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Climate change, coastal built heritage, and critical challenges facing the heritage law frameworks of the United States, United Kingdom, and France

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Abstract

Climate change poses a particular threat to the world's unique built heritage—historic buildings, sites monuments, and museums. As preserving built heritage resources from climate change becomes a global priority, understanding the current inadequacies of legal frameworks designed to protect built heritage in coastal areas is essential. Only by identifying and examining these shortfalls can countries create resilient legal policies and tools that better protect coastal built heritage from the immediate and long-term effects of climate change. Building on previous comparative cultural heritage law scholarship, this article describes the legal frameworks that the United States, United Kingdom, and France use to protect their respective built heritage in coastal areas and identifies two critical challenges facing each country.

Keywords: Climate change, Built heritage law, Legal frameworks, Challenges, United States, United Kingdom, France

1 Introduction

Few people and even fewer scientists would dispute that the climate across the world is changing at a rapid pace. Floods and droughts are more frequent and intense, sea levels are rising, coasts are eroding, glacial melt is increasing, and extreme weather events are becoming increasingly normal (EPA 2022; Pierre-Louis 2018; Parker 2017). Climate change poses a particular threat to the world's unique coastal built heritage (Sesana et al. 2021; Sesana 2019), defined as historic buildings, sites, monuments, and museums for the purposes of this article. Erosion and subsidence are causing many coastal cities around the world to experience four times more sea level rise than the average global water level rise (Nicholls et al. 2021). This shifting earth and rising water negatively affects the integrity of numerous coastal historic structures and sites

across the world. Easter Island, with its hundreds of giant stone anthropomorphic statues (*Moai*), is eroding (Casey and Haner 2018); the ruins of ancient Carthage may soon slip into the sea (Vousdoukas et al. 2022); and unprecedented floods in historic downtown Annapolis, Maryland, which boasts the United States' largest collection of eighteenth century colonial buildings, allowed kayakers to paddle along roadways (Geiling 2014).

Even museums are not immune to rising waves. Increased flooding on the Seine has recently forced the Louvre in Paris to transport 100,000 precious artworks to higher ground (Godin 2021). And flooding at the National Museum of American History in Washington, DC has damaged the structural integrity of the historic museum and simultaneously flooded subterranean collection rooms placing priceless collections in peril (Flavelle 2021).

As preserving coastal built heritage resources from climate change becomes a global priority, understanding the current inadequacies of legal frameworks designed

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to protect built heritage is essential. Only by identifying and examining these shortfalls can countries create resilient legal policies and tools that better protect built heritage from the immediate and long-term effects of climate change. Building on previous comparative cultural heritage law scholarship (Rowberry et al. 2019), this article describes the legal frameworks that the United States (US), United Kingdom (UK), and France use to protect their respective coastal built heritage and identifies two critical challenges facing each country. These three countries were selected because they are developed, highly populated nations with varied but robust legal systems for protecting cultural heritage. The US, UK, and France also have expansive coastlines containing a myriad of built heritage resources that are protected by law. Thus, these countries are currently wrestling with the practical and legal difficulties of preserving coastal cultural heritage in different ways, making an examination of their legal frameworks and identification of some attendant challenges a timely topic.

2 Built Heritage Law in the United States

Coastal built heritage in the US is protected by various federal, state, and local laws (Bronin and Rowberry 2018; Snyder 2018). In theory, the type of law governing the management of coastal historic resources depends upon the jurisdiction of the land on which they are situated. That is, historic buildings on federal lands would be subject to federal laws, while those on state lands would fall under the purview of state laws. Likewise, historic resources in one of the thousands of municipalities that have enacted historic district ordinances are subject to local laws that form a critical source of historic preservation regulation in the United States (Tacoma 2022). In reality, however, most coastal cultural heritage in the US is protected by a collection of federal, state, and local laws because any state or local development project that is (1) under the management or control of the federal government; (2) requires a federal permit; or (3) receives funding from the federal government must *also* comply with federal laws.

Taken together, these federal, state, and local laws establish a complex regulatory regime. Built heritage laws are administered at the federal level by the Advisory Council on Historic Preservation (ACHP) with the assistance of the Secretary of the Department of the Interior through the National Park Service, and by the State Historic Preservation Officer and/or Tribal Historic Preservation Officer at the state level (Bronin and Rowberry 2018; Rockman et al. 2016). Municipal governments with historic district ordinances administer the laws at the local level.

This section will briefly examine two key federal laws protecting coastal built heritage in the United States and identify two challenges facing the US built heritage protection framework. The two laws discussed below—the National Historic Preservation Act and Sect. 4(f) of the Department of Transportation Act of 1966—provide critical protections for built heritage from the long-term risks associated with attenuated sea level rise. During large-scale, acute natural disasters like Hurricane Katrina (2005), however, the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) would be triggered. While this article will not explore the contours of the Stafford Act, it is important to note that it affects the implementation of the National Historic Preservation Act and Sect. 4(f) in the disaster planning, response and recovery phases, as the Federal Emergency Management Agency (FEMA) would then have responsibility for coordinating government-wide relief and recovery efforts¹ (Bronin 2021).

2.1 Two Federal Laws Protecting Built Heritage in the United States

2.1.1 *National Historic Preservation Act*

The National Historic Preservation Act of 1966 (NHPA) is the most important law for preserving and managing the country's cultural heritage, including built heritage located in coastal cities.² The purpose of the NHPA is to 'foster conditions under which our modern society and our historic property can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations.'³ The NHPA established the National Register for Historic Places (National Register)—the inventory of significant historic properties, objects, districts, structures, and sites worthy of preservation—which is administered by the United States National Park Service.⁴ Historic resources, whether on public or private lands, must be listed or eligible for listing on the National Register to receive legal protections under the NHPA.⁵ For a historic resource to be listed or eligible for listing on the National Register, it must meet the following four criteria: (1) it must be one of five types of resources—a district, site, building, structure or object (intangible heritage resources are not currently recognised or protected by U.S. law); (2) it must be relevant to a prehistoric or historic context; (3) it must be significant; and (4) it must have integrity, that is, the historic

¹ 42 U.S.C. § 5121 et seq. 2022.

² 54 U.S.C. § 300,101 et seq. 2021.

³ 54 U.S.C. § 302,101 et seq. 2021.

⁴ Ibid.

⁵ 36 C.F.R. § 800 et seq. 2021.

resource must be able to communicate its significance⁶ (National Register Bulletin 1990).

If a building, site, monument, or object on public or private lands is listed or eligible for listing on the National Register, it receives procedural legal protections under Section 106 of the NHPA. Section 106 of the NHPA establishes a review process for actions carried out, funded, or approved by an agency of the federal government that may impact historic resources listed or eligible for listing on the National Register.⁷ Regulations implementing Section 106 consider damage, destruction, relocation or removal of historic resources listed on the National Register as ‘adverse effects’ that require the federal agency sponsoring the action to explore alternatives and consult with affected parties to try and mitigate the negative effects of the actions on the historic resource *before* the federal action commences. This consultation requirement forms the core of the Section 106 process and is meant to be inclusive, with participants working toward the goal of common resolution.⁸ Thus, through early intervention in the planning process, the NHPA seeks to ensure that built heritage in the US is preserved.

If a negotiated solution cannot be reached between the federal agency and any affected parties, the ACHP—an independent federal agency that promotes the preservation and productive use of United States historic resources—issues comments to the head of the sponsoring federal agency. The head of the federal agency then makes a final decision on what actions to take concerning the historic resource(s) in question.⁹ While the NHPA Section 106 process allows historic resources to be damaged, destroyed, removed, or relocated, it requires that certain procedures be followed *before* any actions are taken. As a further disincentive, historic resources ‘that have been moved from their original locations’ may be ineligible for listing in the National Register and thus for financial assistance under the NHPA¹⁰ and for related national tax benefits.¹¹ United States national law, therefore, strongly discourages—but does not prohibit—the damage, destruction, removal, or relocation of built heritage from public or private lands.

Using the NHPA as a model, every state has also enacted planning-related legislation protecting historic resources on public and private lands that have state or local significance (Bronin and Rowberry 2018). For example, the state of Georgia has created the Georgia Register

of Historic Places, an inventory that uses the same criteria and documentation procedures as the National Register.¹² Georgia also requires a similar review process to NHPA Section 106—finding of adverse impact, consultation with affected parties, and mitigation *before* any project commences—for state and local government actions that may impact historic resources.¹³ And like its national counterpart, state or local built heritage that is relocated generally loses valuable financial aid and tax incentives that can help to maintain it (Bronin and Rowberry 2018). Thus, like the national government, states and municipalities typically discourage but do not prohibit the damage, removal, or relocation of built heritage.

2.1.2 Section 4(f)

Section 4(f) of the Department of Transportation Act of 1966 provides the most powerful protection for historic resources threatened by federal development actions, but its application is narrow.¹⁴ It applies only to federal transportation programs or projects. Despite this narrow focus, Section 4(f) is immensely important to preserving coastal cultural heritage due to the ribbons of federal highways that line the coasts and often run through coastal cities in the United States. Section 4(f) requires that federal transportation projects may adversely affect a significant historic site only if two criteria are met. First, there must be no prudent and feasible alternative to using the site. Second, the program or project must include all possible planning to minimise harm to the protected site.¹⁵ Section 4(f) does not apply to a historic resource unless the resource is deemed to be a ‘historic site.’ This term includes any public or private ‘prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register.’¹⁶

Although federal agencies will often engage in Section 4(f) and NHPA Section 106 reviews simultaneously, the scope of these two legal reviews differs substantially. Section 4(f) requires a single federal agency—the Department of Transportation—to review alternatives and minimise harm if it is going to proceed with a transportation project that will negatively impact a property listed on or eligible for listing on the National Register. NHPA Section 106, on the other hand, requires *all* federal agencies to ‘take into account the effect’ of their federal undertakings on properties on or eligible for the National Register. Furthermore, Section 4(f) dictates certain substantive results, while NHPA Section 106 only requires agencies

⁶ 36 C.F.R. § 60 et seq. 2021.

⁷ 54 U.S.C. § 306,108 et seq. 2021.

⁸ 36 C.F.R. § 800 et seq. 2021.

⁹ Ibid.

¹⁰ 36 C.F.R. § 60 et seq. 2021.

¹¹ 36 C.F.R. § 67 et seq. 2021.

¹² O.C.G.A. § 12 et. seq. 2021.

¹³ Ibid.

¹⁴ 49 U.S.C. § 303 et seq. 2018.

¹⁵ Ibid.

¹⁶ 23 C.F.R. § 774 et seq. 2021.

to ‘take into account’ the effect of their actions before proceeding.

The success of Section 4(f) at the federal level as a tool to ensure protection of historic resources has inspired some states to pass similar laws. Many Section 4(f)-inspired state statutes apply to all state and local agency actions, rather than being limited to only state transportation agency actions. Only a few states, however, have adopted both aspects of Section 4(f)’s central enforcement mechanism: (1) the review of the feasibility and prudence of the alternatives and (2) the requirement to minimise harm. Kansas, for example, prevents the state from proceeding with any project that will damage or destroy properties on the National Register or state register of historic places unless the governor or other relevant official has determined that ‘there is no feasible and prudent alternative to the proposal and that the program includes all possible planning to minimise harm to such historic property resulting from such use.’¹⁷ South Dakota has adopted identical language, except that the South Dakota statute adds that ‘encroach[ing] upon’ historic properties is a prohibited activity unless the review of alternatives and planning to minimise harm occurs.¹⁸ New Mexico,¹⁹ California,²⁰ Florida,²¹ Texas,²² and South Carolina²³ have also adopted similar state laws with varying levels of protection.

2.2 Two Critical Challenges to the US Built Heritage Legal Framework

One of the critical challenges facing US built heritage in this era of climate change is national in scope: there is no comprehensive national-scale vulnerability index for built heritage. Consequently, there is no baseline data available to help government officials determine how or where to focus protection efforts most efficiently. There are manifold reasons for the absence of a national vulnerability index in the US, many of which stem from the fact that heritage programs and disaster preparedness are largely lodged at the state government level. It is impossible to create a national vulnerability index when no state has a comprehensive inventory of built heritage. For example, prior to Hurricane Katrina striking Louisiana in 2005, the state listed 19,000 historic resources on its statewide cultural heritage inventory. Following the disaster response, heritage authorities catalogued an

additional 55,000 historic resources in the New Orleans metropolitan area alone, many of which were built heritage resources (McCarthy 2013). State registers have also traditionally neglected many built heritage sites important to minority groups and native peoples. This ‘diversity deficit’ in identifying and registering built heritage for minority populations in the US must be remedied to provide an accurate picture of built heritage within states and the nation (Kaufman 2004).

Even if states did possess a comprehensive heritage register, the use of incompatible technologies to record this data makes combining this information to form a national vulnerability index extremely difficult. To track its heritage resources, the state of Georgia, for instance, uses a custom-built heritage recording system called Georgia’s Natural, Archaeological, and Historic Resources GIS (GNAHRGIS). Using even the most basic features of GNAHRGIS requires specialised training, and the database itself remains incomplete as many older hand-written field survey notes have yet to be included (GNAHRGIS 2022). Most other states also have GIS-based digital heritage registering systems that are also *sui generis*, making pooling data from dozens of states into regional or national categories problematic. Due to these information lacunae and technological barriers it is unsurprising that so few broad-based heritage vulnerability studies have been conducted in the US (Ricci et al. 2019; Anderson et al. 2017; Melnick et al. 2016; Reeder-Myers (2015))—and those that have probably underestimate the risks that sea level rise poses to built heritage. Despite these challenges, creating and populating a comprehensive national-scale vulnerability index is a necessity. FEMA has made some important strides in this direction by creating ‘risk maps’ that ‘identify flood risk and promote informed planning and development practices’ in local communities. These ‘risk maps’ are also being used to update flood maps throughout the US (FEMA 2022). Yet much work remains to be done. Only with a comprehensive national vulnerability index can US government officials adequately assess the relative risk facing built heritage across the nation and implement targeted policies of protection.

A second challenge to the US built heritage legal framework is more granular but brims with potential. Current US tax law only incentivises rehabilitating historic commercial properties. Similar federal tax incentives should be extended for the rehabilitation of owner-occupied historic homes, or, at a minimum, for the climate adaptation expenditures to owner-occupied historic homes in coastal regions. Rising waters do not discriminate between swamping historic businesses or historic homes. Indeed, there would be no historic business without the residential communities that surround

¹⁷ Kan. Stat. Ann. § 75–2724(a)(1) 2019.

¹⁸ South Dakota Codified Laws § 1-19A-11.1 2019.

¹⁹ New Mexico Statutes Annotated § 18–8–7 2019.

²⁰ California Public Resources Code § 5024.5(a)-(b) 2019.

²¹ Florida Statutes Annotated § 267.061 2019.

²² Texas Code Annotated § 26.001 2019.

²³ South Carolina Code Ann. § 10–1-135 2019.

them. Yet, federal US tax policy only allows income-producing historic properties to be eligible for its historic building tax credit—a 20% income tax credit on certified historic structures.²⁴ To qualify for this tax credit, rehabilitated historic commercial properties must abide by the Secretary of the Interior Standards for Rehabilitation (Standards): ten principles that aim to retain the historic character of the property through the preservation of historic materials and features.²⁵

No one denies the federal historic preservation tax incentive program has been incredibly successful. According to the US National Park Service who administers the program, since its inception in 1976 the historic tax credit program has leveraged over \$109 billion in private investment resulting in over 46,000 rehabilitations of commercial historic building projects throughout the US, Puerto Rico, and the US Virgin Islands (Technical Preservation Services 2021). Expanding the federal tax incentive program to include rehabilitations of owner-occupied historic properties or climate adaptation expenditures (e.g. weatherproofing, retrofitting) for owner-occupied historic properties would likely yield similar results. Even a few years ago, expanding federal tax credits to owner-occupied historic homes would have been unimaginable given the conservative nature of the Standards that discourage climate change strategies like building elevation and relocation. However, in 2019, the National Park Service issued guidance on how the Standards should be applied to rehabilitating historic buildings at risk of flooding (National Park Service 2019). These guidelines outline scenarios in which floodproofing, filling basements, elevating structures, abandoning the lowest floor, and relocating historic buildings may comply with the Standards and thus be eligible for tax credits. The Standards appear to be adapting to growing climate concerns; it is time for the federal tax credit program for historic buildings to follow suit.

For assistance on expanding federal tax credits to owner-occupied historic buildings, the federal government might want to look to states that already offer state tax incentives for the rehabilitation of historic residential homes. North Carolina has a 15% state historic preservation rehabilitation tax credit for residential historic homes (North Carolina 2022). Wisconsin is even more generous, tendering a 25% state tax credit for the rehabilitation of historic non-income-producing personal residences (Wisconsin Historical Society 2022). By following these states and expanding the US federal historic building tax credit to include owner-occupied historic homes or climate adaptations to those homes, the US

can effectively incentivise owners of historic homes to rehabilitate them in a manner that will protect them for future generations.

3 Built Heritage Law in the United Kingdom

In the United Kingdom (UK), built heritage in coastal communities is protected by statutes that are implemented at various governmental and geographic levels. The Historic Buildings and Monuments Commission for England (commonly called Historic England) is the governmental body charged with the preservation of built heritage in the UK and operates within the Department for Digital, Culture, Media, and Sport (Historic England 2022). This section will briefly examine two national laws protecting built heritage in coastal communities and how these laws are integrated into the national planning framework. Then, it will assess two challenges facing the UK heritage protection framework.

3.1 Two UK Laws Protecting Built Heritage

3.1.1 *Planning (Listed Buildings and Conservation Areas) Act 1990*

The Planning (Listed Buildings and Conservation Areas) Act of 1990 is the most important piece of national legislation for preserving built heritage throughout the United Kingdom. The process of ‘listing’ nationally important buildings lies at the heart of the Act. The Secretary of State for the Department for Culture Media and Sport (DCMS) is statutorily obligated to create a list of ‘buildings of special architectural or historic interest.’²⁶ For the purposes of listing, ‘a “building” includes any structure or erection and a “listed building” includes any object or structure: (a) fixed to it; or (b) within its curtilage which, although not fixed to it, forms part of the land and has done so since before 1st July 1948, unless the list entry expressly excludes such things’ (Scheduled Monuments 2013). Any buildings and structures that meet the criteria for national protection may be listed.

For a building to be listed, Historic England (or the public acting through Historic England) submits an application to DCMS who must determine whether the building in question has special architectural or historic interest. To assist British citizens in determining what buildings may be eligible for listing, Historic England offers 20 thematically arranged listing guides on its website. Each guide includes the over-arching listing criteria relevant to that particular form of listed building as well as an overview of the history and development of listed buildings within this given category (Listing Selection Guides 2018). While precise criteria for listing a building may vary, the law requires the DCMS to consider several

²⁴ 26 U.S.C. § 47 et seq. 2018.

²⁵ 36 C.F.R. § 67 et seq. 2021.

²⁶ Planning (Listed Buildings and Conservation Areas) Act, 1990, c. 9 et seq.

general principles when determining whether or not a building should be listed: (1) age and rarity; (2) aesthetic merits; (3) selectivity; (4) national interest; and (5) state of repair (Principles of Selection 2018).

When DCMS lists a building, it must provide ‘as much clarity as possible about where the special interest of buildings lie when listing them or revising an existing list entry’ (Principles of Selection 2018). Each listed building is then given a grade reflecting its special architectural and historic interest: Grade I buildings are of exceptional special interest; Grade II* buildings are particularly important buildings of more than special interest; and Grade II buildings are of special interest (Principles of Selection 2018). These grades give guidance to local planning authorities (LPAs) on the level of development protection that is to be afforded to each listed building. Furthermore, if an unlisted building with special architectural or historic interest may be demolished or substantially altered, the LPA may issue a building preservation notice (BPN), which effectively ‘lists’ the building at issue for a period of six months.²⁷

Once listed (or when a BPN is issued), a building qualifies for several legal protections. First, no one is allowed to demolish or alter a listed building ‘in a manner that would affect its character as a building of special architectural or historic interest.’²⁸ Anyone who alters or demolishes a listed building may face fines and/or imprisonment for up to two years, depending upon the severity of the offence. The LPA also has the authority to compel those illegally altering listed buildings to restore them to their former state. Second, anyone wishing to alter or demolish a listed building, must receive a Listed Building Consent (LBC) from the LPA before beginning work. Within the LBC, the LPA has the power to impose specific conditions to preserve the special architectural or historic qualities of the building. These conditions must be adhered to, or the LBC can be revoked by the local authority. Any appeals from LBCs (or the failure to grant one) are directed to the DCMS. Third, under very limited circumstances, DCMS may acquire a listed building through compulsory purchase if reasonable steps to preserve the listed building are not being taken.²⁹

3.1.2 *Ancient Monuments and Archaeological Areas Act (1979)*

A second important piece of national legislation for preserving built heritage in the United Kingdom is the Ancient Monuments and Archaeological Act of 1979. Like the listing process discussed above for buildings, a

monument must be ‘scheduled’ (i.e. listed) by the DCMS to receive legal protection. The Act defines a monument as ‘(a) any building, structure or work, whether above or below the surface of the land, and any cave or excavation; (b) any site comprising the remains of any such building, structure, or work or of any cave or excavation.’³⁰ Scheduling is only applied to sites of national importance with archaeological or historic interest and include a range of built heritage sites like castles, monasteries, standing stones, abandoned villages, and collieries. To date more than 20,000 ancient monuments have been designated as Scheduled Monuments in the United Kingdom (Scheduled Monuments 2013).

The process for scheduling a monument is like listing a building as described in the section above. Historic England submits an application to DCMS who must determine whether the monument should be scheduled (Ancient Monuments 1979). Historic England has also created 18 thematically arranged scheduling guides on its website, with each guide including the over-arching scheduling criteria relevant to that particular form of monument as well as relevant background (Listing Selection Guides 2018). While precise criteria for scheduling vary, DCMS takes into account several general principles when determining whether or not a monument is displays nationally important archaeological or historic interest and should be scheduled: (1) period; (2) rarity; (3) documentation/finds; (4) group value; and (5) survival/condition; (6) fragility/vulnerability; (7) diversity; and (8) potential (Scheduled Monuments 2013).

Once DCMS decides to schedule a monument, the agency must inform the owner and the LPA where the monument is situated, and legal protections attach to the site. The LPA largely oversees protection of the Scheduled Monument, and the Act makes it a criminal offence to demolish, destroy, damage, remove, repair, alter or add to a Scheduled Monument unless one has obtained a Scheduled Monument Consent (SMC) from DCMS or the LPA (Ancient Monuments 1979; Scheduled Monuments 2013). In granting a SMC, the DCMS or local authority may impose conditions deemed necessary and may revoke the SMC if conditions are not met. The DCMS also has the power to inspect Scheduled Monuments, and issue Scheduled Monument enforcement notices, injunctions, or temporary stop notices, as applicable. Penalties for damaging or altering a Scheduled Monument are levied according to the gravity of the offence and may reach up to £50,000 on summary conviction and up to two years in prison. When necessary to preserve a Scheduled Monument and its environs, DCMS may through agreement or compulsion acquire

²⁷ Planning (Listed Buildings and Conservation Areas) Act, 1990, c. 9 et seq.

²⁸ Ibid.

²⁹ Ibid.

³⁰ Ancient Monuments and Archaeological Areas Act, 1979, c. 46 et seq.

a Scheduled Monument as well as land or easements around it and designate a guardian for it (usually the local authority) (Ancient Monuments 1979).

3.2 Local Planning Authorities and Preserving Listed or Scheduled Built Heritage

Local planning authorities (LPAs) in the United Kingdom—typically district or borough councils—are the key government actors responsible for protecting Listed Buildings or Scheduled Monuments day to day. LPAs are guided by the National Planning Policy Framework (NPPF), particularly Sect. 16 on ‘Conserving and Enhancing the Historic Environment.’ In determining whether applications for development that may affect the significance of a Listed Building or Scheduled Monument should be approved, applicants must ‘describe the significance of any heritage assets’ that may be affected (National Planning 2021). The LPA then identifies and assesses the potential impact on the significance of heritage asset ‘taking into account the available evidence and any necessary expertise,’ with any inspection costs being born by the developer (National Planning 2021). Any ‘harm to, or loss of, the significance’ of a grade I or II* Listed Building or Scheduled Monument ‘should be wholly exceptional,’ and the loss or harm to the significance of a grade II Listed Building should be ‘exceptional’ (National Planning 2021). Ultimately, the LPA must decide whether the public benefits of the proposed project outweigh any harm or loss on a Listed Building or Scheduled Monument.

3.3 Two Critical Challenges Facing the UK Built Heritage Legal Framework

One significant challenge to the UK legal framework protecting built heritage is that it suffers from terminology ambiguity; particularly the precise meaning and scope of the interlocking legal terms ‘significance’ and ‘substantial harm.’ (Jahed et al. 2020; Hewitson 2019). The NPPF defines ‘significance’ for heritage policy as:

The value of a heritage asset to this and future generations because of its heritage interest. The interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset’s physical presence, but also from its setting. For World Heritage Sites, the cultural value described within each site’s Statement of Outstanding Universal Value forms part of its significance (National Planning 2021).

This definition recognises that built heritage significance can be qualified using different criteria, provides a framework to local authorities to articulate significance, and sets an expectation of both

short-and-long-term time horizons when assessing built heritage significance. However, the NPPF’s broad definition of heritage ‘significance’ to include a heritage asset’s surrounding setting also presents difficulties that have had cascading consequences (Hewitson 2019).

When determining if and to what extent built heritage assets may be developed, the NPPF stipulates that a balancing test must be performed, evaluating a site’s ‘significance’ in light of the ‘substantial’ nature of the harm of development (with higher grader sites—I or II— receiving more stringent levels of review). The problem is that ‘the NPPF provides no guidance as to how to determine whether harm is substantial or less than substantial’ (Hewitson 2019; Mclean 2009). Such ambiguity has led to confusion and varied outcomes in built heritage-related cases before English courts, although presumptions *against* development to built heritage sites are often the result (Mclean 2009).

This legal presumption against development of built heritage sites leads to two additional problems: costs and paralysis. As the definition of ‘significance’ in the NPPF refers both to the built heritage site itself and its wider environmental setting, consider that the United Kingdom has over 600,000 recorded archeological sites, within which 13,000 have received special protection as monuments (Mclean 2009). Furthermore, recent estimates from the UK place 37,000 listed buildings (about 8% of the total listed buildings) ‘at risk’ (Draft Heritage Protection Bill 2008). The UK, therefore, boasts a multitude of legally protected built heritage sites and, as a result, is daunting for developers whose development plans may encompass a protected heritage resource. Local planning authorities require developers to pay for their own building and land investigations and shoulder the costs of necessary heritage remediation or protection. Heritage assets worthy of protection are typically discovered ‘within the [curtilage] or even beneath a historic building,’ areas where ‘structural remediation work and often-essential development work’ is necessary, posing significant threats of delay or cancellation of the entire development project (Jahed et al. 2020; Mclean 2009). The resulting high costs and variable time schedules of these projects create disincentives for developers to undertake projects at all. Some large-scale coastal protection projects have also resulted in friction between government policy and local communities due to the potential loss of property and cultural heritage. In sum, the policy directives in the NPPF to preserve built heritage sites and their surrounding settings through an ambiguous ‘substantial harm’ standard contributes to ballooning preservation costs and inaction, which may lead to the deterioration of the heritage sites the policy is supposed to save.

A second challenge is that the UK's current heritage preservation framework places inordinate pressure on the local planning authorities' conservation officials. Conservation officers typically manage both built and archeological heritage sites, coordinate with developers and analyse their requests, and navigate the complex budgetary challenges inherent in development operations. Despite being 'crucial to the success' of conservation efforts, English Parliamentary investigations have found these officials are 'usually overworked, often demotivated because conservation has low status in most local planning authorities, and do not have the time needed to get properly involved in every case' (Draft Heritage Protection Bill 2008). There are also 'grave concerns' that there will be an upcoming shortage of conservation officers that has already reached 'near crisis proportions.' In 2008, 55.4% of conservation officials were aged fifty-five or older, and 79.1% of officials were over the age of forty (Draft Heritage Protection Bill 2008). Concomitantly, undergraduate courses on architecture, building conservation, and archaeology are becoming increasingly sparse with the Institute of Historic Building Conservation reporting that 'there are no longer any degree level courses in conservation left in the country' (Harris 2021; Escalante-De Mattei 2021).

While courses preparing people to become conservation officers are vanishing, the demands on conservation officers to take a holistic approach to their work are increasing. Officers need to competently handle traditional building conservation, sensitively work with the cultural values and expectations of their locality, and develop expertise in climate change and environmental science (Draft Heritage Protection Bill 2008; Hall et al. 2016). Projected governmental costs for providing comprehensive training for conservation officials were initially estimated at £1.72 million annually, a figure that was shown to be 'implausibly low,' being later adjusted to between £50–100 million annually (Draft Heritage Protection Bill 2008). The unpredictable costs to train conservation officers combined with climate change's long time horizon mean that localities will likely have to develop their own training solutions while being ill-equipped to provide timely solutions to ongoing challenges (Hall et al. 2016).

4 Built Heritage Law in France

In France, coastal built heritage is protected through layers of laws implemented at various governmental and geographic levels. This section discusses the role of the European Union in guiding French law on cultural heritage preservation and outlines the legal frameworks at the national, regional, and municipal levels for the

preservation of built heritage in France. Finally, this section concludes with a brief analysis of two challenges facing French built heritage law.

4.1 European Union Built Heritage Law

As a member state of the European Union (EU), France is guided by EU law on coastal cultural heritage preservation. Council Directive 2011/92/EU (as amended by Council Directive 2014/52/EU) controls built heritage preservation in the European Union and codifies the principle of 'preventive action' that permeates the EU's environmental legislation. The EU uses preventive action (often called the precautionary principle) to ensure that governments and organisations understand the risks that come with environmental management—including private or commercial development. Following this principle of preventive action, the EU implements mandatory environmental impact assessments (EIAs) for certain listed types of development projects. EIAs require the developer of the project to prepare a report that describes the direct and indirect significant effects of a project on 'material assets, cultural heritage, and the landscape' among other factors (Council Directive 2011).

Projects that require an EIA are listed in Annex I of the Council Directive, and many of these projects directly affect coastal heritage resources. These projects include: 'Inland waterways and ports for inland waterway traffic' and 'trading ports, piers for loading and unloading connected to land and outside ports' (Council Directive 2011). By requiring an EIA for these types of projects, the EU protects and catalogues cultural heritage found in coastal zones throughout its regions. The EU also requires that public authorities having jurisdiction over projects needing an EIA are 'given an opportunity to express their opinion on the information supplied by the developer' (Council Directive 2011). Once public authorities have evaluated the assessments, they determine whether the project affecting built heritage should proceed or be denied.

4.2 French Laws Protecting Built Heritage

The French *Code du Patrimoine* (Heritage Code) applies to all cultural property in France, including coastal built heritage. The legal framework for designating and preserving built heritage in France revolves around a national commission, *La Commission Nationale du Patrimoine et de l'architecture* (Commission), with the national government heavily supervising local involvement (Historic Monuments 2022; Hills 2013; Brush 2013; Roach 2013). The Commission, which operates under the authority of the Ministry of Culture, comprises seven sections, each dealing with a certain type of historical object: (1) remarkable heritage sites and surroundings;

(2) immovable heritage; (3) architectural projects and building work; (4) movable heritage; (5) musical instruments; (6) ornate caves; and (7) parks and gardens (Historic Monuments 2022).

The Commission's purpose is to restore and protect historic buildings, monuments, and sites degraded by time, weather, or man-made causes. To achieve this, the Commission has been granted broad authority related to all projects of national importance to France. Perhaps most importantly, the Commission has the authority to classify monuments and buildings as 'historic' and maintain buildings already classified as 'historic' (Hills 2013; Brush 2013; Roach 2013). Potentially historic sites may be classified through one of two processes. First, the Commission itself, through one of its subsections, may recommend a site or building be designated as a historic resource. This subsection recommendation is then referred to the Commission as a whole. If the heritage resource is publicly owned, the Commission deliberates and votes on the recommendation for classification, taking into account the opinions of the territorial commission in whose jurisdiction the heritage resource resides. However, if a potential heritage site is privately owned, the Commission can classify the site as historic regardless of the consent of the owner. The private owner may seek indemnification for the involuntary classification and will still be allowed to access the site provided that access does not result in damage to the site.³¹

The second and more typical process of classifying a building or site as historic begins at the local level. The owner or lessee of a historic property, or 'any person having an interest in the historic property' can submit a preservation application to the Commission. The Commission has interpreted 'any person having an interest in the historic property' broadly to include heritage associations and local authorities seeking to protect a historic building in their municipality (Protect an Object 2022). The preservation application is first sent to the *Service D'Architecture et Patrimoine* (SDAP), the local preservation planning office for a city, who will initially evaluate the application, often in conjunction with its regional counterparts. After the local authorities evaluate an application, they issue an advisory opinion either supporting or opposing the application to the Regional Prefect for Buildings. The Regional Prefect may then either refuse the application or recommend the application to the Minister of Culture. The ultimate decision whether to accept or deny the application is made by the Commission. If the application is accepted, the Commission will begin preservation on the site by working with local authorities, such as the Chief Architect for a region and

SDAP. Together, the Commission and local authorities create a preservation plan for the historic building and implement it throughout the life of the project (Protect an Object 2022).

Once a building has been classified as historic, a panoply of protective measures immediately insulates the historic building from degradation. First, the building may not be removed or destroyed, and the Commission will enforce a 500-m protective radius around the building. Furthermore, the Commission must approve any new construction, restorative work or building modifications made within this 500-m radius prior to commencement.³² Easements are also prohibited unless explicitly approved by the Commission. And the Commission may send notices to owners of historic properties to begin restoration work on historic buildings that are seriously degraded. To ensure compliance, the Commission works with local authorities located in the same city as the historic building or monument.³³

Another more recent legal innovation available to French municipalities is the Heritage Easement, which is dedicated to promoting cultural heritage spaces. The Heritage Easement is created by a city's legislative branch, allowing greater municipal control over the use of heritage spaces and any construction that might occur around urban heritage sites. A Heritage Easement must be based on an 'architectural, heritage, and environmental diagnosis' that takes into account sustainable planning goals and future urban developments that might occur in the area.³⁴ And the primary use for any Heritage Easement must be a furtherance, in some way, of public utility.³⁵

4.3 Two Critical Challenges to the French Built Heritage Legal Framework

One pressing challenge facing France's built heritage legal framework is the lack of flexibility afforded to local governments to protect all forms of built heritage resources. The dangers and disasters of climate change rarely strike an entire nation at once; rather, the challenges typically affect local communities and regions at different times and at differing intensities. Thus, dealing with climate change is, to some extent, an intensely local exercise requiring nimble local and possibly regional interventions. But in France, the national-level Commission starkly limits the authority to classify a building as 'historic' and thus the eligibility to receive legal protections. While it is true that local governments can recommend

³¹ Code du Patrimoine art. L. 621 et seq. 2022.

³² Code du Patrimoine art. L. 621 et seq. 2022.

³³ Ibid.

³⁴ Code du Patrimoine art. L. 642 et seq. 2022.

³⁵ Ibid.

buildings for designation by the national Commission, ultimately these local nominations must slowly wind their way through multiple layers of government until the national Commission decides what is in the best interest of the locality. Simply stated, there is a dearth of legal mechanisms whereby local governments can unilaterally protect built heritage.

The obvious but underutilised exception to this is France's Heritage Easement law. The ancient port city of Le Havre located on the northeastern coast of France pioneered the idea of a heritage easement. Following Le Havre's destruction in World War II, the renowned French architect, Auguste Perret, rebuilt the city in a modernist style along with his team from 1945 to 1964 to significant acclaim (ICOMOS 2004). To protect Perret's achievement, the municipality of Le Havre created a special type of heritage easement (*Zone du protection du patrimoine architectural, urbain et paysager*) which covered the entire city, including the port, by regulating building type and density along with general land use to be sensitive to Le Havre's historic built environment (ICOMOS 2004). Later, in 2005, UNESCO recognised Perret's work when the core of Le Havre—133 hectares of urban space that includes administrative, commercial, and cultural buildings—was inscribed on the UNESCO World Heritage List (UNESCO 2022). Le Havre's innovative *Zone du Protection* has subsequently been modified and codified as the Heritage Easement within France's national code.³⁶

Although the Heritage Easement is a valuable legal tool that French local governments can wield to protect built heritage, it is but one tool and is limited in scope. The creation of Heritage Easements must further some public purpose, leaving the myriad of undesignated privately-owned built heritage resources in local communities ineligible for legal protection. To more effectively combat climate change at the local level, some form(s) of enhanced legal authority should be delegated to local and regional governments to designate individual privately-owned heritage resources as 'historic' and to decide how heritage protections figure into individual site management plans. Only with such flexible legal authority can local governments protect all forms of built heritage within their purview.

A second major challenge facing France is that it has no comprehensive national built heritage vulnerability index. This means that while the locations of nationally important built heritage in France are known (because they have been catalogued), French heritage officials cannot effectively determine the relative severity of various climate-related threats to built heritage in different areas.

Creating competent management plans or prioritising interventions for those built heritage sites most at risk from climate change, therefore, is difficult and largely a matter of guesswork.

Nevertheless, nascent work on assessing relative vulnerabilities of built heritage to climate change in France has begun, but its focus is narrow. For example, researchers at University of Rennes have 'developed a methodology to numerically assess the vulnerability, resilience, and management' of heritage sites in coastal areas (Lefevre 2021). They created a mobile app to allow for 'on the ground' data collection of coastal erosion and subsidence and have tested this methodology on a few of the coastlines of northwestern France (Benlloch, López-Romero, and Daire 2017; Daire et al. 2012). On a wider scale, using available European datasets researchers on the RAMSES (Reconciling Adaptation, Mitigation, and Sustainable Development for Cities) project have created a 'high level risk analysis methodology for urban areas' that offers a city-scale climate risk and vulnerability assessment for particular EU cities, including the historic city of Bordeaux (Tapia et al. 2016). While understanding the risks that climate change poses to coastal heritage resources in Brittany and Bordeaux is useful, what is needed now is an integrated, uniform, comprehensive national-level vulnerability index for built heritage. Such a resource would allow all government levels in France to focus legal protections and management interventions on the built heritage facing the greatest risk across the country at any particular moment. A national-level built heritage vulnerability index could serve as the touchstone for effective, targeted protections for built heritage for decades to come.

5 Conclusions

Coastal built heritage provides an invaluable tangible window in who we were, are, and orientation for who we may yet become. This 'sense of place' has profound effects on our well-being at the physical, mental, and emotional levels (Rowberry 2022; Mayes 2018). But with rapidly rising sea levels, each tide of the twenty-first century gnaws at the heritage that comprises our 'cultural and economic biography' (Dwyer and Haner 2018). We are reminded of this fragility by a 2018 large-scale study of UNESCO World Heritage sites in the Mediterranean which found that of the 49 World Heritage sites located within up to 10-m of elevation from the sea, 37 (75%) are at severe risk from a 100-year storm surge event and 42 (86%) are at risk of dramatic coastal erosion due to sea level rise (Reimann et al. 2018). Among these endangered sites are some of the spectacular ancient remains of Pompeii, Carthage, Ephesus, Dubrovnik, and parts of Istanbul (Reimann et al. 2018). The time to act to save our coastal

³⁶ Code du Patrimoine art. L. 642 et seq. 2022.

built heritage is now—a fact recognised by the United Nations' Sendai Framework for Disaster Risk Reduction that advocates for cultural heritage protections to be integrated into national disaster preparedness frameworks (United Nations 2015).

To effectively protect coastal built heritage, therefore, we must understand how law affects built heritage preservation. While the current legal frameworks for preserving built heritage in the US, UK, and France are robust, none of them are fully prepared for climate change and sea level rise. Legal barriers to effective built heritage governance exist at both the national and local levels. At the national scale, the lack of a comprehensive national vulnerability index for built heritage in the US and France stymies targeted, nuanced management of these nations' most at-risk heritage resources. And the narrow focus of the US federal historic rehabilitation tax credit to commercial properties only thwarts the rehabilitation of thousands of historic residential homes in the US, many of them located in coastal regions and at increased risk from sea level rise.

At a more local level, ambiguous legal terminology about how prospective development may harm built heritage in the UK within the context of climate change leads to increased costs and paralysis in land use decisions, loading additional burdens onto a dwindling cadre of overworked and under-resourced local conservation officers. And the inability of French local governments to determine whether historic privately-owned structures qualify for legal protections compromises their ability to effectively manage the entire suite of built heritage within their jurisdictions. For the US, UK, and France the legal elixir for protecting built heritage in the era of climate change lies in some admixture of information-collection and dissemination; flexibility; funding; and strong coordination between national, regional, and local governments.

Analysing legal frameworks for protecting built heritage in various countries can be a fruitful exercise to discover innovative legal tools or ideas; more studies need to be done. Such scholarship increases our knowledge-base and can foster international heritage cooperation initiatives. Cross-cultural understanding is particularly critical now, as countering the effects of climate change—which never follow geopolitical boundaries—requires sustained international cooperation and mutual support.

Abbreviations

BPN: Building Preservation Notice; C.F.R.: Code of Federal Regulations; DCMS: Department for Culture, Media, and Sport; EIA: Environmental Impact Assessment; EU: European Union; FEMA: Federal Emergency Management Agency; GNAHRGIS: Georgia Natural, Archaeological, and Historic Resources Geographic Information System; LBC: Listed Building Consent; LPA: Local Planning Authority; NHPA: National Historic Preservation Act; NPPF: National Planning

Policy Framework; O.C.G.A.: Official Code of Georgia Annotated; RAMSES: Reconciling Adaptation, Mitigation, and Sustainable Development for Cities; SDAP: Service D'Architecture et Patrimoine; SMC: Scheduled Monument Consent; UK: United Kingdom; UNESCO: United Nations Educational, Scientific and Cultural Organisation; US: United States; U.S.C.: United States Code.

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