

HOW-TO GUIDE

# **A LOCAL PLANNING AUTHORITY'S GUIDE TO ENVIRONMENT ACT 2021 COMPLIANCE**

**7 ways LPAs can comply and manage biodiversity  
net gain with satellites and AI**



## OVERVIEW

# Local planning authorities are not ready to comply

The UK's Environment Act 2021 imposes new requirements on local planning authorities (LPAs) across the UK to take a proactive role in protecting and enhancing the environment in their local areas by supporting initiatives that result in biodiversity net gain (BNG).

One of the key measures of the Environment Act is the expectation that LPAs create local nature recovery strategies (LNRS), which are plans to identify opportunities for biodiversity conservation, restoration, and enhancement in their designated areas. The strategies will set out a vision and action plan for how local areas can contribute to the government's goal of achieving a net gain in biodiversity by 2030.

But a [study](#) by the U.K.'s Defra ministerial department had some worrisome findings: It shows that "current levels of resource, capacity, and expertise within English local authorities are not adequate" for existing workloads, let alone additional work for BNG.

**over 90%**  
of LPAs report that their current expertise and resources will not be adequate to deliver BNG.



**only 5%**  
of LPAs say their current ecological resource is adequate to scrutinise the hundreds of BNG applications each year.



The Defra study only heightens the urgency around compliance. To achieve the UK's net gain biodiversity target by 2030, LPAs must be ready by November 2023 to review applications, assess BNG progress, and enforce the law for BNG goals. Failure to comply with the new requirements of the Environment Act leads to injunctions, penalties, fines, and reputational risks for LPAs and their stakeholders.

## CHALLENGES

# Great targets come with great obstacles

The combined efforts of 330+ LPAs will be vital components in reaching the UK's net gain biodiversity target. However, LPAs face several direct challenges in taking on their new powers and responsibilities to meet the requirements of the Environment Act.



The UK government has indicated that the BNG requirement for most new developments will be set at an ambitious 10%. The government has also stipulated that developers **provide evidence over 30 years** that biodiversity net gain is being achieved and maintained, a period that exceeds the span of most LPA members and developer managers.



LPAs must develop local nature recovery strategies, which are plans for biodiversity conservation, restoration, and enhancement, and then monitor the effectiveness of these LNRS strategies. They must **set a vision and action plan** for how local areas can contribute to the government's goal of achieving a net gain in biodiversity by 2030.



Hiring and developing people with the necessary ecological skills is necessary. LPAs need qualified people to develop BNG baselines, verify progress for each project in their designated areas, and report each year to regulators. However, there is currently a **significant shortage of such talent** in the UK.



Local authorities must evaluate and monitor biodiversity for each project **no matter the number nor size** of the designated sites. Traditional means require bigger budgets and more trained people, neither of which is readily available.



The act also requires local councils to take biodiversity into account when making any decisions that are likely to have a significant impact on biodiversity. As a result, local councils must **take steps to discover, avoid, mitigate, or compensate** for any negative impacts.



The act creates new powers for local authorities to tackle air pollution, including the ability to **designate air quality management areas** and to introduce clean air zones to restrict the use of high-polluting vehicles in certain areas.

These direct challenges have many disconcerting implications for local planning authorities. They face strong deadlines that are coming up quickly, to establish long-term management of BNG over 30+ years, and to absorb uncertain budget impacts for evaluating and managing BNG programs. The number and complexity of these programs promise to escalate significantly over time, emphasizing the shortages of funds and qualified people.

- Each LPA must rapidly organise people, processes, and tools to **be ready by November 2023** to review applications, assess BNG progress, and enforce the law for BNG goals.
- They must **hire and train the right people** to assess applications and review BNG plans and progress towards the goals, even though qualified candidates are already in short supply and increasingly expensive to hire.
- The ongoing nature of BNG planning means that projects require resource commitments from LPAs throughout the duration of their BNG plans. For this, the LPAs will have to **hire and train specialists over decades**.
- It's unlikely that the Environment Act's stipulated one-time planning fee will be able to **cover LPAs' costs** throughout the duration of the BNG plans.

## SOLUTION

# Satellites and AI now unlock the secrets of the world below

Though challenges quickly add up, they are met head on by recent advancements in technology. The timing of these new solutions could not be better.

LPAs can effectively meet the new requirements of the Environment Act by using high-resolution satellite imagery and AI. These technologies give local authorities a powerful tool for mapping and monitoring biodiversity, assessing the impact of new developments, and prioritising conservation efforts. Perhaps most important is their ability to accurately scan hundreds of sites and vast tracts of land without overburdening budgets and workforces. Local authorities can now make more informed decisions and take a more proactive role in protecting and enhancing the environment in their local areas.

Objective data about biodiversity is essential for making informed decisions, steering agreement among factions, managing BNG programs over decades, and precisely prioritising spending. Modern, high-resolution satellite imagery and AI-powered analysis offers accurate, cost-effective, and quickly developed data.

With AI models, methods, and outputs verified by professional ecologists, automating habitat classification and measurement consistently produces 100% repeatable results. Automation removes human error and subjectivity, which have been shown to reduce the accuracy of alternative methods by up to 10%. With a commanding view from space, high-resolution satellite imagery and AI produce results in days or weeks across multiple sites or large areas, saving months of manual surveyance.

Satellite- and AI-powered analysis helps LPAs in several ways, including mapping and monitoring biodiversity, tracking changes in land use, assessing the impact of new developments, and prioritising conservation efforts. By combining satellite imagery and AI with other data sources, these systems allow LPAs to prioritise conservation efforts in areas where they are most likely to have a positive impact on biodiversity.

# 7 ways to comply, using satellites and AI

By applying current advancements in satellite imagery and artificial intelligence or AI, local planning authorities receive a wide scope of expertise and advantages at a fraction of traditional costs:

01.

Quickly and efficiently develop an accurate biodiversity baseline to **make informed decisions** and review the BNG applications.

02.

Create an LPA's **own biodiversity bank** to provide liquidity to the BNG market and raise much-needed funds.

03.

**Use measurements certified** by ecologists.

04.

**Take a proactive role** in protecting and enhancing the environment in their local areas, aligned with their local nature recovery strategy.

05.

Complete, with the click of a button, an end-to-end workflow to manage BNG planning applications, perform baselining, make ongoing assessments, and **develop all internal and external reporting**, including reports to Natural England and Defra.

06.

**Establish full traceability** into compliance requirements, ensuring that the LPA is always compliant with the latest version of the requirements.


07.

**Fully train LPA staff** on using the system to remain compliant.

# Intelligent sustainability management is ready now

A leading example of contemporary satellite- and AI-powered technology is the AiDash Intelligent Sustainability Management System (ISMS). The system identifies habitat areas aligned with GIS data, integrates public data sources and LPA environmental data, calculates environmental values, and predicts future-based scenarios. It optimises restoration plans, monitors workflow, and automates reporting. It is a single source of LPA sustainability data to assess baseline biodiversity, planning, and biodiversity net gain. Meeting established professional standards, it conducts ecology surveys, remote inspection, biodiversity stock take, land data management, ESG and sustainability reporting, and natural capital score carding.

Compared to emerging alternatives such as drones with AI, helicopters with AI, public data, and manual surveys, ISMS's satellite- and AI-powered analysis is the most accurate, cost-effective, and quick approach. It reduces environmental management costs by 75%, improves quality and accuracy while covering 100% of the land, and can go live in just 6-8 weeks.



Features	Satellite / ISMS	Drone w / Ai	Helicopter w / Ai	Public data / Manual	Manual Survey
Speed of Data Acquisition	Instant	Very Slow	Moderate	Fast	Very Slow
Geographic Coverage / Range	Entire Planet	Localized / Limited Range	Regional	Entire Planet	Localized / Limited Range
Regulatory Approval Needed	None	Required	Required	None	None
Land Access Approval	None	Potential	None	None	Yes
Historic Data / Time stamp	Available	Not Available	Not Available	Not Available	Not Available
Accuracy / Consistency	Yes - Automated	Risk - Manual	Risk - Manual	Risk - Manual	Risk - Manual Standard
Costs	\$	\$\$\$	\$\$\$	\$	\$\$\$\$

Figure 1: Satellite- and AI-powered systems outperform traditional methods.

## **BENEFITS AND CONCLUSION**

# How to improve England's environments from space

LPAs can effectively meet the new biodiversity requirements by adopting satellite- and AI-powered analysis, which provides objective data and can help LPAs prioritise conservation efforts. The AiDash Intelligent Sustainability Management System (ISMS) provides a single source of LPA sustainability data for biodiversity baselines, and for planning and delivering biodiversity net gain. Satellite- and AI-powered analysis is the most accurate, cost-effective, and quickest methodology for reducing environmental management costs and improving quality and accuracy, while covering 100% of the land.

**Learn more about how to ensure Environment Act 2021 compliance using satellites and AI.**

**Talk to a product expert today**