

Cornwall and West Devon Mining Landscape
World Heritage Site Ecological Audit

Gazetteer of Information - Gap Analysis

None	
Poor level of information	
Moderate level of information	
Good level of information	

Category	Habitat/ Species	1	2	3	4	5	6	7	8	9	10	General
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Contaminated land, mineralogical sites, bare ground and open habitats	Nature Conservation Evaluation Report for Levant Mine and Beam engine, National Trust; Metalliferous mine waste in West Cornwall; coastal management implications; Botallack Mine and Wheal Dock mineralogical assessment (CWT); Mineralogical assessment of Cot Valley; Mineralogical assessment of Cape Cornwall; Mineralogical assessment of Cam Goleen; Mineralogical assessment of Laver Boscanon Mine, Cam Prou (CWT)	Mining-contaminated estuaries of Cornwall: ecotoxicology review				Hebejus argus (Linnaeus), Adrian Spalding (Lepidoptera: Lycaenidae) on an isolated site in Cornwall; metal contamination and wing size; Adrian Spalding; Mining-contaminated estuaries of Cornwall; ecotoxicology review; The Influence of Historic Mineral Production on Topsoil Metal Contamination in the Bissoe Valley (University of Exeter)		Habitat account: 6130 Calaminarian grasslands of the Violettata calamitariae			Arsenic concentrations & bioaccessibility at Devon Great Consols (DGC); Mining-contaminated estuaries of Cornwall; ecotoxicology review; Pure water metals in Cu, Sn and As tailings at DGC; Inherited resistance to arsenite in earthworms from DGC; Mining legacy sediments under climate change: Tamar case study; Holmshush Mine watching brief report (CEC)
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Old walls and buildings (Masonry crevices)	Nature Conservation Evaluation Report for Levant Mine and Beam engine, National Trust					Chacewater Chapel Bridge brief ecological assessment; Triggflow retaining wall; Scorer, brief ecological assessment; Cornford Bridge brief ecological assessment vol. 1; Orchard, Point retaining wall brief ecological assessment (CEC)		Luskey Valley Bridge brief ecological assessment (CWT)			
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Roofsaces											
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Tall structures for perching/ nesting											
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Leats, sluice ponds/ reservoir ponds and silt traps											
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Underground spaces (shafts and adits)		Mineralogical assessment of Godolphin Estate; Mineralogical assessment of Breage Shaft (CWT); Ecological assessment of Breage mine shafts; A survey of invertebrates associated with shafts at Carlehen... Kerrier District Council Mineshaft Contract 138 ecological assessment Mineshaft Contract 138 mineralogical assessment (CEC)		Kerrier District Council Mineshaft Contract 138 ecological assessment	Marshall's Shaft mineralogical assessment; Ecological assessment of South Cam Brea, Redruth; Mineralogical assessment of South Cam Brea mine (CWT); Kerrier District Council Mineshaft Contract 138 ecological assessment Mineshaft Contract 138 mineralogical assessment (CEC)	Kerrier District Council Mineshaft Contract 138 ecological assessment Mineshaft Contract 138 mineralogical assessment (CEC)					
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Stone harbours and quays (Tidal and subtidal stone and masonry crevices)						Point Quay, Restronger Creek, Fal Estuary, Cornwall proposed slipway extension: environmental impact assessment (CWT)					
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Green corridors along routeways and canals with mosaic of habitats						Mineral Tramways Heritage Trails ecological assessment; Mineral Tramways Heritage Trails Reserve (CEC)					
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Remnant historic public open/ green spaces within settlements						St Wenegap's Churchyard, Gwennap five year management plan (CWT)					Track to West Hill ecological assessment
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Quarries/ quarry lakes											Priority habitats inventory lakes and ponds; The conservation value of abandoned pits and quarries in Cornwall; Spalding
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Linear water features (leats and canals)											
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Parkland and ornamental gardens											
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Cornish hedges (Mineworker's smallholdings)											ERCIS Cornish hedges layer and CEH hedger layer; general information held on the Guild of Cornish Hedges website; Cornwall Council's website and the Cornwall National Landscape's website. Current work underway with the National Landscape on the ecosystem services value of Cornish hedges.
Primary species associated with the Outstanding Universal Value of the World Heritage Site	All species general	Rosemary & Trevan Cliffs, Bosigan & Cam Galver, Zenior Biological Survey (Spalding)	National Trust biological survey Godolphin estate; Trewasas Cliff Biological Survey (CEC)	National Trust biological survey Porkellis Moor			St Agnes Nature Conservation Evaluation survey (The National Trust)					Species survey of the Measons mine site (CWT)
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Wildflowers, ferns and grasses	Penwith Moors Vascular Plant Survey (2019) (NECR341); Assessment of population stability and sustainability of rare / scarce vascular plants West Penwith Moors, Cornwall (2016) (NECR342) (Natural England)	Flowering plant and fern survey of Godolphin (CWT)	Flowering plant and fern survey of Porkellis (CWT)								ERCIS, ERICA and NBN records for individual species. See the NBN and ERICA tabs for more details.
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Bryophytes, liverworts, lichens	A Lichen Survey of Penwith Moors (2019) (NECR332); Survey of rare lichens West Penwith Moors Cornwall (2013) (NECR334); West Penwith Moors, Cornwall Bryophyte survey (2013) (NECR333) (Natural England); Plantlife Bryophytes survey; Resilience in South West Woodlands Project; Lichen survey of Penwith Moors (including Watchcroft); Bryophytes at Gevor tin mine, West Cornwall; Bryophyte survey of Watchcroft mine site (CWT); Bryophyte survey Levant and Higher Levant mine sites (CWT); Geopline entrance bryophyte survey; Bryophyte Survey of National Trust Property at Cam Galver (CWT) A Survey of Lichens at Cam Galver (Spalding)	Lichen survey of the Godolphin Estate (CWT); Survey of bryophytes on mine-shaft areas at Godolphin Estate (CWT); Bryophytes at twelve mine shafts in Kerrier District (CWT)	Survey of bryophytes on the National Trust's land at Porkellis Moor (CWT); Tuckingmill Urban Village, Camborne, lichen survey; Tuckingmill Urban Village bryophyte survey (CEC)	Bar survey and bryophyte habitat assessment at Marshall's Shaft, Troon; Bryophytes at twelve mine shafts in Kerrier District (CWT); Tuckingmill Urban Village, Camborne, lichen survey; Tuckingmill Urban Village bryophyte survey (CEC)	Mosses and Liverworts Kennal Vale 24/25 (CWT); Survey of bryophytes at the Triplets site, Poldice (CWT); Bryophytes at twelve mine shafts in Kerrier District (CWT); AOP Penanarworthal to Vissicks Bendis bryophyte survey (CEC)	Plantlife Bryophytes Survey; Resilience in South West Woodlands Project	European Site Conservation Objectives for Phoenix United Mine and Crows Nest SAC; Site Improvement Plan: Phoenix United Mine and Crows Nest (Natural England); Back from the Brink Project; work on Cornish Path Moss; Status, conservation and ecology of Ditrachum comubicum; Bryophyte survey & habitat assessment of mine sites (Natural England); Status & conservation of Ditrachum comubicum; Surveys of bryophytes of disused mining sites (CWT)				Bryophyte and Badger Survey at Redmoor Mine, Kelly Bray (CWT)
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Invertebrates general	West Penwith Moors targeted rare insect species survey (2015) (NECR346); West Penwith Moors, Cornwall: Invertebrate sample site in West Cornwall and Specific Assemblage Type identification. (2015) (NECR340) (Natural England); Buglife B-lines; A survey of invertebrates on land at Cape Cornwall (CWT)	Buglife B-lines	Buglife B-lines; A survey of invertebrates at Porkellis Moor (CWT)	Buglife B-lines; Insects on a derelict metalliferous mine site in Cornwall	Buglife B-lines	Chapel North National Trust specialist biological invertebrates survey Buglife B-lines	Buglife B-lines				Buglife B-lines; IA Invertebrates Mapping & Invertebrate Area Profile; Buglife
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Lepidoptera (Butterflies and moths)	National Trust - Moth survey data for Cam Galver; Butterfly survey data for Cape Cornwall	Mining for Butterflies in Cornwall; Curtis et al. National Trust - Moth survey data for Godolphin for 2010, 11, 12, 14, 23, 24, 25	Mining for Butterflies in Cornwall; Curtis et al. National Trust - Moth survey data for Godolphin for 2010, 11, 12, 14, 23, 24, 25	Mining for Butterflies in Cornwall; Curtis et al. National Trust - Moth survey data for Godolphin for 2010, 11, 12, 14, 23, 24, 25	Hebejus argus (Linnaeus), Adrian Spalding (Lepidoptera: Lycaenidae) on an isolated site in Cornwall; metal contamination and wing size; Adrian Spalding; Mining for Butterflies in Cornwall; Curtis et al.; A conservation plan for Cornish mine sites in the Carnon Valley and Camborne-Redruth Mining District; Rhodes Survey report of Cook's Kitchen derelict mine site for key butterfly species (CWT)	Butterfly transect (The National Trust)	Prideaux Wood Moth Trap July and August (CWT)				Health Frillery Report - Greenscombe Wood SSSI
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Predatory insects e.g. beetles and spiders	BCT transect survey; Bees on AONB mine sites - A project scoping; P Saunders; The Bees of the Tin Coast - Wheal Buzzy Survey; P Saunders; The Long-horned Bee in Cornwall and Long-horned Bee Map; P Saunders; Bombus muscorum and Bombus humilis in the South West in 2008; P Saunders; Paddy Saunders Tormentil mining bees and small red damselfly (CWT); Report from Paddy Saunders Troutwalk (CWT)	Bumblebee Conservation Trust transect survey; Bees on AONB mine sites - A project scoping; P Saunders; Bombus muscorum and Bombus humilis in the South West in 2008; P Saunders	Bombus muscorum and Bombus humilis in the South West in 2008; P Saunders	Bees on AONB mine sites - A project scoping; P Saunders; bee transect P Saunders							Bumblebee Conservation Trust transect survey; Bees on AONB mine sites - A project scoping; P Saunders
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Marine species e.g. shellfish, seaweeds, crab, small fish, starfish (associated with harbours and quays)	Riverfly data; Cot Valley; Paddy Saunders Tormentil mining bees and small red damselfly; Structured Monitoring data for CWT reserves including Bottrass, Kennal Vale		Riverfly data Viscar Camble Relatith Ford, Wendron								
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Aquatic invertebrates											
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Bats	NBMP Roost Count, Field survey and Waterway survey; Bat surveys of 7 mine shafts including those at Levant and Kennilack (CEC)	Bat survey; St Elway's Church (CEC)	Bat licence application Wendron church (CEC)								
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Small mammals											
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Higher mammals such as Badger, Fox, Hedgehog and Deer											
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Amphibians e.g. frogs and toads											
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Reptiles e.g. Adder, Grass Snake and Slow Worm											
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Fungi											
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Saprophytic invertebrates											
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Birds	RSPB Important Bird Area; Confirmed Raptor Persecution Incidents (Public); Confirmed Raptor Persecution Incidents Heat Map Data (Public); Black-legged Kittiwake UK and Eire 95% Utilisation Distributions in 5% Bands; European Shag UK and Eire 95% Utilisation Distributions in 5% Bands; Razorbill UK and Eire 95% Utilisation Distributions in 5% Bands; European Shag Gulls-Ord and Maximum Curvature Hotspots UK Wide; Razorbill Gulls-Ord and Maximum Curvature Hotspots UK Wide; Black-legged Kittiwake Gulls-Ord and Maximum Curvature Hotspots UK Wide (RSPB); West Penwith Moors, Cornwall - Breeding Bird Survey 2014 (NECR335); West Penwith Moors, Cornwall: Collation of existing bird data - 2013 (NECR337); West Penwith Moors, Cornwall; Dartford Warbler Survey 2015 (NECR338) (Natural England); National Trust - Bird survey data for Cape Cornwall, Botallack, Kenidjack, Levant fields for 2018, 19, 22 (Levant only); Cam Galver, Botallack, Levant, Trevan in 2023; Levant in 2024; Bosigan, Cam Galver, Levant and Trevan in 2020; Chough annual data records from 2005; Land at Cape Cornwall breeding bird survey (CWT)	RSPB Reserve; Black-legged Kittiwake UK and Eire 95% Utilisation Distributions in 5% Bands; European Shag UK and Eire 95% Utilisation Distributions in 5% Bands; Black-legged Kittiwake Gulls-Ord and Maximum Curvature Hotspots UK Wide	European Shag UK and Eire 95% Utilisation Distributions in 5% Bands; European Shag Gulls-Ord and Maximum Curvature Hotspots UK Wide; National Trust - Bird survey data for Godolphin for 2010, 11, 12, 14, 23, 24, 25; Godolphin and Rinsley/Trewasas 2023 and 25; Rinsley in 2024.	Common Guillemot UK and Eire 95% Utilisation Distributions in 5% Bands; Black-legged Kittiwake UK and Eire 95% Utilisation Distributions in 5% Bands; European Shag UK and Eire 95% Utilisation Distributions in 5% Bands; Razorbill UK and Eire 95% Utilisation Distributions in 5% Bands; European Shag Gulls-Ord and Maximum Curvature Hotspots UK Wide; European Shag Gulls-Ord and Maximum Curvature Hotspots UK Wide	RSPB Important Bird Area: Confirmed Raptor Persecution Incidents (Public); Cusagme House bat and barn owl survey (CEC)	Common Guillemot UK and Eire 95% Utilisation Distributions in 5% Bands; Black-legged Kittiwake UK and Eire 95% Utilisation Distributions in 5% Bands; European Shag UK and Eire 95% Utilisation Distributions in 5% Bands; Razorbill UK and Eire 95% Utilisation Distributions in 5% Bands; Common Guillemot Gulls-Ord and Maximum Curvature Hotspots UK Wide; European Shag Gulls-Ord and Maximum Curvature Hotspots UK Wide	European Shag Gulls-Ord and Maximum Curvature Hotspots UK Wide	RSPB Important Bird Area; Confirmed Raptor Persecution Incidents (Public); Uplands UK; Piteau Woods CWT Reserve Breeding Bird Survey 2015; Bodinn Moor Breeding Bird Survey 2008 (RSPB); Bird survey of Disused Mining Buildings			RSPB Important Bird Area; Confirmed Raptor Persecution Incidents (Public); KI Hill breeding bird survey 2003 and 2004 (CWT)

Primary species associated with the Outstanding Universal Value of the World Heritage Site	Fish											Monitoring of allis shad and smelt in Tamar estuaries 2015 (RP02463) (Natural England)	
Other habitats associated with landscape character	All habitats - general	Penwith Landscape Partnership - Wild Penwith Project and Penwith Wildlife Recording Group; Penwith Landscape Recovery Project, Upstream thinking Project; CNL FPL Nature Conservation national Trust reports - Evaluation Report for St Just; Botanical and Kew/Edinburgh Nature Conservation Evaluation Report for St Just; Trease, Rosemary, Treason cliffs, Bosigran and Cam Galver Biological survey; Bosportennis Biological Survey; Boscastle Nature Conservation Evaluation; Regional vegetation change and implications for local conservation: An example from West Cornwall (United Kingdom); Bottrize Lix Cox survey results and management plan (CWT); Ecological assessment of land at Buzurgas and Tregeseal Common, Ecological assessment of pipeline route between Cot Valley and Lower Boscastle (CEC); Ecological assessment of land at Cape Cornwall (CWT); Rosemary & Treason Cliffs, Bosigran & Cam Galver, Zennor Biological Survey (Spalding)	Regional vegetation change and implications for local conservation: An example from West Cornwall (United Kingdom); Ecological assessment of Harvey's Foundry, Hayle (CWT)	CNL FPL - National Trust - *2001 Godolphin Biological Evaluation *2006 Trewasas Cliff Biological Report *2006 Godolphin House and Gardens Nature Conservation Evaluation *2009 Mounts Bay Nature Conservation Evaluation (includes Rensay and Trewasas); Regional vegetation change and implications for local conservation: An example from West Cornwall (United Kingdom); Ecological assessment of Godolphin estate (CWT); National Trust biological survey Godolphin estate; Tregoning Hill, Lizard, pipeline Ecological Desk Study (CEC); The Park, Halsamming, St Hilary ecological assessment (CWT); Trewasas Cliff Biological Survey (CEC)	Regional vegetation change and implications for local conservation: An example from West Cornwall (United Kingdom); National Trust biological survey Parkfields Moor; Polgear-Carmenellis water main replacement ecological assessment (CWT)	Next door nature project; Regional vegetation change and implications for local conservation: An example from West Cornwall (United Kingdom); Mearleath Contract L3B mineralogical assessment, Consolidated Mines, Carharack, ecological assessment (CEC); Perran Foundry, Perran Wharf, Perranworthal, ecological assessment (CEC)	Regional vegetation change and implications for local conservation: An example from West Cornwall (United Kingdom); 2001 Management Plan, Kennal Vale (CWT); 2001 Management Plan, Perran Meadows (CWT); Ecological survey of the Pollice Valley and Tipples, Mearleath Contract L3B mineralogical assessment, Consolidated Mines, Carharack, ecological assessment (CEC); Perran Foundry, Perran Wharf, Perranworthal, ecological assessment (CEC)	St Agnes Nature Conservation Evaluation survey (National Trust); St Agnes Beacon, Tubby's Head, Wheal Coates, Chapel Comb, Charlotte and Towan Moors, St Agnes, Cornwall - Archaeological and ecological assessment; Cornwall Council Historic Environment Project (National Trust); Agricultural Land Classification detailed Post 1988 ALC survey, St Agnes (ALCB04183) (Natural England); CNL FPL - Regional vegetation change and implications for local conservation: An example from West Cornwall (United Kingdom); Driftwood Spars, St Agnes, ecological assessment (CWT)	07 Legacy project, Tor to Shore Project; STAR Project; Luvuyn Valley Conservation Management Plan (nature & heritage integration); LUXULIAN VALLEY Integrated Ecological Assessment (CEC)	Tor to Shore Project? CNL FPL? Farm surveys as part of Curlew landscape recovery project (CWT)	Stoke Climland Farm Clusters, Upstream Thinking 4; Tamar River Explorers Project; Tamar Project; TNL FPK, Nature Connects series; Calstock STW ecological assessment (CEC)	Living England 2022, CEH Land cover, ERCCIS Land Cover 1995 and 2005, Devon Biological Records Centre combined habitats layer. The value of abandoned mined sites for wildlife - the triumph of nature over our industrial past, Spalding. Wildlife conservation and mining of alluvial tin reserves in Southwest England; UNESCO State of Conservation Report: Cornwall & West Devon Mining Landscape (1215); Cornish Mining WHS Management Plan 2020-2025 (environment & ecology sections)	
Other habitats associated with landscape character	Heathland	RSPB Heathland extent and potential (HEAP), NVC and Condition Assessment Surveys of West Penwith Moor Cornwall (2012) (NECR343); West Penwith Habitat Survey 2013, Hewins Ecology (NECR346); West Penwith Habitat Surveys 2014, Hewins Ecology (NECR347); NVC and Condition Assessment Surveys, West Penwith Moor, Cornwall (2019) (NECR348); West Penwith Habitat Surveys: Cam Glaze North (part) (survey area 8 - 2019) (NERR087); West Penwith Habitat Surveys: Bosulow (survey area 30 - 2019) (NERR088); Baseline vegetation validation (site checked) surveys, 2019 (NERR091); West Penwith Habitat Surveys: Cam Galver (part) (survey area 32 (part) - 2021) (NERR106); West Penwith Habitat Surveys: Chapel Cam Brea (part) (survey area 2 (part) - 2021) (NERR120); West Penwith Habitat Surveys: Bosulow (part) (survey area 30 (part) - 2021) (NERR113); West Penwith Habitat Surveys: Trendine Hill (part) (survey area 45 (part) - 2021) (NERR114); West Penwith Habitat Surveys: Conquer Downs to Land Downs (part) (survey area 48 (part) - 2022) (NERR117); West Penwith Habitat Surveys: Trenwin Downs, Tonkin Downs, Galval Downs and Noon Diggy (part) (survey area 52 (part) - 2022) (NERR118); West Penwith Habitat Surveys: Trisk Hill (part) (survey area 55 (part) - 2021) (NERR119); West Penwith Habitat Surveys: Watch Croft, Trevas, White Downs and Bosulow Common (part) (Survey Area 31(part) - 2022) (NERR120); West Penwith Habitat Surveys: Buzurgas and Tregeseal Common (part) (survey area 11 (part) - 2022) (NERR121); Penwith Farmscoper Report (NECR486) ; European Site Conservation Objectives for Lower Boscastle; European Site Conservation Objectives for Tregoning Hill SAC; Site Improvement Plan, Tregoning Hill - SIP249 (Natural England); NE SSSI designation reports (2018) CWT	Dynamic: dunescapes project; Coastal Dune Dynamics Across Cornwall	RSPB Heathland extent and potential (HEAP)	Regional vegetation change and implications for local conservation: An example from West Cornwall (United Kingdom)	European Site Conservation Objectives for Godrevy Head to St Agnes; Site Improvement Plan: Godrevy Head to St Agnes - SIP092 (Natural England); RSPB Heathland extent and potential (HEAP)	RSPB Heathland extent and potential (HEAP); European Site Improvement Plan: Godrevy Head to St Agnes - SIP092	RSPB Heathland extent and potential (HEAP); European Site Improvement Plan: Godrevy Head to St Agnes - SIP092	RSPB Heathland extent and potential (HEAP)	RSPB Heathland extent and potential (HEAP)	RSPB Heathland extent and potential (HEAP)	RSPB Heathland extent and potential (HEAP) Cothele Biological Survey, Spalding Associates (National Trust); Cothele Habitats and Priority Habitats Maps (National Trust)	Priority Habitats Inventory - Lowland heathland
Other habitats associated with landscape character	Coastal habitats (including dunes)	Alle Point to Carrick Da SSSI citation; Coastal Dune Dynamics Across Cornwall	Dynamic: dunescapes project; Coastal Dune Dynamics Across Cornwall	RSPB Heathland extent and potential (HEAP)	Godrevy Head to St Agnes SSSI Citation	RSPB Heathland extent and potential (HEAP)	RSPB Heathland extent and potential (HEAP)	RSPB Heathland extent and potential (HEAP)	RSPB Heathland extent and potential (HEAP)	RSPB Heathland extent and potential (HEAP)	RSPB Heathland extent and potential (HEAP)	RSPB Heathland extent and potential (HEAP) Cothele Biological Survey, Spalding Associates (National Trust); Cothele Habitats and Priority Habitats Maps (National Trust)	Priority Habitats Inventory - Lowland heathland
Other habitats associated with landscape character	Woodland	RSPB Woodland Opportunity; Ancient woodland inventory review; Building Resilience in South West Woodlands Project Cornish Coastal Meadows Project; Grassland Assessment - Brook Cottage, Bosportennis (CWT)	RSPB Woodland Opportunity	RSPB Woodland Opportunity	RSPB Woodland Opportunity	RSPB Woodland Opportunity; Ancient Woodland Inventory	RSPB Woodland Opportunity; Ancient Woodland Inventory	RSPB Woodland Opportunity; Ancient Woodland Inventory; Woodland Condition Assessment, Kennal Vale 24/25 (CWT); Devonshire Wood Nature Reserve Ecological Appraisal (Exeter University); Woodland condition assessment Perran Meadows (CWT)	RSPB Woodland Opportunity; Ancient Woodland Inventory; Resilience in South West Woodlands Project	RSPB Woodland Opportunity; Ancient Woodland Inventory	RSPB Woodland Opportunity; Ancient Woodland Inventory	RSPB Woodland Opportunity; Ancient Woodland Inventory; Cothele Biological Survey, Spalding Associates (National Trust); Cothele Habitats and Priority Habitats Maps (National Trust); Woodland for Water Project	Priority habitats inventory woodland;
Other habitats associated with landscape character	Nature-rich grassland	Definition of the zone of hydrological influence relating to Bostraze Bog, West Penwith, Cornwall (2019) (NECR339); Ecophysiological Investigation and Characterisation of three proposed SSSI Units: Boswens North, Bussoo Moor and Boswana North, West Penwith, Cornwall (2019) (NECR349); West Penwith Ecophysiological Investigation and Characterisation (Phase 3, 2020-21) (NECR399); West Penwith Ecophysiological Investigation and Characterisation - Site Visit Report (Phase 3, 2020-21) (NECR402) (Natural England); Penwith Moor Ecophysiological catchment land-cover survey May/ June 2023 (NERR109)										Cothele Biological Survey, Spalding Associates (National Trust); Cothele Habitats and Priority Habitats Maps (National Trust)	Priority Habitats Inventory - Lowland dry acid grassland
Other habitats associated with landscape character	Wetland/ Fen/ Marsh											Cothele Biological Survey, Spalding Associates (National Trust); Cothele Habitats and Priority Habitats Maps (National Trust)	Living England 2022, CEH Land cover, ERCCIS Land Cover 1995 and 2005, Devon Biological Records Centre combined habitats layer, Priority Habitats Inventory - Lowland Fen
Other habitats associated with landscape character	Rivers and Streams											Cothele Biological Survey, Spalding Associates (National Trust); Cothele Habitats and Priority Habitats Maps (National Trust)	Impact of metal mining on water quality in the Tamar catchment (PhD); Contaminant fluxes from abandoned mines in the River Tamar catchment, UK; Tamar catchment baseline: length of rivers/estuaries polluted by abandoned metal mines; River Tamar Index Reports (EA)
Other habitats associated with landscape character	Ponds												Living England 2022, CEH Land cover, ERCCIS Land Cover 1995 and 2005, Devon Biological Records Centre combined habitats layer, Priority Habitats Inventory - Ponds
Other habitats associated with landscape character	Intertidal habitats (mudflats/ Littoral)											RSPB Sustainable Shores habitat creation opportunities (indicative locations); Plymouth Sound and Estuaries SAC Littoral Habitats Condition Monitoring 2017 (ER17-348); PLYMOUTH SOUND AND ESTUARIES European marine site English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994; Tamar Tavy & St Johns Lake SSSI Intertidal Biotope Survey 2010 (RP01053); Tamar Tavy & St Johns Lake SSSI Intertidal Biotope Survey 2010 (RP01053) (Natural England)	Priority habitats inventory - mudflats
Other habitats associated with landscape character	Cornish hedges (outside Mineworker's smallholdings)											Significant Hedge Survey Final Report (TVNL)	
Other habitats associated with landscape character	Other		Geophilus seuratii from core samples, British Myriapod & Insect Group									Rhododendron areas compartments (CWT) Possibly Prideaux wood.	Invasive Species Management Data, Feasibility Study for Invasive Species Control (TVNL); Tamar Valley Character Assessment (Tamar Landscape Partnership); State of the Tamar Valley Report; Inherited resistance to arsenate in earthworms from DGC

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Gazetteer of Information - Gap Analysis

No significant information
 Poor level of information
 Moderate level of information
 Good level of information



World Heritage Site Areas

Category	Habitat/ Species	1	2	3	4	5	6	7	8	9	10	
Habitats related to OUV												
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Contaminated land, mineralogical sites bare ground and open habitats	Orange	Orange	Red	Red	Red	Yellow	Red	Red	Orange	Orange	Small amount of information from Spalding and National Trust and CWT; Extent of habitats spatially mapped.
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Old walls and buildings (Masonry crevices)	Orange	Red	Red	Red	Red	Orange	Orange	Orange	Orange	Orange	Limited information on bridges and retaining walls from CWT/ CEC
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Roofspaces	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	No significant information
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Tall structures for perching/ nesting	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	No significant information
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Leats, sluice ponds/ reservoir ponds and silt traps	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	No significant information
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Underground spaces (shafts and adits)	Red	Red	Yellow	Orange	Yellow	Orange	Red	Red	Red	Red	Some limited information from CEC areas 3-6
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Stone harbours and quays (Tidal and subtidal stone and masonry crevices)	Red	Red	Red	Red	Red	Orange	Orange	Orange	Orange	Orange	No significant information
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Green corridors along routeways and canals with mosaic of habitats	Red	Red	Red	Red	Yellow	Orange	Orange	Orange	Orange	Orange	Extent of habitats spatially mapped, CEC Mineral tramways information
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Remnant historic public open/ green spaces within settlements	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Extent of habitats spatially mapped,
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Quarries/ quarry lakes	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Extent of habitats spatially mapped,
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Linear water features (leats and canals)	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Extent of larger linear features spatially mapped,
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Parkland and ornamental gardens	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Spalding document; Extent of habitats spatially mapped,
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Cornish hedges (mineworker's smallholdings)	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Extent mapped via CEH and ERCCIS layers
Species related to OUV												
Primary species associated with the Outstanding Universal Value of the World Heritage Site	All species general	Orange	Red	Orange	Orange	Red	Red	Orange	Orange	Orange	Orange	Limited general biological general survey information from National Trust and CWT
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Wildflowers, ferns and grasses	Orange	Red	Orange	Orange	Red	Red	Orange	Orange	Orange	Orange	reasonable numbers of species records and a limited number of other surveys
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Bryophytes, liverworts, lichens	Green	Red	Yellow	Orange	Yellow	Red	Orange	Orange	Green	Green	SSSI and SAC surveys and NBN species; County atlas; reasonable number of records in NBN and ERICA. Natural England and Plantlife Information, National Trust survey, CWT surveys
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Invertebrates general	Yellow	Orange	Yellow	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Well recorded in ERICA and NBN but few site specific surveys. Nature conservation surveys from The National Trust and CWT
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Lepidoptera (Butterflies and moths)	Orange	Red	Yellow	Red	Yellow	Orange	Orange	Orange	Orange	Orange	Reasonably well recorded in ERICA (Via Cornwall Butterfly Conservation) and NBN, Some National Trust surveys. Buglife B-lines
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Predatory insects e.g. beetles and spiders	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Low numbers and density of records
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Bumblebees and solitary (mining bees)	Green	Red	Yellow	Red	Orange	Red	Orange	Orange	Yellow	Yellow	Low numbers and density of records, but some local studies and county Atlases for bumblebees. Bumblebees better recorded than solitary mining bees.
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Marine species e.g. shellfish, seaweeds, crab, small fish, starfish (associated with harbours and quays)	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Low numbers and density of records although likely not recorded for WHS harbours/ quays
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Aquatic invertebrates	Orange	Red	Red	Red	Red	Red	Red	Red	Red	Red	Riverfly data also feeds into NBN Atlas, - Low numbers and density of records
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Bats	Orange	Orange	Yellow	Orange	Red	Green	Orange	Orange	Orange	Orange	Low numbers and density of records, some records from the Cornwall Bat Group, feed into ERCCIS and NBN via the National Bat Monitoring Programme, some National Trust counts

Cornwall and West Devon Mining Landscape World Heritage Site Ecological Audit

Gazetteer of Information - Gap Analysis

No significant information
 Poor level of information
 Moderate level of Information
 Good level of information

Category	Habitat/ Species	
	Habitats related to OUV	
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Roofspaces	No significant information
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Tall structures for perching/ nesting	No significant information
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Leats, sluice ponds/ reservoir ponds and silt traps	No significant information
Primary Habitats associated with the Outstanding Universal Value of the World Heritage Site	Stone harbours and quays (Tidal and subtidal stone and masonry crevices)	No significant information
	Species related to OUV	
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Predatory insects e.g. beetles and spiders	Low numbers and density of records
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Marine species e.g. shellfish, seaweeds, crab, small fish, starfish (associated with harbours and quays)	Low numbers and density of records although likely not recorded for WHS harbours/ quays
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Small mammals	Low numbers and density of records, Cornwall County Atlas, may be better records in ERCCIS, although possible duplicate with NBN. Surveys from CEC and CWT provide further information
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Higher mammals such as Badger, Fox, Hedgehog and Deer	Low numbers and density of records, Cornwall County Atlas, may be better records in ERCCIS, although possible duplicate with NBN
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Amphibians e.g. frogs and toads	Low numbers and density of records. Limited other surveys vis CEC and CWT. May be better represented in the ERCCIS dataset.
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Reptiles e.g. Adder, Grass Snake and Slow Worm	Low numbers and density of records
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Fungi	Low numbers and density of records. Small number of surveys for planning from CEC
Primary species associated with the Outstanding Universal Value of the World Heritage Site	Saproxylc invertebrates	Low numbers and density of records
	Habitats related to landscape character	
Other habitats associated with landscape character	Ponds	Extent possibly mapped for larger features