

TAG Unit 3.3.10 – Biodiversity

Baseline Conditions

- 1.1. The key ecological features for the scheme are mature trees and scrub which have the potential to provide nesting habitat for birds, roosting and foraging habitat for bats, and foraging and refuge for badgers. The North Line in particular has a range of mature trees located as avenues along the roadside and within Headingley. On the South Line, the River Aire provides a habitat suitable for transitory and foraging otters (*Lutra Lutra*). Long grass, woodland under-storey and scrub provide potential terrestrial habitat for amphibians on both North and South Lines.

Impact of Do Minimum

- 1.2. The impact of the Do Minimum scenario on biodiversity is likely to be minimal and has therefore been assessed as **neutral**.

Impact of Preferred Scheme

- 1.3. The impact of the Preferred Scheme on biodiversity has been assessed as **moderate adverse** due to the potential to adversely affect breeding birds. This is related to the loss of breeding woodland, scrub and mature tree habitats, particularly on the off-line section within Headingley. Significant mitigation will be required to address the moderate adverse effects on biodiversity. This will include the replacement of habitats and mature trees and will involve licensing for protected species, replacement planting and habitat enhancement.
- 1.4. **Effects during Construction:** Works may result in major negative losses on woodland habitats and mature trees, especially on the proposed off-line areas at Headingley on the North Line and along the railway between Balm Road and Pepper Road on the South Line. This assessment is in accordance with the WebTAG guidance document for Sub-Objective 3.3.10 (Table 2). The works in these areas will require tree felling and in some cases potential demolition of buildings to accommodate off-line section construction. The tree felling and associated vegetation clearance will mean an adverse effect on the overall ecological integrity (with regard to structure and function of the habitats) of the off-line sites.
- 1.5. **Effects during Operation:** Operation of the off-line sections can also involve additional activity and lighting which has the potential to disturb bats using these areas; direct effects to bats is likely to include loss of roost habitats and potential disturbance to bats.

Impact of Next Best Alternative

- 1.6. The impact of the Next Best Alternative on biodiversity has been assessed as **slight adverse** as potential losses of habitats are more readily replaced than for the Preferred Scheme.
- 1.7. **Effects during Construction:** The Next Best Alternative does not require the construction of any off-line sections, as in with the Preferred Scheme. The potential for loss of bat roosts and associated habitats for bats and breeding birds, and/or direct harm to bats, is much reduced compared to the Preferred Scheme.
- 1.8. **Effects during Operation:** Loss of habitats as an effect of the operation of the Next Best Alternative will largely be restricted to areas of amenity planting along the Scheme, and areas such as the scrub vegetation near the proposed Stourton park and ride site on the South Line. The major habitat corridors long each line, principally the woodlands behind the Arndale Centre in North Line and the wooded areas along the railway on South Line, will be retained. Losses of habitats such as amenity grassland on all the lines, introduced shrubs, and ruderal vegetation on the North and South Lines are readily replaced, and even without replacement these habitats are of negligible importance.

Impact of Lower Cost Alternative

- 1.9. The impact of the Lower Cost Alternative on biodiversity has been assessed as **slight adverse** as potential losses of habitats are readily replaced.
- 1.10. **Effects during Construction:** The Lower Cost Alternative does not require the construction of any off-line sections, as in with the Preferred Scheme. The potential for loss of bat roosts and associated habitats for bats and breeding birds, and/or direct harm to bats, is much reduced compared to the Preferred Scheme.
- 1.11. **Effects during Operation:** Loss of habitats as an effect of the operation of the Lower Cost Alternative will largely be restricted to areas of amenity planting along the Scheme, and areas such as the scrub vegetation near the proposed Stourton park and ride site on the South Line. The major habitat corridors long each line, principally the woodlands behind the Arndale Centre in North Line and the wooded areas along the railway on South Line, will be retained. Losses of habitats such as amenity grassland (all lines), introduced shrubs, and ruderal vegetation on the North and South Lines are readily replaced, and even without replacement these habitats are of negligible importance.

TAG Unit 3.3.10 Biodiversity: Worksheets (Plan Level)

Scheme: Preferred Scheme

Area	Description of feature / attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment score
Designated sites - Leeds Natural Area: Beckett Street Cemetery	Non-statutory site, ancient semi-natural and replanted woodland	Regional	Medium	Supports ancient woodland which is listed in UKBAP; targets include ensuring no net loss	Medium	Minor negative: losses not anticipated as the site is just adjacent to end of East Line; unlikely to be directly affected. Potential for operational lighting to disturb fauna using the cemetery	Slight adverse
Scattered Trees	Includes mature trees in proposed offline area in Headingley on North Line; and trees in deep hedgerows along in offline area of route by railway on South Line	Local	Medium	Habitat common nationally; no specific UK or Leeds BAP targets set	Medium	Intermediate negative: loss of at least half of mature trees in offline area and fragmentation of habitats; limited substitution potential	Moderate adverse
Woodland and scrub	Occurs in offline area in Headingley on North Line and in offline area by railway on South Line. South Line area includes a few isolated strips of semi-natural broad-leaved woodland along railway towards Pepper Road; supports protected species such	Local	Medium	Habitat common nationally; no specific UK or Leeds BAP targets set for woodland in general although semi-natural broad-leaved woodland is on	Medium	Major negative: loss of mature trees with low potential substitutability, and habitat fragmentation in Headingley and Balm Road to Pepper	Moderate adverse

Area	Description of feature / attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment score
	as bats and breeding birds			UKBAP		Road/railway offline areas on North and South Lines; loss of woodland habitats and associated hedgerows which form an important local habitat corridor along the South Line.	
Grassland	Largely amenity grassland in residential areas and along road verges on all Lines; some species poor semi-improved grassland at scrub margins on North Line	Local	Lower	Habitat common nationally; no specific UK or Leeds BAP targets set. Very readily replaced.	Lower	Minor negative: some losses along road verges, around new Park & Ride sites on North and South Lines and along Headingley 3 lane option	Slight adverse
Ruderal vegetation	Patchy distribution associated with grassland and scrub along North Line	Local	Negligible	Habitat very common nationally; no specific UK or Leeds BAP targets set. Very readily replaced.	Negligible	Minor negative: some losses along road verges, around the Bodington Park & Ride site and along Headingley 3 lane option; also minor losses for South Line road verges, around the Stourton Park & Ride site and along railway areas	Neutral

Area	Description of feature / attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment score
Short perennial vegetation	Patchy distribution associated with bare ground at one building (6 Wood Lane) on North Line; and along road and rail verges and hard standing on South Line	Local	Negligible	Habitat very common nationally; no specific UK or Leeds BAP targets set. Very readily replaced.	Negligible	Minor negative: readily replaced and of little value	Neutral
Introduced shrubs	Small patches in front of church on Headingley Lane on North Line	Local	Negligible	Habitat very common nationally; no specific UK or Leeds BAP targets set. Very readily replaced.	Negligible	Minor negative: readily replaced and of little value although may support a few breeding birds	Neutral
Breeding birds	North Line: Wooded areas of offline Headingley section can support these, as can introduced shrubs. South Line: Various species can nest in trees and along hedgerows at Balm Road and along railway to Pepper Road. Overall bird assemblage along routes and within 2 km of routes consists of 135 species.	Regional	Medium	Various species on UKBAP; records of 135 species within 2 km of route including Red listed species such as song thrush that are undergoing major declines nationally. All breeding birds protected under Wildlife and Countryside Act 1981 (as amended)	Medium	Intermediate negative: loss of some mature woodland habitats and scrub habitats for breeding birds which cannot be readily substituted	Moderate adverse
Bats	Wooded areas of offline Headingley section can support these on North Line; wooded areas along railway on South also have bat potential	Regional	Medium	Common pipistrelle bats are on Leeds BAP and UKBAP; considered to be declining nationally especially due	Medium	Intermediate negative: losses to mature trees and buildings that may be roost sites. Up to four roosts so far identified	Moderate adverse

Area	Description of feature / attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment score
				to loss of foraging habitats near roost sites. All UK bats are European Protected Species under Conservation (Natural habitats &c.) Regulations 1994 (as amended)		on North Line along Headingley offline section in particular; also losses on offline wooded area by railway on South Line. Potential for operational disturbance from lighting and loss of commuting habitats. Limited substitution possibilities for these losses	
Badgers	Records within 100 m of offline section in Headingley on North Line.	Local	Medium	Populations healthy nationally. Protected under Protection of Badgers Act 1992	Medium	Minor negative: no signs found in recent surveys near route and habitat loss can be avoided	Slight adverse
Reptiles and Amphibians	North Line: Scrub and grassland in Headingley could support reptiles; no records locally. South Line – some isolated habitat patches near M621.	Local	Medium	Protected under Wildlife and Countryside Act 1981 (as amended)	Medium	Minor negative: some loss of replaceable scrub and grassland	Slight adverse
Otters	South Line: Recorded during 2008 along River Aire	Regional	Medium	Populations healthy nationally. European Protected Species under Conservation (Natural habitats &c.)	Medium	Minor negative: possible minor disturbance during any works along bridges but for the most part otters are travelling along	Slight adverse

Area	Description of feature / attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment score
				Regulations 1994 (as amended); UKBAP and Leeds BAP species		those parts of the River Aire which are highly urbanised. Suitable working practices should avoid any risk of direct injury to otters	
Invasive Species	Japanese Knotweed on North Line occurs at Hinsley Hall and Headingley Castle. On South Line adjacent to railway bridge on Pepper Road and Wakefield Road	Local	Negligible	Offence to spread under Wildlife and Countryside Act 1981 (as amended)	Negligible	Neutral: avoid spreading as part of basic legal compliance and opportunity to remove. May need treatment programme on South Line.	Neutral

Reference Source(s):

Leeds NGT Environmental Scoping Report 236834RPT 17 Rev.B (Mott MacDonald, 2009), Leeds NGT Extended Phase 1 Habitat Survey Report 236834RPT 26 Rev.A (Mott MacDonald, 2009), Leeds City Council Biodiversity Action Plan (BAP), UKBAP, desk records from West Yorkshire Ecology

Summary assessment score:

Moderate adverse to bats in offline areas on North and South Line, with some moderate adverse impacts to associated habitats and to breeding birds in the same areas. Habitats include woodland with mature trees which are not readily replaceable

Qualitative comments:

Summary assessment gives an overall moderate adverse impact for this option. The key impacts are major negative losses to woodland habitats and mature trees in the proposed offline areas at Headingley (North Line) and along the railway between Balm Road and Pepper Road (South Line). The works in these areas will require tree felling and in some cases potential demolition of buildings to accommodate offline section construction. Operation of the offline sections can also involve additional activity and lighting which has the potential to disturb bats using these areas; direct impacts to bats is likely to include loss of roost

habitats and potential disturbance to bats. The Headingley offline area in particular includes a large number of mature trees and also buildings which have good potential to support bats. These habitats are not readily replaceable due to the large number of mature trees in the area; although mitigation including erection of bat boxes on nearby trees and buildings can be used.

To date, four roosts have been identified along the North Line. All UK bat species and their roosts are protected under the *Conservation (Natural habitats &c.) Regulations 1994* (as amended). Felling of trees or demolishing the buildings in which bats are known to roost will require mitigation and licensing from Natural England to ensure compliance with this legislation. In addition, mitigation including felling and demolition under supervision by a licensed bat worker, and provision of replacement bat roosts, will ensure compliance with other relevant legislation (e.g., the *Natural Environment and Rural Communities Act 2006*) and policies such as *Planning Policy Statement 9: Biodiversity and Geological Conservation*, which is a material consideration in planning applications.

This option also has potential to have Moderate Adverse impacts on breeding birds, potentially an offence under the *Wildlife and Countryside Act 1981* (as amended) due to an intermediate level of loss of their breeding woodland, scrub and mature tree habitats.

Other impacts to protected species are Slight Adverse for badgers (*Meles meles*), reptile and amphibian species, and otters (*Lutra lutra*), due to losses of replaceable scrub and grassland habitats and potential disturbance during bridge works over the River Aire. Stands of Japanese knotweed (*Fallopia japonica*) are present on the North Line route at Hinsley Hall, Headingley Castle; and adjacent to the railway bridges on Pepper Road (South Line). Japanese knotweed is an invasive species which it is an offence to allow to spread under the *Wildlife and Countryside Act 1981* (as amended).

Scheme: Next Best Alternative

Area	Description of feature / attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment score
Designated sites - Leeds Natural Area: Beckett Street Cemetery	Non-statutory site, ancient semi-natural and replanted woodland	Regional	Medium	Supports ancient woodland which is listed in UKBAP; targets include ensuring no net loss	Medium	Minor negative: losses not anticipated as the site is just adjacent to end of East Line; unlikely to be directly affected. Potential for operational lighting to disturb fauna using the cemetery	Slight adverse
Scattered Trees	North Line: Includes mature oak, ash, sycamore, beech and horse chestnut primarily between Headingley Hill and Bodington Park. South Line: along hedgerows along railway	Local	Medium	Habitat common nationally; no specific UK or Leeds BAP targets set	Medium	Minor negative: loss of mature trees along routes; but on North Line main woodlands behind Arndale Centre will be maintained; as will majority of the wooded areas neat the railway adjacent to Stourton P&R on South Line	Slight adverse
Woodland and scrub	North Line: Oak, ash, horse chestnut, sycamore with understory of hawthorn and blackthorn. Within	Local	Medium	Habitat common nationally; only semi-natural broad-leaved woodland is	Medium	Minor negative: loss of mature trees along route; but on	Slight adverse

Area	Description of feature / attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment score
	30 m of route, primarily between Headingley Hill and Bodington Park. Supports protected species such as bats and breeding birds. South Line: Largely forms part of hedgerows by railway; a few isolated strips of semi-natural broad-leaved woodland along railway towards Pepper Road			listed on UKBAP		North Line main woodlands behind Arndale Centre will be maintained; as will majority of the wooded areas near the railway adjacent to Stourton P&R on South Line	
Grassland	Largely amenity grassland in residential areas and along road verges on all Lines; some species poor semi-improved grassland at scrub margins on North Line	Local	Lower	Habitat common nationally; no specific UK or Leeds BAP targets set. Very readily replaced.	Lower	Neutral: on North Line some losses along road verges, around new Bodington P&R and along Headingley 3 lane option. South Line losses on road verges, around new Stourton P&R and along railway. Easily replaced	Neutral
Ruderal vegetation	Patchy distribution associated with grassland and scrub along North Line. On South Line along road verges, around new Stourton P&R and along railway	Local	Negligible	Habitat very common nationally; no specific UK or Leeds BAP targets set. Very readily replaced.	Negligible	Neutral: some losses along road verges, around new Bodington P&R, along Headingley 3 lane option, at Stourton P&R	Neutral

Area	Description of feature / attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment score
						and railway. Easily replaced	
Short perennial vegetation	Patchy distribution associated with bare ground at one building (6 Wood Lane) on North Line; on South Line along road and rail verges and in areas of hard standing	Local	Negligible	Habitat very common nationally; no specific UK or Leeds BAP targets set. Very readily replaced.	Negligible	Neutral: readily replaced and of little value	Neutral
Introduced shrubs	Small patches in front of church on Headingley Lane	Local	Negligible	Habitat very common nationally; no specific UK or Leeds BAP targets set. Very readily replaced.	Negligible	Minor negative: readily replaced and of little value although may support a few breeding birds	Neutral
Breeding birds	North Line: Wooded areas of Headingley Hill to Bodington Park section can support these, as can introduced shrubs and scrub. South Line: Various species can nest in trees and along hedgerows along railway. Overall bird assemblage along routes and within 2 km of routes consists of 135 species.	Regional	Medium	Various species on UKBAP; records of 135 species within 2 km of route including Red listed species such as song thrush that are undergoing major declines nationally. All breeding birds protected under Wildlife and Countryside Act 1981 (as amended)	Medium	Minor negative: on North Line loss of some mature trees and scrub habitats for breeding birds but woodlands and scrub behind Arndale Centre will be maintained; similarly on South Line loss of small area of woodland habitats and scrub habitats near bridge close to	Slight adverse

Area	Description of feature / attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment score
						Stourton P&R but most will be retained. Minor operational disturbance on all Lines but no more than typical for an urban area	
Bats	North Line: Wooded areas and buildings between Headingley Hill and Bodington Park & Ride can support these (four known roosts); trees on streets also form part of wider commuting and foraging habitats. South Line: several trees (up to 6) with potential to support these along railway. East Line: Potential near St James's University Hospital.	Regional	Medium	Common pipistrelle bats are on Leeds BAP and UKBAP; considered to be declining nationally especially due to loss of foraging habitats near roost sites. All UK bats are European Protected Species under Conservation (Natural habitats &c.) Regulations 1994 (as amended)	Medium	Minor negative: some loss of mature trees but these only form a small part of a wider commuting area in Headingley and along the railway on South Line; and no loss of roosts expected with this option	Slight adverse
Badgers	Records within 100 m of Headingley Hill to Bodington Park & Ride section.	Local	Medium	Populations healthy nationally. Protected under Protection of Badgers Act 1992	Medium	Minor negative: no signs found in recent surveys near route and habitat loss can be avoided	Slight adverse

Area	Description of feature / attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment score
Reptiles and Amphibians	Scrub and grassland in Headingley could support reptiles; no records locally	Local	Medium	Protected under Wildlife and Countryside Act 1981 (as amended)	Medium	Minor negative: some loss of replaceable scrub and grassland	Slight adverse
Otters	Recorded during 2008 along River Aire	Regional	Medium	Populations healthy nationally. European Protected Species under Conservation (Natural habitats &c.) Regulations 1994 (as amended)	Medium	Minor negative: possible minor disturbance during any works along bridges but for the most part otters are travelling g along these parts of the River Aire which are highly urbanised. Suitable working practices should avoid any risk of direct injury to otters	Slight adverse
Invasive Species	Japanese Knotweed: occurs at Hinsley Hall and Headingley Castle	Local	Negligible	Offence to spread under Wildlife and Countryside Act 1981 (as amended)	Negligible	Neutral: avoid spreading as part of basic legal compliance & opportunity to remove; not directly in construction areas or operational route for this option	Neutral

Reference Source(s):

Leeds NGT Environmental Scoping Report 236834RPT 17 Rev.B (Mott MacDonald, 2009), Leeds NGT Extended Phase 1 Habitat Survey Report 236834RPT 26 Rev.A (Mott MacDonald, 2009), Leeds City Council Biodiversity Action Plan (BAP), UKBAP, desk records from West Yorkshire Ecology

Summary assessment score:

Slight adverse

Qualitative comments:

The summary assessment gives an overall **slight adverse** impact for the Next Best Alternative. As there will be no offline route proposed, the potential for loss of bat roosts and associated habitats for bats and breeding birds, and/or direct harm to bats, is much reduced compared to the preferred route.

Loss of habitats will largely be restricted to areas of amenity planting along the route, and areas such as the scrub vegetation near the proposed Stourton Park and Ride site (South Line). The major habitat corridors along each line, principally the woodlands behind the Arndale Centre in North Line and the wooded areas along the railway on South Line, will be retained. Losses of habitats such as amenity grassland (all Lines), introduced shrubs, and ruderal vegetation (North and South Lines) are readily replaced, and even without replacement these habitats are of negligible importance.

Scheme: Lower Cost Alternative

Area	Description of feature / attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment score
Designated sites - Leeds Natural Area: Beckett Street Cemetery	Non-statutory site, ancient semi-natural and replanted woodland	Regional	Medium	Supports ancient woodland which is listed in UKBAP; targets include ensuring no net loss	Medium	Minor negative: possibly minor disturbance of fauna in the site due to operational lighting	Slight adverse
Scattered Trees	North Line: Includes mature oak, ash, sycamore, beech and horse chestnut primarily between Headingley Hill and Bodington Park. South Line: along hedgerows along railway	Local	Medium	Habitat common nationally; no specific UK or Leeds BAP targets set	Medium	Minor negative: loss of mature trees along route where removal required ; but main woodlands behind Arndale Centre will be maintained as will wooded areas along railway on South Line	Slight adverse
Woodland and scrub	North Line: Oak, ash, horse chestnut, sycamore with understory of hawthorn and blackthorn. Within 30 m of route, primarily between Headingley Hill and Bodington Park. Supports protected species such as bats and breeding birds. South Line: Largely forms part of hedgerows by railway; a few isolated strips of semi-natural broad-	Local	Medium	Habitat common nationally; only semi-natural broad-leaved woodland is listed on UKBAP	Medium	Minor negative: loss of mature trees along route where removal required; but main woodlands behind Arndale Centre will be maintained as will wooded areas along railway on	Slight adverse

Area	Description of feature / attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment score
	leaved woodland along railway towards Pepper Road					South Line	
Grassland	Largely amenity grassland in residential areas and along road verges on all Lines; some species poor semi-improved grassland at scrub margins on North Line	Local	Lower	Habitat common nationally; no specific UK or Leeds BAP targets set. Very readily replaced.	Lower	Neutral: some losses along road verges and around new P&R sites	Neutral
Ruderal vegetation	Patchy distribution associated with grassland and scrub along North Line. On South Line along road verges, around new Stourton P&R and along railway	Local	Negligible	Habitat very common nationally; no specific UK or Leeds BAP targets set. Very readily replaced.	Negligible	Neutral: some losses along road verges and around new P&R sites	Neutral
Short perennial vegetation	Patchy distribution associated with bare ground at one building (6 Wood Lane) on North Line; on South Line along road and rail verges and in areas of hard standing	Local	Negligible	Habitat very common nationally; no specific UK or Leeds BAP targets set. Very readily replaced.	Negligible	Neutral: readily replaced and of little value	Neutral
Introduced shrubs	Small patches in front of church on Headingley Lane	Local	Negligible	Habitat very common nationally; no specific UK or Leeds BAP targets set. Very readily replaced.	Negligible	Minor negative: readily replaced and of little value although may support a few breeding birds	Neutral
Breeding birds	North Line: Wooded areas of offline Headingley section can support these, as can introduced shrubs. South Line: Various species can nest in trees and along	Regional	Medium	Various species on UKBAP records of 135 species within 2 km of route; including Red listed species such as song	Medium	Minor negative: loss of some mature trees and scrub habitats for breeding birds but	Slight adverse

Area	Description of feature / attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment score
	hedgerows at Balm Road and along railway to Pepper Road. Overall bird assemblage along routes and within 2 km of routes consists of 135 species.			thrush that are undergoing major declines nationally. All breeding birds protected under Wildlife and Countryside Act 1981 (as amended)		woodlands and scrub behind Arndale Centre will be maintained as will wooded areas along railway on South Line	
Bats	Wooded areas of offline Headingley section can support these on North Line; wooded areas along railway on South also have bat potential	Regional	Medium	Common pipistrelle bats are on Leeds BAP and UKBAP; considered to be declining nationally especially due to loss of foraging habitats near roost sites. All UK bats are European Protected Species under Conservation (Natural habitats &c.) Regulations 1994 (as amended)	Medium	Minor negative: some loss of mature trees but these only form a small part of a wider commuting areas in Headingley and along railway on South Line; and no loss of roosts expected with this option	Slight adverse
Badgers	Records within 100 m of offline section in Headingley on North Line.	Local	Medium	Populations healthy nationally. Protected under Protection of Badgers Act 1992	Medium	Minor negative: no signs found in recent surveys near route and habitat loss can be avoided	Slight adverse
Reptiles and	North Line: Scrub and	Local	Medium	Protected under	Medium	Minor	Slight adverse

Area	Description of feature / attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment score
Amphibians	grassland in Headingley could support reptiles; no records locally. South Line – some isolated habitat patches near M621.			Wildlife and Countryside Act 1981 (as amended)		negative: some loss of replaceable scrub and grassland	
Otters	South Line: Recorded during 2008 along River Aire	Regional	Medium	Populations healthy nationally. European Protected Species under Conservation (Natural habitats &c.) Regulations 1994 (as amended)	Medium	Neutral: No impacts are anticipated to sections of the River Aire.	Neutral
Invasive Species	Japanese knotweed adjacent to railway bridge on Pepper Road and Wakefield Road	Local	Negligible	Offence to spread under Wildlife and Countryside Act 1981 (as amended)	Negligible	Neutral: avoid spreading as part of basic legal compliance and opportunity to remove. May need to treat near railway	Neutral

Reference Source(s):

Leeds NGT Environmental Scoping Report 236834RPT 17 Rev.B (Mott MacDonald, 2009), Leeds NGT Extended Phase 1 Habitat Survey Report 236834RPT 26 Rev.A (Mott MacDonald, 2009), Leeds City Council Biodiversity Action Plan (BAP), UKBAP, desk records from West Yorkshire Ecology

Summary assessment score:

Slight adverse

Qualitative comments:

As with the Next Best Alternative, an overall **slight adverse** impact has been given for this option. As there will be no offline route proposed, the potential for loss of bat roosts and associated habitats for bats and breeding birds, and/or direct harm to bats, is considerably reduced compared to the preferred route.

Loss of habitats will largely be restricted to areas of amenity planting along the route, and areas such as the scrub vegetation near the proposed Stourton P&R site (South Line). The major habitat corridors along the Scheme option, principally the woodlands behind the Arndale Centre in North Line and the wooded areas along the railway on South Line, will be retained. Losses of habitats such as amenity grassland (all Lines), introduced shrubs, and ruderal vegetation (North and South Lines) are readily replaced, and even without replacement these habitats are of negligible importance.