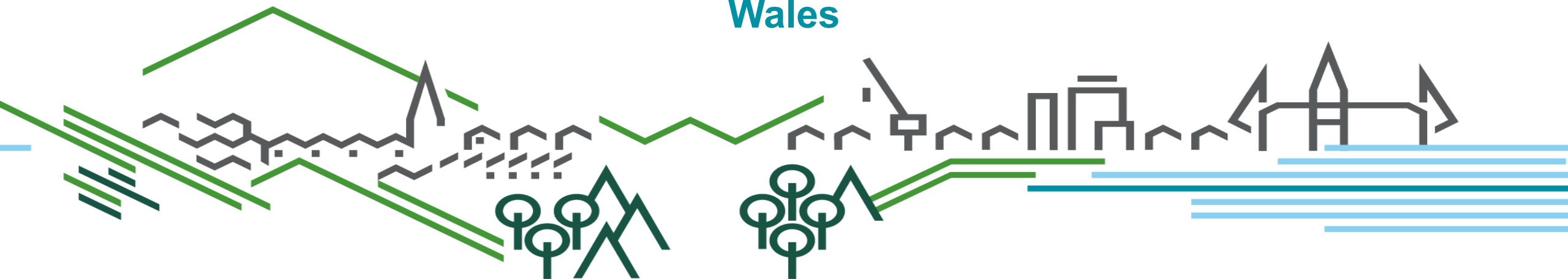


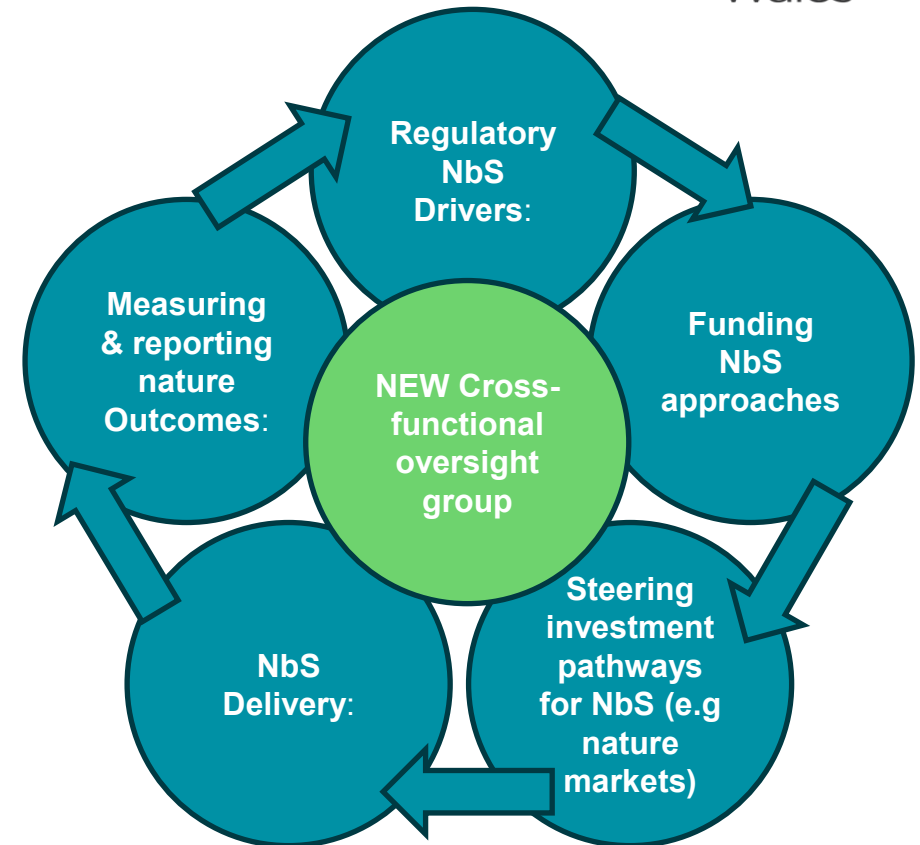
Mainstreaming Nature-Based solutions in Wales: Opportunities and Risks

Dr Rob McCall, Principal Advisor, Natural Resources
Wales



NRW's multiple roles in mainstreaming Nature-based solutions

- We are a statutory **regulator** of compliance mechanisms that use NbS
- We are a **funder** / investor in nature / NbS.
- We are a **supplier** of ecosystem goods and services / NbS from WGWE
- We are **consultee** / **advisor** on NbS projects and mechanisms that drive investment in nature / NbS.
- We are a provider of **evidence** supporting baselining and monitoring of outcomes NbS
- We are a **convener** of stakeholders



What do we mean by Nature-based solutions – and why this matters to NRW?



What are Nature-based solutions (NBS)? Setting core ideas for concept clarification



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ARTICLE INFO

Keywords:

Conceptualisation

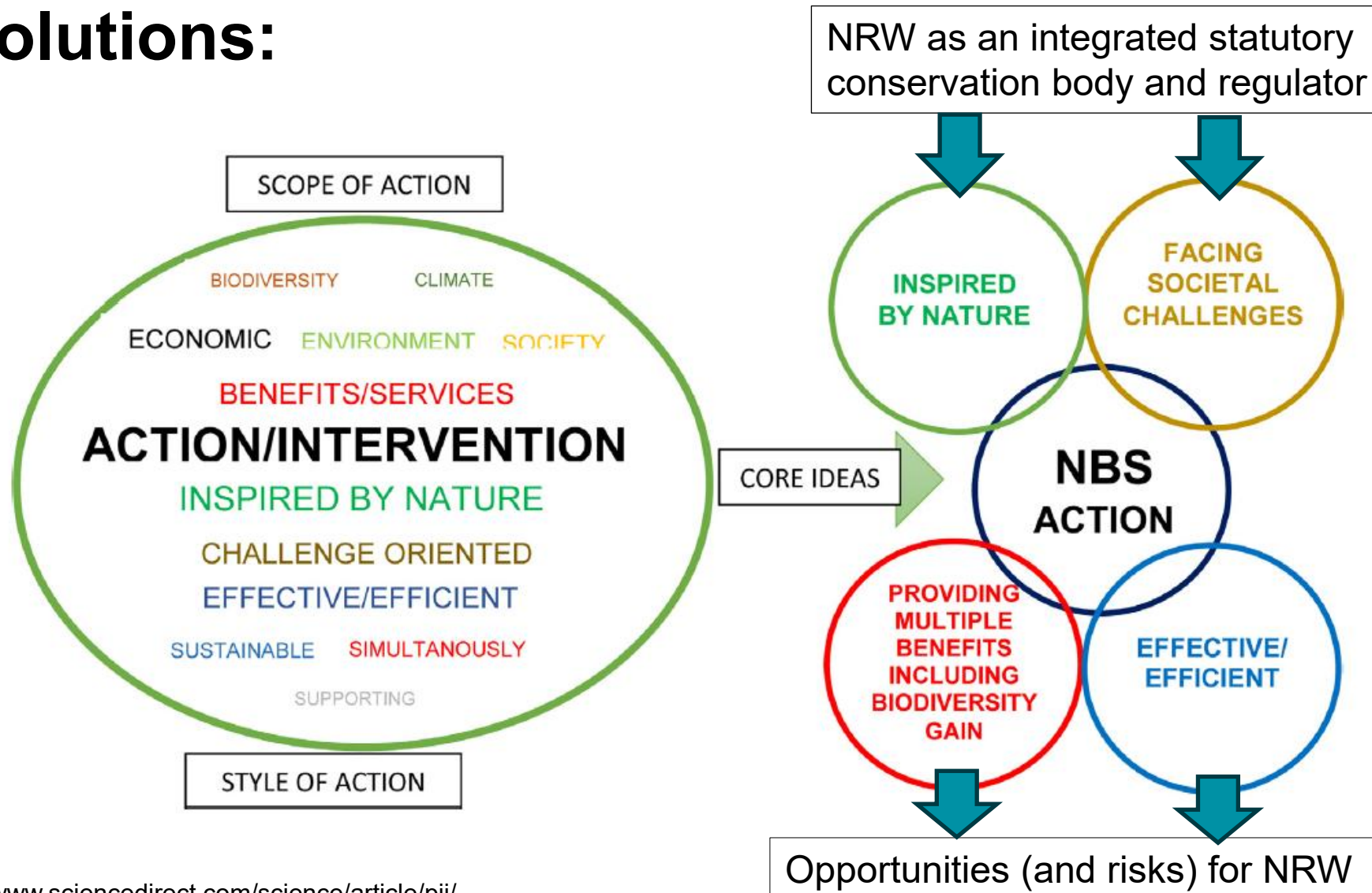
Core ideas

Nature-based solutions

ABSTRACT

Although nature-based solutions (NBS) have been promoted as a key tool for solving diverse environmental and societal problems, the concept and its practical applications remain unclear. This ambiguity is linked to the fact that the NBS concept has emerged from the integration of multiple scientific fields. In addition, there has been a delay in establishing clear standards for NBS, hence a number of actions that today would be seen as complementary or related measures, are frequently branded as NBS. Thus, this paper paves the way to clarify NBS by identifying their core features and formulating criteria to exclude certain actions from the set of NBS.

Effective Nature-based Solutions:





Exclusion criteria	
Lacking functioning ecosystems	Does the project employ materials and structures that are modelled on or use biological processes but are not directly based on functioning ecosystems?
Random actions	To be deemed an NbS, actions must be deliberate, with clearly defined goals relating to NbS challenges and clearly defined partners, beneficiary groups and management systems. Excludes actions only notional described as NbS
Post-implementation branding	An NbS project should be identified as such from the outset according to the positive criteria above, rather than branded NbS post implementation
Negative or no verified or verifiable impact on biodiversity	A project should be able to clearly evidence (using a baseline / monitoring approach) or a priori model using appropriate techniques a positive change in biodiversity.
Same benefits as grey infrastructure alone	NbS projects should deliver beyond the outcomes offered by conventional grey solutions - and not just replacing them with no additional benefits
Unfair distribution of benefits	The approach should not solely benefit either the environment or human wellbeing. NbS should ensure that both should enjoy benefits of the project
Copy / paste implementation approach	The project should be adapted to local conditions and communities and not dropped-in using an approach optimised in another location
Top-down model of governance	High quality NbS projects should actively and appropriately involve all relevant stakeholders in design and execution of project
Static management approach	High quality NbS projects should use an adaptive management approach to respond to changing circumstances
Financial expenses disproportionate to benefits	The scheme should have a favourable cost-benefit ratio, including future maintenance and management costs
Point-scale approach	Consideration should be given (and evidence provided) of a landscape-scale analysis of the integration of the the NbS into local and wider connectivity and ecological landscape considerations

NbS in NRW Corporate Plan to 2030: NRW's Wellbeing Objectives



- Restoring Nature
- Ensuring communities are resilient to climate change
- Minimising pollution

We recognise that multi-functional NbS will be key to delivering our wellbeing objectives in an integrated way

“Nature-based solutions, such as restoring peatland and creating woodland under the climate well-being objective, will bring wider benefits for nature and people. This includes cutting carbon emissions, providing climate adaptation benefits, as well as providing opportunities for people to engage in and with nature. This wider, integrated perspective must inform our choices”

Key theme 1: Maximising the multi-benefits potential of NbS:

Challenge of *conventional siloed* business cases

NbS		Grey Infrastructure
Moderate performance	⋄	High performance
Moderate cost-effectiveness	⋄	High cost effectiveness
Lower certainty of outcome	⋄	Higher certainty of outcome

....Viewed from a single silo, NbS may *not* prove attractive

Maximising the multi-benefits potential of NbS : *Co-funded* business case appraisal of NbS

Co-funded NbS	Grey Infrastructure
Multi-outcomes from single project >	Single outcome
Moderate performance in a single outcome, but delivers across several outcomes. Overall higher outcome(s). >	High performance in a single outcome
Moderate cost-effectiveness for a single outcome, when other outcomes excluded, but co-funding from other outcome beneficiaries can improve cost effectiveness, so overall higher cost-effectiveness. >	High cost-effectiveness
Lower certainty of outcome, but high cost-effectiveness of co-funded project can be used to derisk, through scaling. Acceptable certainty of multiple outcomes. =	Higher certainty of single outcome

Realising the multi-outcome value that NbS can deliver – a toolkit?

- **Include NbS in standard optioneering**
- **Use tools that estimate co-benefits for other outcomes (eg CVF)**
- **Use maps to understand project site in terms of spatial overlap of other spatial priorities for other potential co-funders**
- **Combine quantification tools and maps to initiate joint proposals with other potential co-funders**
- **Determine value to each co-funder**
- **Determine cost of project**
- **Apportion savings to co-funders according to value derived from project**
- **Re analyse cost-benefit of NbS project for each cofounder**
- **Co-funding agreement**
- **Implementation**

Delivering equitable cost-benefit enhancements through mutual co-funding can also solve other problems:



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Stacking: **Additionality is preserved: co-funding contribution is adjusted so all partners' funding is required for project implementation.**

Equitable distribution of value: assured through redistributing windfall gains from multiple beneficiaries otherwise accrued by the project developer to all co-funders.

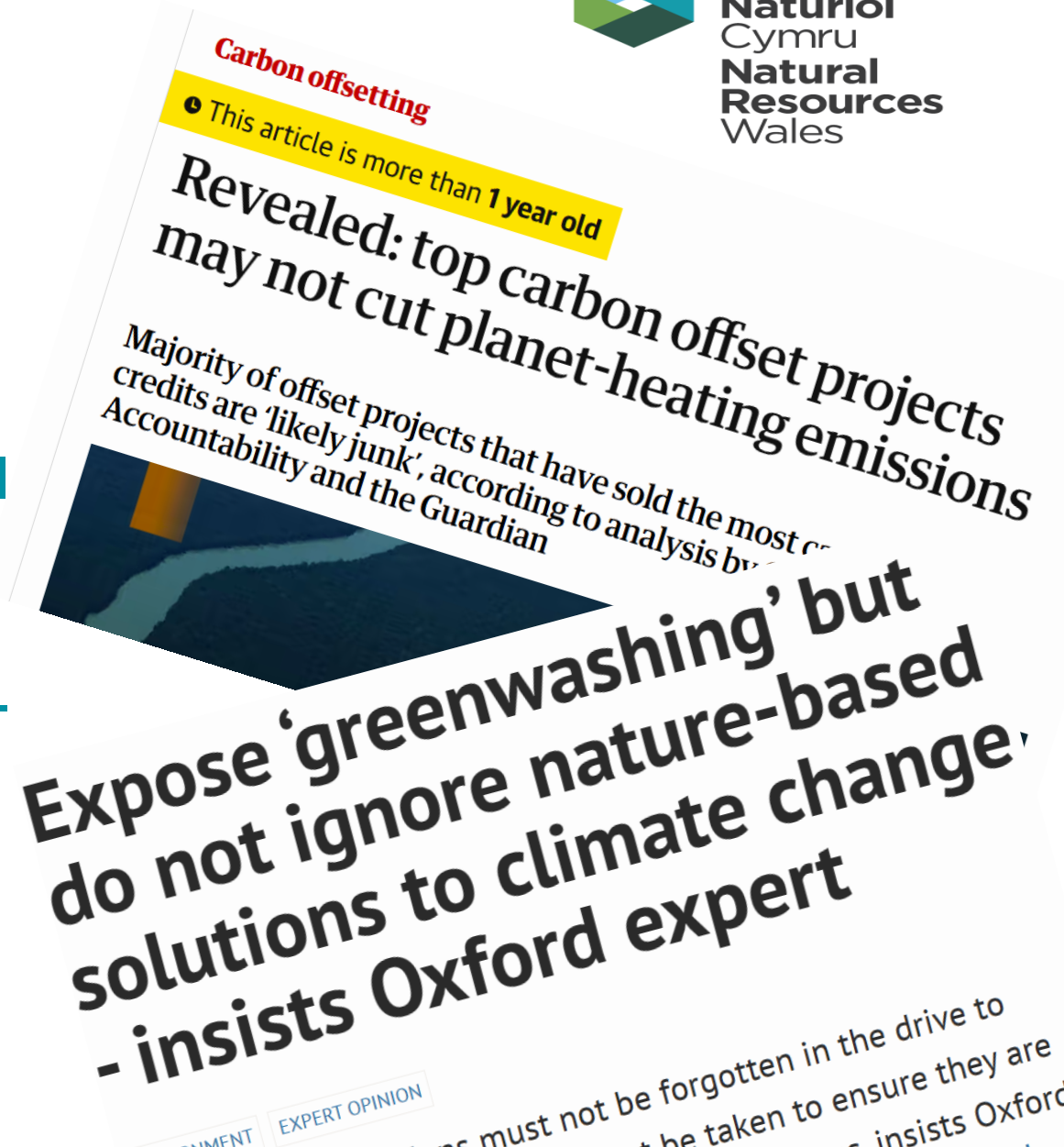
Multiple beneficiaries from a single funded intervention creates value: a driver of **sustainable economic productivity**

Key theme 2: Ensuring that NbS are effective & efficient:

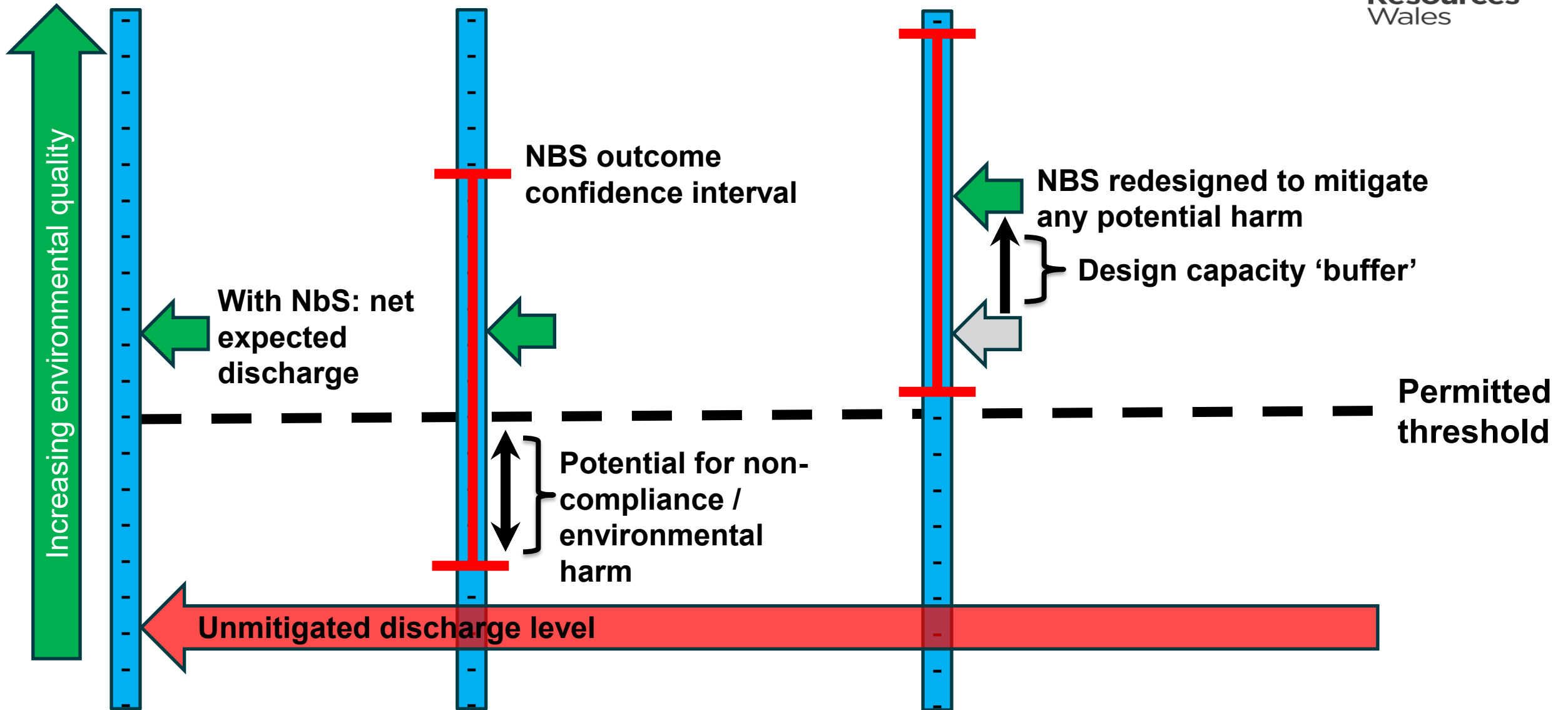
- NbS that fail to deliver outcomes harm the reputation of NbS
- They can harm investment into NbS
- Focus must be on high integrity
- High integrity should include an appraisal of certainty & risk in delivering outcomes
- This is particularly important for NRW in a regulatory compliance / advice setting – e.g nutrient neutrality
- Habs Regs require mitigation to be assured to a level beyond all reasonable scientific doubt
- Failing to do this could result in net harm

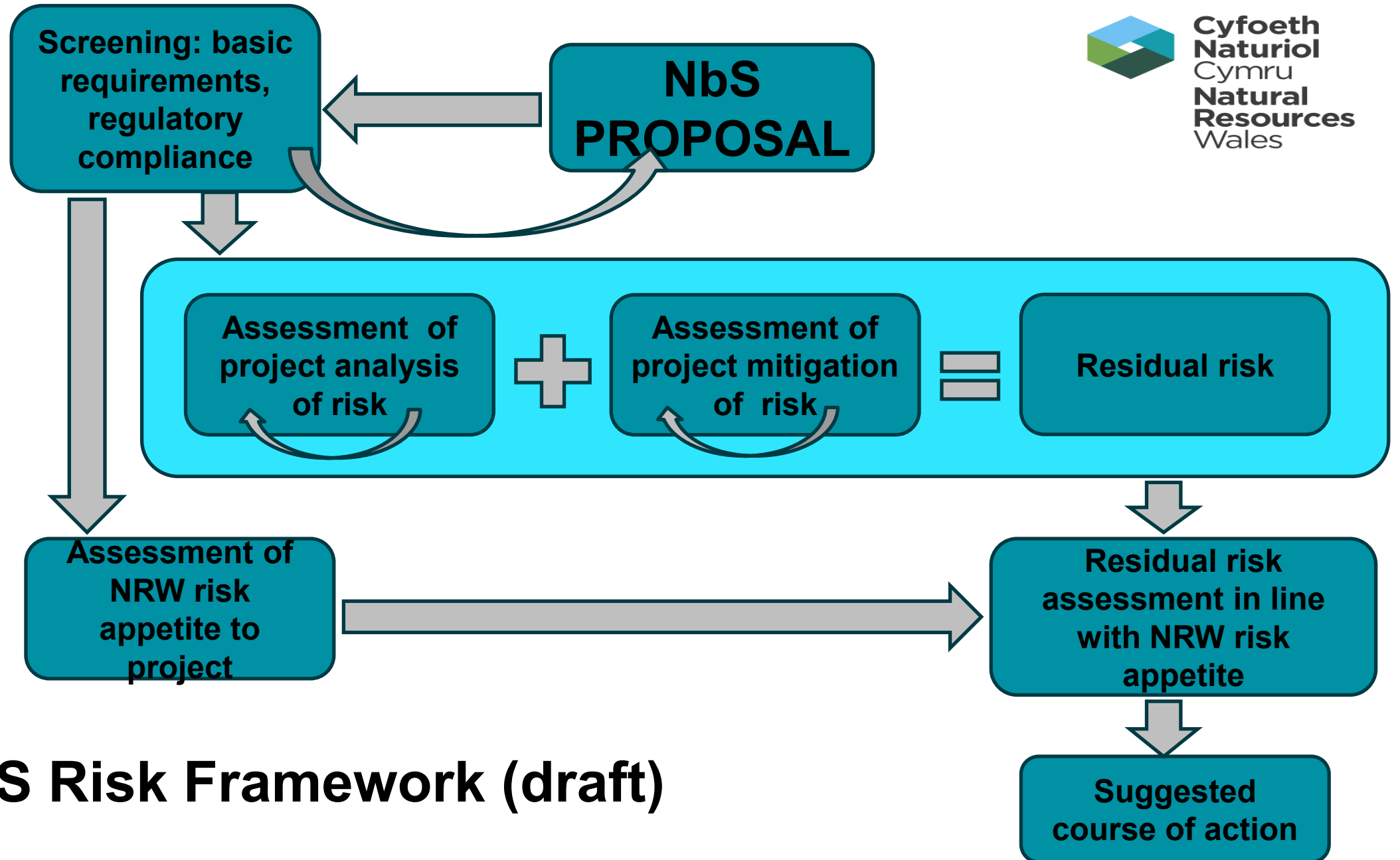


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Understanding and mitigating risk for NbS when used as means to achieve reg compliance





NRW NbS Risk Framework (draft)

Summary

- **Ensuring high integrity of NbS outcomes – central to our NbS Risk Framework project**
- **Using multiple benefits of NbS to drive co-funding and improve cost-effectiveness of NbS – part of our NbS Position Framework project**

Questions

