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Historic Environment Division

The Defence Heritage Record (DHR) The Survey Project 2020-2024

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Historic Environment Division's Aim:

“Helping communities to enjoy and realise the value of our historic environment”

We do this by:

- Recording, protecting, conserving, advising, promoting and enhancing its value
- Utilising and growing our specialist knowledge and expertise in collaboration with a wide range of groups and individuals
- Contributing to the Executive's objectives as laid out in the Programme for Government

Our historic environment provides authentic and attractive places which increase our pride, character and identity, lead to improved wellbeing and community engagement, and to prosperity through tourism, investment, skills, regeneration and creativity. It is a precious and finite resource available to present generations, and with appropriate management, to future generations.



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Front cover image: Runway Bishops Court, Co. Down. DHR 00032:0000

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1. Introduction

In August 2020 the Department for Communities, Historic Environment Division, commissioned a systematic survey of 20th century Army, Navy and Air Force defence facilities in Northern Ireland relating to the First World War, Second World War, and the Cold War. The survey was undertaken by Dr James O'Neill of Ulidia Heritage Service.

This document provides information on Northern Ireland's Defence Heritage Record (DHR). This goes to guide sets out what is classified as a defence heritage site, their significance in our landscape and the results of the recent survey. All information on the Defence Heritage Record (DHR) is available through the Historic Environment Record of Northern Ireland (HERoNI).

2. Background to the Defence Heritage survey

The Defence Heritage survey was based initially on the reports generated by the Defence Heritage Project (DHP). The latter had been initiated in 1997 by Environment and Heritage Service (EHS), now the Historic Environment Division, as part of the Defence of Britain Project by the Council for British Archaeology (CBA). It sought to identify and record defence-related structures and features relating to 20th century conflicts, notably the First and Second World Wars, the Cold War and, in some cases, the Troubles, in Northern Ireland (NI). Although managed by EHS officers the project drew in volunteers from across Northern Ireland who made field visits to sites of defence heritage interest. Report forms submitted by these volunteers at monthly meetings detailed the type, location and condition of defence heritage sites. The reports were often accompanied by photographs providing a visual record of the state of the site at that time. DHP volunteers identified 326 sites during the project, and a further 412 were plotted by EHS staff, generating a total of 738 points of defence heritage interest.

The involvement of local volunteers in gathering information on DH sites had some early advantages. Key to the project's success was the local knowledge they provided. Their familiarity with the sites and their input enabled EHS staff to address apparent limitations in professional expertise regarding DH features across Northern Ireland. Little information had previously been compiled by the department on such sites, as they had never been included in earlier archaeological or architectural surveys, so no 20th century defence features had been recorded. Therefore, the knowledge contributed by the volunteers provided an essential research shortcut. In addition, their efforts enabled a large corpus of material to be gathered with minimal project resources. However, this approach had some intrinsic limitations. EHS staff, covered under the provisions of the Historic Monuments and Archaeological Objects Order (1995), had right of access to conduct archaeological recording on private land. However, this was not the case with DH volunteers, so large tracts of land were inaccessible to them without the landowner's permission, making it impossible to record many of the sites.

While all the volunteers had an interest in defence heritage, many focused on particular site types. For example, one volunteer might put more emphasis on airfield features, while another concentrated on pillboxes. These preferences tended to skew the record in favour of certain site types. The distortion was exacerbated by regional bias, as some volunteers devoted more time than others, causing specific areas to generate more reports and therefore appear to be more prolific.

There were other weaknesses in the original DHP, notably a lack of standardisation, lack of systematic survey and accuracy of reporting. Although the CBA had published guidebooks, no standardised nomenclature existed for recording sites on the report forms. DHP sites were visited according to the volunteers' choices, and occasionally sites were misidentified.

Nevertheless, the efforts of the DHP volunteers formed the core of the Defence Heritage Record; it was a solid and essential first step in recording the DH of Northern Ireland.



Figure 1. Original DHP volunteers meeting in Waterman House, Hill Street Belfast.

3. The Road to survey

With the centenary of WW1, on the 4th August 2014 exactly 100 years since Britain joined forces in the war effort the department launched phase two of the Defence Heritage Project.

The then Minister for the Environment Mark H. Durkan launched phase two at Grey Point Fort Co. Down, with the firing of the Vickers 6inch gun.

As in the first DHP, the project called for volunteers to locate, identify and record defence heritage structures. However, rather than convene regular meetings, volunteers submitted reports and photos via a map-based web application. This application was created in partnership with Queens University and the tool kit facilitated the input and collection of sites online.

Volunteers in the project were able to participate in NI's first WW1 archaeological excavation which took place at Grey Point Fort in 2014, this was followed by a community excavation in 2016 of a First World War training trench system at Ballykinler Co. Down under the direction of Dr Heather Montgomery¹



Figure 2. DHP volunteers excavating the First World War training trench system at Ballykinler Co. Down.

In 2017 new work was commissioned to examine DH in Northern Ireland, firstly by the Causeway Coast and Glens Heritage Trust (CCGHT), and later that year by the Lough Neagh Landscape Partnership (LNLP). The former commissioned an audit of DH sites in the proposed Magilligan and Coastal Lowlands Landscape Partnership Area, which sought to highlight the value of defence heritage in the northwest. The Lough Neagh Landscape Partnership requested a survey of two airfields in the LNLP area: Toome, Co. Antrim and Cluntoe, Co. Tyrone.²

¹ Montgomery, H(2019): Excavations at Ballykinler Training Estate, County Down, 2016 Data Structure Report: No. 121 and Ó Baoill, R. & Montgomery, H. (2015): Excavations at Grey Point Fort, Co. Down. The CAF DSR 108
² Quarto and Ulidia Heritage Services (2017) Binevenagh Coast and Lowlands Defence Heritage Audit; Ulidia Heritage Services (2018) A survey of the World War 2 airfields at Toome and Cluntoe.

The audit and survey results demonstrated that the Defence Heritage Record significantly underrepresented the scale of the DH resource in Northern Ireland.

During the two projects, the survey of former wartime airfields at Limavady and Ballykelly (both in Co. Londonderry), Toome and Cluntoe, identified and recorded an additional 300 features not originally included in the DHR. The shortfall impacted how these sites were protected. Without representation in the DHR they were not protected under planning policy.

In 2018 HED commissioned an audit of the DHR to assess the scale of the issues and to propose recommendations. This resulted in the commissioning of a full-scale resurvey of DH sites, which was undertaken from 2020-2022.

4. The Survey Project

In August 2020, HED commissioned Dr James O'Neill of Ulidia Heritage Services to conduct a systematic survey of the DH resource in Northern Ireland relating to the First and Second World Wars and the Cold War. The project was divided into two distinct phases.

Phase 1: Airfield survey, August 2020-August 2021

This phase was dedicated to desktop survey, historical/bibliographical research and map analysis, as well as to undertaking field survey visits, for the 19 unsurveyed airfields and flying bases in Northern Ireland.

Phase 2: Non-airfield defence heritage sites, September 2021-December 2022

This required desktop and historical research for all other defence heritage site-types, such as pillboxes, radar stations and army camps, focusing initially on those included in the original Defence Heritage Project (263 extant sites), followed by all other DH sites identified by third-party researchers.³

This phase was supported by the examination of RAF reconnaissance photos held at the Public Record Office of Northern Ireland (PRONI).

³ See <https://ww2ni.webs.com/> ; <https://wartimeni.com/> ; <https://frontlineulster.co.uk/>

5. Scope of the Project

The project focused on three conflicts affecting Northern Ireland during the 20th Century: World War I, World War II and the Cold War; also, to a minimal extent, the 'Troubles'.

5.1 World War I (1914-1918)

While the fighting during this conflict took place primarily on continental Europe and the seas surrounding it, the north of Ireland's (Northern Ireland did not come into existence until 1922) role was mainly to raise and train troops for combat overseas. Camps were constructed to house and train the thousands of recruits, and it is these that remain. Few structures survive, but evidence of military training, notably practice trenches, are still extant. The main Royal Navy anchorage was at Lough Swilly, Co. Donegal, however, Belfast Lough was protected by a series of coastal forts, the remains of which still survive.

5.2 World War II (1939-1945).

The outbreak of war in September 1939 led to a level of construction unprecedented in the history of this island. The expansion of the armed forces and the facilities needed to wage war resulted in the building of 19 new airfields and flying boat bases (three had existed pre-war: Sydenham and Newtownards in Co. Down, and Aldergrove in Co. Antrim), in addition to army camps, naval facilities, dockyards and radar stations. The threat of air attack necessitated the construction of anti-aircraft batteries, which accelerated after the devastating air raids on Belfast during April and May 1941. The fall of France in the summer of 1940 brought a real threat of invasion to the

United Kingdom, resulting in the construction of fixed defences across Northern Ireland. Pillboxes were constructed at strategic transport hubs, vulnerable beaches and in lines creating fortified stop-lines.

5.3 The Cold War (1947-1991)

The Cold War was a worldwide standoff between the armies of the capitalist West, under the umbrella of the North Atlantic Treaty Organisation (NATO) and the eastern-European communist bloc, known as the Warsaw Pact. For over 40 years, the nuclear-armed nations engaged in brinkmanship and proxy war across the globe, ever careful to avoid nuclear Armageddon, as the stockpiles of thermonuclear weaponry had the capability to destroy the world several times over. With nowhere to hide on a global battlefield, Northern Ireland was subject to the same preparations of defence infrastructure as elsewhere in Britain. The UK government constructed military facilities, radar networks, reporting stations and continuity of government structures, in case the Cold War went hot.

5.4 The 'Troubles' (1969-1989)

The 'Troubles' was a civil conflict that claimed the lives of over 3,500 people and resulted in widespread security infrastructure and installations. However, after the signing of the Good Friday/Belfast Agreement, a programme of demilitarisation removed much of this. Correspondingly, only a small number of structures relating to this period were examined during the survey.

6. World War I

The most significant impact on the Irish landscape during this period was the construction of camps for training thousands of recruits for battlefields in France, Belgium, the Dardanelles and elsewhere. Over 200,000 men enlisted in Ireland, and 26,000 recruits and 4,000 reservists came from Ulster Volunteers to form the 36th Ulster Division. Some of these camps remain, but what survives can vary. Some sites, such as the camp to house the North Irish Horse at Antrim (DHR 00545), have disappeared under redevelopment. In contrast, others have left ephemeral traces, only visible on aerial photographs or geophysical surveys. One such site is the camp at Shanes Castle Park, Co. Antrim (DHR 00375). This was constructed in 1914, when dozens of wooden huts were erected to billet 125 officers and 4,500 of other ranks. Although the camp was substantial, the barrack huts have long since been cleared; however, vestiges remain, and the footprint is visible in certain light on aerial photographs, and clearer still when subjected to lidar survey.⁴

Other camps were retained or reused, such as the expansive barracks built on the Clondeboye estate, Co. Down (DHR 00587). Established to train elements of the 36th Ulster Division, it was used again during WW2 when a military maintenance depot was constructed on the same site. This has undoubtedly resulted in the overlaying of First and Second World War archaeological horizons. Lastly, some camps have remained in use as military installations throughout the 20th century (and beyond). These are the training bases at Magilligan, Co. Londonderry (DHR 00001), and Ballykinler, Co. Down (DHR 00321). Magilligan was a

training base at the end of the 19th century, and Ballykinler was established at the outbreak of war in 1914. Both remained in service throughout the First World War, Second World War, Cold War, and the Troubles. This has led to constant addition and improvement in facilities, but their core function as training ranges has endured. Small arms ranges are in their original positions, although with modernisation, but the sites have retained features which relate to the horrors of the First World War: practice trenches.

As the war on the Western Front descended into relatively static lines of defence (siege warfare on a national/continental scale), soldiers were trained in constructing and fighting from trenches and fieldworks before being sent overseas. These works comprised parallel lines of defence, with a front-line fighting trench, backed by a supervision trench, a support trench, then, approximately 400 metres behind, the reserve line. Fighting trenches were normally of a crenelated, 'Greek-key' design. They were composed of bays, projecting machinegun positions and listening posts. The bays were designed to limit the number of casualties inflicted by a shell burst on the trench.

A supervision trench protected troops and equipment set back from the fighting trench. The support trench provided immediate reinforcement for the troops on the firing trench and could shelter the majority of the frontline troops during an artillery bombardment. The reserve line, which could be a continuous line or a series of dugouts and strongpoints, held battalion command posts, aid posts and

⁴ H. Montgomery and R. Mc Neary (2016) 'Airborne laser scanning and the archaeological interpretation of Ireland's World War I landscape: Randalstown training camp, County Antrim, Northern Ireland', in B. Stichelbaut and D. Cowley, eds., *Conflict Landscapes and Archaeology from Above*, 91-108.

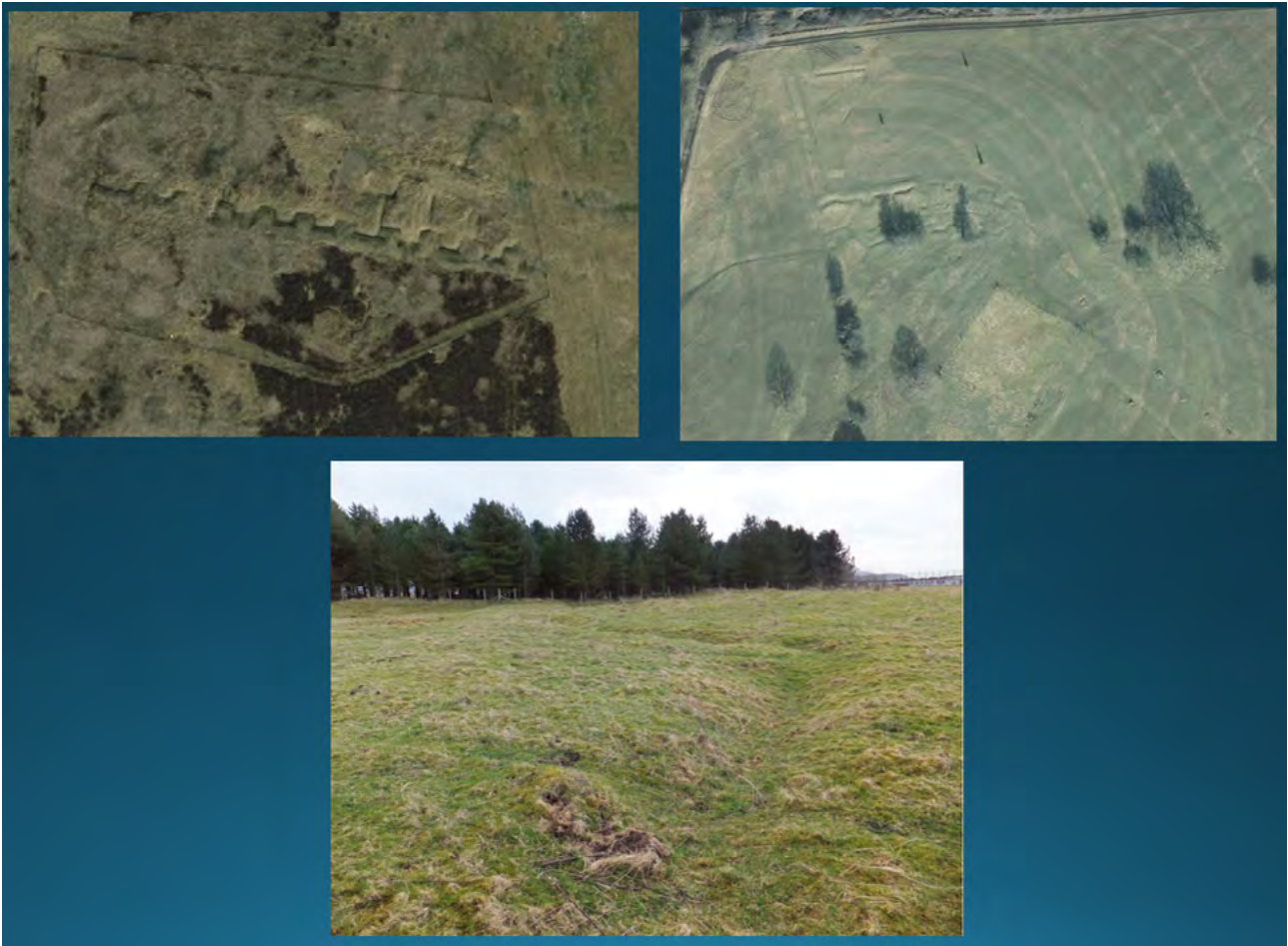


Figure 3. Practice trenches at Ballykinler, Co. Down (DHR 00321:001), Shanes Castle, Co. Antrim (DHR 00375:001) and Magilligan, Co. Londonderry (DHR 00001:001)

reserve infantry for counterattacks. All of these were linked by communication trenches, which were different in layout as they were sawtooth in design.

Traces of these practice trenches were found at Magilligan, Ballykinler and Shanes Castle (Figure 3), although the quality of preservation varied. Those at Magilligan were shallow, just 30-50 cm in depth, but communication lines were clearly visible, with crenelated fire trenches becoming clearer when examined by lidar. The trenches at Shanes Castle were evident in both aerial photos and lidar. However, Ballykinler retained the clearest and most extensive traces of practice trenches in Northern Ireland. Lines of trenches, some 100-150cm deep remain, with complex

networks surviving throughout the training area.⁵ Ballykinler's continuous use throughout the 20th century has resulted in a wide range of trenches, fieldworks, shell scrapes and firing trenches dating from the First World War, Second World War, the Cold War and the Troubles period. There are even some remaining artefacts, most notably a Cromwell tank track dating to WW2.

The most robust and intact sites relating to WWI are the coastal batteries constructed to defend Belfast Lough. While the Royal Navy had its main anchorage at Lough Swilly, two batteries were constructed to protect Belfast Lough, Grey point, Co. Down (DHR 00315) and Kilroot, Co. Antrim (DHR 00292), supplemented by a minor position at East Twin

⁵ Centre for Archaeological Fieldwork, QUB (2016) Excavations at Ballykinler Training Estate, Data Structure Report 121.

Island, Belfast. Completed in 1910, Belfast was the last port in the UK to be fortified in peacetime.⁶ Each battery mounted two 6-inch Mark VII guns, capable of firing a 100-pound armour-piercing shell over 12,000 metres. All the guns were mounted firing over a concrete glacis, with sub-surface magazines. Despite being similarly armed, the batteries were

different in design. Kilroot was lozenge-shaped, surrounded by a dry ditch and protected by concrete blockhouses on either end. Grey Point Fort was the larger of the two, surrounded by a concrete wall. Its layout was more of a chamfered square. Operational during WWI, both batteries saw use during WWII.



Excavation of practice trenches, Ballykinler 2016.

⁶ B. Clements (2003) *Defending the North: The Fortifications of Ulster 1796-1956*, 67.

7. World War II

Rising tensions marked the 1930s in Europe, as Germany under the Nazis rearmed and gradually rolled back the provisions of the Treaty of Versailles. The fragile peace was finally shattered on 1st September 1939 when Germany invaded Poland. In Northern Ireland, the WWI batteries at Kilroot and Grey Point were manned, and a coastal examination service was established for Belfast Lough. Grey Point had been reinforced with defensive strongpoints during the inter-war years. Searchlights were added, allowing both

batteries to engage targets at night, and concrete gun houses were erected to protect the crews from aerial attacks. However, more than two batteries were needed to defend a major port like Belfast. Therefore, new batteries were established at Orlock, Co. Down (DHR 00330) and Larne, Co. Antrim (DHR 00248). In the northwest, Londonderry's importance to naval operation in the Atlantic led to the construction of a battery at Magilligan Point, Co. Londonderry (DHR 00304).

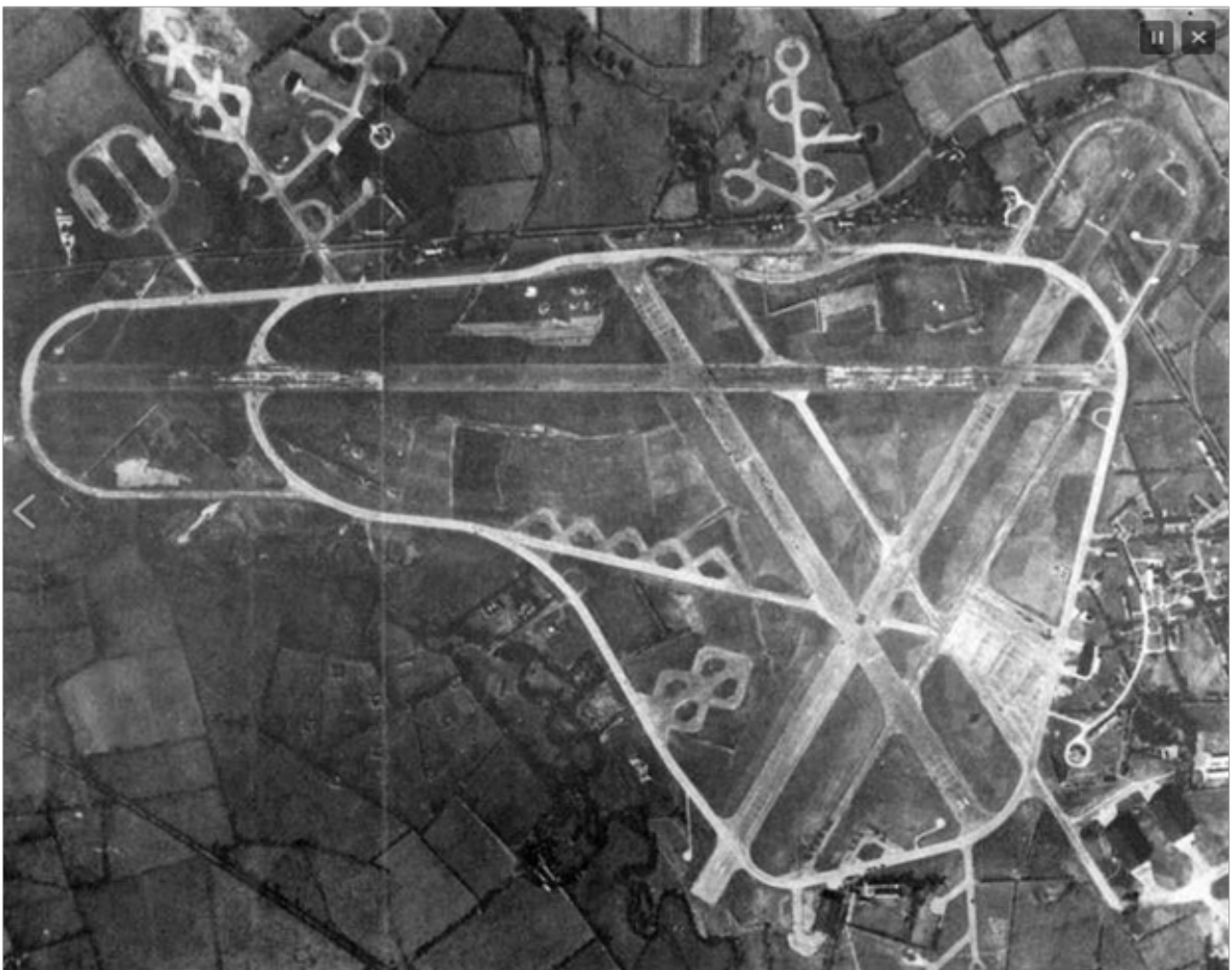


Figure 4. RAF Nutts Corner, Co. Antrim (DHR 00078) Courtesy of Ernie Cromie Ulster Aviation Society.

8. Airfields in Northern Ireland

By a large margin, military airfields in Northern Ireland have left the most significant impact on the landscape, with each covering hundreds of acres. Indeed, their sheer size had led to many becoming hidden in plain view. As a result, many people travel across or beside them with no idea of their former function. HED was aware of the scale of the remaining structures at the project's outset. Consequently, the first year of the survey was devoted to locating, identifying and recording airfield-related structures. This was reflected in the outcome of the survey, in which just under half of all defence-related structures recorded were associated with the major airfields and seaplane bases – 2,274 in all.

Sixteen new airfields and two major flying boat bases were constructed. However, three airfields had already existed in Northern Ireland before the outbreak of war in 1939. Grass

airstrips had been established in the closing stages of WWI, and an airship mooring station had been constructed for the Royal Navy Air Service at Bentra, Co. Antrim (DHR 00090). Airfields were later established at Newtownards (DHR 00087), Sydenham (DHR 00082) and Aldergrove (DHR 00025). The facilities at Aldergrove were the most extensive and many of the structures remain to this day in good condition.

The layout of the airfields typically consisted of two or three 150-foot-wide runways facing in the direction of prevailing winds. A network of 50-foot-wide perimeter tracks circumscribed the runways, allowing aircraft to taxi around the airfield. The trackways and runways were constructed of concrete, surfaced with bitumen or tarmac. During the inter-war period, aircraft were parked near their hangars on concrete aprons, but war conditions and the threat of aerial attack necessitated their dispersal around the airfield.



Figure 5. Frying Pan dispersals at Limavady, Co. Londonderry (DHR 00070), Spectacle dispersals at Ballykelly, Co. Londonderry (DHR 00029) and Finger Park dispersals at Greencastle, Co. Down (DHR 00039)

'Frying pan' dispersals were the first type to be constructed during WWII in Northern Ireland, and these are the most common, with 150 recorded in the DHR. They are circular concrete hardstanding, usually 125-150 feet in diameter, although some were smaller depending on the type of aircraft being parked. Frying Pan dispersals were grouped around the perimeter tracks, however, the design had inherent problems. Only one aircraft could leave a dispersal pattern at a time, causing congestion of aircraft waiting to take off. Moreover, an aircraft exiting the dispersal needed to make a tight 180-degree turn, placing strains on the airframe and tyres, for which they were not designed. In order to address these issues, 'spectacle' dispersals (86 are recorded in

the DHR) were phased-in during late 1941. These allowed aircraft to leave the dispersals simultaneously and avoid undue strain on the airframes. With the threat of air attack receding by 1944, there was a greater need for high-density aircraft storage. Consequently, 'Y'-type or 'finger' parks (with a distinctive snowflake design) were built to store large numbers of surplus aircraft. At one point, 572 aircraft were stored at Langford Lodge, Co. Antrim (DHR 00042), and 320 at Greencastle, Co. Down (DHR 00039; Figure 5).⁷ Fieldwork at Langford Lodge showed that, rather than removing the dispersals, local farmers had covered them with topsoil, leaving the finger parks intact under the sod. Nineteen remain at Langford Lodge, and 72 are recorded in the revised DHR.

⁷ D. J. Smith (1989) *Action Stations*, 126; M. Chorlton (2012) *Action Stations Revisited*, 164.

8.1 Airfield Structures

Thousands of structures were erected on the airfield in Northern Ireland, all serving a specific purpose in airfield operations, training, security, flight operation, maintenance, and dispersed living of air and ground crews. When returned to civilian ownership post-war, the new proprietors removed the majority of airfield buildings to enable the restoration of agricultural land. Yet those that remain can still tell the story of the people who served there.

8.2 Control Towers



Figure 6. The control tower at Cluntoe, Co. Tyrone (DHR 00036:048)

One of the airfields' most iconic and identifiable structures is the control tower or watch office, which provided air traffic control for aircraft taking off and landing at the airfield. The control tower was built to one of several standardised designs and housed a metrological section, telex room, and restroom. Central to its function was the control room positioned on the first floor, with large windows overlooking the airfield and giving it an unrestricted

view across the runways and perimeter tracks. The control room held the plotting board, aerodrome lighting control board and aerodrome state board. Most had a distinctive veranda at first-floor level. Nine of the 11 control towers recorded in the DHR are intact, and the tower at Mullaghmore, Co. Londonderry (DHR 00075:049) remains occupied as a private dwelling.

8.3 Hangars

One hundred and eight hangars were recorded during the DH survey, 51 of which remain in good condition. These structures are almost synonymous with airfields, and those in Northern Ireland cover the inter-war, WWII and Cold War periods, although most were built during WWII. Contrary to what many people assume, hangars were rarely used to store aircraft. The large, covered spaces were typically reserved for repair and maintenance. Oddly, some of the best-preserved are also some of the oldest, at RAF Aldergrove (DHR 00025). The latter remains in military use, ensuring that many of the original military buildings remain. The 13 hangars at Aldergrove represent one of the finest collections of hangars anywhere in the UK, with four Type C hangars (DHR 00025:026, 084-086), a Type F shed (DHR 00025:028), and an early hangar with a Belfast truss roof (DHR 00025:029). The four Lamella hangars are exceptional (DHR 00025:039, 040, 074 and 075). The Lamella design originated in Germany during the 1920s and its name derives from Lamellendach, or 'segmented roof'. Its geodesic design allows for an unsupported arch span of 50 metres.



Figure 7. A Bellman hangar at Limavady, Co. Londonderry (DHR 00070:034); A T2 hangar at Maghaberry, Co. Antrim (DHR 00072:014); Fromson Hangar at Eglinton, Co. Londonderry (DHR 00037:017); Blister Hangar at Newtownards, Co. Down (DHR 00087:006).

Bellman Hangars were early WWII structures. Designed in 1936, they were intended to be built quickly with unskilled labour and limited equipment. However, as the war progressed, larger hangars were needed. Therefore the 'T' series of transportable hangars became more common. They were modular, meaning they could be dismantled, moved and reassembled elsewhere. Constructed of steel lattice portal frames and clad in galvanised corrugated iron, the T2 became the standard temporary hangar for the RAF (Figure 7). Over 900 were built during the war. There are 33 recorded in the DHR, of which 16 are intact.

8.4 Training

A key element to the function of the airfields in Northern Ireland was aircrew training. For the RAF, this was at Operational Training Units; for the US Army Air Force, which operated out of six airfields, these were called Combat Crew Replacement Centres. Flying was an inherently risky enterprise; therefore, many hours of training were carried out on the ground in synthetic training structures before novices ever took to the air. Types found include the bombing teacher, Link Trainer, turret trainer, Ground Crew Procedures centre (GROPE), and, rarest of them all, the gunnery training dome.



Figure 8. A Bombing Teacher, Link Trainer and Turret instructional building at Mullaghmore, Co. Londonderry (DHR 00075:36, 37, 38)

Synthetic trainers (in modern terms they would be simulators) used projectors, mirrors and dummy bomb sights/guns/aircraft to simulate combat missions while keeping trainee crew safely on the ground. For example, the Bombing Teacher projected a moving map on which the bombardier used a mock bomb sight to hit a target. The GROPE was more elaborate, with a full-scale dummy instructional fuselage installed, and inside the GROPE cockpit drills familiarised crews with their aircraft. Realistic training included simulated engine fires, ditching, fuel/oil failures, crash landing, parachuting and wireless telegraphy procedures.

The rarest synthetic trainer in Northern Ireland is the Gunnery Training Dome at Limavady

(DHR 00070:037). One of only six remaining in the UK, it simulated air-to-ground gunnery techniques. Within the dome (which resembled a small planetarium), aircraft images were projected on the curved interior, while gun bursts were displayed whenever the trainee fired the trigger of the dummy gun unit. Realistic sound effects ensured that the training was as authentic as possible. An instructor would assess the trainees' accuracy by beams of light projected from the gun onto the inner surface of the dome. In 2002, this dome was the first defence heritage structure to be protected by Scheduling in Northern Ireland.

8.5 Domestic Sites

The operational and technical areas of the airfields may have been where the day-to-day flying was done, but base personnel lived off-site. The threat of air attack meant personnel were barracked in dispersed living sites in the surrounding countryside. These were functional, with officers, non-commissioned officers and other ranks billeted in temporary structures, normally Nissen or Laing huts. There were air raid shelters proportionate to the numbers billeted, and ablutions blocks for washing and showering, but centralised communal sites met most of their other domestic needs.



Figure 9. Barracks at Ballyhalbert, Co. Down (DHR 00028:060); picket hut and ablutions block at Kirkistown, Co. Down (DHR 00040:040, 044)

Communal sites (usually one or two per airfield) brought together everything airmen and women needed in their everyday lives. Need a haircut, shoes mended, or a bit of tailoring? All these could be found at the communal site. The usual mess, gymnasium, stores, recreation rooms, NAAFI (Navy Army Air Force Institute) were also there. There were air raid and blast shelters, and a few ominous structures remained in place to remind the passer-by just how real the fear of attack was. One of these was the gas decontamination building.

The use of gas had been outlawed by the Geneva Gas Protocol of 1925, but not its production or development. As agreements could be cast aside during hostilities, the RAF took measures to protect against the use of gas. Specialised structures were built to provide first aid and decontamination facilities for gas casualties. An outstanding example remains at Limavady (DHR 00070:080; Figure 10). What appear to be tall chimneys are air intakes designed to draw clear air in from above a gas cloud. Furthermore, this example still has one of its large air filters inside the plant room.



Figure 10. The gas decontamination building, Limavady, Co. Londonderry (DHR 00070:080).

8.6 Airfield Defences

From early in the war, airfields were targets for direct assault. Therefore, base commanders prepared their airfields for defence. This consisted primarily of perimeter fortifications made up of slit trenches, fieldworks and concrete pillboxes around the airfield boundary. However, perimeter defences were replaced by a network of defended localities (DL). These were clusters of concrete bunkers and firing positions manned by troops trained explicitly for ground combat. Rather than just looking outwards, the new policy for airfield defence required the DLs to have a 360 degrees arc of fire.

Many of the defence structures associated with airfields across Northern Ireland remain in situ, but some are more obvious than others. Eglinton airfield (DHR 00037), now Derry City Airport, has eight strongpoints and pillboxes in excellent condition, representing two complete defence clusters and one early-war perimeter defence site (DHR 00037:007; Figure 11). Other defences are visible in the sea wall at Newtownards. However, in some cases they were buried to allow fields to be returned to agricultural production. Defences were grassed over at Limavady (DHR 00070:056, 060), St. Angelo, Co. Fermanagh (DHR 00080:109-1110, and Ballykelly (DHR 00029:079), but the structures remain intact beneath the soil.



Figure 11. Perimeter defence strongpoint at Eglinton, Co. Londonderry (DHR 00037:007)

9. Anti-Invasion Defences

At the beginning of WW2, Northern Ireland appeared remote from the battlefields of continental Europe, much as it had been during WWI. However, the German assault on the Low Countries and France in the Spring of 1940 shattered this notion. The surrender of France and retreat of the British Expeditionary Force at Dunkirk compelled the UK to confront the genuine possibility of invasion. Although the evacuation at Dunkirk saved over 300,000 troops from France, they were without equipment, vehicles and heavy weapons. Concrete and steel were used to make up the shortfall until army units could be re-equipped.



Figure 12. Pillbox - part of the beach defences at Magilligan, Co. Londonderry (DHR 00302)

The main German thrust was expected to be by sea. Eight beaches in Northern Ireland were identified as vulnerable: Magilligan, Portstewart (Co. Londonderry), Portrush, Cushendun, Cushendall, Carnlough (all in Co. Antrim), Strangford Lough and Dundrum/ Murlough (in Co. Down). Defences were rapidly built along these beaches to delay any amphibious landings. The fortifications, known as the coastal crust, were composed of steel-reinforced concrete pillboxes, barbed wire obstacles, minefields, slit trenches, roadblocks and anti-tank ditches. Pillboxes protected

machinegun crews, whose interlocking fields of fire could turn formerly idyllic beaches into deadly killing grounds. However, they were not designed to halt an assault but to delay it long enough for forces to be gathered inland for a counterattack. These structures remain at Portstewart and Portrush strands, Magilligan (Figure 12) and Dundrum Bay.



Figure 13. Pillbox at Portglenone, Co. Antrim (DHR 00405), part of Stop-line A.

Should the Germans have broken out from the beachheads, eight stop-lines were constructed to stall their advance. The lines were concentrated east of the River Bann, with Lines A and B using the Bann and the Newry canal as obstacles. Bridges across these waterways were wired for demolition, with defences concentrated at remaining crossings, such as those found at Portglenone, Co. Antrim (DHR 00235, Figure 13, and 00405), and Gilford, Co. Down (DHR 00231 and 00232). The sequence of lines fell back C to H to the Belfast Defence Scheme: a perimeter of pillboxes, fieldworks, observation posts and roadblocks.

When the shock of Dunkirk subsided, it became clear to the British General staff that the linear defence of the stop-lines was inherently weak, as any penetration would

compromise the entire line. The strategy was changed, and a policy of defended garrison towns and nodal points was implemented. Defences were constructed at key road junctions and towns along the potential axis of attack. Twenty-seven locations were designated for defence, however, post-war demand for normalisation led to the demolition of many of the urban pillboxes. Few remain, with a single pillbox in Belfast (at The Oval: DHR 00160) and two at Rathfriland, Co. Down (DHR 00030, 00034). Rarer still are fieldworks, which formed the bulk of the defences as they were quick and cheap to construct. The ephemeral traces of trenches and supporting fieldwork remain at Shaws Bridge in south Belfast (DHR 00574).

10. Air Defence

Northern Ireland's position on the western edge of the UK gave the impression that it was safer from German air attack. Belfast was not considered a likely target; therefore, few guns were assigned to protect the city. Worse still, none were committed to protecting the rest of the north.⁸ After the fall of France and the Low Countries in 1940, the city's air defences were reinforced with 16 heavy anti-aircraft (HAA) guns in four batteries, and six light anti-aircraft (LAA) guns. Despite the influx of AA guns, the German air raids of April and May 1941, known as the Belfast Blitz, showed the inadequacy of the defence, as the attacks killed over 1,000 people and rendered almost half the housing stock of the city uninhabitable. Shocked into action, four Gun Defended Areas were established: Belfast, Larne, Londonderry and Lough Erne. Fourteen HAA batteries surrounded the periphery of Belfast, while seven HAA batteries were built around Londonderry and the Foyle estuary, with two each at Larne and Lough Erne.



Figure 14. Heavy anti-aircraft battery, Magilligan, Co. Londonderry (DHR 00163)

The HAA batteries were typically armed with four 3.7-inch heavy anti-aircraft guns, which could engage targets at up to 32,000 feet. A central battery command post directed gun crews, providing direction and altitude data to the gun pits to enable the gun layers to set the fuse to detonate at the correct altitude. In addition, most batteries had a ramp and platform nearby, which mounted the gun-laying (GL) radar.

Twenty-six heavy anti-aircraft (HAA) batteries are recorded in the DHR, of which seven are mostly intact. A survival rate of 27% compares very favourably to Britain, where just 5.8% of HAA sites were recorded as complete or near complete in 2001.⁹ An unexpected bonus from the survey was the information obtained from RAF photographs held at PRONI. Although some HAA sites were demolished many years ago, images taken in the 1950s showed the original layouts of the batteries. Furthermore, they provided additional information for partially extant sites, greatly expanding our understanding.

⁸ J.W. Blake (2000) *Northern Ireland in the Second World War*, 73-4.

⁹ J. Schofield (2004) *Modern military matters: studying and managing the twentieth-century defence heritage in Britain: a discussion document*, 21.

For example, Crawfordsburn HAA battery (DHR 00345) was recorded with only two gun emplacements, and there was little to suggest that there had been any others at the site. However, examinations of aerial photographs from 1951 showed the battery to have had six gun positions (though not necessarily six guns). Furthermore, the image showed the site layout, with support buildings and a domestic camp just north of the gun positions, in an area where wartime construction had been previously unknown.



Figure 15. Heavy anti-aircraft battery (DHR 00345), Crawfordsburn, Co. Down in 1951. PRONI ref: AM/1/5/9B/3173-3218

11. Radar

The HAA guns may have acted as the teeth of the air defence, but the network of radar stations across Northern Ireland supplied the eyes and ears. These stations provided early warning for incoming aircraft and directed fighter aircraft to intercept them. The sites are evidence of the advent of a technology war, where attacking aircraft could be detected up to 100 miles away. Three types of radar were deployed to the north: Chain Home (CH), Chain Home Low (CHL) and Ground Controlled Intercept (GCI) stations.

Five CH stations were established in Northern Ireland during the war; Castlerock, Co. Londonderry (DHR 00299) was the first to be commissioned, opening in May 1942. Sites at Greystone on the Ards Peninsula (DHR 00168) and Kilkeel, Co. Down (DHR 00167; Figure 14), followed, and these covered the Irish Sea and the Isle of Man. Two additional stations were built at Crossmaglen, Co. Armagh, and Newtownbutler, Co. Fermanagh, but both were temporary mobile stations leaving little, if any,

trace in the archaeological record. The stations had distinctive 95-metre-tall steel transmitter aerials and smaller 73-metre-tall wooden receiver towers.

CH stations were designed to operate under attack conditions; therefore, they had robust concrete transmitter and receiver blocks. They were covered with soil, which provided extra protection and a degree of camouflage. The tall steel antennae used to transmit the radar signal did not survive the attention of post-war scrap merchants, but the strongly built structures remained in good condition at Castle Rock and Kilkeel.

Chain Home was the frontline for radar detection, but low-flying enemies could avoid it. Aircraft flying at 450 metres could escape detection; therefore, CHL stations were established to close this gap in the radar coverage. CHL did not require the large aerials and towers seen in CH. Instead, smaller rotating aerials were fitted, often at the end of



Figure 16. Transmitter block (DHR 00167:006) at Kilkeel Chain Home radar station, Co. Down

a brick operations block. Four CHL sites were built in Northern Ireland, and all remain to a greater or lesser extent. The site at Downhill, (DHR 000297), Co. Londonderry, retains its early two-aerial and later single-aerial design with a stand-by set house, which would have provided emergency power.

GCI radar stations' role was to vector friendly fighters onto potentially hostile targets. Of all the radar types, the GCI were the smallest, often using portable equipment, aerals and generators. Where fixed sites were established, only concrete bases remain, apart from the GCI station at Ballywoodan (DHR 00032:201) within Bishops Court airfield Co. Down.

Ballywoodan opened in 1941 and consisted of a series of aerals relaying signals to a large operations block known as a 'Happidrome'. The Operations Block housed offices, tracking rooms, controllers and a reporting hall, inside of which stood large plotting maps displaying the general and local aerial situation. Ballywoodan station was retained and improved after WW2. Newer, more powerful radars were fitted, and upgrades allowed it to serve throughout the Cold War.

12. The War at Sea

Given its location on the eastern edge of the Atlantic Ocean, it was unsurprising that Northern Ireland played a significant role in the war at sea. Belfast, with its port and shipyards, was a key logistical and production centre. Thirty kilometres to the north of Belfast, Larne operated anti-submarine trawlers and embarkation/disembarkation points for thousands of troops. However, Londonderry played a more crucial role in the Battle of the Atlantic.

When France surrendered to Germany in June 1940, the Admiralty redirected Allied Atlantic shipping convoys via the northern approaches to the British Isles. Consequently, the port of Londonderry became strategically vital for the protection of shipping on the UK's trans-Atlantic lifeline. As a result, the Admiralty decided to construct a new convoy escort, refuelling and repair base there in 1940. Moreover, the entry of the US into the war served to increase the significance of the Foyle. The US Navy (USN) established Operating Base No. 1, and this became the most important US naval base in the European Theatre of Operations (ETO), with 20,000 USN sailors stationed there at its peak. By 1943,

149 British, Canadian and US Navy ships were sailing out of Londonderry.

Numerous naval facilities served the Royal Navy, Royal Canadian Navy and allied nations. However, the USN operated the most extensive base. Its installations included the USN HQ at Talbot House (DHR 00306), a military hospital at Creevagh (DHR 00609), communication stations at Clooney and Rosdowney (DHR 00487; 00488), and a wharf, naval storage yard and 300,000-barrel fuel tank farm at Lisahally (DHR 00158). US personnel serving at these stations were quartered in large camps at Springtown (DHR 00365) and Beech Hill (DHR 00610).

The continual growth of the port and industrial sites at Londonderry has swept away many of the naval facilities. However, traces of the 770-metre admiralty wharf (Figure 17) and the 250-metre US Navy wharf at Lisahally remain, although both structures are in an advanced state of decay.

Belfast and Larne were two other sites of significant naval activity. However, years of post-war redevelopment have erased most of their WW2-era structures.

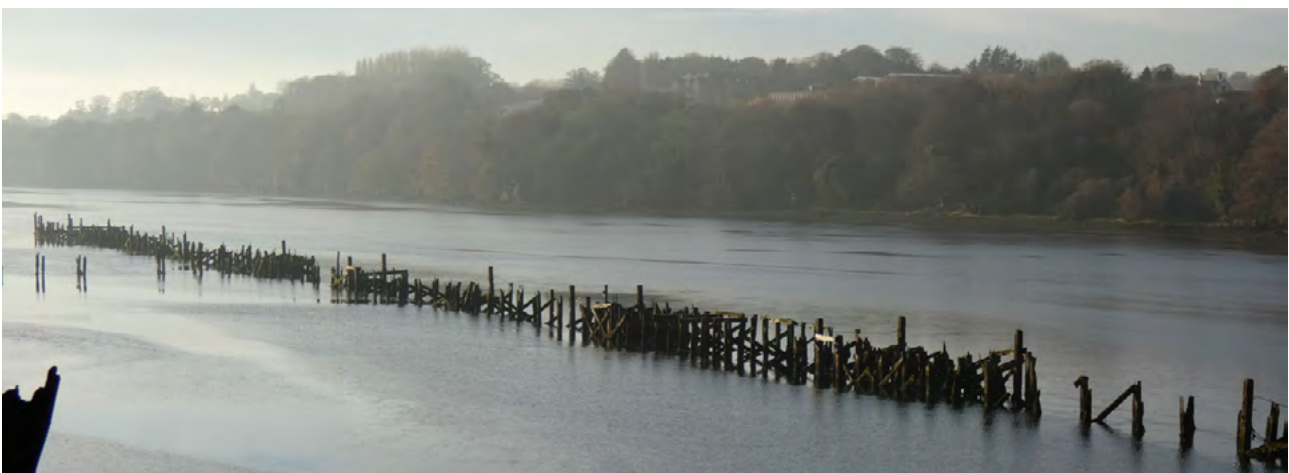


Figure 17. The Admiralty wharf at Lisahally, Londonderry (DHR 00158:002)

13. Coastal Batteries

Coastal batteries, armed with 6-inch Mk VII naval guns, protected Belfast, Larne and the Foyle estuary from seaborne attack. The WWI batteries at Grey Point and Kilroot still guarded Belfast, but they were refitted and updated with new equipment. Coast defence searchlights were built to facilitate engaging night-time targets, and a battery observation post was added to Grey Point to enhance fire control. In addition, large concrete shelters were erected over the guns to protect their crews from aerial attacks (Figure 16). Nevertheless, two batteries were deemed insufficient to protect a major port like Belfast, and its neighbour Larne, so two more emergency batteries were established: Orlock (DHR 00330) and Larne (DHR 00248). Each was armed with two 6-inch Mk VII guns.

At the mouth of the Foyle, a fifth battery was constructed at Magilligan Point (DHR 00304). This covered the narrow entrance to the River Foyle but was armed with three guns: two 6-inch Mk VII and a single 12-pounder Quick Firing (QF) gun.

Traces survive at all the coastal batteries, but Grey Point Fort is the jewel in the crown of the DHR in the north. It remains as it was when it was closed in the 1950s. The original guns were scrapped but were replaced by HED during the 1990s with two guns donated from Spike Island, Co. Cork. The fort is open to the public and remains one of the best-preserved coastal batteries anywhere in Ireland or the UK.



Figure 18. The gun positions at Grey Point Fort, Co. Down (DHR 00315:003 and 004)

14. Barracks and Depots

There was a massive influx of troops into Northern Ireland during WW2, as hundreds of thousands of service personnel from Britain, the US and other allied nations were billeted across the country. The War Office requisitioned estates throughout Northern Ireland for constructing military camps which provided accommodation, often in hundreds of Nissen/Quonset huts, with associated domestic and recreation facilities. These were largely removed post-war, as the galvanised steel used to construct them was valuable as scrap metal. Yet often, the demolition was not total, as the concrete footings proved more difficult and less economically viable to remove. Consequently, many of the hut bases remain in the landscape, as can be seen at Beech Hill, Co. Londonderry (DHR 00610), Cherry Valley, Co. Antrim (DHR 00367) and Mourne Park, Co. Down (DHR 00333).

The dispersed, and likely ephemeral, remains associated with the large estates proved impossible to visit within the time available to the survey. Therefore many, such as the camps at Derryleckagh (DHR 00534), Clandeboye (DHR 00587) and Montalto (DHR 00472), all in Co. Down, were identified and plotted from post-war aerial photographs held at PRONI.



Figure 19. Iris huts at the US quartermaster depot, Moneymore, Co. Londonderry (DHR 00389)

While barracks were built to house the influx of thousands of military personnel, large logistics depots were needed to store the thousands of tons of equipment required to supply them. Quartermaster depots stored everything troops needed, from food, blankets and clothing to arms and ammunition. They were composed of lines of large huts, normally Romney or Iris huts, and often linked to the existing rail network with spur lines. Much like the barrack huts, most were removed post-war. For example, the depot at Desertmartin, Co. Londonderry (DHR 00560) has vanished, whereas the distinctive concrete footings of the storage huts can still be seen at Crossgar, Co. Down (DHR 00469). Others have left more identifiable traces. The large US supply depot at Moneymore, Co. Londonderry (DHR 00389; Figure 19) retains five of its original complement of 44 Iris storage huts.

15. Training Sites

Large numbers of military personnel based in Northern Ireland came here to receive training before being sent overseas. During WW2, training for army units was often at small arms ranges to improve marksmanship, and battle schools were used to improve tactical combat skills. Other ranges were established, typically for artillery, mortars and aerial bombing, often on remote upland areas away from farmland and civilians.

The artillery ranges have left few traces, but some of the small-arms ranges, with their firing points, galleries and butts, remain relatively intact. What is more, the pollution of the environment with toxic metals, such as the lead and copper contained in bullets, has contaminated the backstop area of the range at Fecarry, Co. Tyrone (DHR 00193; Figure 20).



Figure 20. The contaminated backstop at Fecarry range, Co. Tyrone (DHR 00193:004)

An anti-tank gunnery range at Carrowreagh, Co. Antrim, has left substantial traces (DHR 00238; Figure 21). Anti-tank gunners were trained to hit moving targets at the range, with target panels mounted on moving dollies towed along a 270-metre track. Gunnery instructors sheltered in two robust blockhouses, from which they could assess students' fire at downrange positions.



Figure 21.. A range blockhouse at Carrowreagh, Co. Antrim (DHR 00238:002)

Aerial firing ranges tended to be sited offshore, with ranges on the north coast, Lough Neagh, Lough Foyle and Strangford Lough. Naturally, only the onshore features remain –

usually the brick quadrant towers from which instructors observed and rated trainees' performance. Although the quadrant tower at Portstewart has collapsed, its bomb range marker (DHR 00103), a large concrete arrow used to provide visual direction to pilots, remains intact.

16. Bomb Stores

The rapid escalation of military activity in Northern Ireland during WW2 necessitated large quantities of ammunition. Large explosives and munitions stores were constructed, the most extensive and robust of which were the Royal Navy Armament Depot (RNAD) and the US explosives magazines. While they are relatively few, the nature of the munitions stored at these sites required substantial and robust structures to be constructed, many of which remain. Large earth and concrete traverses and blast walls

remain at Kilnappy, Co. Londonderry (DHR 00192) to protect the stores (although 30% of the site was removed in recent years).

The magazines at Fincarn, Co. Londonderry (DHR 00157; Figure 22) are overgrown but largely intact. From an extensive munitions and explosives store, 10 magazines remain at Shanes Castle, Co. Antrim (DHR 00314). The best preserved but still inaccessible site remains the former RNAD at Crossgar, Co. Down (DHR 00394).



Figure 22. A magazine at Fincarn, Co. Londonderry (DHR 00157:017)

17. The Cold War

The Cold War is often viewed as something that happened elsewhere. Although Britain has the well-known ground-launched cruise missile base at RAF Greenham Common, and the iconic 'Golf Ball' radars at RAF Fylingdales, it has often been presumed that the effects of the Cold War little touched Northern Ireland. The DH survey shows that this was not the case.

17.1. V-Bomber ORP

Northern Ireland did have a part to play. From an early stage in the Cold War, facilities here supported the offensive nuclear capabilities of the RAF. Fall-back bases were established for the nuclear-armed V-force bombers during the late 1950s to provide facilities should the forward bomber stations in England be destroyed or rendered inoperable by enemy attack. RAF Ballykelly, Co. Londonderry, was designated as a dispersal site for the bomber force, and this is shown by the survival of four Operational Readiness Platforms [ORP] (DHR 00029:050-053; Figure 23) remaining at the now-closed airfield. The ORPs were constructed to allow Vulcan bombers to be kept on 'Quick Readiness Alert', from which they could be scrambled in the event of a nuclear attack by the Soviet Union.



Figure 23. The Operational Readiness Platforms at Ballykelly, Co. Londonderry (DHR 00029:050-053)

17.2. Early Warning Radar

As in WW2, radar remained a vital means to monitoring the skies for enemy aircraft during the Cold War. Initially, this required continued use of the Chain Home radar at Castlerock, Co. Londonderry. However, with the advent of the ROTOR radar system during the 1950s, new radar stations were established at Murlough Bay, Co. Antrim (DHR 00298), and Killard Point, Co. Down (DHR 00311). The GCI radar at Bishops Court, Co. Down (DHR 00032:201), continued in use and was expanded during the 1960s when the old Type 7 radar was replaced with the larger and more powerful Type 84 radar, with two HF200 height-finding radars.



Figure 24. The radar modulator building at Bishops Court, Co. Down (DHR 00032:210)

A change in doctrine away from Mutually Assured Destruction to a 'Flexible Response' by NATO in 1968 led to improvements in the facilities at Bishop Court. New hardened structures were built to allow the station to continue operating while under attack by conventional and chemical weapons. A hardened Control and Reporting Post was constructed (Figure 25), supported by two hardened transmitter blocks on either end of the airfield. Although repurposed as the clubhouse for a racing circuit, the metre-thick reinforced concrete walls and blast-protected steel door remain.



Figure 25. The control and reporting post at Bishops Court (DHR 00032:048)

17.3. Royal Observer Corps

A network of 1,518 underground monitoring posts was built across the UK to house the volunteer staff from the Royal Observer Corps (ROC). In the event of a nuclear attack, observers were tasked with recording the blast yield, location and drift of radioactive clouds caused by the detonation of Soviet nuclear weapons. There were 58 of the small underground posts evenly distributed across Northern Ireland. A crew of three could remain in what was a 5.8m x 2.6m x 2.3m concrete box for three weeks. They would have transmitted their readings to a regional ROC group headquarters.



Figure 26. The ROC monitoring Post outside Coleraine, Co. Londonderry (DHR 00121)

For Northern Ireland, this was ROC Group 31 HQ, stationed in a hardened shelter (a repurposed Anti-Aircraft Operations Room) in Thiepval Barracks, Lisburn, Co. Antrim (DHR 00310). The monitoring posts were sited in prominent locations to grant unobstructed fields of vision. However, with the end of the Cold War and the disbandment of the ROC in 1991, the sites proved attractive for installing mobile phone masts. Almost 30% of them have been demolished, but some have been renovated, such as No. 45 post at Portadown, Co. Armagh (DHR 00127), which has been turned into a museum.

17.4. Civil Defence & Continuity of Government

As the Cold War escalated, the UK government adopted measures to ensure the survival of regional and national governments after a nuclear attack. A commissioner and staff were appointed to direct rescue and recovery operations from a specially built 'War Room' in the suburbs of Belfast (DHR 00309). However, the advent of multi-megaton-yielding hydrogen bombs meant that this was moved in 1958-59 to Gough Barracks, Armagh, although no specialist hardened facility was built there. A defence review by the Conservative government in the 1980s called for 17 Regional Government Headquarters (RGHQ) across the UK. Most reused existing facilities, but a new purpose-built bunker was built just outside Ballymena, Co. Antrim (DHR 00294; Figure 27).



Figure 27. RGHQ outside Ballymena, Co. Antrim (DHR 00294)

The two-storey semi-sunk structure is over 100 metres long and 40 metres wide, has reinforced concrete walls up to half a metre thick and is covered with three metres of compacted soil, with access via three heavy steel blast doors. It could accommodate 236 people and was stocked with sufficient food to last for a month. The communication centre allowed the commissioner to stay in contact with the central government. The entire room is enclosed in a Faraday cage to protect the electronic systems from the effects of an electromagnetic pulse generated by a nuclear explosion. The Ballymena RGHQ was completed in 1989, but the collapse of the Soviet Union, and the consequent ending of the Cold War in 1991 quickly robbed it of a purpose. The RGHQ at Ballymena is still under government ownership and was Scheduled by HED as a historic monument in 2016.

The Defence Heritage survey was ostensibly an archaeological project. However, access to civil defence papers in PRONI revealed data on the contingency nuclear shelters for different government departments in Northern Ireland. These were typically designated basements in government offices, such as Omagh County Hall, Co. Tyrone (DHR 00422) or the University of Ulster campus administration wing at Coleraine, Co. Londonderry. Therefore, the locations of these sites were plotted to provide a picture of civil defence preparedness in Northern Ireland during the Cold War.

18. Issues Facing Defence Heritage Sites in Northern Ireland

With the completion of the Defence Heritage survey project 613 DH sites have been identified, with 4,595 features. Creating this new corpus of material has been the primary goal of the project, but the field survey has identified issues that threaten the survival of DH sites in this region.

18.1. Dereliction

Many DH structures built in Northern Ireland were designed to be constructed quickly with minimal material and requiring little, if any, skilled labour. They were temporary in nature and never intended to last beyond their wartime utility. Consequently, dereliction, decay of masonry and collapse are real issues for many of the structures. Cracked sill beams and unstable brickwork render many of these structures vulnerable to collapse and potentially dangerous to visit.



Figure 28. Damage to a doorway at the squadron armoury, Mullaghmore, Co. Londonderry (DHR 00075:041)

18.2. Contamination

Many of the DH structures contain substances that are hazardous to health. The most common of these is compressed asbestos sheeting. Corrugated asbestos cement (AC) sheeting had been used as a cheap and durable alternative to metal panels for much of the 20th Century. It was used extensively during WW2 on airfields in the UK and is still commonly found on them. However, Asbestos is toxic and has been linked to asbestosis and mesothelioma. Unbroken AC sheets do not present an immediate threat to health, but breaking or cracking can produce toxic asbestos dust. This material is frequently found at DH sites. The Squadron Flight Offices and Crew Room at Limavady airfield (DHR 00070:063; Figure 29) has dozens of these sheets stacked inside.



Figure 29. Asbestos sheeting stored at the flight offices and crew room, Limavady, Co. Londonderry (DHR 00070:063)

18.3. Vandalism

Vandalism is a problem commonly found at DH sites, most frequently at airfields. The relative remoteness of abandoned DH structures and assumed (incorrectly) lack of ownership or care attracts anti-social behaviour, primarily from local youths. Structures are subject to graffiti and/or physical destruction. For example, in the control tower at Limavady (DHR 00070:066; Figure 32) unidentified individuals had begun to knock down sections of the internal walls with a hammer, potentially compromising the internal supporting structure of the building and endangering their own lives in the process.

18.4. Land Reclamation



Figure 30. Clearance of the dispersal pen at Kirkistown, Co. Down (DHR 00040:028)

The need to restore full use of valuable agricultural land can lead landowners to remove DH structures. Furthermore, demand for construction hard-core may encourage landowners to remove brick, concrete structures, hardstanding and runways. This was evident at Kirkistown airfield, Co. Down (DHR 00040) where, during a field visit the landowner was in the process of removing the last aircraft dispersal pens (DHR 00040:028; Figure 30). While HED can mitigate the demolition of DH sites using planning policy – it can advise on planning applications – there

is currently no process which constrains the removal of DH sites as part of agricultural land reclamation. Land improvement can also radically alter the setting of a monument, as seen at the transmitter block of the Castlerock Chain Home radar station (DHR 00299:001; Figure 31).



Figure 31. Land reclamation around the transmitter block at Castlerock Chain Home radar station, Co. Londonderry (DHR 00299:001)

18.5. Vegetation

Overgrowth of trees, bushes, ivy and other creeping vegetation is frequently an issue for DH structures. Often buildings have been left untended for many years, resulting in a heavy coverage of foliage, with penetration of the roofs, windows and plasterwork. This can compromise the weatherproofing and possibly the structural integrity of the buildings. Moreover, very heavy growths of ivy can increase wind loading on vertical surfaces, further increasing strain on already weakened structures.



Figure 32. 14 years of vegetation growth on the control tower at Limavady, Co. Londonderry (DHR 00070:066)

18.6. Demolition Due to Development



Figure 33. Demolition of a strongpoint (DHR 00087:013) at Newtownards prior to development in 2004

Redevelopment of land containing DH sites has frequently led to the damage or loss of DH sites across Northern Ireland. Although planning policy and legislation are key measures for protecting DH sites, redevelopment will still be one of the leading causes of their destruction. Demolition prior to confirmation of planning consent is also an issue. For example, features at a dispersed living site near Eglinton (DHR 00037:095) were cleared, even though the planning decision was still pending.

18.7. Demolition by DH Site Owners

Although DH sites represent tumultuous episodes in recent history, their often-dilapidated condition, or their advanced state of decay can induce landowners to regard them as unsightly or of little heritage value. In addition, their utilitarian and often brutalist design can contribute to an owner's perception that they are a blight on the landscape. As a result, deliberate demolition has occurred purely to remove the structures, and at times with little reason given.



Figure 34. Demolition of a pillbox (DHR 00080:032) outside St Angelo airfield, Co. Fermanagh, 2004

18.8. Permitted Agricultural Development (PAD)

PAD allows farmers to work on agricultural land or buildings without the requirement for planning consent. This might involve an extension to an agricultural building, the installation of plant, replacement of sewers or realignment of private ways. Protection through planning being a key means of helping to safeguard DH sites from destruction, this procedure presents a clear threat to their retention. Demolition, modification or removal

of DH sites could occur without any input from HED. In the case of the Gunnery and Crew Procedures centre at Cluntoe (DHR 00036:051; Figure 35) the owner was able to extend the site through PAD. Fortunately, in this instance the farmer was sympathetic to the structure and retained all the wartime fabric (and this is an excellent example of what can be done to retain DH structures while allowing agricultural improvement), but it does illustrate how easily the protection policy measures in place could be bypassed.



Figure 35. The Gunnery and Crew Procedures Centre at Cluntoe, Co. Tyrone (DHR 00036:051) seen in 2017 and 2021

19. Protection Measures

It is now beyond debate that DH sites are an important part of our shared heritage and worthy of preservation and protection. The HED has three key methods to protect DH sites.

19.1. Scheduling

DH Sites can be Scheduled under the Historic Monuments and Archaeological Objects Order (Northern Ireland) 1995. Any works within a designated zone around the monument are subject to Scheduled Monument Consent. However, there are strict criteria which must be followed to determine a site's eligibility for Scheduling, and most DH sites (as with more traditional field monuments) will never meet these. There are currently 45 Scheduled DH sites in Northern Ireland. By the close of the DH survey project, a further 161 were proposed to HED for consideration for Scheduling.

19.2. Listing

Structures can be Listed under Section 80 of the Planning Act (Northern Ireland) 2011. Listed building consent is required for any works which would affect the character of the

building. Currently, there are 10 Listed DH sites in Northern Ireland. Due to the survey project, 51 additional sites have been recommended to HED for consideration.

19.3. Protection Under Planning Policy/ Development Control

Protection under planning policy is the primary method of protecting DH sites in Northern Ireland. Planning applications in which DH sites are potentially impacted are referred to HED for consultation. Impacts can be mitigated by HED officers, who may also be able to protect DH sites by considering them in the preparation of Local Development Plans.

It has often been assumed that the temporary nature of many DH structures rendered them unsuitable for reuse. However, the results of this project demonstrate that DH sites can be reused, and indeed have been in many instances. Although some DH sites will never be reused with managed decline, the only option at this stage, reuse, repurposing and renovation are economically viable options to retain these structures in the landscape.



Figure 36. Bombing Teacher at Cluntoe, Co. Tyrone (DHR 00036:049); Mess at Eglinton, Co. Londonderry (DHR 00037:087); Squash court at Limavady, Co. Londonderry (DHR 00070:086)

20. How can Information in the Historic Environment Record of Northern Ireland be Accessed?

Documentary and photographic material may be consulted by appointment at HERoNI, and its digital databases are available online via its website (see below).

Access to HERoNI is free of charge for personal research, however search fees may be charged for handling more complex enquiries, and for those undertaken for commercial purposes.

Contact us at:

Email: HERoNI@communities-ni.gov.uk

Phone: **(028) 9056 9701**

Website: **Historic Environment Record of Northern Ireland (HERoNI) | Department for Communities (communities-ni.gov.uk)**

Appointments can be made to visit our search room at:

Historic Environment Record of Northern Ireland (HERoNI),

Department for Communities,
2 Titanic Boulevard,

Titanic Quarter,
Belfast, BT3 9HQ.

Opening Times

Monday to Friday
9.30am - 1pm; and 2pm - 4.30pm (by appointment)

Please contact us before visiting for advice on availability of archives.

Requests for information can also be submitted in writing, by email or phone.

Online Databases

Our online facilities are free to use, and you do not have to register to access them.

The Historic Environment Map Viewer

This online map covers Northern Ireland and allows the user to search, browse, or navigate to a particular area to explore the local heritage. Datasets on the map viewer include sites and monuments, historic buildings, industrial heritage, historic parks and gardens, battle sites, defence heritage structures, archaeological investigations and shipwreck sites.

By clicking on a specific site, you can view a 'pop-up' that provides a brief description. Users can also access historical six-inch Ordnance Survey map editions, contemporary OSNI maps and orthophotography (aerial photography).

The map viewer is accessible by following the links from HERoNI's website, and a user guide is provided to help you.

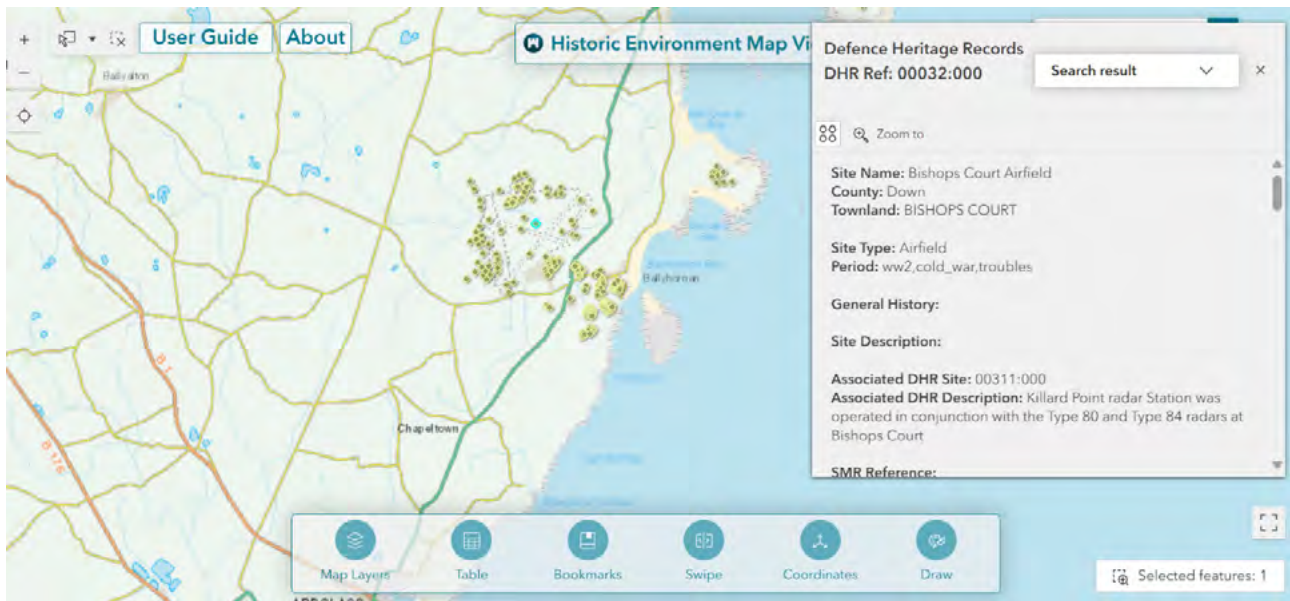


Figure 37. HED Historic Environment Map Viewer

21. Reporting a Defence Heritage Site

Perhaps you know of a Defence Heritage site or feature that has never been brought to our attention and is not recorded on HERoNI's map viewer. You can help us by informing HERoNI at the contact details above.

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