

Thames Water – Measuring Biodiversity Net Gain

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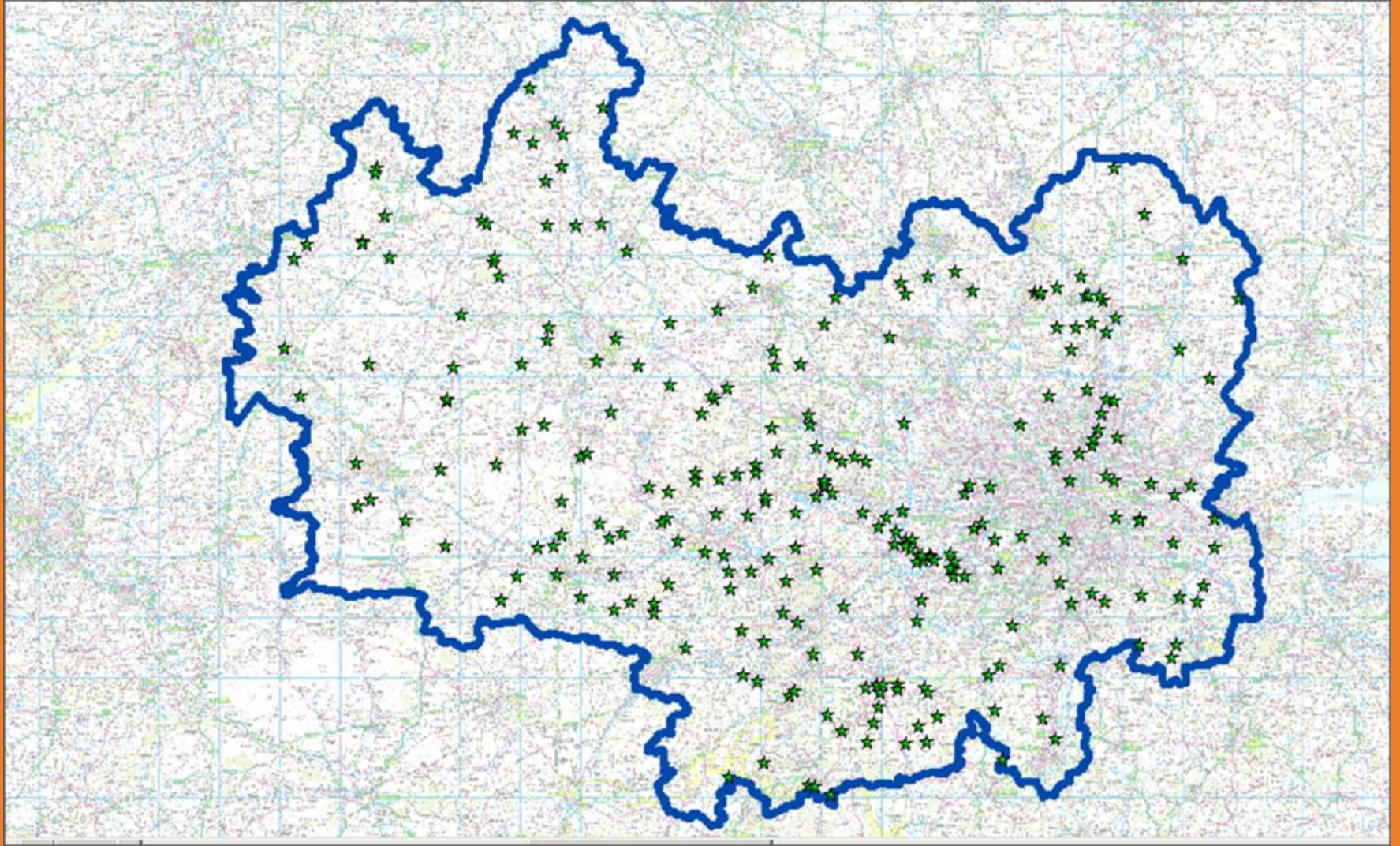
Our current biodiversity programme



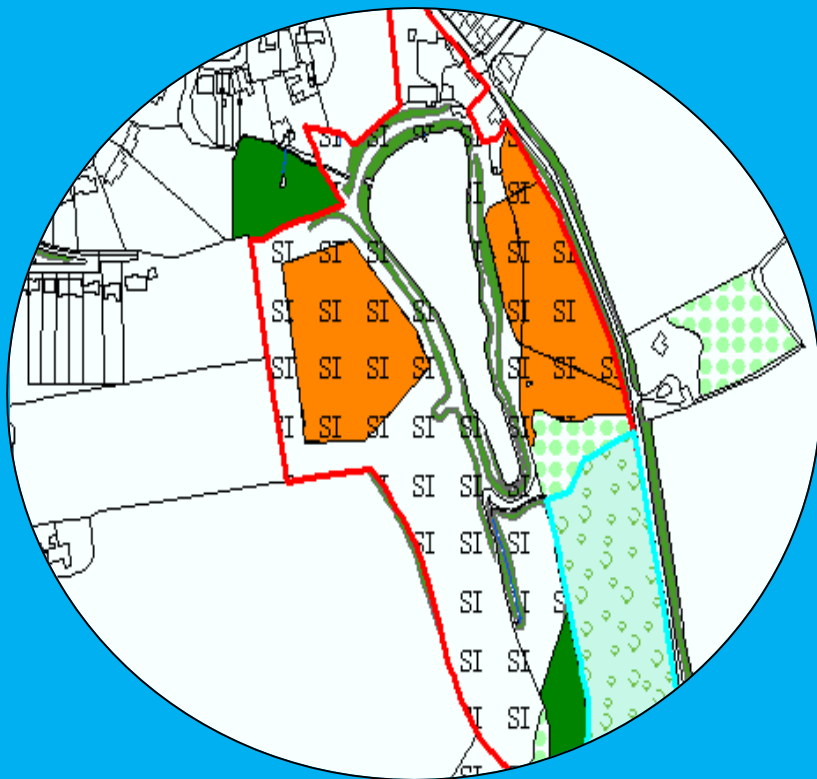
- **253 of our sites as Sites of Biodiversity Interest – e.g. have rare orchids present**
- **12 of our sites are SSSIs; five AONBs within catchment**
- **Directly manage five nature reserves; 22 managed by our leaseholders**
- **Site Enhancements for Biodiversity and Access to protect and enhance biodiversity**



250+ sites of biodiversity interest...



Example - ancient woodland at Wroughton Reservoir



Example - grassland

Kempton Water Treatment Works

- Grass cutting regime changed to support small tortoiseshell butterfly, whilst still meeting operational needs.



Walton Water Treatment Works

- Bee orchids and array of wildflowers found all around the bank around admin building



Wild about Thames Events



- Raise awareness about the ecological importance of our sites
- Open to Thames Water staff and customers.

Wild about Woodlands

Volunteers coppiced woodland at Bracknell STW



Wild about Butterflies.

Identification workshop followed by a site survey at Winchester Wood



Wild about Birds.

Bird ringing demonstration by licenced experts at Swindon Lagoons



Biodiversity on sites - customers' views

Customers are generally impressed by the information about Thames Water's current biodiversity strategy.

Thames Water customers care about biodiversity and expect the company to take action to preserve it.

Customer support for Thames Water's biodiversity plan remains high, even when presented in the context of a potential bill increase.

Learning about Thames Water's biodiversity plans generally makes customers more positive about the organisation.

Plans for 2020 - 2025

- **New performance commitment**
- We will invest to deliver the biodiversity net-gain target
- Also enhance sites for customer health & well being (wider environmental net gain)
- Plan to open up access to more sites



Business Plan 2020 – 2025:
September 2018

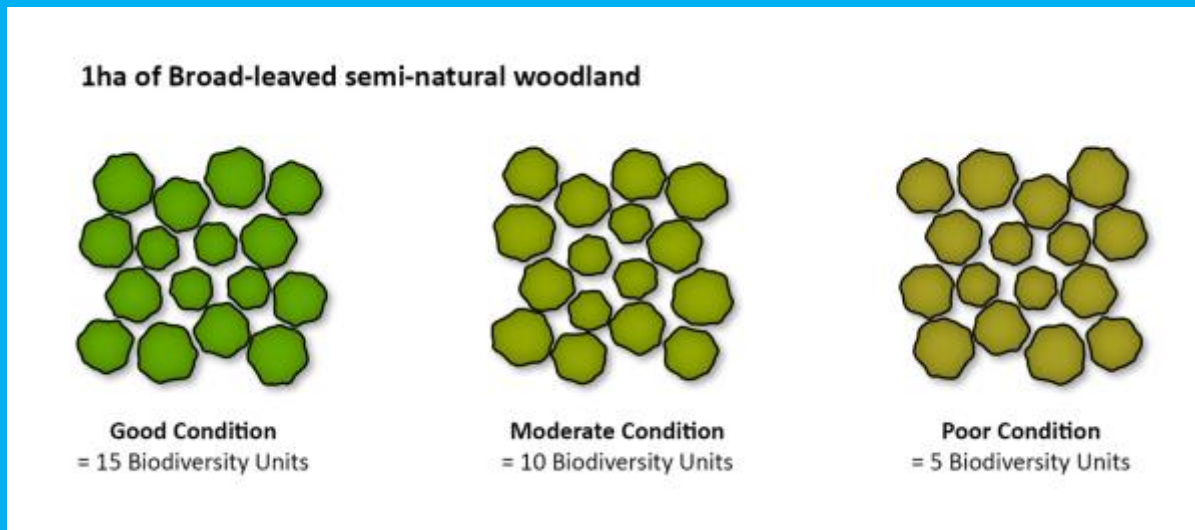
Performance Commitment Summary

Performance commitment: EWS01
Enhancing biodiversity



How the performance commitment will work

- TW ambition to quantify biodiversity and take action to increase it
- **Biodiversity units** are a tool to achieve this
- Calculated by the Defra Metric, using Phase 1 habitat types



- Relationship between habitat condition and biodiversity units

Biodiversity Net Gain – Baseline Data

To measure net gain - needs a baseline

AECOM has previously collected Phase 1 habitat data for the 253 SBI sites, and captured this within a GIS database.

This gave us access to

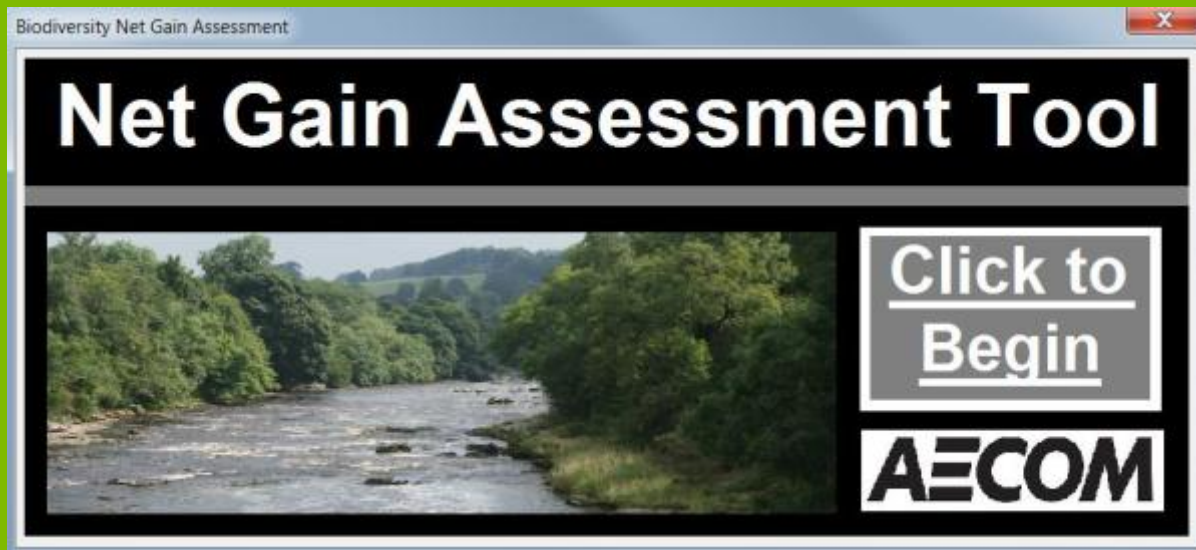
- Phase 1 habitat mapping
- Species lists
- Target notes and photographs



Biodiversity Net gain - Tool

Phase 1 habitat data to biodiversity units

Excel tool uses Defra metric to calculate baseline biodiversity units for each site



Measuring biodiversity

- AECOM have calculated biodiversity units at Thames Water's 253 key sites
- Thames Water are targeting a 1% increase in biodiversity units each year 5% cumulative increase by end of investment cycle
- Enhancement required to achieve increase may take five years or more to be quantifiable

Habitat	Biodiversity Units	Area (ha)
Grassland	5977	1093
Woodland	3578	248
Hedgerow	504	44
Standing Water	33685	1965
Running Water	1474	89
Scrubland	1006	115
Disturbed Ground	116	40
Buildings	0	115
Hard Standing	0	68
Total	46340	3816

Note – hedgerows measured by length rather than area

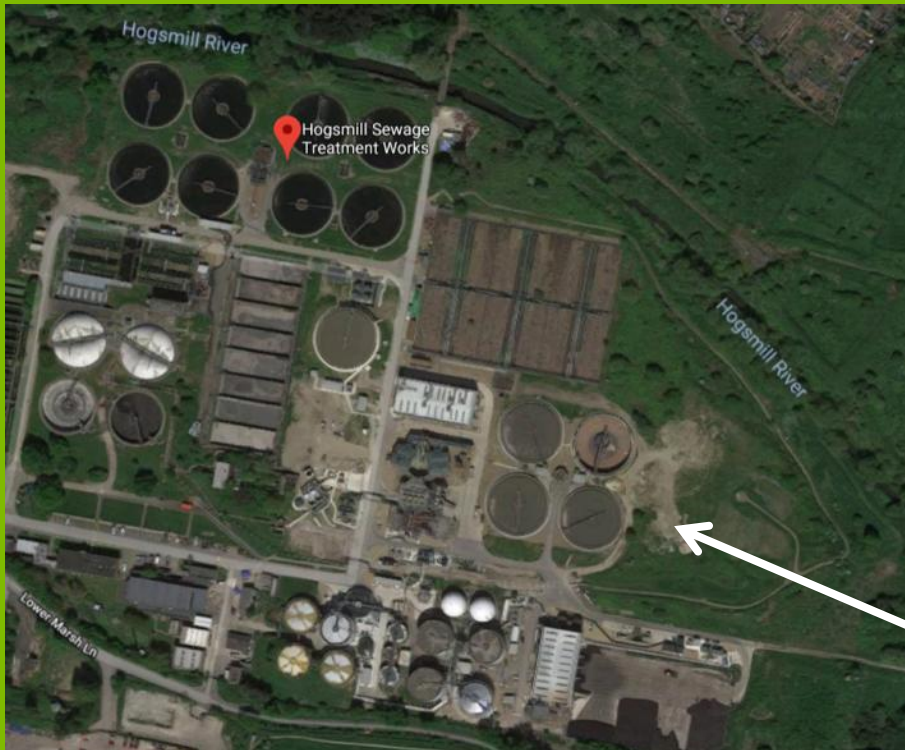
Biodiversity Net Gain

“Easy wins” relating to improvements in condition

10 key sites identified for more intensive study in 2019



Example of enhancement – Hogsmill STW



Before enhancement

Improvements undertaken

- Re-profile the landscape for better visibility of the STW from the educational visitors viewing platform.
- Spread 540 tonnes of low nutrient sandy loam soil to a depth of 50mm
- Spread of wildflower seed mixture (meadow mixture for loamy soils) at 6-8g per m²
- Creation of 3 ponds to be planted with native aquatic plant species





During enhancement

Scenario 1: Net Gain Calculations

Habitats Lost

No	Habitat	Area (ha) / Length (km)	Current Condition	Distinctiveness Score	Condition Score	A. Retained	No	Habitat	Area (ha) / Length (km)	Current Condition	Distinctiveness Score	Condition Score	B. Lost
1	Bare ground	1.0	Poor	2.0	1.0	1.9	1	Bare ground	0.1	Poor	2.0	1.0	-0.1
2	Broad-leaved parkland	0.8	Moderate	6.0	2.0	9.1	2	Tall ruderal	1.2	Poor	3.0	1.0	-3.7
3	Broad-leaved plantation	0.6	Good	4.0	3.0	6.7	3	0	0.0	0.00	0.0	0.0	0.0
4	Buildings / hardstanding	4.6	Poor	0.0	1.0	0.0	4	0	0.0	0.00	0.0	0.0	0.0
5	Coniferous parkland	0.0	Moderate	4.0	2.0	0.2	5	0	0.0	0.00	0.0	0.0	0.0
6	Coniferous plantation	0.0	Moderate	2.0	2.0	0.1	6	0	0.0	0.00	0.0	0.0	0.0
7	Improved grassland	3.6	Poor	2.0	1.0	7.2	7	0	0.0	0.00	0.0	0.0	0.0
8	Tall ruderal	7.0	Poor	3.0	1.0	21.1	8	0	0.0	0.00	0.0	0.0	0.0
9	Poor semi-improved grassland	0.1	Poor	3.0	1.0	0.4	9	0	0.0	0.00	0.0	0.0	0.0
10	Running water	1.2	Good	6.0	3.0	21.1	10	0	0.0	0.00	0.0	0.0	0.0
11	Dense continuous scrub	3.1	Moderate	3.0	2.0	18.5	11	0	0.0	0.00	0.0	0.0	0.0
12	Scattered scrub	1.1	Moderate	4.0	2.0	9.0	12	0	0.0	0.00	0.0	0.0	0.0
SUBTOTAL						95.3	SUBTOTAL						-3.8

Biodiversity Net Gain Assessment

Net Gain Assessment Tool



[Click to Begin](#)

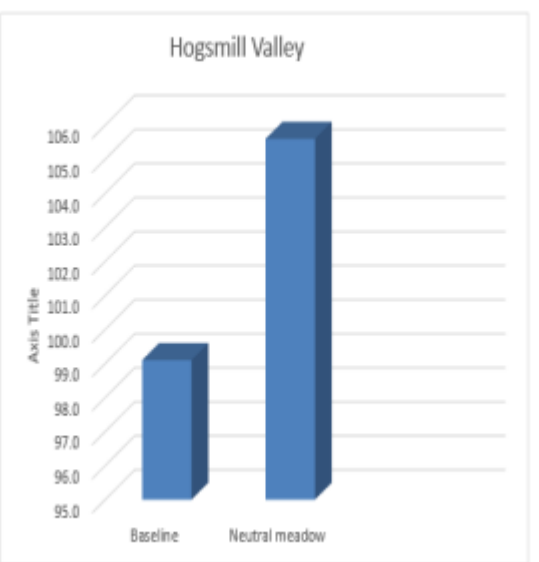


No	Habitat	Area (ha) / Length (km)	Target Condition	Time to Target	Location	Distinctiveness Score	Condition Score	Time Score	Difficulty Score	Location Score	C. Enhanced
1	Semi-improved grassland	1.4	Good	5 years	Onsite	4.0	3.0	1.2	10	10	12.5
2	Standing water	0.1	Good	5 years	Onsite	6.0	3.0	1.2	15	10	0.6
3	0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
4	0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
5	0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
6	0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
7	0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
8	0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
9	0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
10	0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
11	0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
12	0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SUBTOTAL											14.1

Hogsmill Valley

	Baseline	Neutral meadow
Biodiversity Units	99.1	105.6
'Net Gain' achieved?	✓	

Notes
6.5 biodiversity units





The vision!

(Photo credit: Maydencroft – Gosmoor Hill, Herts)



Delivering and reporting the performance commitment

- Identify SBI for cost-effective projects
- Select for **biodiversity** and **environmental** net gain
- Target key sites for cumulative effect
- Report annually
- Identify further sites
- Establish 'habitat' bank



Thank you

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