



Surrey Nature Partnership

Healthy Environment | Healthy People | Healthy Economy



Surrey Biodiversity Action Reporting Project 2011-2020

March 2022



Surrey Biodiversity Action Reporting Project 2011-2020

Contents:

1. Introduction	1
2. Data collection	2
3. Progress report 2011-2020	2
3.1` Thames Valley	3
3.2 Thames Basin Heaths	5
3.3 Thames Basin Lowlands	10
3.4 North Downs	13
3.5 Wealden Greensand	18
3.6 Low Weald	24
3.7 Rivers	28
3.8 Beyond BOAs	32
4. Discussion	37
4.1 Accuracy of reporting	37
4.2 Beyond the BOAs & accounting loss	38
4.3 Factors constraining progress	39
4.4 The next decade: 2021-2030	40
Abbreviata	
Acknowledgements	
Appendix	
1. Surrey Biodiversity Opportunity Areas (map).	43
2. Notes on difficulties monitoring some priority/S.41 species.	44

1. Introduction.

The Surrey Biodiversity Opportunity Area (BOA) Policy Statements were originally published in December 2015 and later updated in September 2019 to align with the review of relevant national planning policy. Each Policy Statement includes a set of generically themed objectives with uniquely quantified SMART targets, time-bound to 2020. These follow the structure below:

Objective 1: SSSI units to achieve favourable condition. **Target 1:** an appropriate % by area (as an increase over that in 2015), by 2020.

Objective 2: SNCI protected by planning policy & in positive management. **Target 2:** All (number of SNCI within the BOA) by 2020.

Objective 3: Priority habitat restoration & creation. **Target 3a>>h:** appropriate HPI individually listed with a target area (rounded to 0.25 ha), by 2020.

Objective 4: Priority species recovery. **Target 4:** By 2020, evidence of at least stabilisation & preferably recovery in the local populations of listed Priority species (followed by a short-list of up to seven selected SPI).

These objectives were selected to contribute to the headline Outcome targets of the 2010-20 English Biodiversity Strategy [Biodiversity 2020: A strategy for England's wildlife and ecosystem services](#) (*Biodiversity 2020*). All the Surrey BOA targets are grouped in the summary Appendix 10¹ to [Biodiversity Opportunity Areas: The basis for realising Surrey's ecological network](#). Appendix 1 of the document details the rationale for the objective and target-setting procedure. It is important for the Surrey Nature Partnership Biodiversity Working Group to compile a report of progress against these targeted objectives, for use in considering their future continuity and recommendation to interested parties. The reporting period is from 01.01.2011 to 31.12.2020 (of ten years duration).

2. Data collection.

In July 2021 the combined professional and voluntary biodiversity conservation sector across Surrey was asked to consider their respective remit contribution to the BOA targeted objectives and report it to a central coordinator representing the Working Group for collation. A standardised project reporting proforma was disseminated to prescribe the maximum information necessary, so as to encourage contribution by indicating the minimal effort required. A reporting deadline was set as 30/09/21 but was later extended by a further two months.

Reporting agencies included a mix of public sector estate managers and eNGOs. Information was also collected directly from MAGIC.gov and Natural England's Designated Sites View portal². Certain of Surrey's specialist recording groups were consulted for specific information on the local status of Species of Principal Importance.

3. Progress report 2011-2020.

The progress against BOA targeted objectives is presented below, for each of the Biodiversity Opportunity Area suites grouped within their respective National Character Areas. A table (see Figure 1a-b) summarises the uplift percentages and hectarages achieved within the reporting period. The table also allows the latter to be compared with the originally identified county targets, by habitat-type, for restoration or creation of HPI from the national 200,000 ha target.

¹ See; https://surreynaturepartnership.files.wordpress.com/2019/10/appendix-10_boa-objectives-targets-summary.pdf

² See; <https://designatedsites.naturalengland.org.uk/SiteSearch.aspx>

3.1 Thames Valley Biodiversity Opportunity Areas.

TV01: Windsor Great Park

Objective 1: SSSI in Favourable condition. **Target 1:** 50% by area; **Windsor Forest & Great Park** (Surrey area only) - **100% in 2020** (c.11% in 2015).

Objective 2/Target 2: x2 SNCI in positive management: All.

Runnymede: Windsor Great Park (combined)-**Yes**; The Dell (Ancient Woodland)-**unknown**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Wood pasture & parkland ≥ 13.25 ; **c.20 at The Dell (Crown Est.)**

Target 3b Heathland ≥ 5 ; **>5 in ongoing restoration/created.**

Target 3c Acid grassland ≥ 4.75 ; **>4.75 in ongoing restoration/created.**

Target 3d Mixed deciduous woodland $\geq 75\%$; **restoration ongoing on Crown Est. 0% AW in EWGS;**

Target 3e Wet woodland ≥ 1 ; **some restoration ongoing on Crown Est.**

Target 3f Fen ≥ 2.75 ; (not known in Surrey area).

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Oak Polypore.** Remains extant in TV01, but appearance of fruiting bodies very sporadic. • **Tooth fungi assemblage.** Recent records indicate continued presence of several species. • **Lesser Spotted Woodpecker.** Possibly now extinct in TV01. • **Hedgehog.** Informal records indicate continued presence.

Other priority/S.41 species: **White-letter Hairstreak** is present in the Egham area (BC). **Heart Moth;** surveys in 2018-19 confirmed continued presence in WGP but in Berkshire only (CE/BC).

TV02: Runnymede Meadows & Slope

Objective 1: SSSI in Favourable condition, **Target 1:** 75% by area. **Langham Pond - 100% in 2020** (63.2% in 2015).

Objective 2/Target 2: x1 SNCI in positive management:

Runnymede: Runnymede (including Coopers Hill & Slopes)-**Yes**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Mixed deciduous woodland $\geq 75\%$; **c.18% of AW in EWGS**

Target 3b Meadows ≥ 0.75 ; **c.85 at Runnymede in ongoing restoration (NT).**

Target 3c Wood pasture & parkland ≥ 3.75 ; -

Target 3d Ponds ≥ 0.25 ; -

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Greater Water-parsnip.** Extant population at Langham Pond remains stable (SBS). • **Marsh Stitchwort.** Extant population at Langham Pond is stable (SBS). • **Skylark.** No data. • **Water Vole.** Remains extinct with no plans for reintroduction.

Other priority/S.41 species: **Tubular water-dropwort** population at Langham Pond is stable (SBS).

TV03: Staines Moor & Shortwood Common

Objective 1: SSSI in Favourable condition. **Target 1:** 100% by area. **Staines Moor - 96.2% in 2020** (no change); **Wraysbury Reservoir - 100% in 2020** (no change).

Objective 2/Target 2: x11 SNCI in positive management: All.

Spelthorne: Wraysbury Reservoir-**Yes**; Moor Lane NR-**Yes**; Hilda May Lake-**unknown**; Church Lammas-**Yes**; Birch Green by R. Ash-**No**; Shortwood Common North-**Yes**; Stanwell II-**unknown**; R. Colne, Stanwell Moor-**unknown**; Greenham's Fishing Pond-**No**; West of Poyle Meadows-No; East of Poyle Meadows-No.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Floodplain grazing-marsh ≥ 16.5 ; **Hithermoor Quarry (Brett Aggregates/SCC) in progressive restoration, inc. wet neutral grassland with scrub (c.30 ha), open water, hedgerows & woodland. In-channel & floodplain restoration adj. Bronzefield Prison Staines via River Ash restoration project (SpBC).**

Target 3b Ponds ≥ 1.5 ; **c.3.75 created at Hithermoor Quarry.**

Target 3c Acid grassland ≥ 7.25 ; -

Other; 6.5 ha broadleaved woodland created at Hithermoor Quarry.

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Brown Galingale.** Possibly extinct - no indication of recovery within reporting period, despite targeted management and regular surveys. Escalation to reintroduction is planned (SpBC). • **Water Vole.** Remains extinct, with no plans for reintroduction. • **European Eel.** Potential benefit via Staines River Ash project.

Other priority/S.41 species: **Lapwing** is reported to maintain a small breeding population within TV03. **Skylark** remains stable at Staines Moor.

TV04: Thorpe & Shepperton

Objective 1/Target 1: SSSI to maintain Favourable condition (all). **Thorpe Hay Meadow, Thorpe No.1 Gravel Pit, Dumsey Meadow** all maintained at **100% in 2020.**

Objective 2/Target 2: x22 SNCI in positive management: All.

Runnymede: The Moat Woodcock Farm-**unknown**; Chertsey Bourne at Abbey Lake-**No**; Abbey Lake complex-**unknown**; Laleham Burway GC-**unknown**; Chertsey Waterworks-**unknown**; Chertsey Meads-**Yes**. **Elmbridge:** Desborough Island-**Yes**; River Thames- **unknown**. **Spelthorne:** West of Queen Mary Reservoir-**Yes**; Shepperton Quarry-**unknown**; Littleton Lake-**unknown**; Sheepwalk Lake-**Yes**; Charlton Quarry-**unknown**; Ferris Meadows-**unknown**; Queen Mary Reservoir-**Yes**; Littleton Lake, Shepperton Green-**unknown**; River Ash: Shepperton Green-**unknown**; River Ash: Splash Meadow-**Yes**; River Ash: to Gaston Bridge-**unknown**; River Ash: to Watersplash Farm-**unknown**; Ashford Plant-**Yes**; Sunbury Park-**Yes**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Standing open water ≥ 3 ; **West of Queen Mary Reservoir SNCI - post-aggregates restoration, inc. open water.**

Target 3b Floodplain grazing-marsh ≥ 34.25 ; **Land North of Coldharbour Lane, Thorpe - 11 created as neutral grassland (post-aggregates restoration).**

Target 3c Acid grassland ≥ 9.25 ; -

Target 3d Wet woodland ≥ 3 ; **West of Queen Mary Reservoir SNCI - 1.2 created via succession.**

Target 3e Reedbeds ≥ 4.75 ; **West of Queen Mary Reservoir SNCI - 1.3 created.**

Other: **Land North of Coldharbour Lane 0.3km hedgerow & 0.2 ha broadleaved woodland created. Home Farm, Shepperton - arable restoration plus 0.7 ha broadleaved woodland.**

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Greater Water-parsnip**. Remains extinct, with no plans for reintroduction. • **Marsh Stitchwort**. Remains extinct, with no plans for reintroduction. • **Lapwing**. It is unclear if a breeding population remains in the Thorpe area. • **Water Vole**. Remains extinct, with no plans for reintroduction.
Other priority/S.41 species: No data.

TV05: Molesey & Hersham

Objective 1/Target 1: SSSI to maintain Favourable condition. **Knight & Bessborough Reservoir** maintained at **100% in 2020**.

Objective 2/Target 2: x4 SNCI in positive management: All.

Elmbridge: Molesey Reservoir-**unknown**; Queen Elizabeth II Reservoir-**No**; Island Barn Reservoir-**No**; Field Common (Molesey Heath)/Hersham Pits-**Yes**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Standing open water ≥ 0.75 ; **9 created at Molesey Wetlands**.

Target 3b Floodplain grazing-marsh ≥ 9.5 ; -

Target 3c Acid grassland ≥ 4.25 ; **3.5 created at Molesey Wetlands**.

Target 3d Reedbeds ≥ 1.25 ; **>3 created at Molesey Wetlands**.

Other; **Meadow creation 9 ha at Molesey Heath**.

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Lapwing**. It is unclear if the breeding population remains at Walton (Queen Elizabeth II) Reservoir.
• **Reed Bunting**. Breeding population established at Molesey Wetlands. • **Water Vole**. Remains extinct, with no plans for reintroduction.

Other priority/S.41 species: **White-letter Hairstreak** and **Brown Hairstreak** are present at Molesey Heath. **Bittern** has regularly wintered at Molesey Wetlands over the reporting period, as has **Dark-bellied Brent Goose** on Walton (Knight & Bessborough) Reservoirs.

3.2 Thames Basin Heaths Biodiversity Opportunity Areas.

TBH01: Chobham Common North & Wentworth Heaths

Objective 1: SSSI in Favourable condition. **Target 1**: 50% by area. **Chobham Common** (Units 01-14) - **48.9% in 2020** (29.7% in 2015 across TBH01-02).

Objective 2/Target 2: x7 SNCI in positive management: All.

Surrey Heath: Sunningdale Golf Course-**No**; Sunningdale Ladies Golf Course-**No**; Wentworth Golf Course South & Land East of Heather Drive-**No**. **Runnymede**: Wentworth Golf Courses Fishponds Wood-**unknown**; Wentworth Golf Courses, Duke's Copse & Wentworth Pond-**unknown**; Wentworth Golf Courses Knowle Hill-**unknown**; Wentworth Golf Courses West Wood-**Yes**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Heathland ≥ 6.5 ; **>6.5 restored on Chobham Common (SWT)**. No data from **Sunningdale GC (ARC/SHP)**.

Target 3b. Acid grassland ≥ 5.75 ; **$\geq c.2$ at Chobham Common**.

Target 3c. Wet woodland ≥ 1.25 ; -

Target 3d Mixed deciduous woodland $\geq 75\%$; **0% in EWGS on Wentworth GC (the only AW)**.

Target 3e Fen ≥ 3.25 ; **c.1 implicated in above restoration (esp. Chobham's Little Arm)**.

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Deptford Pink**. This species remains extant but highly vulnerable on Chobham Common, and was indeed believed to become extinct during the reporting period. Subject of a SRT/SWT recovery project involving *ex-situ* propagation for reintroduction (SWT/SRT). • **Marsh Clubmoss** remains extant on Chobham Common but continues to decline despite targeted action by SRT.

• **Window-winged Caddis**. Monitored annually (SWT/SRT); irregular evidence of an extant but as likely struggling population in Long Arm fen. • **Nightjar**. Monitored annually (by NE/SBC). Species can be described as recovering across Surrey, with several former sites re-colonised and an increase in breeding territories as the general pattern. Latest data for TBH01 indicates an increasing population (Surrey Bird Report 2018). • **Woodlark**. Monitored annually (NE/SBC) and is stable (Surrey Bird Report 2018). • **Smooth Snake**. All reptiles are monitored annually (SARG³). This species is present at Sunningdale where the population is believed stable, but remains threatened by wildfires such as that occurring in May 2020 (see appendix 2).

Other priority/S.41 species: **Grayling, Silver-studded Blue, Small Heath** are all stable (monitored annually via BC UKBMS). **Goat Moth**; an important larval nursery tree was accidentally removed in the period; further nurseries are unknown but likely. **Red-barbed Ant** is now believed to be extinct here (therefore for Surrey) caused naturally by invasion & genetic replacement by the congeneric Slave-maker Ant. **Swamp Look-out Spider** remains extant (Dodd, 2011). **Lesser Spotted Woodpecker** is now likely extinct here (SBC). **Adder** numbers fluctuate but are currently showing a general decline (SARG).

TBH02: Chobham South Heaths

Objective 1/ SSSI in Favourable condition. **Target 1:** 50% by area. **Chobham Common** (Units 15-26) - **37.9% in 2020** (29.7% in 2015 across TBH01-02).

Objective 2/Target 2: x6 SNCI in positive management: All.

Surrey Heath: Chobham Common (non-SSSI)-**Yes**; Chobham Place Woods-**Yes**; Stanners Hill & Fern Hill (Chobham)-**Yes**. **Runnymede:** Longcross Churchyard-**Unknown**; Queenwood Golf Course-**Yes**; Monk's Walk North & West (incl. M3 Exchange Land)-**Yes**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Heathland ≥ 7 ; **>4.5 restored on Chobham Common (SWT)**. No data from **Foxhills/Queenwood GCs**.

Target 3b Acid grassland ≥ 6 ; **≥ 1.5 at Chobham Common. c.20 created at Longcross/Trumps Farm SANG.**

Target 3c Fen ≥ 3.5 ; **1 restored/created at SU969636 on Staple Hill (SHBC/SWT).**

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Deptford Pink**. extinct in TBH02 (see above). • **Marsh Clubmoss**. The population in TBH02 appears to have been lost (SRT data 2020, see above). • **Shoulder-striped Clover** moth. Some targeted searches undertaken here by SWT (last-known county site in 2001), but all negative. • **Nightjar**. Monitored annually (NE/SBC). Latest data for TBH02 shows a small decrease on otherwise increasing population (Surrey Bird Report 2018). • **Woodlark**. Monitored annually (NE/SBC). Fluctuating but stable over reporting period (Surrey Bird Report 2018). • **Sand Lizard**. Monitored annually (SARG). Population is believed at least stable in TBH02 but remains under constant threat from wildfire, most recent here in 2018.

³ All SARG referrals are informed by the Surrey Amphibian & Reptile Group online data portal (2022)

Other priority/S.41 species: **Grayling, Silver-studded Blue, Small Heath** are all stable (monitored annually via x2 BC UKBMS transects). **Sedge Jumper** spider remains extant at Gracious Pond (SRS 2020). **Lesser Spotted Woodpecker** is most likely extinct here (SBC), while **Adder** is showing a local recovery following the 2018 wildfire (SARG).

TBH03: Colony Bog, Bagshot Heath & Deepcut Heaths

Objective 1: SSSI in Favourable condition. **Target 1:** 50% by area. **Colony Bog & Bagshot Heath - 94.9% in 2020** (8.6% in 2015).

Objective 2/Target 2: x21 SNCI in positive management: All.

Surrey Heath: Lightwater CP-**Yes**; High View Rd.-**No**; The Folly-**No**; Dunross Farm-**No**; White Hill-**Yes**; Land N of Matchetts Meadow-**Yes**; Ralphs Meadow-**Yes**; Matchetts Meadow-**Yes**; Frimley Fuel Allotments-**Yes**; Frith Hill-**No**; Richmond Hill-**No**; Deepcut Barracks N-**Yes**; Century Range-**No**; Polledoak Slade & Short Siberia Range-**No**; Bisley Common-**Yes**. **Guildford:** Old Windmill Hill-**Yes**; Century Range-**No**. **Woking:** Land N of Sheets Heath-**unknown**; Brookwood Farm Stream-**unknown**; Brookwood Lye-**Yes**; St Johns Lye & Ponds-**Yes**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a. Heathland ≥ 14.5 ; -

Target 3b. Acid grassland ≥ 13 ; **c.16 at Brookwood Farm SANG (WoBC).**

Target 3c. Fen ≥ 7.5 ; **c.5.5 in restoration at Brookwood/St John's Lyes (WoBC).**

Other; **16.3 ha Wet woodland in restoration at St John's Lye (WoBC).**

Objective 4/Target 4: (Short-listed priority/S.41 species).

- **Chamomile.** Strong populations remain extant at St John's Lye and Bisley Common (SBS 2011).
- **Marsh Clubmoss.** A small population remains extant at Brentmoor Common but is declining (SWT).
- **Heath Tiger-beetle.** Any extant Pirbright Range populations are not recently monitored (survey access constrained). At Brentmoor Heath there is some evidence for establishment of a population reintroduced in 2011.
- **Nightjar.** Monitored annually (by NE/SBC). Latest data indicates a stable population across TBH03 collectively (Surrey Bird Report 2018).
- **Woodlark.** Monitored annually (NE/SBC). Latest data indicates a slightly declining population in the largest site of TBH03 (Pirbright Range, Surrey Bird Report 2018).
- **Smooth Snake.** Reptiles are monitored annually on accessible sites only (SARG), where this species is not currently present.

Other priority/S.41 species: **Grayling, Silver-studded Blue, Small Heath** are all monitored at Brentmoor Heath via BC UKBMS; Pirbright Range is inaccessible to this. **Small Mesh-weaver** spider remains extant at Sheets Heath (SRS 2012). **Lesser Spotted Woodpecker** is now likely extinct here (SBC). **Sand Lizard** is believed at least stable on Bisley Common, and **Adder** is showing a general increase (SARG). **Harvest Mouse** is present at Brentmoor Heath (SWT).

TBH04: Ash, Brookwood & Whitmoor Heaths

Objective 1: SSSI in Favourable condition. **Target 1:** 50% by area. **Ash to Brookwood Heaths - 61.4% in 2020** (13.5% in 2015); **Whitmoor Common - 76.4% in 2020** (27.5% in 2015); **Smarts & Prey Heaths - 7% in 2020** (0% in 2015).

Objective 2/Target 2: x33 SNCI in positive management: All.

Surrey Heath: Woods & Heath E of Basingstoke Canal-**No**. **Guildford:** Stony Castle & Furze Hill Camping-**Yes**; Land to S of Hodge Brook-**Yes**; West Heath-**Yes**; Pirbright Common & Dawneys-**Yes**;

Pirbright Green E-**Yes**; Pirbright Green-**unknown**; Bakersgate Meadows-**Yes**; Stanford Brook Wood-**No**; Merrist Wood-**Yes**; Clasford Bridge Rd-**unknown**; Withybed Copse-**Yes**; Henley Park Fields-**Yes**; Normandy Common-**Yes**; Wyke School Wood-**unknown**; Steel Hill-**unknown**; Rickford Common-**Yes**; Marnes Field-**Yes**; Field at Rye Farm-**Yes**; Stringers Common-**Yes**. **Woking**: West Hill Golf Course-**No**; Brookwood Cemetery N & S-**Yes**; Hook Heath Golf Course Pond-**unknown**; Blackhorse Rd Woods & Meadows-**unknown**; Crastock Woods-**unknown**; Crastock Manor Pond-**unknown**; Bridley Copse-**No**; Blanket Mill Farm-**unknown**; Hoe Stream-**Yes**; Kemishford Bridge to Railway-**No**; West of Kemishford Bridge-**No**. Whitmoor Pond-**No**; Poor Jacks Wood-**Yes**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Heathland ≥ 6.5 ; **c.2.5 at Brookwood Heath**; **c.3.6 Smarts & Prey Heaths (all WoBC/SHP)**. **c.1.75 at Pirbright Common**; **c.2.8 at Bullswater Common**; **c.4.25 at Dawney Hill**; **c.9 at Chapel Lane**; **c.6 at West Heath (all GBC/SHP)** - all in ongoing restoration.

Target 3b Acid grassland ≥ 5.75 ; **c.10% implicated in above**.

Target 3c Wet woodland ≥ 1.25 ; -

Target 3d Mixed deciduous woodland $\geq 75\%$; **c.100% of AW in EWGS**.

Objective 4/Target 4: (Short-listed priority/S.41 species).

- **Chamomile**. Most populations here are declining or lost, with the exception of Surrey's strongest at Pirbright Green which is robust and in active conservation.
- **Small Fleabane**. Remains extinct here, with no current plans for reintroduction.
- **Marsh Clubmoss**. A small population remains extant at Ash Range but is declining (SBS).
- **Pillwort**. Remains extinct here, with no current plans for reintroduction.
- **Veilwort**. Negative surveys at the former site suggest this species is now extinct here/in Surrey.
- **Heath Tiger-beetle**. Any extant Ash Range populations are not recently monitored.
- **Window-winged Caddis**. Monitored annually (SWT/SRT) at Whitmoor Common, where the population is vulnerable with no clear indication of stability.
- **Nightjar**. Monitored annually (by NE/SBC). Latest data indicates a steadily increasing population across TBH04 (Surrey Bird Report 2018).
- **Woodlark**. Monitored annually (NE/SBC). Latest data indicates an increasing population on the largest site of TBH04 (Ash Range, Surrey Bird Report 2018).
- **Smooth Snake**, **Sand Lizard**. Both are monitored annually (SARG). The snake's populations on Ash Range are presently believed to be stable, as also is the lizard's population albeit of more restricted distribution (both absent from Whitmoor Common).

Other priority/S.41 species: **Coral Necklace** was re-discovered in Surrey on Ash Range in 2015, possibly imported from MoD sites further west. Although still of very limited distribution here this population appears to be expanding (SBS). **Glandular Eyebright** is apparently stable in Brookwood Cemetery (SBS). **Grayling** and **Silver-studded Blue** are now apparently stable in TBH04 as monitored via BC UKBMS transects at Whitmoor, Dawney Hill & Brookwood Cemetery, although Smarts/Prey Heaths lost both species early in the period. Brookwood supports a small, vulnerable population of **Grizzled Skipper**. **Small Heath** is stable throughout. A WCBS monitoring transect is present in Normandy. **Lesser Spotted Woodpecker** remains extant in the upper Hoe Stream catchment. **Adder** is generally stable over Ash Range, but also apparently now absent from Whitmoor.

TBH05: Woking Heaths

Objective 1: SSSI in Favourable condition. **Target 1:** 50% by area. **Horsell Common - 21.5% in 2020** (16.6% in 2015).

Objective 2/Target 2: x6 SNCI in positive management: All.

Woking: Horsell Common Field-**No**; Horsell Birch-**No**; Horsell Common S & Cheapside-**Yes**; Woodham Common-**No**; New Zealand GC-**No**. **Runnymede:** Birch Wood & Hoyt Wood-**unknown**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Heathland ≥ 3 ; No data (HCPS).

Target 3b Acid grassland ≥ 2.5 ; No data (HCPS).

Target 3c Wet woodland ≥ 0.5 ; (see below - inc. wet woodland creation).

Other; **Heather Farm SANG 3ha wetland/pond creation.**

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Three-lobed Crowfoot.** Irregularly monitored (SBS/Plantlife). Remains extant at Horsell Common, although its population can fluctuate dramatically. • **Blue Pepper-pot Beetle.** At least one of two known populations of this nationally rare Chrysomelid remains extant on Horsell Common (Waite, 2020). • **Nightjar.** Monitored annually (by NE/SBC). Latest data indicates a stable population (Surrey Bird Report 2018). • **Woodlark.** No data.

Other priority/S.41 species: **Grayling, Silver-studded Blue** have been lost from TBH05; **Small Heath** remains extant (BC). **Adder, Grass Snake & Common Lizard** all present in TBH05 but are unmonitored here (SARG).

TBH06: Wisley, Ockham & Walton Heaths

Objective 1: SSSI in Favourable condition. **Target 1:** 50% by area. **Ockham & Wisley Commons - 53.9% in 2020** (33.2% in 2015).

Objective 2/Target 2: x5 SNCI in positive management: All.

Guildford: Wisley Field-**No**; Elm Corner Woods-**Yes**; Hunts Copse-**Yes**. **Elmbridge:** St Georges Hill GC-**unknown**; Whiteley Village-**unknown**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Heathland ≥ 8.25 ; **c.1.5 at Ockham Common in ongoing restoration (SWT).** No data from **St George's Hill GC.**

Target 3b Acid grassland ≥ 7.25 ; **≥ 0.75 at Ockham Common.**

Target 3c Wet woodland ≥ 1.5 ; **c.60% in EWGS restorative management.**

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Annual Knawel.** Last recorded on Wisley Airfield in 2007, recent negative surveys suggest now extinct (SBS). • **Pillwort.** Boldermere population was feared extinct until recorded in 2015, but not since (SBS). • **Heath Tiger-beetle.** Remains extinct here; reintroduction intended. • **Nightjar.** Monitored annually (by NE/SBC). Latest data indicates an increased population (Surrey Bird Report 2018). • **Woodlark.** Monitored annually (by NE/SBC). Latest data indicates a fluctuating but overall stable population (Surrey Bird Report 2018). • **Sand Lizard.** Monitored annually (SARG). The reintroduced population on Ockham Common appears robust and is expanding its distribution.

Other priority/S.41 species: **Cornflower;** a native arable population discovered on Wisley Airfield in 2014 is threatened by planned development (SBS). **Grayling** and **Silver-studded Blue** remain extinct in TBH06, **Small Heath** is stable (BC). **Blue Pepper-pot Beetle;** Wisley Common population remains extant (Waite, 2020). **Poplar Leaf-rolling Weevil;** targeted surveys at Wisley in 2019-20 all negative; probably now extinct here. Wisley Airfield supports an exceptional **Skylark** population, also

threatened by development (BBS/SBC). **Grey Partridge** is regularly re-introduced at Wisley Airfield but establishment unlikely. **Spotted Flycatcher** maintains a small breeding population on Ockham Common (SBC). **Adder** maintains robust and stable populations on both commons. **Great Crested Newt** has important populations here but is not monitored. **Brown Long-eared Bat** has a strong metapopulation in the Wisley area but is also not monitored.

TBH07: Camberley & Broadmoor Heaths

Objective 1: SSSI in Favourable condition. **Target 1:** 50% by area. **Broadmoor to Bagshot Woods & Heath - 78.1% in 2020** (c.45% in 2015).

Objective 2/Target 2: x8 SNCI in positive management: All.

Surrey Heath: Sandhurst Royal Military Academy-**Yes**; Whitehill Farm-**No**; College Common-**No**; Black Hill-**Yes**; NE of Black Hill-**No**; Penny Hill-**Yes**; Bagshot Heath-**Yes**; Bagshot Park Lake Meadow-**Yes**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Heathland ≥ 5 ; -

Target 3b Acid grassland ≥ 4.5 ; -

Target 3c Mixed deciduous woodland $\geq 75\%$; **c.100% of AW in EWGS.**

Target 3d Wet woodland ≥ 1 ; -

Target 3e Fen ≥ 2.5 ; **c.7.25 in restoration in Wishmoor Bottom mire resilience project.**

Objective 4/Target 4: (Short-listed priority/S.41 species).

- **Crested Buckler-fern.** Irregularly monitored by NHM/SBS (2007-13). The population of this fenland species remains robust and apparently stable, albeit in extreme isolation from main UK population in Norfolk.
- **Nightjar.** Monitored annually by NE/SBC. Latest data indicates an increased population (Surrey Bird Report 2018).
- **Woodlark.** Monitored annually by NE/SBC. Latest data indicates a stable population (Surrey Bird Report 2018).

Other priority/S.41 species:

Grayling, Silver-studded Blue, Small Heath monitored at Barossa via BC UKBMS transect; all stable. A new population of the nationally rare **Blue Pepper-pot Beetle** was discovered at Old Dean Common in 2011. **Adder** is believed to be at least stable and possibly increasing across Barossa.

3.3 Thames Basin Lowlands Biodiversity Opportunity Areas.

TBL01: Wanborough & Normandy Woods & Meadows

Objective 1/Target 1: x19 SNCI in positive management: All.

Guildford: Green Lane East-**No**; Whitegate Copse-**No**; Ash Green Wood-**No**; Grubground Copse-**Yes**; Kiln Copse North-**No**; Kiln Copse-**Yes**; Inwood & Whitegrass Copses-**Yes**; Wanborough Wood-**Yes**; Highfield Copse-**Yes**; Highfield Copse North-**unknown**; Catherine Frith-**Yes**; Wyke Wood-**Yes**; Broadmead Row-**No**; Greencut Copse-**No**; Little Flexford-**No**; Backside Common-**Yes**; Broadstreet Common-**Yes**; Wood Street Village Green-**unknown**; Littlefield Common-**Yes**.

Objective 2: restoration & creation of priority/S.41 habitats (ha).

Target 2a Meadows ≥ 5.25 ; **c.17 in restoration at Broadstreet Common (SWT).**

Target 2b Mixed deciduous woodland $\geq 75\%$; **Highfield, Kiln Copses, Catherine Frith, Backside Common and Wanborough Wood all in restorative management via EWGS.**

Target 2c Wet woodland ≥ 2 ; ≥ 2 - the above sites inc. elements of this habitat.

Target 2d Hedgerows ≥ 2.25 km; **0.25 at SWT Broadstreet Common.**

Objective 3/Target 3: (Short-listed priority/S.41 species).

• **Chamomile.** Population at Wood Street Green remains robust and in active conservation. • **Small Fleabane.** Remains extinct here, but with future plans for reintroduction (SBS/SWT). • **Great Crested Newt;** present but unmonitored.

Other priority/S.41 species: **White-letter Hairstreak, Small Heath** are both present at multiple sites in TBL01. A BC WCBS monitoring transect is located in Ash Green. SWT has directed its future management of Broadstreet/Backside LNR to benefit recovery of **Turtle Dove** (dependent on multiple factors). **Barbastelle Bat, Brown Long-eared Bat.** Both species involved in targeted trapping surveys here (SBG 2019). Tracking of the former species located Surrey's first breeding roost (SBG; see p.25).

TBL02: Clandon to Bookham Parkland

Objective 1: SSSI in Favourable condition. **Target 1:** 95% by area. **Bookham Commons - 85% in 2020** (no change).

Objective 2/Target 2: x17 SNCI in positive management: All.

Guildford: Merrow Lane Woodland-**Yes**; Clandon Park Lakes-**No**; Cotts Wood-**Yes**; Oldlands Copse-**No**; East Clandon Common-**Yes**; Norcote Wood & Withybed-**Yes**; East Clandon Woods-**Yes**; Hatchlands Estate-**Yes**; Furze Copse & Kingston Lane-**Yes**; Brambleride Copse & Robrow Wood-**Yes**; Lollesworth Wood-**No**; Ridings Wood-**Yes**; The Drift GC & The Forest-**No**; Thornet Wood-**unknown**.

Mole Valley: Bushy Copse-**unknown**; Little Wood-**unknown**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Wet woodland ≥ 5 ; ≥ 5 in EWGS restoration.

Target 3b Mixed deciduous woodland $\geq 75\%$; **Merrow Lane Wood, Cotts Wood, East Clandon Common, Brambleride Copse, East Clandon Woods, Norcote Wood, Oldlands Copse, Great Wix (NT) & Ridings Woods** all in restorative management via EWGS. 3ha planted at Clandon Natural Burial; 5 at Jury Farm TQ063539 & TQ053528; 0.25 at Ripley Lane TQ074533.

Target 3c Wood pasture & parkland ≥ 13 ; c.61 restored to exemplary condition at NT Hatchlands Park; 22.5 created at Horsley SANG; 7.5 created at Clandon Natural Burial.

Target 3d Meadows ≥ 5.25 ; **17.75 at Effingham Common (GBC); 0.6 at East Clandon (PC asset).**

Target 3e Hedgerows ≥ 5.4 km; **1km created Horsley SANG, 0.5km restored NT Hatchlands.**

Target 3f Ponds ≥ 4.75 ; **0.5 restored at NT Hatchlands; 0.1 created at Clandon Natural Burial.**

Other; **0.25 Traditional orchard in restoration at West Horsley Place.**

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **White-letter Hairstreak** is present at multiple locations throughout TBL02. • **White Admiral** maintains a stronghold population at Bookham Common, and is recorded regularly elsewhere. BC monitors x3 UKBMS transects within the BOA. • **Great Crested Newt.** A strong presence in TBL02, with some populations irregularly monitored eg. at The Forest/Drift GC (SWT) where it is in slow decline. • **Lesser Spotted Woodpecker.** Remains extant at Bookham Common. • **Hawfinch;** still recorded irregularly at Great Ridings WT.

Other priority/S.41 species: Bookham Common remains an important, stable site for **Brown Hairstreak.**

TBL03: Esher & Oxshott Commons

Objective 1: SSSI in Favourable condition. **Target 1:** 50% by area. **Esher Commons - 57.2% in 2020** (20.3% in 2015).

Objective 2/Target 2: x3 SNCI in positive management: All.

Elmbridge: Field W of Old Common-**No**; Old Common-**Yes**; Fairmile Common (N of A3)-**Yes**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Heathland ≥ 3.75 ; **≥ 3.75 in ongoing restoration on Oxshott & Fairmile Commons (EBC).**

Target 3b Acid grassland ≥ 3.5 ; **≥ 3.5 involved in above.**

Target 3c Mixed deciduous woodland $\geq 75\%$; **$\geq 75\%$ in active restoration.**

Target 3d Hedgerows ≥ 0.8 km; -

Target 3e Ponds ≥ 0.75 ; **≥ 3 in active restoration (EBC).**

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Starfruit** remains extant at West End Common, but subject to periodic absences (EBC/SBS).

• **White-letter Hairstreak** is present at multiple locations in TBL03 (BC). • **Adder**; contrary to elsewhere, the populations in TBL03 appear at least stable (EBC). • **Nightjar**. Following a successful re-colonisation event reported in 2017, this species cannot be said to have recovered here.

• **Woodlark** remains extinct in TBL02.

Other priority/S.41 species: A UKBMS transect is monitored at Fairmile Common, where an isolated population of **Silver-studded Blue** remains stable; **Small Heath** is also stable here.

TBL04: Ashted & Epsom Woodland, Prince's Coverts & Horton Country Park

Objective 1: SSSI in Favourable condition. **Target 1:** 95% by area. **Epsom & Ashted Commons - 85.2% in 2020** (84.7% in 2015).

Objective 2/Target 2: x10 SNCI in positive management: All.

Elmbridge: Birch Wood & Limekiln Wood-**Yes**; Princes Coverts Complex-**Yes**; Woodlands Park-**Yes**.

Epsom & Ewell: Horton Country Park-**Yes**; Epsom Common S-**Yes**. **Mole Valley:** Ashted Park-**Yes**; Wood Field North-**Yes**; Wood Field South-**Yes**; Leatherhead Common-**unknown**; Teazle Wood-**Yes**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Mixed deciduous woodland $\geq 75\%$; **Princes Coverts & Woodlands Park est. in active broadleaved restorative management/EWGS. Ashted Park coppicing (LMCP) - 0.5. Ashted Common coppicing (LMCP) - 0.4.**

Target 3b Wet woodland ≥ 1.5 ; **carr at Horton CP & Wood Field North in restorative management.**

Target 3c Wood pasture & parkland ≥ 6 ; **Veteran tree halo-release at Ashted Common (LMCP).**

Target 3d Heathland ≥ 3.75 ; -

Target 3e Acid grassland ≥ 3.5 ; -

Target 3f Hedgerows ≥ 0.8 km; -

Other; Pond restoration at Teazle Wood (LMCP) - 0.25.

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **White-letter Hairstreak** is present at multiple locations in TBL04. x5 UKBMS transects are monitored across the BOA. • **Heart Moth**. Targeted surveys by Butterfly Conservation in 2018-19 were worryingly negative at this formerly important site. • **Adder** is present at least on Epsom

Common but has declined (SARG). • **Harvest Mouse**. Epsom Common surveyed for Surrey Harvest Mouse Project 2011-14; presence confirmed.
Other priority/S.41 species: **White Admiral** maintains a stronghold metapopulation across TBL04.
Orchard Tooth. A recently expanded traditional orchard in Horton CP supports Surrey's only known current population of this rare fungus.

3.4 North Downs Biodiversity Opportunity Areas.

ND01 North Downs Scarp; The Hog's Back

Objective 1/Target 1: x6 SNCI in positive management: All.

Guildford: Poyle Park Wood-**No**; Inwood Meadow-**Yes**; Seale Chalkpit Meadow-**Yes**; Williams Copse & Stony Hill-**Yes**; Monkshatch-**No**; The Mount-**Yes**.

Objective 2: restoration & creation of priority/S.41 habitats (ha).

Target 2a Calcareous grassland ≥ 5.25 ; **c.11 at Hampton Est. in restoration**.

Target 2b Beech & Yew woodland ≥ 1 ; **≥ 1 in EWGS restoration**.

Target 2c Mixed deciduous woodland $\geq 75\%$; **c.90% in EWGS restorative management (eg. at Hampton Est. & west of The Mount)**.

Objective 3/Target 3: (Short-listed priority/S.41 species).

• **Man Orchid**. Possibly now extinct in ND01 (SBS). • **Basil Thyme** Remains extinct, with no plans for reintroduction. • **Brown Hare**. Remains extinct, with no plans for reintroduction.

Other priority/S.41 species: **Grizzled Skipper**, **Small Heath**, **Small Blue** are monitored via BC UKBMS at The Mount, where all stable. **White-letter hairstreak** is present at Puttenham.

ND02: North Downs Scarp and Dip; Guildford to the Mole Gap

Objective 1/Target 1: SSSI in Favourable condition. 75% by area: **Sheepleas - 9.9% in 2020** (no change); **Colyers Hanger - 67.1% in 2020** (no change). 95% by area: **Mole Gap to Reigate Escarpment** (units 1-4&29) - **77% in 2020** (no change); **Hackhurst & White Downs - 76.8% in 2020** (70.2% in 2015). 100% by area: **Coombe Bottom - 99.5% in 2020** (no change); **Ranmore Common - 93.2% in 2020** (no change).

Objective 2/Target 2: x30 SNCI in positive management:

Guildford: Pewley Down-**Yes**; Warren Farm-**No**; Merrow Downs-**Yes**; Guildford GC-**Yes**; Merrow Down Woodland-**Yes**; West Clandon Chalkpit-**Yes**; Clandon Wood-**Yes**; Harrow Hill Copse-**No**; Clandon Downs-**unknown**; Netherlands-**Yes**; Tickners Copse & Chantry Wood-**Yes**; Hollisters & Gravel pit woods-**Yes**; Hangers Wood-**Yes**; Pump Pond Wood-**No**; Effingham GC-**Yes**; Grassy Shaw & Primrose Rew-**unknown**; Effingham Crossroads-**unknown**; Part of Glaziers to Robinsgrove Wood-**unknown**; Dick Focks Common-**Yes**; Mountain Wood-**Yes**; Little Kings Wood-; Colekitchen-**No**; Netley Park-**Yes**; Woodland E of Netherlands-**Yes**; The Boxwood-**Yes**; Newlands Corner E-**Yes**; Albury Downs-**Yes**; Newlands Corner W-**Yes**; St Marthas Hill-**Yes**. **Mole Valley**: Hawks Hill, Cherry Orchard Farm & Bocketts Lane-**unknown**; Old Simms Copse-**unknown**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Calcareous grassland ≥ 34.75 ; **16.2 at Rosamund Trust/Warren Farm; 19.4 at Tyting Farm (GBC); 9.3 at NT Netley Park; 2.5 at Lark Rise (SWT); 3.5 at NT Polesdon Lacey; 0.25 at Young Street road verge (LMCP)**.

Target 3b Beech & Yew woodland ≥ 6.5 ; > 6.5 in EWGS restoration (eg. Shere Woodlands Est.).

Target 3c Mixed deciduous woodland $\geq 75\%$; c.80% of AW in committed EWGS restoration. FE Effingham Forest in ongoing broadleaved restoration.

Target 3d Acid grassland ≥ 2 ; ≥ 2 in restoration at The Chantries and St Martha's (GBC/SWT).

Target 3e Hedgerows ≥ 7 km; 0.25 at Fullers/Woodcote Farm.

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Broad-leaved Cudweed**. Irregularly monitored by SBS/Plantlife; fluctuating but stable; population in Clandon Chalk-pit in active conservation. • **Frog Orchid**. Irregularly monitored by SBS; fluctuating but stable. Single remaining population on Merrow Downs in active conservation. • **Juniper**. Irregularly monitored by SBS; x2 strongest populations on SSSI, x3 others within SNCI - stable. • **Man Orchid**. Irregularly monitored by SBS; is declining throughout ND02, with several populations now lost. • **Narrow-leaved Helleborine**. Regularly monitored by SBS; the single population remains extant but highly vulnerable. • **Small Blue**. ND02 metapopulation now showing a robust recovery in response to targeted 2017-2019 'Stepping Stones' project (BC Surrey/SWT/NT). • **Straw Belle** is now extinct in ND02, with no plans for reintroduction. • **Common Dormouse** is currently monitored regularly at x17 NDMP sites across ND02 (notably at SWT Sheeples). Except for a potential extinction at St Martha's, these have collectively indicated a generally stable population trend until more recent suggestion of declines on some sites (SDG).

Other priority/S.41 species: **Sterile Beardless-moss** is probably now extinct in ND02. A small **Basil Thyme** population at Clandon Chalk-pit remains stable, but others have been lost (SBS). Most **Fly Orchid** populations in ND02 are apparently in decline (SBS). **Green Hound's-tongue** remains locally widespread and stable (SBS). **Ground-pine** is now possibly extinct in ND02 (SBS). **Lizard Orchid**; Surrey's sole small population remains extant but is highly sporadic in its appearance (GBC/SBS). **Musk Orchid**; the single remaining population in ND02 is regularly monitored and is declining (NT/SBS). **Slender Bedstraw** is recently rediscovered in ND02 (SBS 2019). Surrey's sole remaining **Spreading Hedge-parsley** population is regularly monitored but highly vulnerable in an unprotected site just beyond ND02. There are x10 BC UKBMS monitoring transects across ND02, where **Dingy Skipper**, **Grizzled Skipper** & **Small Heath** all maintain stronghold populations. **White-letter Hairstreak** also maintains a core metapopulation here, and **Brown Hairstreak** & **White Admiral** are also present. The **Forester** and **Chalk Carpet** moths are recently recorded in ND02. **Shining Pot-beetle** remains extant in at least x3 sites here within its remaining national stronghold (Waite 2018-19). **Phantom Hoverfly** was rediscovered here in 2020. **Southern Crablet** spider remains extant at least at SWT Colekitchen (Waite 2020). **Hawfinch**, **Marsh Tit** & **Yellowhammer** all have important local strongholds in ND02 (SBC). **Bechstein's Bat** is recorded hibernating in ND02 in low numbers, while **Barbastelle** is also known to be present (SBG).

ND03 North Downs Scarp & Dip; Mole Gap to Reigate

Objective 1: SSSI in Favourable condition. **Target 1:** 75% by area. **Mole Gap to Reigate Escarpment** (units 5-40) - **45.7% in 2020** (no change).

Objective 2/Target 2: x5 SNCI in positive management:

Mole Valley: Cherkley Court-Yes; Nower Wood (combined)-Yes. **Reigate & Banstead:** Margery Wood-Yes; Royal Alexandra & Albert School-Yes; Gatton Park-Yes; Jubilee Plantations West-unknown.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Calcareous grassland ≥ 12.75 ; ≥ 3 created at Cherkley Golf Course; c.19 committed to restoration via CS Schemes at Headley Lane/Lodgebottom valley (as NT tenancies); 2 at Headley Warren (LMCP); 8.5 at SWT Fraser Down; 12.75 at Box Hill Farm (SWT/NT).

Target 3b Beech & Yew woodland ≥ 2.25 ; ≥ 2.25 in EWGS restoration. 0.3 restored at Cherkley Court (LMCP)

Target 3c Mixed deciduous woodland $\geq 75\%$; c.85% in EWGS restoration across ND03. 0.5ha restored at Cherkley Court (LMCP).

Target 3d Heathland ≥ 4 ; ≥ 4 in ongoing restoration at NT Headley Heath

Target 3e Acid grassland ≥ 3.75 ; ≥ 3.75 in restoration at NT Headley Heath

Target 3f Hedgerows ≥ 2.5 km; -

Other; 0.25 Traditional orchard in apparent restoration off Pilgrims Way, Reigate at TQ248516.

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Basil Thyme**. Irregularly monitored by SBS; possibly now extinct in ND03. • **Ground-pine**. Remains extant in ND03, irregularly monitored by SBS. • **Man Orchid**. Irregularly monitored by SBS; populations have declined throughout with some lost. One former strong population near Mickleham is in targeted restorative management (LMCP). • **Musk Orchid**. Irregularly monitored by SBS; the ND03 population has declined. • **Starfruit**; recovered at its former stronghold site following successful habitat restoration. • **Slender Bedstraw**. Irregularly monitored by SBS; locally robust at its Surrey stronghold site. • **Small Blue** maintains its limited presence at Box Hill in ND03. • **Straw Belle** moth is regularly monitored by BC/NT; this nationally important (the current strongest) population is now the sole remaining in Surrey and appears at least stable but is highly vulnerable here.

Other priority/S.41 species: **Fly Orchid** populations in ND03 mostly small, isolated and in decline (SBS). **Green Hound's-tongue** remains locally widespread and stable (SBS). **Juniper** remains extant in ND03 as scattered individuals and small populations. **Lesser Butterfly-orchid** is recently re-discovered for Surrey at a single site (SBS). Surrey's remaining **Wild Candytuft** population remains robust (SBS), while nearby the extremely rare **Violet Crowncup** fungus appeared as a fruiting-body in 2020. There are x3 BC UKBMS monitoring transects across ND03, where **Dingy Skipper**, **Grizzled Skipper** & **Small Heath** all maintain stronghold populations. **White-letter Hairstreak** maintains an important population here, and **Brown Hairstreak** & **White Admiral** are also present. **Barred Tooth-striped** moth was rediscovered for Surrey in 2014, but not seen since. Both **Hazel** and **Shining Pot-beetles** remain extant & are regularly monitored at a single site. Disused limekilns appear locally important to **Bechstein's Bat**, regularly found swarming here in autumn; **Barbastelle** was discovered hibernating within ND03 between 2015-19 (SBG). **Common Dormouse** is monitored at x3 NDMP sites in ND03 (inc. the longest running at SWT Nower Wood), collectively indicating a generally stable population trend (SDG).

ND04: North Downs; Epsom Downs to Nonsuch Park

Objective 1/Target 1: x12 SNCI in positive management:

Mole Valley: Addlestead Wood-No. **Reigate & Banstead:** Langley Bottom Farm (combined)-Yes; Little Hurst Wood-Yes; Great Hurst Wood-Yes; Downsview Wood-Yes. **Epsom & Ewell:** Epsom Downs-Yes; Epsom Downs Golf Course-Yes; Epsom Cemetery-No; Priest Hill-Yes; Northey Fields-No; Howell Hill-Yes; Nonsuch Park & Warren Farm-Yes.

Objective 2: restoration & creation of priority/S.41 habitats (ha).

Target 2a Calcareous grassland ≥ 9.25 ; **c.42** created at WT Langley Bottom Farm; **33** restored at SWT Priest Hill; **2.4** at Epsom Downs (LMCP/EEBC).

Target 2b Beech & Yew woodland ≥ 1.75 ; ≥ 1.75 created at WT Langley Bottom Farm.

Target 2d Mixed deciduous woodland $\geq 75\%$; **c.85%** in EWGS restoration; **c.106** created at Langley Bottom Farm; **5.5** at WT Warren Farm.

Target 2e Hedgerows ≥ 1.9 km; **0.95** created/restored at Priest Hill. No data at Langley Bottom Farm.

Other; **c.54.5ha** Arable plant margins at Langley Bottom Farm.

Objective 3/Target 3: (Short-listed priority/S.41 species).

• **Basil Thyme**. Population reintroduced at Priest Hill (SBS/SWT). • **Red Hemp-nettle** is monitored at Langley Bottom Farm where population is in active conservation (WT). • **Broad-leaved Cudweed**. Population reintroduced at Priest Hill (SBS/SWT). • **Small Blue**. Regional stronghold populations are stable at Howell Hill, Epsom Downs (where targeted action by LMCP 2012-15). New population established at SWT Priest Hill. • **Adder**. No data. • **Skylark**. Monitored at LBF and Priest Hill, where populations appear at least stable (SWT).

Other priority/S.41 species: **Ground-pine** was recently rediscovered at Langley Bottom Farm, now in active conservation. **Man Orchid** remains extant at two sites (SBS). There are x5 BC UKBMS monitoring transects across ND04, where **Dingy Skipper** & **Small Heath** maintain stable populations. **White-letter Hairstreak** & **Brown Hairstreak** are both present. **Grizzled Skipper** is rare here & probably declining. **Grass Snake** & **Common Lizard** both present and monitored at SWT Priest Hill (SARG). **Lapwing** is monitored and in active conservation at Langley Bottom Farm (SBC/WT). **Marsh Tit** remains extant as monitored at least at Great Hurst Wood (SBC).

ND05: North Downs; Banstead Woods & Downs, & Chipstead Downs

Objective 1/Target 1: SSSI in Favourable condition, 50% by area; **Banstead Downs - 34.7% in 2020** (no change). 75% by area; **Chipstead Downs - 56.9% in 2020** (no change).

Objective 2/Target 2: x6 SNCI in positive management:

Reigate & Banstead: Areas Adjacent to Banstead Downs SSSI-**Yes**; How Hills (Chipstead) Golf Course-**Yes**; Dene Fields, Chipstead-**Yes**; Hooley Meadows-**Yes**; Chiphouse Wood-**Yes**; Ruffett Wood Complex-**No**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Calcareous grassland ≥ 7.25 ; **c.38** at Shabden Park (SWT); **2.75** at Hooley Meadows (DCP/RBBC); **2** at Coneyborough Hill (SSSI unit 6 - DCP); **c.11** at Stagbury Downs (SSSI unit 5 - RBBC); **all in ongoing restoration**.

Target 3b Beech & Yew woodland ≥ 1.25 ; ≥ 1.25 in EWGS at Banstead Woods.

Target 3d Mixed deciduous woodland $\geq 75\%$; **c.65%** in EWGS restoration (at Banstead Woods, Long Wood).

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Basil Thyme** remains extinct in ND05, with no plans for reintroduction. • **Broad-leaved Cudweed**. Population is regularly monitored but declining at Banstead Downs (SBS). • **Ground-pine** remains extant albeit flowering erratically at Fames Rough. • **Small Blue** is stable at its stronghold site on Banstead downs (BC). • **Skylark**. No data. • **Common Dormouse**. Status unknown - there are presently no NDMP box schemes in ND05.

Other priority/S.41 species: **Early Gentian** is regularly monitored but declining at its remaining county population on Banstead Downs. **Fly Orchid** maintains a vulnerable presence in ND05. **Man Orchid** remains extant in ND05 but is in decline (all SBS). x4 BC UKBMS transects are monitored across ND05; **Dingy Skipper** & **Small Heath** are both stable, but **Grizzled Skipper** has declined at its x2 former stronghold sites. ND05 has a core meta-population of **White-letter Hairstreak**, while **White Admiral** & **Brown Hairstreak** are also present.

ND06: North Downs Scarp; Quarry Hangers to the A22

Objective 1: SSSI in Favourable condition. **Target 1:** 50% by area. **Quarry Hangers - 53.9% in 2020** (12.5% in 2015).

Objective 2/Target 2: x6 SNCI in positive management:

Tandridge: Pendle Wood-**unknown**; Black Bushes-**unknown**; Conduit Shaw-**unknown**; Fosterdown & Tupwood Scrub-**No**; Eight Acre Wood-**unknown**; Chalet Field-**unknown**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Calcareous grassland ≥ 2.75 ; **0.75 at Caterham Viewpoint**; **0.6 at Botterills Field, Chaldon (adj. SSSI)**; **1.25 at SSSI units 4-5 - all in ongoing restoration (DCP)**.

Target 3b Mixed deciduous woodland $\geq 75\%$; **c.35% AW in EWGS (at Gravelly Hill)**.

Objective 4/Target 4: (Short-listed priority/S.41 species).

- **Early Gentian** remains extinct in ND06, with no plans for reintroduction.
- **Man Orchid** remains extant in ND06 but is in decline.
- **Slender Bedstraw** remains extinct here, with no plans for reintroduction (all SBS).
- **Dingy Skipper** maintains a stronghold population here.
- **Grizzled Skipper** also maintains a stronghold population here (BC UKBMS)
- **Adder**. No data.

Other priority/S.41 species: **Fly Orchid** remains extant (SBS).

ND07: North Downs Scarp; Woldingham

Objective 1: SSSI in Favourable condition. **Target 1:** 75% by area. **Woldingham & Oxted Downs - 51.2% in 2020** (no change).

Objective 2/Target 2: x11 SNCI in positive management:

Tandridge: The Rookery-**No**; Long Hill-**Yes**; Duke's Dene Scarp-**unknown**; Highlands Farm-**No**; Slines Field-**No**; Slines Oaks-**No**; Nore Hill-**Yes**; Titsey Plantation-**Yes**; Clarks Lane to White Lane-**Yes**; Hill Park Estate-**Yes**; Park Wood-**unknown**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Calcareous grassland ≥ 8 ; **0.75 at Long Hill SNCI**; **2 at Marden Park (SSSI unit 9) in ongoing restoration (DCP/WT)**.

Target 3b Beech & Yew woodland ≥ 1.5 ; **≥ 1.5 in EWGS restoration (eg. at Titsey Plantation)**.

Target 3d Mixed deciduous woodland $\geq 75\%$; **c.75% in EWGS restoration across ND07**.

Objective 4/Target 4: (Short-listed priority/S.41 species).

- **Early Gentian** is now apparently extinct in ND07.
- **Man Orchid** remains extant in ND07 but is declining with some populations now lost.
- **Slender Bedstraw** has declined at its single locality here (all SBS). There are x5 BC UKBMS transects monitored across ND07;
- **Small Blue** maintains an apparently stable but small & now vulnerable population at Long Hill.
- **Dingy Skipper** maintains a

stable meta-population. • **Grizzled Skipper** maintains a stronghold population here. • **Adder**. No data. • **Lapwing**. It is unclear if a farmland breeding population remains in the Woldingham area. Other priority/S.41 species: **Fly Orchid** remains extant in ND07 (SBS). Both **Brown Hairstreak** & **White-letter Hairstreak** are present (BC). **Common Dormouse**. x3 regularly monitored NDMP sites in ND07, including an exceptionally strong population discovered in 2014 (SDG/DCP).

ND08: North Downs; Banstead & Walton Heaths

Objective 1/Target 1: x1 SNCI in positive management:

Reigate & Banstead: Banstead & Walton Heath-**Yes**.

Objective 2: restoration & creation of priority/S.41 habitats (ha).

Target 3a Heathland ≥ 4.25 ; -

Target 3b Acid grassland ≥ 3.5 ; -

Target 3d Mixed deciduous woodland $\geq 75\%$; -

Objective 3/Target 3: (Short-listed priority/S.41 species).

• **Chamomile** remains extinct here, with no plans for reintroduction (SBS). • **Woodlark** is monitored on Banstead Heath but breeding remains unproven (SBC). • **Adder**. No data.

Other priority/S.41 species: Both **Starfruit** and **Pillwort** were recorded here in 2014, but not since.

Early Gentian remains extinct here, with no plans for reintroduction (SBS). **Small Heath** & **White-letter Hairstreak** are both present (BC).

3.5 Wealden Greensands Biodiversity Opportunity Areas.

WG01: Puttenham & Crooksbury

Objective 1: SSSI in Favourable condition. **Target 1**: 50% by area. **Puttenham & Crooksbury Commons - 93.9% in 2020** (2.7% in 2015).

Objective 2/Target 2: x8 SNCI in positive management:

Guildford: Farnham Golf Club-**Yes**; Crooksbury Hill-**Yes**; Crooksbury Common-**Yes**; Lower Puttenham Common & Halesmoor Wood-**Yes**; Puttenham Common Woods-**Yes**; Cutt Mill-Shackleford Woods-**No**. **Waverley**: FP in Sheephatch Copse-**unknown**; Charles Hill-**Yes**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Heathland ≥ 8 ; [recorded for SSSI unit 1 at Hampton Est. for O1/T1 above].

Target 3b Acid grassland ≥ 7.25 ; [" , "].

Target 3c Wet woodland ≥ 1.5 ; ≥ 1.5 in **EWGS restoration**.

Target 3d Mixed deciduous woodland $\geq 75\%$; **c.75% of AW in EWGS across WG01**.

Target 3e Fen ≥ 4 ; -

Other; ponds created/restored on Crooksbury Common for Natterjack Toad.

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Nightjar** is regularly monitored and the population remains stable. • **Woodlark** has apparently declined across WG01. • **Smooth Snake** is apparently stable here at the ARC flagship reserve of Crooksbury Common.

Other priority/S.41 species: Populations of **Silver-Studded Blue** and **Small Heath** are present but are not monitored by UKBMS; **Adder** and **Sand Lizard** are both at least stable here (SARG). The re-introduced **Natterjack Toad** population here is in decline (ARC).

WG02: Farnham Heaths

Objective 1: SSSI in Favourable condition. **Target 1:** 75% by area. **Gong Hill - 53.5% in 2020** (no change).

Objective 2: restoration & creation of priority/S.41 habitats (ha).

Target 2a Heathland ≥ 2.25 ; **6 restored from commercial forestry plantation at RSPB Farnham Heath in 2013. 4.25 restored/created at Bourne Wood (FE).**

Target 2b Acid grassland ≥ 2 ; **2 restored at RSPB Farnham Heath in 2013.**

Target 2c Wet woodland ≥ 0.5 ; **≥ 0.5 in restoration adjacent to the South Wey at Pierrepont Home Farm.**

Target 2d Mixed deciduous woodland $\geq 75\%$; **Black Lake Woods & Pierrepont Home farm (=c.90% of AW in WG02) in EWGS restoration.**

Objective 3/Target 3: (Short-listed priority/S.41 species).

• **Grayling** is monitored under UKBMS; x2 populations are small but apparently stable. • **Field Cricket.** NE's HLF-funded Back-from-the-Brink programme has provided continuity support to the original pre-2010 reintroduction project, and successfully established the population further across RSPB Farnham Heaths aligned with the increasing area of suitable habitat. Spontaneous expansion is also proven and the population is believed to be increasing. • **Sand Lizard.** A collaborative project by ARCT/RSPB/FE to widen distribution across WG02 has been successful, again taking advantage of progressive heathland restoration as evidenced by population increases throughout. • **Nightjar.** The number of breeding pairs has roughly doubled over the period. • **Woodlark.** Breeding pairs have increased by c.33%.

Other priority/S.41 species: **Small Heath & Silver-studded Blue** are both monitored here by UKBMS transects; a strong population of latter is present on Tankersford Common. **Adder, Common Lizard & Slow-worm** are all apparently at least stable at Bourne Wood.

WG03: Thursley, Hankley & Frensham Heaths

Objective 1: SSSI in Favourable condition. **Target 1:** 95% by area. **Thursley, Hankley & Frensham Commons - 82.1% in 2020** (70.9% in 2015).

Objective 2/Target 2: x6 SNCI in positive management:

Waverley: Mousehill Down & Rodborough Common-**Yes**; Temple Hill & etc.-**No**; Thursley Cricket Field-**unknown**; Jumps Road Copse-**unknown**; Tilford Road Verge- **unknown**; Track at N of Hankley Common-**Yes**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Heathland ≥ 18.5 ; **c.8.25 at Rodborough Common (SWT/SCC) in ongoing restoration.**

Target 3b Acid grassland ≥ 16.75 ; **c.6.5 involved in above restoration.**

Target 3c Wet woodland ≥ 3.5 ; **≥ 3.5 in EWGS restoration up & downstream of Frensham Little Pond.**

Target 3d Mixed deciduous woodland $\geq 75\%$; -

Target 3e Fen ≥ 9.5 ; -

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Marsh Clubmoss** remains extant on Thursley Common, as regularly monitored by NE/SRT.
• **Heath Tiger-beetle.** An ongoing SRT project monitors the nationally important population on

Hankley Common, which appears at least stable. • **Nightjar**. Breeding pairs have increased on all sites by a collective 127% across WG03 (2010-18; NE/SBC). • **Woodlark** conversely has shown an overall 5% decline across WG03. • **Curlew** remains extant as breeding species in Surrey by virtue of a single pair at Thursley bog. • **Smooth Snake**. Multiple populations in WG03; appears generally stable where disturbance least, with others in decline (SARG). • **Noctule**. The annually monitored roost box project at Thursley Common indicates a broadly stable local population (SBG).

Other priority/S.41 species: **Grayling, Silver-studded Blue & Small Heath** are monitored via x6 UKBMS transects present on the major heaths; all species feature on these with the strongest populations on the more extensive dry heathland sites. Recent surveys confirm the following spiders remain extant in WG03; **Gentle Groove-head Spider, Great Fox-spider, Heath Grasper, Peus' Long-backed Spider, Sedge Jumper & Silky Gallows-spider** (SRS). **Lapwing** continues to breed irregularly at Thursley bog. **Lesser Spotted Woodpecker** continues to breed at one site on Frensham Common. **Reed Bunting** has a local breeding stronghold at the Frensham ponds, as has **Tree Pipit** on all the major heathland sites of WG03. **Sand Lizard** has strong populations on the major heathlands of WG03 but remains locally vulnerable to wildfires (ARC). **Natterjack Toad** is monitored by ARC at its reintroduced site at Frensham Great Pond, where the population is declining and no longer breeds regularly (ARC). **Adder** population trends vary in stability across WG03, with those on the more accessible sites suggesting vulnerability and decline (SARG).

WG04: Devil's Punch Bowl & Hindhead Heaths

Objective 1: SSSI in Favourable condition. **Target 1:** 50% by area. **Devil's Punch Bowl - 100% in 2020** (1.4% in 2015).

Objective 2/Target 2: x10 SNCI in positive management:

Waverley: Windy Gap-**Yes**; Hindhead GC-**unknown**; Beacon Hill-**Yes**; Hyde Copse & etc.-**Yes**; Woodcock Bottom & Whitmoor Vale-**Yes**; Emley Copse-**Yes**; The Soaks Meadow-**unknown**; West High Button-**No**; Woodland E of Hindhead -**Yes**; Keffolds Copse-**No**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Heathland ≥ 8 ; **>8 restored via HE/NT A3(T) Hindhead Tunnel scheme.**

Target 3b Acid grassland ≥ 7.25 ; **>7.25 restored via HE/NT A3(T) Hindhead Tunnel scheme.**

Target 3c Mixed deciduous woodland $\geq 75\%$; **c.75% of AW in EWGS.**

Target 3d Wet woodland ≥ 1.5 ; **≥ 1.5 in EWGS restoration.**

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Adder** is monitored here and appears to be at least stable (SARG). • **Grayling** is now extinct here (BC Branch). • **White-clawed Crayfish** remains extant in the Whitmoor Vale; probably its only remaining Surrey population. • **Nightjar** is regularly monitored, and the population has remained stable. • **Woodlark** has declined over the reporting period. • **Polecat** was informally reintroduced to WG04 but any monitoring for success of this project is unavailable. Meanwhile the species has continued to re-colonise throughout Surrey.

Other priority/S.41 species: **Silver-studded Blue** is also now extinct here; a re-introduction by NT is possible. Habitat creation may favour future colonisation by Wood White. The Devil's Punchbowl was formerly a regular breeding site for **Wood Warbler** but this is now locally extinct. **Water Vole** has been reported from feeder streams into Frensham Little Pond, but without verification. There were x4 **Common Dormouse** box arrays in WG04 monitored for NDMP up to 2011, but not since.

WG05: Hascombe, Winkworth & Hydon's Heath & Woodlands

Objective 1/Target 1: x5 SNCI in positive management:

Waverley: Bridle Path Hascombe-**unknown**; Foxbury Copse-**Yes**; Winkworth Arboretum-**Yes**; Great Brook-**Yes**; Hascombe Hill-**Yes**.

Objective 2: restoration & creation of priority/S.41 habitats (ha).

Target 2a Heathland ≥ 6.75 ; **c.2.5 in ongoing restoration at Hydon's Heath (NT); c.4.25 at Hascombe Hill (Hascombe Est.)**.

Target 2b Acid grassland ≥ 6 ; **c.2 in potential (non-verified) restoration in Busbridge Woods**.

Target 2c Mixed deciduous woodland/Beech & Yew $\geq 75\%$; **c.95% of AW in EWGS**.

Target 2d Wet woodland ≥ 1.25 ; **≥ 1.25 in EWGS restoration**.

Objective 3/Target 3: (Short-listed priority/S.41 species).

• **Silver-studded Blue** remains absent here. • **Nightjar** remains absent from WG05. • **Woodlark** remains absent from WG05. • **Adder**. No data. • **Common Dormouse**. Status unknown - there are presently no NDMP box schemes in WG05.

Other priority/S.41 species: **Marsh Tit** remains present at NT Winkworth Arboretum. **Copse-bindweed** remains extant at Hydon Heath (SBS).

WG06: Blackheath, Chilworth & Farley Heaths

Objective 1: SSSI in Favourable condition. **Target 1:** 75% by area. **Blackheath - 75.4% in 2020** (48.4% in 2015 no change).

Objective 2/Target 2: x2 SNCI in positive management:

Waverley: Wonersh Meadow-**unknown**. **Guildford:** Blackheath-Broomfields-**Yes**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Heathland ≥ 4 ; **c.10 in ongoing restoration across WG06 (NT/WaBC/SHP)**.

Target 3b Acid grassland ≥ 3.5 ; **c.5 restored across WG06 (NT/WaBC/SHP)**.

Target 3c Mixed deciduous woodland $\geq 75\%$; **c.75% of AW in EWGS across WG06**.

Target 3d Beech & Yew woodland ≥ 0.75 ; -

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Nightjar** has responded positively to progressive heathland restoration although it is not regularly monitored. • **Woodlark**. A breeding population is present but irregularly monitored. • **Smooth Snake**. The reintroduced population here appears to be in decline (SARG).

Other priority/S.41 species: **Silver-studded Blue** remains extinct here; **Small Heath** is present (BC Branch). **Mottled Bee-fly** is present and apparently stable. Both **Sand Lizard** & **Adder** appear to be declining (SARG).

WG07: Winterfold & the Hurtwood Greensand Ridge

Objective 1/Target 1: x12 SNCI in positive management:

Waverley: Rock, Great & South Copses etc.-**Yes**; The Hurtwood-**Yes**; Gasson Copse-**No**; Woolpit Wood & etc.-**No**. **Guildford:** Hurtwood at Holmbury Hill-**Yes**; Hurtwood at Holmbury St Mary-**Yes**; Hurtwood at Reservoir-**Yes**; St Mary's Churchyard Holmbury-**No**; The Hurtwood betw. Riding Bottom & Gasson Farm-**Yes**; The Hurtwood (West)-**Yes**; Wickhams Copse-**No**; Helmet Copse-**No**.

Objective 2: restoration & creation of priority/S.41 habitats (ha).

Target 2a Mixed deciduous woodland $\geq 75\%$; **c.40% of AW in EWGS across WG07.**

Target 2b Beech & Yew woodland ≥ 0.75 ; -

Target 2c Wet woodland ≥ 0.75 ; **≥ 0.75 involved in EWGS restoration.**

Target 2d Heathland ≥ 8.5 ; **c.30 in potential (non-verified) restoration across WG07.**

Target 2e Acid grassland ≥ 7.5 ; **c.10 involved in the above heathland restoration.**

Objective 3/Target 3: (Short-listed priority/S.41 species).

• **Nightjar** has responded positively to progressive heathland restoration although it is not regularly monitored. • **Woodlark.** A breeding population is present but irregularly monitored. • **Marsh Tit** appears to remain extant in WG07. • **Smooth Snake.** The reintroduced population here is extremely limited in distribution and is declining (SARG).

Other priority/S.41 species: **Sand Lizard.** The initial reintroduction attempt at the Hurtwood failed, with plans for repetition (ARC). **Adder** is also declining in this restricted area of existing optimum heathland habitat.

WG08: Leith Hill, Wotton, Abinger & Holmwood Greensand Ridge

Objective 1: SSSI in Favourable condition. **Target 1:** 75% by area. **Leith Hill - 80% in 2020** (59.8% in 2015).

Objective 2/Target 2: x5 SNCI in positive management:

Guildford: Holmdale Meadows-**unknown.** **Mole Valley:** Etherley Copse-**Yes**; Church Wood-**Yes**; Betchetsgreen & Lag Copses-**Yes**; Holmwood Park-**Yes**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Heathland ≥ 15 ; **c.4 at Redlands Forest (FE); c.11 in expansion at Dukes Warren (NT).**

Target 3b Acid grassland ≥ 13.5 ; **≥ 1.4 implicated in the restoration above.**

Target 3c Mixed deciduous woodland 75%; **c.15% AW in EWGS across WG08.**

Target 3d Wet woodland ≥ 2.75 ; **≥ 2.75 in EWGS restoration, inc. at Abinger Forest NFM project (FE/EA).**

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Nightjar** is not formally monitored here, but numbers appear broadly stable across the period. • **Woodlark.** A small breeding population is present and appears stable. • **Marsh Tit** appears to remain extant in WG08. • **Adder** is declining on Leith Hill (SARG). • **Common Dormouse** is monitored for the NDMP at NT Holmwood Common, where there is an extant population.

Other priority/S.41 species: **Starfruit** is thriving following a successful introduction to created ponds at Inholms Claypit. **Chamomile** remains extant at Mid-Holmwood Common (SBS). There are x3 UKBMS transects monitoring butterflies in WG08. **Sand Lizard**; the population introduced to Leith Hill may now be extinct.

WG09: Limpsfield Heaths

Objective 1/Target 1: x7 SNCI in positive management:

Tandridge: Limpsfield Common-**Yes**; Chart Verge-**Yes**; The Chart & Scearn Bank-**Yes**; High Chart-**Yes**; Moorhouse Bank Common-**Yes**; Cronklads-**Yes**; Watts Hill-Moorhouse bank-**Yes**.

Objective 2: restoration & creation of priority/S.41 habitats (ha).

Target 2a Heathland ≥ 2 ; **c.0.5 at the High Chart (NT)**.

Target 2b Acid grassland ≥ 1.75 ; -

Target 2c Mixed deciduous woodland $\geq 75\%$; **c.80% of AW in EWGS across WG09**.

Objective 3/Target 3: (Short-listed priority/S.41 species).

• **Nightjar** remains extinct in WG09. • **Adder**. No data. • **Common Dormouse**. Possibly not present in WG09; a NDMP box array erected in 2018 at Limpsfield Common has yet to indicate presence here. Other priority/S.41 species: **Tree Pipit** also appears to remain extinct in WG09.

WG10: Reigate Heaths

Objective 1: SSSI in Favourable condition. **Target 1:** 95% by area. **Reigate Heath - 73.9% in 2020** (no change).

Objective 2/Target 2: x2 SNCI in positive management:

Reigate & Banstead: Priory Park-**Yes**; Lavender Sandpit-**Yes**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Heathland ≥ 1.25 ; -

Target 3b Acid grassland ≥ 1 ; **2.6 in restoration at Priory Park (RBBC)**.

Target 3c Wet woodland ≥ 0.25 ; **≥ 0.25 in EWGS**.

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Annual Knawel** is irregularly monitored at Reigate GC, where it remains extant (SBS). • **Five-banded Digger Wasp**; status unknown at Priory Park. • **Adder**. No data. • **Hedgehog** remains extant but has declined.

Other priority/S.41 species: **Chamomile** remains extant at Reigate Heath. **Small Heath** is monitored by a BC UKBMS on Reigate Heath and is stable. **Oak Mining-bee**; status unknown.

WG011: Holmesdale

Objective 1: SSSI in Favourable condition. **Target 1:** 50% by area. **Godstone Ponds - 21.8% in 2020** (no change).

Objective 2/Target 2: x6 SNCI in positive management:

Reigate & Banstead: Homethorpe Sandpits-**No**. **Tandridge:** Kitchen Copse-**Yes**; Place Pond-**unknown**; Glebe Water & Moores Shaw-**Yes**; Graham Hendry Wood-**Yes**; Hilly Field-**unknown**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Standing open water ≥ 1.75 ; **3.5 restored at Glebe Lake**.

Target 3b Floodplain grazing marsh ≥ 13.75 ; -

Target 3c Reedbeds ≥ 2.75 ; **0.3 created at Spynes Mere/Merstham via post-minerals restoration**.

Target 3d Wet woodland ≥ 0.25 ; **0.6 created via post-minerals restoration project**.

Target 3e Mixed deciduous woodland $\geq 1.5/75\%$; **≥ 10.5 created within period via post-minerals restoration projects; 0.7 created at Patteson Court Landfill. AW at SWT Kitchen Copse and SWT Graham Hendry Wood under restoration**.

Target 3f Heathland ≥ 4.25 ; -

Target 3g Acid grassland ≥ 5 ; -

Target 3h Hedgerows ≥ 2 km; **c.0.5 created; c.0.6 restored**.

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Grey Partridge** remains absent with no current plans for reintroduction. • **Lapwing** breeding is now irregularly attempted in WG11, while wintering numbers have declined dramatically over the period.
• **Brown Hare** remains extinct with no plans for reintroduction. • **Great Crested Newt** has a strong meta-population within WG11, which is regularly monitored (SARG). • **Water Vole** remains extinct in WG11. There is a future reintroduction project in development here.

Other priority/S.41 species: **Chamomile** remains extant at Godstone Green (SBS). **Brown Hairstreak** and **Small Heath** are present but unmonitored by UKBMS. **Bittern** winters irregularly at SWT The Moors. **Bullfinch**, **Linnet**, **Reed Bunting**, **Yellowhammer** all remain extant as breeding populations (SBC). **Common Dormouse** is monitored for presence at Kitchen Copse.

WG012: Albury & Shere Heaths & Parkland

Objective 1/Target 1: x6 SNCI in positive management:

Guildford: Albury Park-**Yes**; Chantry Bridge Wood-**Yes**; Shere Heath-**Yes**; Park Wood-**Yes**; Albury Warren & etc.-**Yes**; Lacey's Field-**No**.

Objective 2: restoration & creation of priority/S.41 habitats (ha).

Target 2a Mixed deciduous woodland $\geq 75\%$; **100% of AW in EWGS**.

Target 2b Heathland ≥ 1.75 ; **c.1.25 in restoration at Albury Heath (Albury Est.)**.

Target 2c Acid grassland ≥ 1.5 ; **c.0.5 involved in the above**.

Target 2d Wood pasture & parkland ≥ 0.5 ; **≥ 0.5 in ongoing restoration at Albury Park (Albury Est.)**.

Objective 3/Target 3 (Short-listed priority/S.41 species).

• **Rare lichen assemblage**. A GBC/BLS 2016 report could not re-confirm presence of x4 listed SPI, but concluded Albury Park remains the most important site for lichen diversity in Surrey. Both • **Nightjar** and • **Woodlark** remain absent in WG12.

Other priority/S.41 species: It is unclear if **Copse-bindweed** remains extant at Albury Warren. **Barbastelle** and **Brown Long-eared Bats** regularly use a hibernaculum at Albury Park.

WG013: Abinger Roughs

Objective 1: restoration & creation of priority/S.41 habitats (ha).

Target 2a Heathland ≥ 1.5 ; -

Target 2b Acid grassland ≥ 1.25 ; **c.2 in restoration west of Broomy Downs (NT)**.

Target 2c Mixed deciduous woodland 75%; **c.10% of AW in EWGS (NT Broomy Downs)**.

Objective 2/Target 2 (Short-listed priority/S.41 species).

• **Juniper**; current status at NT Broomy Downs is unclear. • **Woodlark** remains absent in WG13.
• **Adder**. No data. • **Common Dormouse**. No data - there is presently no NDMP box scheme here.

Other priority/S.41 species: **Copse-bindweed** remains extant at Abinger Roughs (SBS).

3.6 Low Weald Biodiversity Opportunity Areas.

LW01: Chiddingfold & West Weald Woodlands

Objective 1: SSSI in Favourable condition. **Target 1:** 50% by area. **Chiddingfold Forest - 7.6% in 2020** (no change).

Objective 1/Target 1: x44 SNCI in positive management:

Waverley: Lythe Hill-**unknown**; Imbhams Farm Pond-**Yes**; Whitehouse Wood & Fowls Hatch Copse-**No**; Frillinghurst Wood-**Yes**; Prestwick Rough-**Yes**; Phaetons Copse-**unknown**; Coombe Ridge-**unknown**; Big Copse-**unknown**; Leith Copse & adjacent Ghyll-**Yes**; Hopkiln Reeds & Long Copse-**Yes**; Area E of Godley Bridge-**No**; Kiln & Minepit Copses-**No**; Field N of Coopers Walking Sticks-**No**; The Nunnery-**Yes**; Hambledon & Buss' Common-**Yes**; Hambledon Green Wood-**unknown**; Nutbourne Bridge-**unknown**; Hambledon Hurst-**unknown**; Hasfell & Hartsgrove Hanger-**No**; Chiddingfold Cricket-**unknown**; Ryestreet Common-**No**; Frome Hanger & Copse-**unknown** -; Hazelbridge-**No**; Highbeech Plantation-**No**; Rovehurst Wood & Windmill Copse-**Yes**; Hazelbridge & Smithers Land Hangers-2. **No**/1. **unknown**; Botany Bay-Durford Wood-**Yes**; Prestwick, Servetree & Fowlshurst-**Yes**; Vann Copse-**No**; Colemans & Halfpenny Copse-**unknown**; Spring Copse 1-**unknown**; Prest Wood-Upper Glasshouse Field-**Yes**; Dunsfold Common & Green-**Yes**; White Bridge-**Yes**; Furnace Bridge Copse-**unknown**; Burnwood Copse-**No**; Wrotham Great Copse-**No**; Rickhurst Rews-**unknown**; Hurlands & Ireland Copses-**No**; Sidney Wood-**Yes**; Upper Ifold Farm Wood-**No**; Hog Wood-**Yes**; Thirds & Merrow Farm Copses-**Yes**; Gennetts Wood & Bonfire Hanger-**No**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Mixed deciduous woodland $\geq 4.75/75\%$; **c.20% private AW in EWGS across LW01.**

Broadleaved restoration ongoing at FE Tugley-Fisherlane, Frillinghurst & Sidney Woods. BC Wood White project involved in broadleaved restoration in Tugley, Sidney, WT Dunfold Woods & elsewhere.

Target 3b Wet woodland ≥ 1.25 ; **≥ 1.25 in EWGS restoration.**

Target 3c Wood pasture & parkland ≥ 27 ; **extensive land area in Mid-Tier CS Schemes across LW01, with potential restoration outcomes for this habitat.**

Target 3d Meadows ≥ 16.25 ; **c.2 in restoration at Pook Hill SU946350; 4.5 ongoing restoration at Dunsfold Common (parish council/WaBC).**

Target 3e Hedgerows ≥ 6.25 km; -

Target 3f Ponds ≥ 6 ; -

Other; 7.5 ha heathland restored at Hambledon Common (private).

Objective 4/Target 4 (Short-listed priority/S.41 species).

• **Wood White** has been subject of a targeted BC conservation project 'Saving the Wood White' started in 2019. Core population here is stable, but highly isolated nationally and therefore remains vulnerable. Surrey distribution now contracted to within LW01, and some unknown satellite populations may exist on private land. • **Pearl-bordered Fritillary** remains extinct, with no plans for reintroduction. • **Adder** is monitored but has declined in the Oaken Wood complex (SARG). • **Marsh Tit** remains extant but has declined across the LW01 area (SBC). • **Lesser Spotted Woodpecker** is possibly now locally extinct here as in many other parts of the county. • **Bechstein's Bat**. Recent SBG surveys confirm a significant breeding population is present in LW01, in at least x2 sub-colonies.

Other priority/S.41 species: **Zoned Tooth** fungus is present at Hambledon Common. **Chamomile** remains extant at Chiddingfold. **Brown Hairstreak**, **Dingy Skipper**, **Grizzled Skipper** & **White Admiral** are all regularly monitored in the Tugley-Fisherlane-Oaken Woods complex, where populations appear stable (BC UKBMS). **White-letter Hairstreak** is also present. **Silver-studded Blue** has re-colonised Hambledon Common in response to ongoing habitat restoration. **Argent-& sable**, **Common fan-foot**, **Clay fan-foot**, **Drab Looper** all believed to remain extant. **Betony Case-bearer** remains extant here at its only UK site. **Long-horned Mining-bee** maintains a national stronghold population within LW01. **Barbastelle** - SBG discovered Surrey's first maternity roosts here in 2019.

Common Dormouse is monitored at x2 NDMP sites in LW01; a strong population is present in WT Durfold Wood.

LW02: Cranleigh Woods

Objective 1/Target 1: x20 SNCI in positive management:

Waverley: Vachery Pond & Woodland complex-**No**; Eastgate Wood West-**unknown**; Owlbarn Copse-**unknown**; Firtree Wood Complex-**No**; Bookhurst-**No**; Lower Canfold Wood-**Yes**; Lower Canfold Wood N-**Yes**; Upper Canfold & Lambs Woods-**Yes**; Fishpond Copse-**Yes**; Ashen Copse-**unknown**; High Canfold Brook-**unknown**; Shippen Hill & South Coneyhurst-**Yes**; Coneyhurst Ghyll-**unknown**; Wykehurst Farm Fields & Woodland-**unknown**; Copse SW of Alderbrook Farm-**unknown**; Long Copse-**No**; E of Fowls Copse-**unknown**; Fowls Copse-**unknown**; W of Fowls Copse-**unknown**; Fernfell Fields-**unknown**.

Objective 2: restoration & creation of priority/S.41 habitats (ha).

Target 2a Mixed deciduous woodland $\geq 75\%$; **c.55% AW in EWGS across LW02.**

Target 2b Wet woodland ≥ 0.75 ; **≥ 0.75 in EWGS restoration.**

Target 2c Meadows ≥ 2.25 ; -

Target 2d Ponds ≥ 0.75 ; -

Objective 3/Target 3 (Short-listed priority/S.41 species).

• **Wood White.** No data. • **Great Crested Newt.** No data. • **Marsh Tit** remains present here but has declined. • **Common Dormouse.** There are box arrays at x3 sites in LW02 but these are not presently monitored.

Other priority/S.41 species: **Grizzled Skipper** is present at Canfold Wood.

LW03: Wallis Woods

Objective 1/Target 1: x7 SNCI in positive management:

Waverley: Buildings Copse & Wildwoods complex-**No**. **Mole Valley:** Rewfield Copse-**unknown**; Pond Gill-**unknown**; Spring Copse (Pond Head)-**unknown**; Seven Acres/Twelve Acres-**No**; Wallis Wood-**unknown**; Chapel Copse-**No**.

Objective 2: restoration & creation of priority/S.41 habitats (ha).

Target 2a Mixed deciduous woodland $\geq 75\%$; **c.12% in EWGS across LW03. SWT Wallis Wood in restoration as biodiversity offset from 2018.**

Target 2b Wet woodland ≥ 0.75 ; **≥ 0.75 in EWGS restoration.**

Target 2c Meadows ≥ 2 ; **c.5 in restoration at SWT Wallis Wood as biodiversity offset. c.1 at TQ115403 SW of Forest Green (part of Rewfield Copse SNCI).**

Target 2d Ponds ≥ 0.75 ; -

Objective 3/Target 3 (Short-listed priority/S.41 species).

• **White Admiral.** No data. • **Lesser Spotted Woodpecker** is now possibly extinct here. • **Marsh Tit** remains present but has declined. • **Common Dormouse.** Status unknown; not monitored at SWT Wallis Wood during the period, but to be in the future.

Other priority/S.41 species: **Grizzled Skipper** is present on several brownfield sites in LW03 (BC).

LW04: Vann Lake & Ockley Gill Woods

Objective 1: SSSI in Favourable condition. **Target 1:** Maintain at 100%. **Vann Lake & Ockley Woods - 100% in 2020** (no change).

Objective 2/Target 2: x5 SNCI in positive management:

Mole Valley: Weavers Wood complex-**Yes**; Knoll Wood-**unknown**; Grenehurst Copse-**unknown**; Holbrook Wood-**No**; Osbrooks-**No**.

Objective 3:

Target 3a Mixed deciduous woodland $\geq 75\%$; **c.65% in EWGS across LW04.**

Target 3b Wet woodland ≥ 0.75 ; **≥ 0.75 in EWGS restoration.**

Target 3c Wood pasture & parkland ≥ 3.75 ; -

Target 3d Meadows ≥ 2.25 ; **1.8 at Ockley Green pSNCI TQ147402 (Ockley PC).**

Target 3e Hedgerows ≥ 1 km; -

Objective 4/Target 4 (Short-listed priority/S.41 species).

- **Common Dormouse** was monitored at SWT Vann Lake up to 2014, where a population remains extant.
- **Great Crested Newt** is present at SWT Vann Lake but is irregularly monitored.
- **Marsh Tit** remains extant here (≥ 3 prs. bred at Vann Lake in 2014 - SWT).

Other priority/S.41 species: **Bullfinch, Song Thrush** remain extant at Vann Lake (SWT 2014 data).

LW05: Glover's Wood & Edolph's Copse

Objective 1: SSSI in Favourable condition. **Target 1:** Maintain at 100%. **Glover's Wood - 100% in 2020** (no change).

Objective 2/Target 2: x7 SNCI in positive management:

Mole Valley: Mosshouse Gill-**Yes**; Dukes Copse-**unknown**; Leg of Mutton Wood/The Jordans/Jordans Woods-**Yes**; Acorn Mill, Cidermill Wood & The Birches-**No**; Pockmires Wood-**unknown**; Beggars Gill-**unknown**; Ricketts Wood-**Yes**; Edolphs Copse-**Yes**.

Objective 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Mixed deciduous woodland $\geq 75\%$; **c.55% of AW in EWGS across LW05.**

Target 3b Wet woodland ≥ 1 ; **≥ 1 in EWGS restoration.**

Objective 4/Target 4 (Short-listed priority/S.41 species).

- **White Admiral.** No data but presence likely.
- **Great Crested Newt.** No data.
- **Marsh Tit** remains extant here, current breeding status unknown.
- **Common Dormouse.** No available data.

- **Bechstein's Bat** has been surveyed by SBG & Gatwick Airport consultants demonstrating that a breeding population is present across LW05, inc. in both WT woodlands.

Other priority/S.41 species: **Brown Hairstreak, Grizzled Skipper, Small Heath** are all present at WT Edolph's Copse. **Brown Long-eared Bat** presence similarly ascertained by SBG.

LW06: Newdigate Woodland

Objective 1/Target 1: x7 SNCI in positive management:

Mole Valley: Garstons Copse-**Yes**; Henfold Lake Fishery-**No**; Reffolds Copse-**Yes**; Kingland Copse & Knoll Copse-**unknown**; Newdigate Brickworks-**Yes**; Ewood Copse-**No**; Hammonds Copse-**Yes**.

Objective 2: restoration & creation of priority/S.41 habitats (ha).

Target 2a Mixed deciduous woodland $\geq 75\%$; **c.75% of AW in EWGS across LW06.**

Target 2b Wet woodland ≥ 0.75 ; **≥ 0.75 in EWGS restoration.**

Objective 3/Target 3 (Short-listed priority/S.41 species).

• **Pondweed Leafhopper** remains extant here as one of only x2 original known national populations (found elsewhere since). • **Marsh Tit** remains extant here, current breeding status unknown. • **Great Crested Newt** remains extant at SWT Newdigate Brickworks but is irregularly monitored. • **Common Dormouse**. No data.

Other priority/S.41 species: a new county population of **Pillwort** was discovered at SWT Newdigate Brickworks in 2011. **Brown Hairstreak & Grizzled Skipper** remain extant at Newdigate Brickworks (BC); **Forester** moth, **Sloe carpet**, **Currant Shoot-borer**: No data.

LW07: Earlswood & Redhill Commons to the River Mole

Objective 1/Target 1: x11 SSCI in positive management:

Reigate & Banstead: The Alders-**No**; Slipshatch Wood-**Yes**; New Pond Farm/Felland Copse-**Yes**; Earlswood Common-**Yes**; Burnt Oak Farm-**No**; Home Grove-**Yes**; Three Arch Road-**No**; Petridgewood Common-**Yes**; East Surrey Hospital Ponds-**Yes**; East Surrey Hospital Wood-**No**; Redhill Aerodrome-**No**.

Objective 2: restoration & creation of priority/S.41 habitats (ha).

Target 2a Mixed deciduous woodland ≥ 1.5 km; **c.12% in EWGS across LW07.**

Target 2b Wet woodland ≥ 0.25 ; -

Target 2c Wood pasture & parkland ≥ 8.25 ; -

Target 2d Meadows ≥ 4.5 ; **4.75 ongoing at Petridgewood Common; c.11 at Earlswood Common (inc. Acid grassland) on former golf course in restoration; 0.75 in ongoing restoration at Three Arch Road SSCI (RBBC).**

Target 2e Hedgerows ≥ 2 km; -

Target 2f Ponds ≥ 0.75 ; **0.6 restored at Chain Pond on Earlswood Common (RBBC).**

Objective 3/Target 3 (Short-listed priority/S.41 species).

• **Grizzled Skipper** remains extinct in LW07. • **White-Letter Hairstreak** has benefitted from targeted management at Earlswood Common (RBBC/BC). • **Hedgehog**. No data. • **Great Crested Newt**. No data.

Other priority/S.41 species: **Chamomile** is recovering at both Earlswood and Petridgewood Commons, in response to targeted habitat management (RBBC). **Noctule Bat** and **Soprano Pipistrelle** appear to be responding well to habitat restoration at the former golf course on Earlswood Common, as also has **Small Heath** butterfly.

3.7 River Biodiversity Opportunity Areas.

R01: Hogsmill

Objective 1/Target 1: x1 SSCI in positive management:

Epsom & Ewell: Hogsmill River (West Ewell)-**Yes**.

Objective 2: restoration & creation of priority/S.41 habitats (ha).

Target 2a Rivers (in-channel/bankside habitat creation) ≥ 0.5 km; **3.2km enhancements 2013-20, inc. weir removal, re-profiling, course naturalisation, bank restoration (SERT/EEBC/LMCP).**

Target 2b Floodplain grazing marsh ≥ 0.75 ; -

Target 2c Meadows ≥ 0.25 ; -

Target 2d Wet woodland ≥ 0.25 ; -

Objective 3/Target 3 (Short-listed priority/S.41 species).

- **Water vole** remains extinct here, but there are future plans for a reintroduction.
- **Brown Trout** & **European Eel**; fish community monitoring coordinated by ZSL RiverFly Project, where positive enhancements noted to date.

Other priority/S.41 species: **White-letter Hairstreak** maintains a strong presence in the riparian corridor. **Lesser Spotted Woodpecker** is possibly now extinct in R01 (formerly bred at Old Malden).

R02: Eden (& tributaries)

Objective 1: SSSI in Favourable condition. **Target 1:** 75% by area. **Blindley Heath** - **0% in 2020** (no change); **Hedgecourt** - **45.9% in 2020** (no change); **Lingfield Cernes** - **0% in 2020** (no change).

Objective 2/Target 2: x5 SNCI in positive management:

Tandridge: Dwelly Swamp-**unknown**; Wire Mill Lake & Wood-**unknown**; Glebe Water and Moore's Shaw-**Yes**; Crooked River Meadow-**unknown**; Coltsford Mill-**unknown**.

Objective 3/Target 3: restoration & creation of priority/S.41 habitats (ha).

Target 2a Rivers (in-channel/bankside habitat creation) ≥ 5 km; No data received.

Target 2b Floodplain grazing marsh ≥ 11.75 ; -

Target 2c Wet woodland ≥ 1.5 ; -

Target 2d Meadows ≥ 4 ; -

Objective 3/Target 3 (Short-listed priority/S.41 species).

- **True Fox-sedge** is irregularly monitored by SBS, where it remains extant and stable at Lingfield Cernes.
- **Great Crested Newt**. No data.
- **Lapwing**. Likely extant within R02, but no data.
- **Otter**. No data.
- **Water Vole** remains extinct with no plans for reintroduction.

R03: Blackwater River

Objective 1: SSSI in Favourable condition. **Target 1:** 50% by area. **Basingstoke Canal (Unit 2)** - **0% in 2020** (no change).

Objective 2/Target 2: x9 SNCI in positive management:

Guildford: Ash Vale Gravel Pits-**No**; Lakeside Nature Reserve-**Yes**; Shawfield Lane Meadow-**No**; Tongham Pond & Tice's Meadow-**Yes**. **Surrey Heath:** Hay Meadow West of Coleford Bridge-**No**; Coleford Bridge-**No**; Hawley Meadows-**Yes**; Frimley Hatches (including Frimley Reedbeds)-**No**.

Objective 3/Target 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Rivers (in-channel/bankside habitat creation) ≥ 1 km; **1.79 km (BCVP/EA)**.

Target 3b Floodplain grazing marsh ≥ 5.25 ; **c.15 in ongoing restorative management (BVCP)**.

Target 3c Wet woodland ≥ 0.5 ; No data.

Target 3d Reedbeds ≥ 0.75 ; **c.2.75 at Tices Meadow (Hanson/SCC)**; **1.5 created/restored elsewhere (BVCP)**.

Target 3e Meadows ≥ 1.25 ; **9 at Tices Meadow (Hanson/SCC)**.

Other; **11 ha standing open water, 2.8ha new woodland at Tices Meadow (Hanson/SCC)**.

Objective 4/Target 4 (Short-listed priority/S.41 species).

• **Marsh Stitchwort** remains extinct with no plans for reintroduction. • **Lapwing**. Regularly monitored at Tice's Meadow, where a small breeding population has established in the reporting period (TMBG). • **Harvest Mouse**. No data. • **Water Vole** remains extinct with no plans for reintroduction. • **European Eel**. No data.

Other priority/S.41 species: **Small Heath** maintains a robust population at Tice's Meadow (BC UKBMS). **Reed Bunting** appears to have a county stronghold in R03, and may be increasing (SBC). **Skylark** is apparently stable at Tice's Meadow; **Bullfinch & Linnet** also breed (TMBG). **Common Toad**, **Grass Snake**, **Slow-worm & Common Lizard** are monitored at Tice's Meadow by SARG. **Hedgehog** is resident at Tice's Meadow.

R04: River Wey (& tributaries)

Objective 1/Target 1: SSSI in Favourable condition. 50% by area: **Papercourt - 0% in 2020** (no change); **Charterhouse to Eashing - 87% in 2020** (38.7% in 2015); **Wey Valley Meadows - 23.8% in 2020** (no change). Maintain at 100%: **Moor Park - 100% in 2020**; **Charleshill - 100% in 2020**.

Objective 2/Target 2: c.70 SNCI in positive management (only larger listed):

Elmbridge: River Wey-**No**. **Guildford**: Unstead STW-**unknown**; Slyfield Meadow-**Yes**; Riverside Nature Reserve-**Yes**; Broomfield Wood and Gatwick Alder Bed-**No**; Cutt Mill to Shackelford Woods-**No**; Broadmead Cut and Wey Navigation at Send-**No**; Sutton Place/Meadow North of Broadoak Bridge-**unknown**; Albury Water Meadows-**No**; Broomfield Meadow-**Yes**. **Runnymede**: Wey Navigation (inc. Addlestone Mill Pond)-**Yes**; River Wey Runnymede-**unknown**; Addlestone Bourne-**unknown**; Riverside Walk, The Bourne-**Yes**. **Surrey Heath**: Hay Meadow by the Bourne-**unknown**; Chobham Meadows S of the Mill Bourne-**Yes**; Broadford Meadows by the Bourne-**Yes**. **Waverley**: Snayleslynch-**Yes**; Lammas Lands-**Yes**; Peper Harrow Park Marsh-**No**; Peperharrow Road Marsh-**unknown**; River Wey North-**No**; River Wey & Wey South-**No**; Bishop's Meadow-**Yes**. **Woking**: Mayford Meadows-**Yes**; River Wey-**No**; Pyrford Place Lake-**No**; Wheeler's Fields-**Yes**; Manor Farm and Meadows-**Yes**; Hoe Stream Fields-**No**.

Objective 3/Target 3: restoration & creation of priority/S.41 habitats (ha).

Target 3a Floodplain grazing marsh ≥ 35.25 ; **c.25 as restorative enhancements ongoing at Parsonage Meadows, Shalford Meadows & Burpham Court Farm (GBC/EA)**; **c.9 at Bishops Meadow, Farnham (BMT/EA)**; **c.7.25 restored at Old Woking (Hoe Stream project 2012-13 WoBC)**.

Target 3b Wet woodland ≥ 4.5 ; -

Target 3c Rivers (in-channel/bankside habitat creation) ≥ 10 km; **1.48km across Wey catchment in Surrey (across collective WLP)**.

Target 3d Meadows ≥ 11.75 ; **c.25 in restoration at Manor Farm, Byfleet (SWT)**

Target 3e Reedbeds ≥ 7 ; **>0.25 at Riverside LNR (GBC)**.

Objective 4/Target 4: (Short-listed priority/S.41 species).

• **Marsh Stitchwort** is irregularly monitored by SBS; populations extant at Eashing Meadows, Wey Valley Meadows & Papercourt SSSI. • **White-clawed Crayfish** is now probably extinct in R04; there are no plans for reintroduction. • **Lapwing** is regularly monitored at several sites, with breeding becoming regular at Stoke Meadows-Burpham Court & Papercourt (SBC/WeBS). • **Harvest Mouse**. River Wey floodplain supports a meta-population of regional importance (SWT SHMP). • **Otter** is increasingly recorded but local territorial occupation remains unclear. • **Water Vole** remains extinct with no current plans for reintroduction. • **European Eel**. No data.

Other priority/S.41 species: **Tubular Water-dropwort** remains extant, with apparently stable populations at c.6 sites. Recent survey to re-confirm Surrey's single known **Desmoulin's Whorl-snail** population has been unsuccessful. **Brown Trout** is monitored & remains extant on several upper reaches & tributaries of the Wey system, supported by reintroduction projects (WTT). **Lesser Spotted Woodpecker** remains a breeding species in Surrey in riparian woodland at x2 known sites in the upper catchment. **Reed Bunting** has a stronghold in the Wey valley, but local populations are mostly declining (SBC).

R05: River Mole (& tributaries)

Objective 1/Target 1: x10 SNCI in positive management:

Elmbridge: Littleworth Common-**Yes**. **Mole Valley**: River Mole at Leatherhead-**Yes**; River Lane Fields-**Yes**; Ashted Rye Meadows-**Yes**; Britts Wood-**No**. **Reigate & Banstead**: Langshott Wood-**Yes**; The Roughs-**No**; Brook Wood-**Yes**; Bolters Wood-**No**; The Alders-**No**.

Objective 2/Target 2: restoration & creation of priority/S.41 habitats (ha).

Target 2a Floodplain grazing marsh ≥ 22 ; **2** in ongoing restorative management at Fetcham Splash (LMCP/MVDC); **13.7** at Riverside Green Chain, Horley in ongoing restoration (RBBC).

Target 2b Wet woodland ≥ 2.75 ; **0.03** carr restoration at Thorncroft Island (LMCP).

Target 2c Rivers (in-channel/bankside habitat creation) ≥ 5 km; **2.57**km across Mole catchment in Surrey (across collective RMCP).

Target 2d Meadows ≥ 7.25 ; (see 2a)

Target 2e Reedbeds ≥ 4.25 ; -

Other; **0.13** of pond restoration at Tanyard Meadows (RBBC). **0.22**km hedgerow restoration at Thorncroft Manor (LMCP).

Objective 3/Target 3: (Short-listed priority/S.41 species).

• **Marsh Stitchwort**. No data. • **Harvest Mouse**. No data. • **Water Vole** remains extinct in R05, with no plans for reintroduction (but see WG11, p.23). • **Otter** is regularly reported, but local territorial occupation remains unclear. • **Brown Trout**. No data. • **European Eel**. There has been some targeted survey by the RMCP.

Other priority/S.41 species: Recovery of **Lapwing**, **Grass Snake**, **Common Toad** targeted via Tanyard Meadows restoration.

R06: River Thames (tow-path & islands)

Objective 1/Target 1: x5 SNCI in positive management:

Runnymede: River Thames in Runnymede-**No**. **Elmbridge**: River Thames-**unknown**; Hurst Park-**Yes**; **Spelthorne**: Penton Hook Island-**No**; River Thames (and towpath)-**No**.

Objective 2/Target 2:

Target 2a Rivers (in-channel/bankside habitat creation) ≥ 3 km; -

Target 2b Floodplain grazing marsh ≥ 2.75 -

Target 2c Wet woodland ≥ 0.25 ; -

Other; **c.7.5ha** meadow creation at Hurst Park (EBC).

Objective 3/Target 3: (Short-listed priority/S.41 species).

• **Greater Water-parsnip** remains extinct with no plans for reintroduction. • **Depressed River Mussel**. Surveys undertaken via ZSL research project. • **European Eel**. Fish communities regularly monitored by EA.

Other priority/S.41 species: **White-letter Hairstreak** is present at Hurst Park. **Fine-lined Pea Mussel** (*Pisidium tenuilineatum*) recently recorded at x1 known site. **Water Vole** remains extinct with no plans for reintroduction. **Atlantic Salmon, Brown Trout**; fish communities regularly monitored by EA. **Otter** is occasionally reported, but local territorial occupation remains unclear.

3.8 Beyond Biodiversity Opportunity Areas.

Grid Ref.	Site name.	project description.	PHI/Ha.
TQ059632	Addlestone Quarry:	post-minerals restoration ongoing	hedgerow - 0.2km
TQ052483	Albury Sand-pit:	post-minerals/waste restoration	acid grassland - 0.75 meadows - 8 MDW - 3.5
TQ170586	Ashtead Rye Meadows:	floodplain meadow restoration	meadows - 2.8 hedgerow - 0.25km
TQ224504	Buckland Lake:	post-minerals restoration 2011-19 see; https://bucklandparklake.co.uk	standing water - 20.8 MDW - 2.5
TQ155633	Claygate Rec.:	MDW restoration (LMCP)	MDW - 0.1
SU841482	Farnham Park:	parkland habitat mosaic restoration	W-P&P - >6
TQ343571	Manor Park:	chalk grassland restoration (DCP)	calc. grassland - 11
TQ150492	Miltoncourt Farm:	hedgerow planting/restoration	hedgerow - 1.85km
TQ138394	Mole Street meadow	meadow restoration	meadows - 1.75
TQ236590	Nork Park:	chalk grassland restoration (DCP)	calc. grassland - 15.75
TQ225504	Park Lake, Buckland:	post-minerals restoration	standing water - 1 wet woodland - 0.75 reedbed - 0.75
TQ133597	Polyapes Scout Camp:	MDW creation (LMCP)	MDW - 0.25
TQ199503	Reigate Quarry:	post-minerals restoration	hedgerow - 0.35km
SU865470	Runfold Quarry N&S:	post-minerals/waste restoration	hedgerow - 0.9km MDW - 2.5
TQ159555	SES Water Elmer Works:	chalk grassland restoration	calc. grassland - 3
TQ231510	Tapwood Lake:	post-minerals restoration	standing water - 8 wet woodland - 0.75 reedbed - 0.75
TQ094525	Wellington Meadow:	meadow restoration	meadows - 2
TQ004558	Westfield Common:	GCN DLL Project (WoBC)	ponds - 0.25

Figure 1a.

OBJECTIVE 1: SSSI units to achieve favourable condition, n% by area by 2020.			
National Character Area	SSSI	% area Favourable 2015	% area Favourable 2020
Thames Valley	Windsor Forest & Great Park	c.11	100
	Langham Pond	63.2	100
	Staines Moor	96.2	96.2
	Wraysbury Reservoir	100	100
	Thorpe No.1 Pit	100	100
	Thorpe Hay Meadow	100	100
	Dumsey Meadow	100	100
	Knight & Bessborough Reservoir	100	100
Thames Basin Heaths	Chobham Common [units 1-14]	c.29.7	48.9
	Chobham Common [units 15-26]	c.29.7	37.9
	Colony Bog & Bagshot Heath	8.6	94.9
	Ash to Brookwood Heaths	13.5	61.4
	Whitmoor Common	27.5	76.4
	Sheets & Prey Heaths	0	7
	Horsell Common	16.6	21.5
	Ockham & Wisley Commons	33.2	53.9
Broadmoor to Bagshot Woods & Heaths	c.45	78.1	
Thames Basin Lowlands	Bookham Commons	85	85
	Esher Commons	20.3	57.2
	Epsom & Ashted Commons	84.7	85.2
North Downs	Coombe Bottom	99.5	99.5
	Ranmore Common	93.2	93.2
	Sheepleas	9.9	9.9
	Colyers Hanger	67.1	67.1
	Hackhurst & White Downs	70.2	76.8
	Mole Gap-Reigate Escarpment [1-4,29]	77	77
	Mole Gap to Reigate Escarpment [5-40]	45.7	45.7
	Chipstead Downs	56.9	56.9
	Banstead Downs	34.7	34.7
	Quarry Hangers	12.5	53.9
Woldingham & Oxted Downs	51.2	51.2	
Wealden Greensand	Puttenham & Crooksbury Commons	2.7	93.9
	Gong Hill	53.5	53.5
	Thursley, Hankey & Frensham Commons	70.9	82.1
	Devil's Punch Bowl	1.4	100
	Blackheath	48.4	75.4
	Leith Hill	59.8	80
	Reigate Heath	73.9	73.9
Godstone Ponds	21.8	21.8	
Low Weald	Chiddingfold Forest	7.6	7.6
	Vann Lake & Ockley Wood	100	100
	Glover's Wood	100	100

	Blindley Heath	0	0
	Lingfield Cernes	0	0
	Hedgecourt	45.9	45.9
	Basingstoke Canal [unit 2]	0	0
	Papercourt	0	0
	Wey Valley Meadows	23.8	23.8
	Charterhouse to Eashing	38.7	87
	Charleshill	100	100
Rivers	Moor Park	100	100

Green=% target met/maintained; **Amber**=>50% met/no change; **Red**=<50% met/no change

Figure 1b*.

OBJECTIVE 2/3: Priority habitat restoration & creation, n ha/PHI, by 2020															
National Character Areas	% of NCA in Surrey	Heathland	Acid grassland	Meadows (Neutral grassland)	Calcareous grassland	Native woodland ¹	Wood-pasture & parkland	Floodplain grazing marsh	Fen	Reedbeds	Rivers ² (km)	Standing open water / Ponds ³	Hedgerows ³ (km)	Arable field margins	Traditional orchards
Thames Valley	10%	190	100 Dry	70			200	200		80		10 Po	20		40
Thames Basin Heaths	26%	250	140 Dry 60 Wet	90				300	100	50		10 Po		1200	60
Thames Basin Lowlands	58%	50	30 Dry	30			50					10 Po		150	20
North Downs	19%	30			400							25 Po	25	1200	110
Hampshire Downs	1%			90	400			200	25	25		5 Po	10	1200	
Wealden Greensand	26%	250	290 Dry	50			120	150	20			25 Po	25	600	110
Low Weald	23%		200 Dry	40			200	50				20 Po	20	450	40
High Weald	1%	250	290 Dry	90			250					25 Po	25	600	60
Derived total minimum habitat contribution for Surrey [V.19]		186.2	D 190.4 W 15.6	71.8	80	n/a	128.7	150.5	31.5	22	n/a	25.75	18.35	904.5	91.7
% of national total		2.62	D 2.42 W 0.36	1.07	0.87	-	1.79	0.97	0.81	0.72	n/a	1.47	1.18	1.4	2.16
Surrey Targets (rounded)		187	Dry: 193 Wet: 17	75	84	131	131	152	33	22	24.5	26	18	905	92
% of national target		2.49	D 2.41 W 0.34	1.07	0.84	0.44	1.87	1.01	0.83	0.73	n/a	1.73	1.41	1.39	1.84

*See: <http://publications.naturalengland.org.uk/publication/4787624740913152?category=5856835374415872>

Achieved/Initiated 2011-2020	Heathland	Acid grassland	Meadows	Calcareous grassland	Native woodland ¹	Wood-pasture & parkland	Floodplain grazing marsh	Fen	Reedbeds	Rivers ² (km)	Standing open water / Ponds ³	Hedgerow ³ (km)	Arable field margins	Traditional orchards
Thames Valley	5	8.25	94	-	8.6	20	41	-	4.3	-	12.75	0.3	?	-
Thames Basin Heaths	42.4	43.25	?	-	16.3	?	-	14.75	-	-	3	?	?	-
Thames Basin Lowlands	3.75	3.5	35.35	-	8.25	91	-	-	-	-	3.85	1.75	?	0.25
North Downs	4	5.75	?	244	113.25	?	-	-	-	-	-	1.2	54.5	0.25
Wealden Greensand	90	39.25	?	-	11.8	0.5	-	?	0.3	-	3.5	1.1	?	-
Low Weald	7.5	?	30.8	-	?	?	-	-	-	-	0.6	?	?	-
Rivers	-	-	41.5	-	2.8	-	72	?	4.5	9	11.1	0.22	-	-
beyond BOAs:	-	0.75	14.55	29.75	10.35	6	-	?	1.5	-	30.05	3.55	?	?
Totals:	152.7	100.75	216.2	273.75	171.35	117.5	113	14.75	10.6	9	64.85	>8.12	>54.5	0.5

Green=met/exceeded; Amber>=50% met; Red=<50% met

units	= Ha to be restored/created across whole of the NCA by 2020
	= Low contribution to national habitat total
	= Medium contribution to national habitat total
	= High contribution to national habitat total

'Wet acid grassland' = Purple moor-grass/rushes dominated.
 'Native woodland' = HPI Mixed Deciduous Woodland (MDW), Beech & Yew, Wet woodland.

¹ 'increase' target of 30,000 ha not apportioned to NCAs; Surrey target therefore identified using independently derived formula. Note figures refer to creation only.

² derived from EA-recommended length of in-channel/bankside habitat creation.

³ assumes mean pond size of 0.05ha; 2m-wide hedgerow.

4. Discussion

4.1 Accuracy of reporting.

Whilst this progress report is as complete as consultation was able to achieve, it must be acknowledged there will remain eligible projects around the county that are not recorded here. These are likely to be located on private estate land, which is extensive in Surrey, undertaken by managers that are not by necessity accountable to any of the authorities included within our consultative process. We are also aware of several agencies that did not contribute despite repeated requests to do so.

Regarding the objective for achieving Favourable status of Sites of Special Scientific Interest, this is of course arbitrated by their sole assessor, Natural England. NE aims to re-assess condition of SSSI units on a six-year cycle but, especially over this reporting period, found this challenging to uphold due to various resourcing constraints. In the short period since year-end 2020 NE has increased its assessment effort and has found that there has been significant change meriting elevated condition status affecting a good number of SSSI listed in Figure 1a. It is certainly possible that in some cases Favourable status was in fact achieved by 2020 but was yet to be recognised.

It is important to note how we have considered if the management of a SSSI unit towards achieving Favourable status might include an element of restoration of an additional area of priority habitat, to be reported also under that objective. Although there is some ambiguity on this matter in *Biodiversity 2020*, at least in spirit it is likely that the relevant Outcome 1B⁴ implied an area that contributed a credible increase to a definitive habitat database representing the existing resource at the start of the accounting period (ie. 2011). Therein lies the problem however, as the database probably envisaged at this time recorded habitats at a much coarser resolution than is now available only a decade later. As an example, on lowland heathland the typically occurring afforested compartments as well as any fen/mire communities would all have been aggregated as ‘heathland’ in 2011. Priority habitat *creation* is less of an additionality issue in being clearly achieved on an area of land in a formerly different land-use. For this document, land *beyond* SSSI undergoing management designed to achieve the priority habitat in question has been judged as eligible for achievement of the restoration/creation objective. *Within* SSSI, if the project area has achieved or maintained Favourable status within the reporting period, it is not also recorded for the restoration/creation objective. But if the project affects a unit that remains in Unfavourable but recovering condition, this is regarded as potentially including some ongoing priority habitat restoration and is then considered for such on an individual case basis (ie. using its most recent unit condition assessment), for in-part reflection also under the restoration/creation objective.

Notwithstanding these caveats, progress towards meeting our Surrey priority habitat restoration &/or creation targets, although a mixed picture does include some apparent runaway successes. It must be emphasised however, that most of these regained hectares represent project *initiation* (but importantly not simply intent) and are not as yet a complete entity. The restoration and creation of quality habitats, by reversing the cumulative deterioration by which they lost that original quality, must be expected to take at least as long to eventuate. Some of the documented gains in calcareous grassland at the western end of BOA ND02 for example, had only recently been enacted by the close

⁴ *Biodiversity 2020* Outcome 1B; “More, bigger and less fragmented areas for wildlife, with no net loss of Priority habitat and an increase in the overall extent of Priority habitats by at least 200,000 ha”.

of the reporting period. Regarding the aspirations around native woodland restoration, a commitment to a Woodland Grant Scheme alone cannot be assumed to guarantee this as a fully executable outcome, given the timescales involved and a host of possible interim variables.

There is a clear connection between a SNCI concluded as being in positive management, and that management perhaps still ongoing where this is aimed at restoring one or more priority habitats present within the SNCI. This is therefore duly reflected under both objectives. The source data used to report the positive management status of SNCI is the most recent available and summarises the situation in 2018, as compiled for the government's Single Data List Indicator 160-00 (Local nature conservation/biodiversity) by SBIC for Surrey County Council.

Tracking recovery or stability of priority species populations can also be difficult, at least to conclude anything beyond the anecdotal (see Appendix 2). Sometimes a species' continued presence is all that may be concluded. No doubt the management that achieves Favourable condition will often be responsible for at least an improvement in the status of certain priority species present on SSSI, and for a limited number (for example where a particular species is the site's primary or only notification feature) this is in fact noted as such. But in most cases this may only be assumed, so for this document we always report on priority species status separately and under the respective (species) objective.

S.41/priority species are only a fraction of native biodiversity. At a local (county) level, their urgent prioritisation for preventing species extinction would arrive at a much longer list. This report can only address the nationally relevant short-list, but the basis for any future review is available as the lists of Species of Conservation Concern researched for the *State of Surrey's Nature*⁵ report.

4.2 Beyond the BOAs & accounting loss.

It was an aim of this report to also include reference to eligible action taking place beyond the boundaries of the Biodiversity Opportunity Areas. We saw an opportunity here to record cases of outright priority habitat loss (but not ongoing deterioration), as well as cases of assumed local extinction of priority species.

Relatively little information was returned reporting positive action beyond BOAs and none at all reporting losses. On one hand this could be cause for celebration, in that it means that the BOAs have indeed provided the focus for conservation action as was originally intended, and that 'no net loss' as the high-level benchmark set at the beginning of the decade has in fact been largely met. However, it is more likely that both these action outcomes are significantly under-reported. Notorious events that have impacted biodiversity, at least initially, included the Beaverbrook golf course venture as well as several minor ancient woodland reductions via re-development of former brick-clay quarries in the Low Weald. There could be a considerable caseload of local species population declines resulting from negative habitat management practices or management neglect, compounded by accumulating eutrophication and monospecific keystone plant pathogens. National monitoring datasets provide some of the background evidence for this conclusion, including those for breeding and wintering birds, bats, butterflies and moths, while our *State of Surrey's Nature* report summarises the collective longer-term overview.

⁵ [The State of Surrey's Nature](#), Surrey Nature Partnership 2017

4.3 Factors constraining progress.

Project funding for countryside management can be unreliable and its procurement often mired in complexity. Moreover the reporting decade spanned a period of comparative austerity, where public spending cuts targeted the services perceived to be most expendable (such as this). Pared core budgets are rapidly used up simply maintaining the *status quo* on biodiverse sites comprising complex habitat mosaics, especially those with open public access. It is unsurprising therefore that much of the more progressive action reported here was funded from external support award schemes or competitive grants, rather than core resourcing. Examples include the woodland grant and stewardship schemes, water and waste utility compensatory funds and the various national lottery funds.

Whilst privately-owned land may not be so affected by resource constraints, other considerations are likely to be responsible for inertia in its positive management for biodiversity, especially if change is regarded as either radical or backwardly. From an independent point-of-view it is sometimes difficult to understand the motivation of landowners where, as an example, a parcel of fields in grass but of limited interest for biodiversity is for years neither grazed, sown or mown for anything other than claimable maintenance as a wealth asset; with any plan for its use appearing frozen in a quandary of indecision that no amount of external monetary incentive can resolve.

Some inertia can result from a lack of clarity on the part of the advisors purportedly promoting positive land use policies to benefit biodiversity conservation and recovery. Examples include potential tensions within the Defra family, as those between Forestry England championing national silviculture interests versus Natural England seeking habitat restoration of ancient broadleaved woodland or lowland heathland from plantation softwoods. Or the Environment Agency adhering to stringent flood risk assessment regulation in direct obstruction of an obvious natural flood management solution that is beneficial for wetland biodiversity. Early in the reporting period, it became apparent that what appeared as a clear opportunity to make creation or restoration of priority habitats integral to the mandatory requirement for provision of Suitable Alternative Natural Greenspace, was being perversely discouraged by Natural England for nothing more than processed risk avoidance. NE has since reversed on this issue.

National planning policy has, since 2005, sought to streamline the planning approval of projects “..where the principal objective is to conserve or enhance biodiversity conservation interests⁶.” This principle has been maintained throughout by successive governments and is reiterated in the current NPPF as paragraph 175(d); “When determining planning applications, local planning authorities should apply the following principles: ..development whose primary objective is to conserve or enhance biodiversity should be supported.” Despite this, LPAs still appear reluctant to recognise and implement this important principle, to take the professional judgement that is their gift and save deserving applicants protracted delays and uncertainty.

Again from the independent viewpoint, it has all too often felt that the holy grail of securing a fundable biodiversity gain project pipeline will forever be thwarted by a combination of unaligned regulatory systems or simply out of inherent risk-aversity to change.

⁶ Planning Policy Statement 9: Biodiversity and Geological Conservation: 1. Key Principles (5). ODPM 2005

4.4 The next decade: 2021-2030.

Biodiversity Opportunities Areas represent the geo-spatial prioritisation for locating landscape scale biodiversity enhancements in Surrey. Their original identification rationale remains sound and is echoed as a critical element of the protocol for mapping county/metropolitan units of the national **Nature Recovery Network** (NRN). This is a mandated duty of Responsible Authorities appointed to publish **Local Nature Recovery Strategies** (LNRS) as an outcome of the recently enacted *Environment Act 2021*.

The published BOA boundaries date from 2010, and a review is probably now due. This could incorporate any significant land-use changes as well as the product of the **Urban BOA Project**, to be delivered by March 2022. The latter will effectively complete the original objective of the exercise, providing extensions of the existing BOA network mapped within and through Surrey's contiguous conurbations and larger towns.

A new set of objectives and their SMART targets must now be considered, most sensibly to be incorporated within the action plan that will form the most important element of the Surrey LNRS. In the absence of a successor national Biodiversity Strategy, the Government's 2018 **25-Year Environment Plan** (25YEP)⁷ acts as the current goal-setting document to inform a refreshed adjustment of the BOA objectives in the LNRS.

Under its Goal 3: "Thriving plants & wildlife", the 25YEP includes the following targets to be achieved by 2042:

- Restoring 75% by area of terrestrial and freshwater SSSI to Favourable condition;
- Creation or restoration of 500,000 hectares of wildlife-rich habitat beyond SSSI, preferably as priority habitats;
- Recovery of 'threatened, iconic or economically important' species of animals, plants and fungi, and where possible to prevent further loss and regional extinction (ie. from the British Isles) of known threatened species - likely defined as nationally Red-listed and S.41 species;
- Increasing woodland cover in England by 12% (180,000 hectares) by 2060.

A new public funding framework to support achievement of the 25YEP goals is on the horizon, pivoted around a successor farming subsidy regime to replace the former Common Agricultural Policy-driven Basic Payment Scheme. This has the aim of transforming future agriculture to be as sustainable as possible, and to become the major contributor to the Plan's environmental goals. Incentives to elevate the contribution of the farm sector will be organised on a performance basis, whereby securing the benefits to society supplied by the natural environment through adjustments to farm business models will be monetarily rewarded as a form of subsidy payment. This is the **Environmental Land Management Scheme** (ELMS) and there will be levels of participation that will offer at least the most marginal of agriculturalists a real alternative to their current land-uses, to instead maximise that land's value as a supportive habitat for both biodiversity and human society.

A further innovation of the Environment Act is the mandatory introduction of an added price on planning permission to be spent on action to enhance biodiversity, equating to at least 10% of the quantum of biodiversity existing prior to the commencement of a development project. This is

⁷ HM Government, [A Green Future: Our 25 Year Plan to Improve the Environment](#) (2018).

Biodiversity Net Gain (BNG) and will be regulated through an evaluation metric to value biodiversity as a tradeable currency called ‘Biodiversity Units’, calculated as a product of habitat area, type, condition and several further attributes. Developers in need of Biodiversity Units to secure their planning permission will be able to buy into **habitat banks**, which will be created speculatively by various green financial agencies in anticipation of this market. The land required to realise habitat banks will be sought preferentially in those areas already prioritised for locating biodiversity enhancements, ie. the BOAs. Land can be leased or bought, and the cost of the habitat enhancement or creation to generate the Biodiversity Units will be borne by the controller of the habitat bank. Thus, there will exist another new but realistic incentive system on offer to private landowners with limited or at least a waning interest in agriculture, to be replaced by an essential role in achieving local and national nature recovery.

Abbreviata.

ARC	Amphibian & Reptile Conservation (Charitable Trust)
AW	Ancient woodland
BC	Butterfly Conservation
BLS	British Lichen Society
BOA	Biodiversity Opportunity Area
BMT	Bishops Meadow Trust (at Farnham)
BNG	Biodiversity Net Gain
BVCP	Blackwater Valley Countryside Project
CaBA	Catchment-Based Approach (EA/Rivers Trusts)
DCP	Downlands Countryside Project
EA	Environmental Agency
EBC	Elmbridge Borough Council
EEBC	Epsom & Ewell Borough Council
eNGO	environmental Non-Government Organisation
EWGS	England Woodland Grant Scheme
FE	Forestry England
GBC	Guildford Borough Council
GC	[usually named] golf course
GGP	Gatwick Greenspace Project (Sussex Wildlife Trust)
HCPS	Horsell Common Preservation Society
HLF	Heritage Lottery Fund
HPI	Habitats of Principal Importance (on S.41 list)
LMP	Lower Mole Project
LPA	Local Planning Authority
NDMP	National Dormouse Monitoring Scheme (coordinated by PTES)
NE	Natural England
NERC	Natural Environment & Rural Communities Act 2006
NHM	Natural History Museum
NT	National Trust (countryside & properties portfolios)
PC	Parish Council
PTES	People’s Trust for Endangered Species
RACV	Reigate Area Conservation Volunteers

RBBC	Reigate & Banstead Borough Council
RMCP	River Mole Catchment Partnership
RSPB	Royal Society for Protection of Birds
S.41	Section 41 list of Habitats & Species of Principal Importance (NERC Act 2006)
SARG	Surrey Amphibian & Reptile Group
SANG	Suitable Alternative Natural Greenspace
SERT	South-East Rivers Trust
SBC	Surrey Bird Club (publishes the annual Surrey Bird Report of species records)
SBG	Surrey Bat Group (affiliated to the national Bat Conservation Trust)
SBIC	Surrey Biodiversity Information Centre
SBS	Surrey Botanical Society (affiliated to the Botanical Society of the British Isles)
SCC	Surrey County Council
SDBS	Surbiton & District Birdwatching Society
SDG	Surrey Dormouse Group
SHMP	Surrey Harvest Mouse Project (run by SWT)
SHP	Surrey Heathland Project
SMART	Specific, Measurable, Achievable, Relevant, Timebound (of targets)
SNCI	Site of Nature Conservation Importance (a Surrey Local Wildlife Site/LWS)
SpBC	Spelthorne Borough Council
SPI	Species of Principal Importance (on S.41 list)
SRS	(national) Spider Recording Scheme
SRT	Species Recovery Trust
SSSI	Site(s) of Special Scientific Interest
SWT	Surrey Wildlife Trust
TMBG	Tice's Meadow Bird Group
UKBMS	UK Butterfly Monitoring Scheme (BC)
WaBC	Waverley Borough Council
WCBS	Wider Countryside Butterfly Scheme (BC)
WeBS	Wetland Bird Scheme (British Trust for Ornithology)
WGP	Windsor Great Park (managed by The Crown Estate)
WLP	Wey Landscape Partnership (CaBA for the Wey catchment)
WoBC	Woking Borough Council
WT	Woodland Trust
WTT	Wild Trout Trust
ZSL	Zoological Society of London

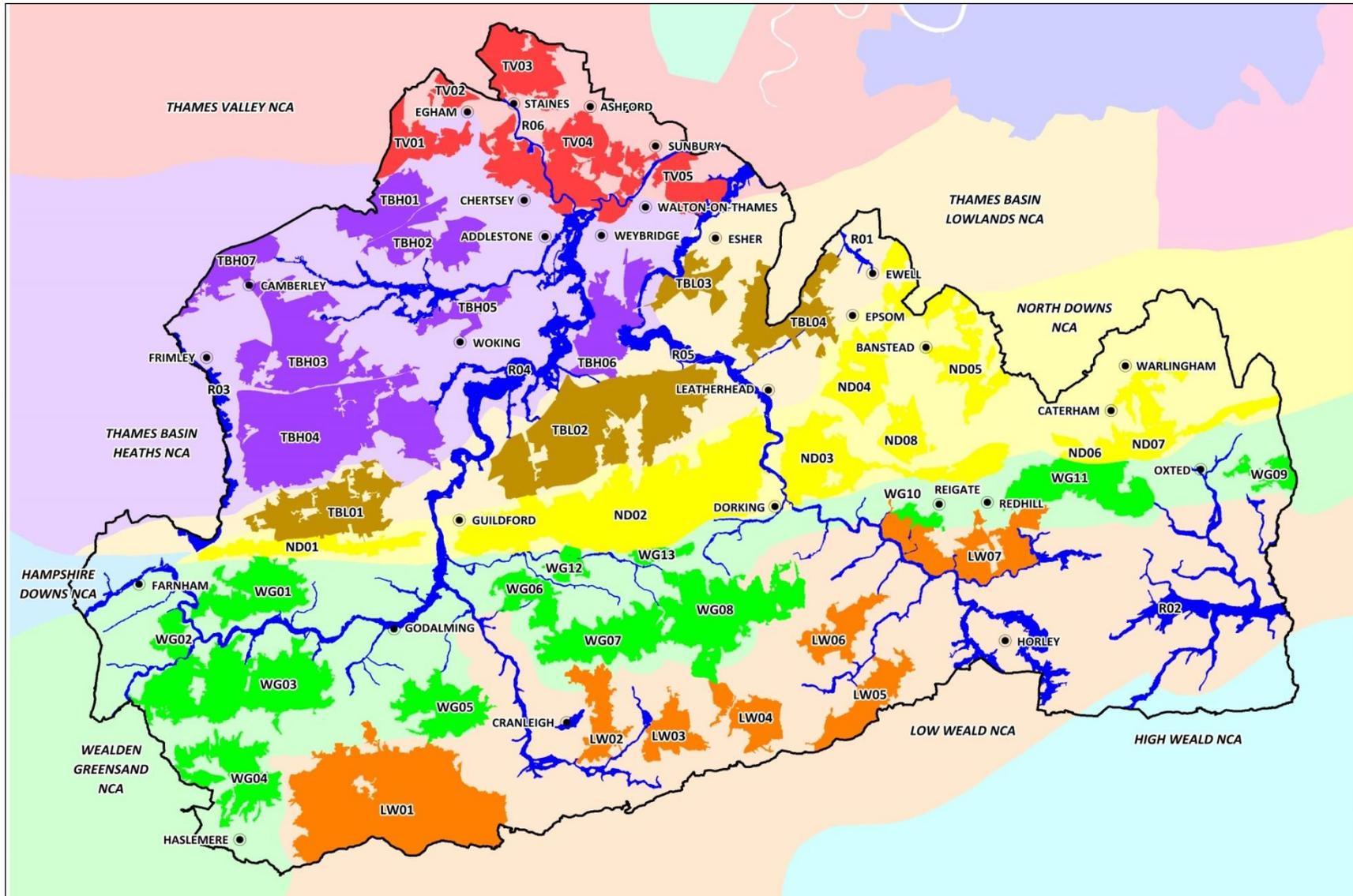
Acknowledgements.

Thanks must go to all members of Surrey Nature Partnership's Biodiversity Working Group who have contributed to the compilation of this report. These include representatives from Surrey's LPAs, the Defra 'family', various eNGOs and Surrey's specialist recording groups. Additional contributors included Des Sussex at The Crown Estate and Hugh Broom of Miltoncourt Farm.

Mike Waite

Chair: Surrey Nature Partnership
Biodiversity Working Group

Appendix 1. Surrey Biodiversity Opportunity Areas, December 2010



Appendix 2. Notes on difficulties monitoring priority/S.41 species.

1. Butterflies.

White-letter Hairstreak:

An elusive, canopy species and therefore unsuited to monitoring by UKBMS transects, although targeted surveying by Surrey BC Branch since 2015 has demonstrated that the species can be expected wherever there is suitable elm habitat. The butterfly prefers flowering/fruited Wych Elm *Ulmus glabra*, whose distribution is patchy across Surrey. However, planted disease-resistant trees are also colonised (except American Elms), rarer naturally occurring elms such as Huntingdon Elm or European White Elm *U. laevis*, and where there are large stands of suckering English Elm *U. procera* or *U. minor* ssp. *vulgaris*. Elm is predominantly a hedgerow tree and colonies of the butterfly are much more likely to be found by the sides of roads or on waste ground than in parkland or nature reserves.

Brown Hairstreak:

This is also an elusive species unsuited to standard survey methodology, where it is very difficult to say anything meaningful regarding abundance year on year. Since 2015 however, the branch has been monitoring Brown Hairstreak distribution by targeted egg searches on Blackthorn (and some other *Prunus* species) and has proved that the species is present throughout Surrey, although rarest on the sandy soils of western Surrey where Blackthorn is less common.

Small Heath:

This species is recorded on UKBMS transects throughout Surrey and its numbers appear to be stable, with yearly variations. It can be expected on any piece of open grassland or heath.

White Admiral:

This woodland species is recorded on UKBMS transects in Surrey. It requires wide woodland rides where its larval foodplant Honeysuckle is present. Its numbers appear stable at most sites, with yearly variations.

2. Bats.

The priority bat species known to reside in Surrey include Soprano Pipistrelle, Brown Long-eared Bat, Noctule, Western Barbastelle and Bechstein's Bat. The two horseshoe bat species are locally extinct although Greater Horseshoe is now slowly recovering in England and has re-established in some neighbouring counties. Soprano Pipistrelle and Noctule are both monitored by the BCT's National Bat Monitoring Programme Field Survey, and the pipistrelle also by its Roost Count scheme. Brown Long-eared Bat can also be monitored by the latter scheme. The two rarer species, Barbastelle and Bechstein's are so infrequently observed (normally when hibernating) that population trends are almost impossible to obtain, although their summer roosts are starting to be found. Long-monitored roost box schemes can offer some indication of local population trends, and it is feasible for any of these species to use boxes. Similarly, hibernation roost counts accumulated over decades are also a reasonably dependable indication of trends.

The primary problem with counting roosting bats as an indicator of their population size is the fact that a local population uses multiple sites for irregular periods, so a regularly repeated count at a single roost site provides limited surety of the complete situation. Lastly, except perhaps for the two rarest these species are no more deserving of priority status than several other non-priority species; one example is the newly described Alcaethoe Bat, for which the western Weald currently appears its national stronghold. Another is Serotine, recently listed by the IUCN as Vulnerable in the UK.

3. Common Dormouse.

The NDMP uses nesting boxes in arrays of ≥ 50 to first detect occupation of a site and later to estimate population trends by counting the resident dormice at least twice a season, year on year. This is a reasonable premise for making such an evaluation, but only if the supportive habitat and various other possible variables remain essentially unchanged. If not, the typically observed pattern of steadily building numbers but then decline over roughly a decadal cycle from initial box erection, is more likely to reflect the behavioural preferences of the animals and not necessarily the size of their local population.

4. Herpetofauna.

Reptiles:

The standard methodology for monitoring reptile populations uses refugia ('tins' or 'artificial cover objects' - ACO) along permanent transects, which attract these strongly thermophilic animals especially in overcast weather conditions. These are regularly inspected to count the species beneath and a dataset accumulates from which population trends can be estimated. This is a reliable and consistent site/habitat sampling technique. Their limited capacity for escape leaves reptiles especially vulnerable to wildfires on heathland and dry grassland sites. Such extreme habitat changes can obviously nullify the immediate population monitoring objective, but continuity is important to determine survival rates or re-colonisation attempts as the habitat recovers. Some species such as Sand Lizards are also monitorable by experienced observers looking for evidence of activity at opportune stages in their life-history (such as 'test burrows'), as well as sightings in the open of the animals themselves.

Amphibians:

Frogs, toads and newts are monitored when active in their aquatic habitat early in the breeding season. This is most effective at night when surface mating activity peaks. Not all animals will be noted but a regularly repeated inspection cycle will ensure a reliably sampled dataset. Habitual migration routes between terrestrial and aquatic habitats can also be monitored, especially at funnelling and obstruction points such as minor roads.