hards' for troop embarkation ('MQL' sites).

How successful were bombing decoys?

As the layout of decoys became more sophisticated and the crews controlling them gained experience, there efficacy improved.

The most successful starfish decoy operation of WWII occurred on the night of the 17th - 18th April 1941 when SF16(b) at Sinah Common, Portsmouth, deflected virtually an entire bombing attack from hitting Portsmouth.

Records indicate that the starfish decoy drew 170 High Explosive (HE) bombs and 26 Parachute Mines (PMs). Aerial photographs taken after the raid show evidence of significant bomb cratering around the decoy location.



After WWII, the Air Historical Branch (AHB) noted that there were approximately 728 attacks on Turner's decoys between 1940 and 1944. Of these, Q Sites were the most successful type, accounting for 61% of attacks. When accounting for unobserved and unreported incidents, the AHB conservatively estimated that around 5% of all the bombs dropped by the Luftwaffe during WWII were drawn towards bombing decoys.

Decoy relics

By May 1945, all the decoy sites across Britain had become disused and many were dismantled. It has been estimated that over 68% of decoy sites in England were demolished, with the vast majority being returned to agriculture. The most common relic of decoy sites today is the brick and concrete control bunkers, which can still be found in some rural settings.

Bombing decoys which successfully attracted bombing may provide a significant source of UXO hazard, with Unexploded Bombs (UXBs) potentially being dropped within the decoy boundary and surrounding areas.

Many decoys were established on greenfield sites, meaning a seemingly innocuous field may have a potential UXB hazard. Not all bombing decoys were attacked and therefore may not provide a UXO risk.

If you are unsure if there is a potential UXO hazard at your site, request a free Preliminary Risk Assessment: https://zeticauxo.com/pdsa-request-form/

Did you know? – At least 200 tons of UXO is found in Belgium and northeastern France every year

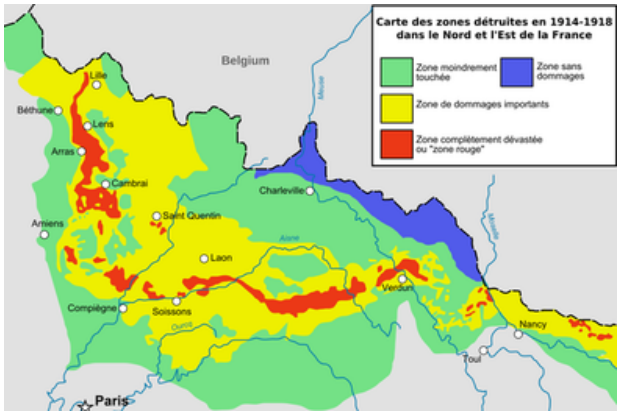
This annual phenomenon, nicknamed the 'Iron Harvest', is the routine collection of ordnance by farmers in the Flanders region, on the former battlefields of World War One (WWI).

The Iron Harvest occurs each year during the ploughing season. UXO finds commonly include artillery shells, mortars, grenades, bullets, pistols, rifles, and chemical munitions.

It is estimated that more than 1.4 billion shells were fired on the Western Front between 1914 and 1918. As many as one in three shells failed to explode. In the Ypres Salient alone, it is thought that over 300 million projectiles did not detonate as intended.

Many duds were buried on impact, often being swallowed by mud.

After the guns fell silent in 1918, the French Government imposed a series of restrictions on areas deemed too physically and environmentally damaged to be used. These restrictions, known as 'Zone Rouge', forbade human habitation, and resulted in many fields being left to return to nature.



Over the years, the restricted areas in Zone Rouge have been reduced in size, and farming has been allowed to recommence in certain places.

Today, French and Belgium Explosive Ordnance Disposal (EOD) teams are regularly engaged in the annual clearance of UXO. In 2019 the Belgian Explosive Ordnance Disposal (DOVO) neutralised more than 200 tons of ordnance. It is reported that the French Department of Mine Clearance uncovers as many as 900 tons of UXO every year.

Local farmers are well accustomed to the Iron Harvest. In Belgium farmers will often leave ordnance by the roadside, ready for the DOVO to collect. Many farmers have amassed personal stockpiles of UXO, with some taking a creative approach and recycling shells into artwork.

Encountering UXO on such a regular basis can pose significant risks. According to First Sergent Sanders Poelmans of the DOVO, two to three farmers are injured a year by exploding shells.

As recently as July 2025, a Flanders farmer received severe burns to his stomach after ploughing up an unexploded mustard gas shell, which he proceeded to carry by hand to the edge of his field.

Despite the risks, the Iron Harvest has become a regular fixture of farming in Flanders.
Experts estimate that it will take over 500 years to completely clear the battlefields of the Somme and Passchendaele of UXO.

Zetica has considerable experience in providing UXO risk assessments, mitigation services and consultancy for sites overseas. In Europe we have worked on projects ranging from the Mediterranean to the Scandinavian fjords. For more detail, see: https://zeticauxo.com/detailed-risk-assessment/international-projects/

Case Study: Road development scheme in the Balkans

Zetica was commissioned to undertake non-intrusive UXO surveys for a proposed highway corridor in the Balkans.

Potential UXO hazard sources were present from more than a century of conflicts, collectively involving more than a dozen nations. The most significant UXO hazard source relates to the battlefields of WWI, which had seen the creation of extensive munitions depots and entrenched positions – some of them still evident on the Site.

Related UXO finds were a common occurrence, sometimes numbering in the thousands of items.

The first step was a comprehensive review of the types of UXO that were likely to be encountered. This allowed us to optimise the UXO survey design to ensure detection of the anticipated ordnance types.

Initial magnetometer surveys were undertaken using vehicle-towed platforms. These were ideal for covering large areas quickly. Where access was restricted, a drone-based survey was undertaken.

Our drone deployed an optically pumped potassium gradiometer with magnetometer sensors, which has demonstrated comparable (and sometimes superior) UXO detection capabilities to traditional vehicle-based and walked surveys.

The Client was provided with the geophysical data and an accompanying list of potential UXO targets. Targets were investigated by the local military.

Zetica maintained quality-control oversight throughout the project, comparing real-world finds to the geophysical data to confirm their validity and re-investigating select locations to ensure thorough clearance had been carried out.

Once satisfied that all standards had been met, we issued clearance reports to the client.

By utilising our industry-leading expertise in survey design and implementation, Zetica have been able to ensure that the project proceeds safely, without UXO-related delays.

For more on international UXO projects, see: https://zeticauxo.com/detailed-risk-assessment/international-projects/

UXO in the News

There have been several prominent UXO finds in the UK this year already. Here are some that hit the headlines:

22nd February 2026

An EOD team was called to Osney Mead, Oxford after the discovery of a shell and two WWII-era grenades. The items were pulled from the River Thames by a member of a local magnet fishing group. They were were made safe and removed.

There have been several similar UXO discoveries in Oxford over recent years.

3rd February 2026

Homes were evacuated in Penberthy Road, Portreath, after the discovery of a British 12lb (5.5kg) High Explosive (HE) shell in a stream. A Royal Navy (RN) EOD team was called to the scene.

They took the device to Portreath Beach where they carried out a controlled explosion.

15th January 2026

A major incident was declared in Devon after two WWII bombs were discovered in Plymouth and Exmouth on the same day.

In Plymouth a German SC50 UXB was uncovered on a building site in Millbay Road. A 400m was put in place and residents were forced to evacuate. It was transported by an RN EOD team to King Point Marina, before being taken to sea and detonated on the 16th January.

In Exmouth a suspected German SC250 UXB was was uncovered in the vicinity of the Marina during dredging operations. A 400m was established and a RN EOD team was called. The device was taken out to sea at high tide and detonated at 08:13am on the 16th January.

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