

Biodiversity Net Gain and Data-Led Conservation Planning in England

England's Biodiversity Net Gain regime is now a live regulatory system — with public registers, 30-year monitoring duties and a second wave of 2026 amendments. Here is what that means for conservation planning, and for the data infrastructure behind it.

ODEIS RESEARCH TEAM 28 JULY 2026 22 MIN READ

CATEGORY

Governance & Compliance

PUBLISHED

28 July 2026

READ TIME

22 minutes

AUTHOR

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TOPIC

Biodiversity Net Gain (BNG)

JURISDICTION

England, UK

As of July 2026, England's Biodiversity Net Gain framework is no longer just a planning policy concept; it is an operational regulatory regime with defined legal triggers, data requirements, public registers, monitoring duties, and now a second wave of amendments. For development that needs planning permission under the Town and Country Planning Act 1990 in England, the statutory baseline remains a minimum 10% biodiversity gain, secured through a pre-commencement biodiversity gain condition, with gains maintained for at least 30 years. Mandatory BNG began for most major development on 12 February 2024, for small development on 2 April 2024, and will become mandatory for NSIPs on 2 November 2026. Since 6 August 2026, additional exemptions and process changes apply, notably a new

0.2 hectare area-based exemption, a temporary-development exemption, the removal of the self-build/custom-build exemption for new applications, and a relaxation of the gain hierarchy for non-exempt minor development so that some minor schemes can go straight to off-site delivery. ¹

For data-led conservation planning, the most important shift is that BNG turns previously ad hoc ecological evidence into a structured compliance dataset. The statutory system requires parcel-level habitat baselines, condition assessments, pre- and post-development calculations, mapped boundaries, legal agreement references, monitoring plans, and register entries. The core statutory dataset is habitat-based rather than species-based: the metric relies on habitat type, size, condition, distinctiveness, and location as proxies for biodiversity value. But species data still matter operationally, because protected species and priority habitats affect tool selection, exemptions, mitigation requirements, and whether other environmental interventions can count toward BNG. The result is that an effective BNG data stack must combine habitat mapping, condition evidence, species constraints, strategic spatial layers, legal/administrative identifiers, and long-term monitoring records. ²

The practical implication is that BNG implementation is now fundamentally an information management problem as much as an ecological one. The official toolchain remains spreadsheet-centered: the statutory biodiversity metric, condition-assessment workbook, gain plan, HMMP, legal agreements, and the Biodiversity Gain Sites Register are all standardized, but they are not yet a fully integrated digital pipeline. Commercial systems used by local authorities are emerging to fill the gap, especially for validation, workflow, monitoring, and reporting. Public spatial platforms such as MAGIC and the NBN Atlas are increasingly important for early screening, strategic siting, and monitoring context, but they do not replace site survey obligations. ³

The main risks are now clearer than they were when the legislation first came into force. Peer-reviewed work and parliamentary review point to governance gaps, enforcement burdens, ecological skills shortages, and the limits of a habitat-proxy metric. One study estimated that 27% of biodiversity units in modeled English BNG delivery pathways fell into governance gaps with high non-compliance risk; another found that the statutory metric tracked aspects of plant biodiversity, but did not reliably improve bird or butterfly biodiversity. These findings do not make BNG unworkable, but they do mean that high-integrity implementation depends on better data infrastructure, stronger monitoring and audit capacity, better integration with LNRS and connectivity planning, and more machine-readable public data. ⁴

This article sets out recommendations for three broad audiences: planners and regulators, data managers and platform teams, and national policymakers — reflecting the reality that no single role owns BNG delivery end to end.

The regulatory baseline

The legal core of BNG in England is Schedule 7A of the Town and Country Planning Act 1990, inserted by Schedule 14 of the Environment Act 2021 and later amended by the Levelling-up and Regeneration Act 2023. Planning Practice Guidance states that, subject to exceptions, every grant of planning permission is deemed to include the statutory biodiversity gain condition, which requires the biodiversity gain objective to be met before development starts. That objective is measured as at least a 10% increase in biodiversity value relative to the pre-development biodiversity value of on-site habitat, and it can be met through on-site gains, registered off-site gains, or statutory biodiversity credits. The biodiversity gain condition is explicitly a pre-commencement condition.⁵

The current regime is best understood as a staged rollout with 2026 refinements.

REGULATORY ELEMENT	CURRENT POSITION	PRIMARY SOURCE
Core legal framework	BNG required in England under Schedule 7A TCPA 1990 as inserted by the Environment Act 2021; PPG treats this as the statutory BNG framework	6
Mandatory threshold	Minimum 10% gain relative to pre-development on-site biodiversity value	7
Main planning applicability	Applies to developments in England that need planning permission, subject to exemptions and transitional arrangements	8
Major development go-live	Mandatory from 12 February 2024	9
Small development go-live	Mandatory from 2 April 2024; before that date, minor applications were temporarily exempt	10
NSIP go-live	Mandatory from 2 November 2026 for DCO applications made on or after that date	11

REGULATORY ELEMENT	CURRENT POSITION	PRIMARY SOURCE
Duration of gains	Significant on-site and off-site gains must be secured for at least 30 years	12
Geographic scope for NSIPs	Applies only to components in England; extends to the mean low-water mark, including the intertidal zone, but excludes the marine environment beyond the intertidal zone	13
Biodiversity Gain Plan decision window	LPA normally has 8 weeks to approve or refuse a biodiversity gain plan	14
Biodiversity Gain Plan fee	Current fee for written confirmation of compliance with the condition is £145 per request	15

The exemption landscape changed materially in 2026. As of 6 August 2026, planning applications for developments with a red-line area of 0.2 hectares or below are exempt from BNG, unless the scheme impacts priority habitat on-site. Also from 6 August 2026, short-term temporary development is exempt if the whole development is temporary and permission is for 5 years or less, again subject to the same priority-habitat carve-out. The long-standing de minimis exemption continues to apply where development impacts less than 25 square metres of non-priority on-site habitat or less than 5 metres of on-site linear habitat. Householder applications remain exempt. Self-build/custom-build schemes are only exempt if the relevant application was made before 6 August 2026 and meets the statutory criteria; for new applications after that date, the self-build/custom-build exemption no longer applies. Other exemptions include urgent Crown development, development granted by development order including permitted development rights, gain sites created mainly to discharge another development's BNG condition, and development forming part of the high-speed rail transport network. ¹⁶

A further operational change from 6 August 2026 is that non-exempt small ("minor") developments can now consider on-site and off-site options at the same time and may go directly to off-site delivery, rather than having to exhaust on-site options first in the same strict way as larger schemes. That is a real data consequence, because it increases the practical importance of searchable off-site supply, spatial matching, and register-linked unit allocation for minor development workflows. ¹⁷

Enforcement is intentionally distributed across existing planning and legal mechanisms, rather than being built as an entirely separate BNG enforcement code. If developers do not meet BNG requirements, the relevant planning authority can take enforcement action because they may be in breach of planning conditions, planning obligations, or a legal agreement. For ongoing obligations, the enforcement responsibility sits with the other party to the legal agreement: where gains are secured by planning obligation, the LPA should enforce; where gains are secured by a conservation covenant, the responsible body should enforce. LPAs or responsible bodies are expected to monitor whether landowners are meeting their obligations and take action if they do not. ¹⁸

The clearest bespoke BNG-specific penalty currently visible in the regime is tied to the Biodiversity Gain Sites Register. The Register operator may impose a £5,000 financial penalty if false or misleading information is supplied in connection with an application to register land. Separately, Natural England’s terms confirm the same £5,000 sanction in relation to false or misleading information supplied to the Register operator. In short: BNG delivery is mainly enforced through planning and private/public law obligations, while the register has a specific financial penalty for data integrity failures. ¹⁹

The timeline above reflects the implementation dates in current official guidance and current NSIP guidance as of July 2026. ²⁰

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The data implications for conservation planning

BNG turns habitat evidence into a compliance dataset

At the center of BNG is a standardized habitat-accounting model. Official guidance states that the statutory biodiversity metric uses habitat information to generate biodiversity units, with core inputs including habitat type, size, distinctiveness, condition, and local location. Unless exempt, developers must provide 10% BNG on all habitats within the red-line boundary, whether or not those habitats are directly impacted; separate arrangements apply for irreplaceable habitat. This is a strong signal for data-led conservation planning: the compliance baseline is not just “what is lost,” but a full, mapped habitat statement for the development boundary.²¹

The statutory regime therefore requires, at minimum, a parcelized habitat baseline, metric-ready habitat coding, and mapped pre- and post-development plans. A biodiversity gain plan must include the completed metric tool, the relevant date for baseline valuation, the pre-development and post-development biodiversity values, arrangements for maintenance and monitoring where required, and mapped plans drawn to scale and showing north. For phased development, the same logic applies at whole-site scale, with the post-development value projected for the whole scheme and, where needed, by phase.²²

Required data types

For most Town and Country Planning Act development, the essential data types are: habitat parcel geometry; habitat type classification; area or length; condition assessment evidence; distinctiveness; strategic significance and spatial context; projected post-development habitat type and target condition; timing and difficulty assumptions embedded in the metric; off-site unit references where relevant; and legal/administrative identifiers for gain plans, HMMPs, and register allocations. Guidance also expects narrative evidence on avoidance/minimization steps, biodiversity gain hierarchy compliance, and degraded-baseline issues where applicable.²³

Species data are not the primary accounting currency of the statutory metric, but they remain operationally important. The small sites metric cannot be used where priority habitats, protected sites, or European protected species are present. More broadly, official NSIP guidance says the statutory metric must be used alongside wider ecological consideration and judgement, which means protected species constraints, ecological functionality, and non-habitat statutory duties remain part of real-world scheme design even when they do not translate directly into habitat units.²⁴

Watercourses are a special data domain. The user guide requires watercourses to be split into sections using professional judgment, with information collected on section length, condition, riparian zone, and encroachment. For non-ditch watercourses, users should conduct a River Condition Assessment, ideally by a qualified RCA assessor, and survey at least one point for each section, covering at least 20% of the total assessed length, with additional survey at points of known intervention where possible. That is materially more specific than many terrestrial habitat baselines and has implications for survey design, contractor competence, and repeatability. ²⁵

For NSIPs, the baseline logic is more constrained but more spatially explicit. Defra's 2026 guidance says the baseline must include habitats within order limits that will be negatively impacted or used to contribute toward BNG, while genuinely unimpacted habitats may be excluded. Applicants must show a BNG boundary plan that distinguishes negatively impacted habitat, areas contributing to BNG, unimpacted habitat included in baseline, and unimpacted habitat excluded from baseline. Where route or works areas are uncertain, applicants must use a realistic worst-case habitat-loss extent. ²⁶

Spatial and temporal resolution

The statutory system is finest-grained at the habitat parcel / section level. The user guide says habitat parcels should be split where they cross a boundary between areas of different strategic significance or a planning authority boundary. That matters because the same broad habitat may generate different outputs depending on its mapped strategic role and local planning geography. For off-site habitat, strategic significance must be assigned using documents relevant to the off-site location, not the development location. ²⁷

Temporally, the baseline should be current. PPG says surveys used to calculate the pre-development biodiversity value should ideally be done shortly before the planning application is submitted, and that older surveys can only be used where there has been no material change to on-site habitat. NSIP guidance is similar, stating that survey data must be collected within an appropriate timeframe before plan submission, taking account of habitat type and best-practice survey validity, and that older surveys may only be used if the applicant's ecologist confirms there has been no material change. ²⁸

The system also has temporal anti-gaming provisions. If unauthorized habitat degradation occurred between 30 January 2020 and the relevant date, or if post-25 August 2023 implementation activities connected to planning permission lowered biodiversity value, the pre-development value must be calculated by reference to the earlier, higher-value state immediately before degradation. Where evidence is incomplete, the system requires the highest biodiversity value reasonably supported by available evidence. That is a direct data-governance rule: archival imagery, prior surveys, and other evidence become important not just ecologically, but legally. ¹⁵

Data quality, standards, and metric versions

The official BNG toolchain is standardized, but it is not static. As of 2 June 2026, the published version history shows the current statutory biodiversity metric calculation tool at v1.0.4, the small sites metric at v1.2.3, and the statutory condition assessments at v1.0.3. The publication page also states that any version of the statutory metric tools can be used for BNG calculations and that routine updates do not affect biodiversity unit outputs. This is valuable for audit stability, but it also means data teams must track which version was used on each case for reproducibility and QA. ²⁹

The quality standard for terrestrial habitat inputs is still professional ecological survey. The statutory user guide says that professional survey is required to determine habitat type, and the official condition-assessment package provides a standard way to collect and input habitat condition. For small development, the simplified metric reduces the evidence burden by using fixed baseline condition values, so no condition assessment is required if the scheme is genuinely eligible for the SSM. That makes minor projects easier to process, but it also means planners need reliable eligibility screening up front. ³⁰

The continuing relevance of UKHab is visible in the official tooling. Defra's version history records corrections to UKHab codes and habitat definitions in the statutory metric, and the transition guidance from Biodiversity Metric 4.0 remains available for moving older calculations into the statutory tool. In practice, that means legacy datasets built around Biodiversity Metric 4.0 and UKHab can still be operationally useful, but statutory compliance now depends on controlled migration into the statutory metric and its associated guidance package. ³¹

Strategic significance adds an explicitly spatial planning layer. In the June 2026 user guide, where an LNRS has been published, post-development interventions can attract a 1.15 high strategic significance multiplier only where the parcel lies in a mapped LNRS area with a relevant potential measure and the proposed intervention is consistent with that measure. In LNRS areas, baseline strategic significance must always be scored as low. Where an LNRS has not yet been published, LPAs should specify alternative strategic documents such as draft LNRSs, local plans, ecological networks, tree strategies, biodiversity action plans, GI strategies, or catchment plans. ³²

Monitoring, reporting, and data governance

Monitoring is not an optional extra in BNG; it is part of the legal delivery model. Official HMMP guidance says the legal agreement must set out how habitats will be maintained, who is responsible for creation or enhancement, and who is responsible for maintenance, management, and monitoring. HMMPs should specify how and when habitats will be monitored, how results will be reported, when management proposals will be reviewed, and how management will change adaptively to achieve outcomes. Significant on-site enhancements normally need a draft HMMP with the planning application and a final version with the biodiversity gain plan. ³³

For LPAs, monitoring also feeds reporting duties. Defra guidance says local authorities must report on biodiversity gains that are delivered and expected to be delivered, and that information from biodiversity metric

calculations can support this reporting. The same guidance directs LPAs or responsible bodies to monitor whether landowners are meeting their obligations and to take action if they do not. Operationally, that implies a need for a persistent monitoring dataset that lasts far longer than a normal planning case-management workflow.³⁴

The Biodiversity Gain Sites Register is the main national governance layer for off-site habitat gains. It is a public register, the register operator must ensure the information is accessible to the public, and the searchable public view includes location, a map or plan showing the boundary, habitat types to be enhanced or created, habitats allocated to developments, and the relevant LPA or responsible body. The purpose of the register is not just transparency, but also preventing double counting of units. Registration requires a legal agreement lasting at least 30 years, a completed statutory metric, an HMMP, and boundary documentation; the current registration fee is £639.³⁵

Data sharing, however, remains fragmented. Government tool publications are licensed under the Open Government Licence where applicable, MAGIC presents authoritative cross-government spatial layers, and the Natural England Open Data Geoportal provides geospatial datasets and services. NBN Atlas is open access by default, but data use is constrained by the licenses chosen by data providers, and sensitive species are restricted. This means BNG data governance is already multi-regime: some data are open, some are public but case-specific, some are licensable, and some are intentionally suppressed. Strong data architecture therefore needs provenance, licensing, metadata, and access-control design from the outset.³⁶

Practical implementation workflows and the tool landscape

In practice, a robust BNG workflow starts much earlier than the formal biodiversity gain plan. Official developer guidance expects applicants first to decide how they will achieve BNG, then survey habitat, run the statutory metric, consider on-site delivery, explore off-site delivery where needed, secure legal agreements and register allocations, then submit the biodiversity gain plan before commencement. For off-site delivery, the land manager can begin habitat work before allocation, and if work has not started when units are allocated, it should begin within 12 months of allocation. ³⁷

The workflow above is the minimum viable compliance sequence. Data-led organizations improve it by inserting permanent object identifiers, GIS-quality checks, version control, and automated reminders between each of those steps. That is where platforms matter. Official tools are necessary but not sufficient; LPAs and delivery organizations increasingly need case-management and monitoring systems around the statutory toolchain. ³⁸

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Tool and platform comparison

The table below prioritizes tools and platforms with direct relevance to BNG implementation and publicly visible cost models where available at the time of writing. Where no public price is published, the cost model is described qualitatively.

TOOL OR PLATFORM	PROVIDER	TYPICAL DATA INPUTS	TYPICAL OUTPUTS	COST MODEL	STRENGTH
Statutory biodiversity metric calculation tool	Defra / Natural England	Habitat parcels, areas/lengths, habitat type, condition, distinctiveness, strategic significance, on-site/off-site interventions, credits	Habitat, hedgerow, and watercourse units; net gain %; credit shortfall	Free official download	Legally a standard by decision

Tool or Platform	Provider	Typical Data Inputs	Typical Outputs	Cost Model	Strengths
Small sites metric	Defra / Natural England	Simplified small-site habitat data for eligible schemes	Simplified BNG calculation for minor development	Free official download	Lower effort, easier for scheme:
HMMP templates and tools	Natural England / Defra	Habitat proposals, management prescriptions, monitoring/reporting schedules, responsibilities	Standardized HMMP, checklist, companion guides	Free	Strong support, long-term and more
Biodiversity Gain Sites Register	Natural England / Defra	Legal agreement, metric output, HMMP, land boundary plan, local land charge certificate	Public registration, gain site reference, allocation record, searchable off-site data	Public search free; registration fee £639	Prevents double-counting; reference transparency
MAGIC	Defra family service	Spatial query area; government habitat/designation layers	Interactive maps and cross-government environmental constraints/context	Free	Authoritative background context; across government
Natural England Open Data Geoportal	Natural England	GIS/web-service requests	Downloadable geospatial data and web services	Free/open where licensed	Useful for GIS integration; reproducible
NBN Atlas	NBN Trust	Spatial/species query area, taxon filters, occurrence records	Species records, species lists, CSV downloads, maps	No charge for use; license conditions vary by dataset	Large biodiversity evidence base for species and more
Exacom BNG Monitoring and Reporting Module	Exacom	DEFRA metric workbook import or direct entry; legal	Monitoring schedules, alerts, workflow,	Publicly listed at £3,000 to £7,000 per	Designed for monitoring workflow

TOOL OR PLATFORM	PROVIDER	TYPICAL DATA INPUTS	TYPICAL OUTPUTS	COST MODEL	STRENGTHS
		agreement and monitoring data	enforcement-related tracking	licence per year	with obligations systems
Mycelia	Verna	Statutory metric imports, spatial data, planning case data, monitoring responsibilities	Validation, assessment, monitoring, reporting, risk-flagging, data export	Publicly listed at £10,000 per licence per year on the G-Cloud listing cited; Verna's own site describes tiered pricing of £10,000–£20,000/year depending on an LPA's planning-load tier	End-to-end ecology, built for risk-management
Joe's Blooms BNG Tool	Joe's Blooms	Project details for smaller schemes; digital BNG inputs	Small-site compliance documents and BNG outputs	Publicly marketed from £495 per site/project	Lower-cost for small sites

A notable feature of the current market is that the official compliance engine is free, but the systems needed to operationalize 30-year monitoring are not. That is why public bodies are increasingly pairing the statutory metric with commercial workflow tools or internal databases. PAS case studies show one shared environmental service using a bespoke Excel database at first, while others use commercial systems such as Exacom and Mycelia.⁴⁸

Illustrative UK implementation examples

A strong example of spatially strategic BNG delivery is Northumberland's Potland Burn / Cambois case. Natural England's 2026 case study describes how Northumberland County Council and partners used a 275-hectare habitat bank (secondary sources describe the site as approximately 268 hectares / 660 acres, but 275 hectares is the figure given in the Natural England source cited here) at Potland Burn to help solve BNG constraints around major employment sites, including the QTS Cambois data centre campus. The case is especially relevant for data-led planning because it combined habitat bank design, landscape context, local habitat network evidence, and application of Rule 4 in the statutory metric for a complex open mosaic habitat problem. This is what BNG looks like when it is used as meso-scale conservation planning rather than a narrow site-by-site offset transaction.⁴⁹

A second kind of example comes from Merseyside Environmental Advisory Service. PAS reports that MEAS created dedicated BNG advisor and monitoring/data officer roles, built a bespoke database to track habitat unit calculations, delivery mechanisms, and risk ratings across member authorities, and standardized planning conditions to better capture trigger dates and monitoring milestones. This is one of the clearest public examples of BNG becoming a long-horizon data management function, not just a development-control task.⁵⁰

A third example is Plymouth City Council's habitat bank and the broader land-manager pipeline described by Natural England. Plymouth used a strategic opportunity assessment of council land, habitat enhancement across several sites, and cross-team collaboration to generate off-site units linked to infrastructure delivery. In parallel, the Environmental Farmers Group had already supported 44 farmers in completing Biodiversity Baseline Audits using Natural England Metric 4.0 across a cooperative covering over 130,000 hectares. Together, these examples show a maturing upstream supply chain in which habitat banking depends on baseline audits, portfolio-scale land screening, and longer-term natural capital management.⁵¹

A fourth example, more strategic than transactional, is Wendling Beck. Natural England describes it as a landscape-scale nature recovery project creating habitat corridors between three SSSIs and using habitat mosaics, chalk stream restoration, and environmental finance mechanisms. Although it predates mandatory BNG implementation, it is useful because it shows the kind of connected, place-based habitat planning that many BNG critics argue is needed if the regime is to deliver ecological outcomes beyond simple habitat accounting.⁵²

Gaps, risks, and recommendations

The most important analytical point is that BNG's legal architecture is ahead of its data infrastructure. England now has a functioning compliance framework, but much of the delivery chain remains spreadsheet-driven, locally variable, and operationally fragile. That is manageable in the short term; it is not an ideal steady state for a 30-year monitoring regime spread across many LPAs, responsible bodies, consultants, habitat banks, and developers.⁵³

Where the main gaps and risks now sit

The first gap is ecological representativeness. The statutory metric is a habitat-proxy system, and peer-reviewed evidence suggests that proxy performance is uneven. A 2024 Journal of Applied Ecology paper found that England's statutory biodiversity metric had explanatory power for several metrics of plant biodiversity, but not for bird or butterfly biodiversity. In practical terms, that means data-led planning should not mistake "metric uplift" for a complete measure of conservation outcome. Habitat accounting is necessary for compliance; it is not sufficient as a full ecological outcome framework.⁵⁴

The second gap is governance and compliance risk. Rampling and colleagues estimated that 27% of modeled biodiversity units in English BNG delivery pathways fell into governance gaps exposing them to high non-compliance risk, and they explicitly frame scarce regulatory resources as a threat to policy effectiveness. Parliament's POSTnote similarly highlights concerns about ecological skills and capacity gaps, and about the enforcement and monitoring of delivered units. This combination is serious: a habitat-market policy is only as credible as its monitoring and enforcement system.⁵⁵

The third gap is strategic spatial targeting. The statutory metric does include spatial risk and strategic significance, and LNRS publication now strengthens that logic. But parliamentary analysis notes concern that too much habitat creation may still occur on development sites rather than in places of greatest strategic conservation importance. Peer-reviewed practitioner guidance on functional connectivity also argues for explicit connectivity modeling in English BNG practice. So although the current system can reward better spatial siting, it still depends heavily on whether planners, developers, and habitat providers actually use LNRS and connectivity evidence in project design.⁵⁶

The fourth gap is data interoperability. The official toolchain contains structured data, but much of it is exchanged through spreadsheets, PDFs, and semi-structured documents. That makes it harder to do national analytics, automate validation, compare monitoring outcomes across authorities, or detect underperformance

early. Commercial platforms are beginning to solve this at organization level, but there is still no universally adopted national machine-readable BNG schema spanning application-stage habitat data, post-consent gain plans, HMMP events, register allocations, and long-term monitoring returns. ³⁸

The fifth gap is institutional capacity. BNG creates new work for planners, ecologists, GIS teams, legal officers, and enforcement officers simultaneously. That includes baseline scrutiny, off-site register checks, HMMP review, long-term monitoring, biodiversity duty reporting, and engagement with LNRS and habitat-bank providers. Official guidance acknowledges that LPAs can set local policies and identify suitable areas for habitat creation, but that is only helpful where authorities have the staff, systems, and geospatial capability to do it. ⁵⁷

“The organisations that do best under BNG will not only be those with good ecologists, but those that can reliably connect ecological survey, GIS, decision logic, legal controls, public-register evidence and monitoring data into one consistent operational system.”

Recommendations for planners, data managers, and policymakers

For planners and regulators, the short-term priority is to standardize inputs and triage risk — building repeatable baseline packages and validation checklists, and directing monitoring attention toward the schemes carrying the greatest risk. Shared services and regional ecology hubs appear especially valuable where individual LPAs lack specialist capacity. ⁵⁸

For data managers and platform teams, the short-term priority is to treat BNG as a full lifecycle data product rather than a collection of documents, with persistent identifiers linking baseline habitat, post-development proposal, legal obligations, and monitoring returns across the full 30-year term. Without that design discipline, long-term compliance becomes difficult to audit. The specific identifier architecture and data model best suited to a given organisation is the kind of detail we design with individual clients. ⁵⁹

For national policymakers, the short-term priority is to reduce preventable friction in the official system — through a more machine-readable national schema for metric and gain-plan exchange, broader API-level access to register data, and clearer national guidance on how BNG data should feed biodiversity-duty reporting and LNRS implementation. Government already signals that companies using metric data in their own software can register for advance notice of tool changes; the next step should be a clearer interoperability standard, not just change notification. ⁶⁰

Over the medium to long term, planners should move from case-by-case compliance toward strategic BNG planning — publishing local habitat creation priorities, aligning local plan evidence with LNRS, and using official spatial layers plus local ecological network data to steer both public and private off-site supply. The goal is not simply to approve gain plans faster, but to improve where gains happen and how they contribute to local nature recovery. ⁶¹

Over the same horizon, data teams should integrate connectivity, species sensitivity, and monitoring outcomes with the compliance dataset. Peer-reviewed work on functional connectivity for English BNG suggests that connectivity modeling can support better siting and more ecologically coherent gains. In parallel, evidence that the metric better reflects plant than bird/butterfly biodiversity argues for supplementary outcome indicators in monitoring programs, especially for larger or strategically important sites. A mature BNG data system should therefore have a core compliance layer and an additional ecological outcome layer. ⁶²

For policymakers, the longer-term test is whether BNG becomes a trusted conservation market or remains a compliance-heavy planning add-on. Meeting that test will require better national reporting on actual habitat delivery, stronger audit and enforcement analytics, continued support for LNRS publication and uptake, and more explicit integration with broader environmental markets so that stacking or interaction with nutrient mitigation, green infrastructure, and catchment schemes is transparent and not double-counted. Official guidance already allows some other schemes to count toward BNG in full or in part, but that increases—not reduces—the need for strong data governance and provenance. ⁶³

In bottom-line terms, the new UK BNG regulations mean that conservation planning in England has become regulatorily data-intensive. The organizations that will do best under BNG are not only those with good ecologists, but those that can reliably connect ecological survey, GIS, decision logic, legal controls, public-register evidence, and monitoring data into one consistent operational system — the specific roadmap for getting there depends on an organisation's starting point, and is something we work through case by case. ⁶⁴

Sources & references

This article draws on UK Government (Defra / Natural England) statutory guidance, secondary legislation, peer-reviewed research, and published UK Parliament briefings current as of July 2026. Numbers in the text link to the corresponding source below; numbers beside each source link back to where it is cited.

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