Southampton to London Pipeline Project

Volume 6

Environmental Statement (Volume D)
Appendix 7.4: Invasive Non-Native Plant Species

Factual Report

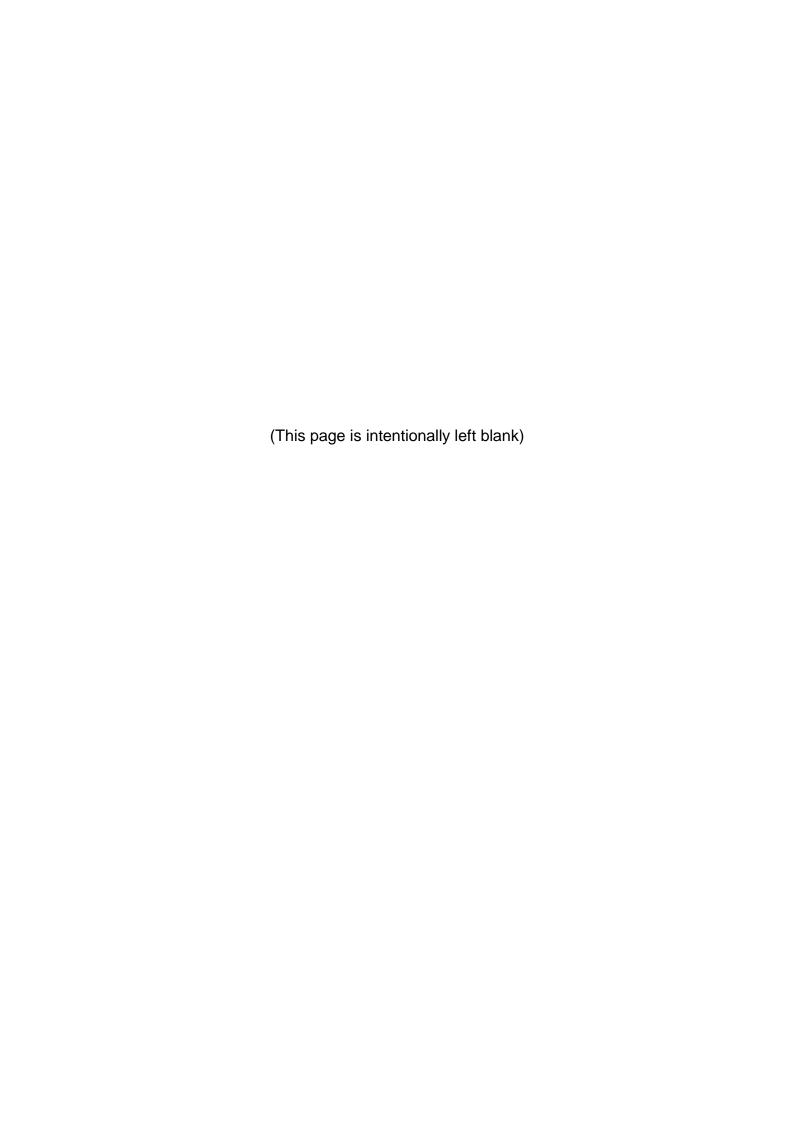
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Southampton to London Pipeline Project

Esso Petroleum Company, Limited

Appendix 7.4: Invasive Non-Native Plant Species Factual Report

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Appendix 7.4: Invasive Non-Native Plant Species Factual Report



Contents

1	Introduction	
1.1	Overview	1
1.2	Legal Context	1
2	Methodology	2
2.1	Desk Study	2
2.2	Field Surveys	2
2.3	High Risk Areas Assessment	2
2.4	Constraints	3
3	Results	3
3.1	Desk Study	3
3.2	Field Surveys	3
3.3	High Risk Areas Assessment	3
Refe	erences	2
Anne	ex A – Results	ξ
Figu	res	10

Appendix 7.4: Invasive Non-Native Plant Species Factual Report



1 Introduction

1.1 Overview

- 1.1.1 Esso Petroleum Company, Limited (Esso) is making an application for development consent to replace 90km (56 miles) of its existing 105km (65 miles) aviation fuel pipeline that runs from the Fawley Refinery near Southampton, to the Esso West London Terminal storage facility in Hounslow. The replacement pipeline is 97km (60 miles) long, and is referred to as 'the project' within this appendix.
- 1.1.2 The Invasive Non-Native Plant Species Factual Report has been produced to support the application for development consent and the accompanying Environmental Statement (ES) under the Planning Act 2008.

1.2 Legal Context

- 1.2.1 An Invasive Non-Native Species (INNS) is any non-native animal or plant that has the ability to spread, causing damage to the environment, the economy, human health or wellbeing, as defined by the Great Britain Non-Native Species Secretariat (2018). Invasive plant species can have a major impact on biodiversity, be costly to eradicate and can reduce plant diversity through competition with the formation of dense monospecific stands.
- 1.2.2 Invasive non-native animal species are not considered within this report as the project has extremely limited potential to contribute to their introduction or spread.
- 1.2.3 For the purposes of this report, invasive plant species are divided into two groups:
 - · legally controlled species; and
 - other INNS.

Legally Controlled Species

- 1.2.4 Legally controlled species are those listed in Part II of Schedule 9 (s14 (2)) of the Wildlife and Countryside Act 1981 (as amended). It is illegal to plant or otherwise cause to grow in the wild any Schedule 9 plant species.
- 1.2.5 In addition, the unauthorised disposal of waste from controlled species which include Schedule 9 species such as Japanese knotweed (*Fallopia japonica*) is prohibited under Part II of the Environmental Protection Act 1990, in relation to the offence of introducing non-native species to the wild.
- 1.2.6 The project may involve works in areas containing Schedule 9 species. Due to the legal implications and impact on biodiversity that would occur if such species were caused to spread or be disposed of incorrectly during the pipeline's installation, it is important to identify their locations and extent.

Appendix 7.4: Invasive Non-Native Plant Species Factual Report



Other INNS

- 1.2.7 Other INNS are non-native species of plants which are classed as invasive, but which are not listed on Schedule 9. These species are invasive at a site or have the potential to become invasive. The identification of other INNS during the desk study and field survey was based on this description plus professional judgement and use of resources such as the Great Britain Non-Native Species Secretariat (2018).
- 1.2.8 The project may involve works in areas containing INNS which could result in their spread and have detrimental effects on biodiversity. It is consequently important to identify their locations and extent.

2 Methodology

2.1 Desk Study

2.1.1 Locations of legally controlled invasive non-native plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and any other relevant plant INNS were collected from data search results acquired from Greenspace Information for Greater London and Hampshire Biodiversity Information Centre respectively. A data request was made to Surrey Biodiversity Information Centre in January 2018. But at the time of writing, no species records have been returned.

2.2 Field Surveys

2.2.1 Locations of INNS (both legally controlled and otherwise) were recorded during targeted location botany surveys (see Appendix 7.1 Habitats and Botany Factual Report), and incidental records were collected during other ecological surveys undertaken for the project. These surveys were undertaken between February and November 2018.

2.3 High Risk Areas Assessment

- 2.3.1 Using the desk study, botanical survey results and the incidental records of INNS, high risk areas relating to INNS were identified within the Order Limits.
- 2.3.2 High risk areas were defined as those areas within the Order Limits with an increased risk of becoming contaminated by or causing the spread/transfer of INNS. These areas did not necessarily already contain INNS but were areas where they could pose a legal or practical risk to the project under the Wildlife and Countryside Act 1981 (as amended) and the Environmental Protection Act 1990.
- 2.3.3 A high-risk area was identified if it met one or more of the following criteria:
 - Where INNS were recorded within the Order Limits or were within 7m of the Order Limits (7m is widely accepted as the potential extent of roots/rhizomes of INNS such as Japanese knotweed).
 - Where the area was bisected by a watercourse along which aquatic, riparian or terrestrial INNS were known to be present.

Appendix 7.4: Invasive Non-Native Plant Species Factual Report



 Where the area was bisected by a road along which invasive species were known to be present.

2.4 Constraints

- 2.4.1 Although no data were provided by Surrey Biodiversity Information Centre, the data received from other providers and the detailed botanical survey results are considered to provide a true reflection of the different INNS across the study area.
- 2.4.2 The field surveys undertaken were combined with the detailed desk study. These were considered sufficient to provide a sound basis with which to identify risks and to assess potential impacts of invasive species on the project at this stage.

3 Results

3.1 Desk Study

3.1.1 The desk study identified 13 records of legally controlled (Schedule 9 listed) species within 1km of the Order Limits. An additional 31 species of other relevant INNS were identified within 1km of the Order Limits. These are listed in Table A1 of Annex A and are shown in Figure A7.4.1.

3.2 Field Surveys

- Table A2 of Annex A lists the legally controlled species and other INNS that were identified during botanical surveys at the locations shown on Figure A7.4.1. In summary, species recorded comprised:
 - legally controlled species: Himalayan balsam (*Impatiens glandulifera*); shallon (*Gaultheria shallon*); Japanese knotweed (*Fallopia japonica*); Himalayan cotoneaster (*Cotoneaster simonsii*); wall cotoneaster (*Cotoneaster horizontalis*); montbretia (*Crocosmia x crocosmiiflora*); New Zealand pigmyweed (*Crassula helmsii*); rhododendron (*Rhododendron ponticum*); variegated yellow archangel (*Lamiastrum galeobdolon* subsp. *argentatum*); and
 - other INNS: snowberry (*Symphoricarpos albus*); cherry laurel (*Prunus laurocerasus*); Himalayan giant bramble (*Rubus armeniacus*); butterfly bush (*Buddleja davidii*); Wilson's honeysuckle (*Lonicera nitida*); arrow bamboo (*Pseudosasa japonica*); juneberry (*Amelanchier lamarckii*); Portugal laurel (*Prunus lusitanica*); Japanese rose (*Rosa rugosa*); orange balsam (*Impatiens capensis*); Franchet's cotoneaster (*Cotoneaster franchetii*); steeple-bush (*Spiraea douglasii*); goat's-rue (*Galega officinalis*); and a Michaelmas daisy (*Aster* sp.).

3.3 High Risk Areas Assessment

3.3.1 All INNS records from the desk study and field survey results were used to identify high risk areas for installation works relating to INNS. Ground works, vegetation clearance and disposal of arisings in and from these areas could lead to the introduction and/or spread of INNS. The high risk areas for INNS identified are shown on Figure A7.4.1 and are detailed in Table A3 of Annex A.

Appendix 7.4: Invasive Non-Native Plant Species Factual Report



References

Great Britain Non-Native Species Secretariat (2018). Available at http://www.nonnativespecies.org/home/index.cfm.

Appendix 7.4: Invasive Non-Native Plant Species Factual Report



Annex A - Results

Table A1: Desk Study – Legally Controlled and Other INNS Plant Species Within 1km of the Project.

Common Name	Scientific Name	Legally Controlled / Other INNS
Butterfly bush	Buddleja davidii	Other INNS
Cherry laurel	Prunus laurocerasus	Other INNS
American skunk-cabbage	Lysichiton americanus	Other INNS
Arrow bamboo	Pseudosasa japonica	Other INNS
Asian firethorn	Pyracantha rogersiana	Other INNS
Canadian goldenrod	Solidago canadensis	Other INNS
Carolina water-shield	Cabomba caroliniana	Other INNS
False acacia	Robinia pseudoacacia	Legally controlled
Floating pennywort	Hydrocotyle ranunculoides	Legally controlled
Garden lady's-mantle	Alchemilla mollis	Other INNS
Garden privet	Ligustrum ovalifolium	Other INNS
Goat's-rue	Galega officinalis	Other INNS
Hairy bamboo	Sasaella ramosa	Other INNS
Himalayan cotoneaster	Cotoneaster simonsii	Legally controlled
Hybrid coralberry	Symphoricarpos microphyllus x orbicularis	Other INNS
Indian balsam (Himalayan balsam)	Impatiens glandulifera	Legally controlled
Japanese honeysuckle	Lonicera japonica	Other INNS
Lawson's cypress	Chamaecyparis lawsoniana	Other INNS
Least duckweed	Lemna minuta	Other INNS
Lesser knotweed	Persicaria campanulata	Other INNS
Lodgepole pine	Pinus contorta	Other INNS
Many-flowered rose	Rosa multiflora	Other INNS
Montbretia	Crocosmia x crocosmifolia	Legally controlled
New Zealand pigmyweed (Australian	Crassula helmsii	Other INNS
swamp stonecrop)		
Nuttall's waterweed	Elodea nuttallii	Legally controlled
Orange balsam	Impatiens capensis	Other INNS
Pampas grass	Cortaderia selloana	Other INNS
Parrot's feather	Myriophyllum aquaticum	Legally controlled
Red oak	Quercus rubra	Other INNS
Rhododendron	Rhododendron ponticum	Legally controlled
Russian vine	Fallopia baldschuanica	Other INNS
Sorbaria	Sorbaria sorbifolia	Other INNS
Spanish Bluebell	Hyacinthoides hispanica x non-scripta	Other INNS
Spurge	Euphorbia amygdaloides subsp.robbiae	Other INNS
Three-cornered garlic	Allium triquetrum	Legally controlled
Turkey oak	Quercus cerris	Other INNS
Virginia creeper	Parthenocissus quinquefolia	Legally controlled
Wall cotoneaster	Cotoneaster horizontalis	Legally controlled
Water fern (Fairy moss)	Azolla filiculoides	Other INNS
Waterer's cotoneaster	Cotoneaster frigidus x salicifolius	Other INNS
Western red-cedar	Thuja plicata	Other INNS
Wilson's honeysuckle	Lonicera nitida	Other INNS
Yellow archangel	Lamiastrum galeodbolon argentatum	Legally controlled





Common Name		Legally Controlled / Other INNS
Yellow azalea	Rhododendron luteum	Legally controlled

Table A2: Field Survey – Legally Controlled and Other INNS Plant Species Recorded During Phase 1 Habitat and Botanical Survey

Project Section	Survey Location (see Appendix 7.1)	Common Name	Latin Name	Legal Status
A Ford Lake		Cherry laurel	Prunus laurocerasus	INNS
		Himalayan balsam	Impatiens glandulifera	Schedule 9
		Japanese knotweed	Fallopia japonica	Schedule 9
		Montbretia	Crocosmia x crocosmiiflora	Schedule 9
		Snowberry	Symphoricarpos albus	INNS
Α	Durley	Butterfly-bush	Buddleja davidii	INNS
		Cherry laurel	Prunus laurocerasus	INNS
		Himalayan giant bramble	Rubus armeniacus	INNS
		Japanese knotweed	Fallopia japonica	Schedule 9
Α	Wintershill	Cherry laurel	Prunus laurocerasus	INNS
		Himalayan balsam	Impatiens glandulifera	Schedule 9
Α	Brockwood	Cherry laurel	Prunus laurocerasus	INNS
		Variegated yellow archangel	Lamiastrum galeobdolon subsp. argentatum	Schedule 9
В	Disused railway	Snowberry	Symphoricarpos albus INNS	
С	Floodplain of River Wey	Butterfly-bush	Buddleja davidii	INNS
		Himalayan balsam	Impatiens glandulifera	Schedule 9
D	Wakefords Copse	Arrow bamboo	Pseudosasa japonica	INNS
		Cherry laurel	Prunus laurocerasus	INNS
		Juneberry	Amelanchier lamarckii	INNS
		Montbretia	Crocosmia x crocosmiiflora	Schedule 9
		Rhododendron	Rhododendron ponticum	Schedule 9
		Snowberry	Symphoricarpos albus	INNS
D	Bourley and Long Valley	Cherry laurel	Prunus laurocerasus	INNS
		Montbretia	Crocosmia x crocosmiiflora	Schedule 9
		Portugal laurel	Prunus Iusitanica	INNS
		Rhododendron	Rhododendron ponticum	Schedule 9
D	Old Ively Road	Butterfly-bush	Buddleja davidii	INNS
		Cherry laurel	Prunus laurocerasus	INNS
		Japanese rose	Rosa rugosa	Schedule 9
		Rhododendron	Rhododendron ponticum	Schedule 9
E	Former Southwood Golf Course	Cherry laurel	Prunus laurocerasus	INNS

Appendix 7.4: Invasive Non-Native Plant Species Factual Report



Project Section	Survey Location (see Appendix 7.1)	Common Name	Latin Name	Legal Status
		Orange balsam	Impatiens capensis	INNS
E Cove Brook		Michaelmas daisy	Aster agg.	INNS
		New Zealand pigmyweed	Crassula helmsii	Schedule 9
		Montbretia	Crocosmia x crocosmiiflora	Schedule 9
		Orange balsam	Impatiens capensis	INNS
		Variegated yellow archangel	Lamiastrum galeobdolon subsp. argentatum	Schedule 9
		Rhododendron	Rhododendron ponticum	Schedule 9
Е	Queen Elizabeth	Cherry laurel	Prunus laurocerasus	INNS
	Park	Juneberry	Amelanchier lamarckii	INNS
		Rhododendron	Rhododendron ponticum	Schedule 9
		Snowberry	Symphoricarpos albus	INNS
		Variegated yellow archangel	Lamiastrum galeobdolon subsp. argentatum	Schedule 9
E	Frimley Green	Cherry laurel	Prunus laurocerasus	INNS
		Himalayan balsam	Impatiens glandulifera	Schedule 9
		Himalayan cotoneaster	Cotoneaster simonsii	Schedule 9
		Wilson's honeysuckle	Lonicera nitida	INNS
F	Colony Bog and Bagshot Heath	Arrow bamboo	Pseudosasa japonica	INNS
		Butterfly-bush	Buddleja davidii	INNS
		Cherry laurel	Prunus laurocerasus	INNS
		Franchet's cotoneaster	Cotoneaster franchetii	INNS
		Goat's rue	Galega officinalis	INNS
		Juneberry	Amelanchier lamarckii	INNS
		Montbretia	Crocosmia x crocosmiiflora	Schedule 9
		Rhododendron	Rhododendron ponticum	Schedule 9
		Shallon	Gaultheria shallon	Schedule 9
		Snowberry	Symphoricarpos albus	INNS
		Steeple-bush	Spiraea douglasii	INNS
		Variegated yellow archangel	Lamiastrum galeobdolon subsp. argentatum	Schedule 9
		Wall cotoneaster	Cotoneaster horizontalis	Schedule 9
		Willow-leaved cotoneaster	Cotoneaster salicifolius	INNS
F	Chobham Common	Montbretia	Crocosmia x crocosmiiflora	Schedule 9
		Rhododendron	Rhododendron ponticum	Schedule 9
F	Foxhills	Himalayan balsam	Impatiens glandulifera	Schedule 9
		Japanese rose	Rosa rugosa	Schedule 9
		New Zealand pigmyweed	Crassula helmsii	Schedule 9

Appendix 7.4: Invasive Non-Native Plant Species Factual Report



Project Section	Survey Location (see Appendix 7.1)	Common Name	Latin Name	Legal Status
		Rhododendron	Rhododendron ponticum	Schedule 9
G	Addlestone Moor	Butterfly-bush	Buddleja davidii	INNS
		Cherry laurel	Prunus laurocerasus	INNS
		Himalayan giant bramble	Rubus armeniacus	INNS
		Rhododendron	Rhododendron ponticum	Schedule 9
G	Dumsey Meadow	A Michaelmas daisy	Aster agg.	INNS
		Himalayan balsam	Impatiens glandulifera	Schedule 9
		Himalayan giant bramble	Rubus armeniacus	INNS
G	Chertsey Meads	Arrow bamboo	Pseudosasa japonica	INNS
		Cherry laurel	Prunus laurocerasus	INNS
		Himalayan balsam	Impatiens glandulifera	Schedule 9
		Himalayan giant bramble	Rubus armeniacus	INNS
		Portugal laurel	Prunus Iusitanica	INNS
		Snowberry	Symphoricarpos albus	INNS

Table A3: High Risk Areas for INNS (see Figure A7.4.1)

Project Section	Location (see Figure A7.4.1)	Common Name	Legal Status
Α	1	Himalayan balsam	Legally controlled
	2	Cherry laurel	Other INNS
	3	Cherry laurel	Other INNS
	4	Himalayan giant bramble	Other INNS
	5	Himalayan balsam	Legally controlled
	6	Cherry laurel / variegated yellow archangel	Other INNS / legally controlled
В	7	Snowberry	Other INNS
С	8	Himalayan balsam	Legally controlled
	9	Butterfly-bush	Other INNS
	10	Himalayan balsam	Legally controlled
	11	Butterfly-bush	Other INNS
D	12	Himalayan balsam	Legally controlled
	13	Arrow bamboo and cherry laurel	Other INNS
	14	Montbretia	Legally controlled
	15	Montbretia / Portugal laurel / rhododendron	Legally controlled / other INNS
	16	Butterfly-bush	Other INNS
	17	Japanese rose / butterfly-bush	Legally controlled / other INNS
	18	Butterfly-bush	Other INNS
	19	Orange balsam	Other INNS
E	20	Orange balsam / montbretia / rhododendron / variegated yellow archangel	Other INNS / legally controlled
	21	Orange balsam	Other INNS
	22	Himalayan balsam / steeple-bush	Legally controlled / other INNS

Appendix 7.4: Invasive Non-Native Plant Species Factual Report



Project Section	Location (see Figure A7.4.1)	Common Name	Legal Status
	23	Wilson's honeysuckle / cherry laurel	Other INNS
	24	Himalayan balsam	Legally controlled
	25	Cherry laurel / rhododendron	Other INNS / legally controlled
	26	Rhododendron	Legally controlled
	27	Rhododendron	Legally controlled
	28	Steeple-bush / snowberry / juneberry / cherry laurel / variegated yellow archangel	Other INNS / legally controlled
F	29	Variegated yellow archangel / montbretia / Franchet's cotoneaster / wall cotoneaster / willow-leaved cotoneaster / rhododendron	Legally controlled / other INNS
	30	Rhododendron / montbretia / variegated yellow archangel / steeple-bush	Legally controlled / other INNS
	31	Butterfly-bush	Other INNS
	32	Franchet's cotoneaster	Other INNS
	33	Butterfly-bush / wall cotoneaster	Other INNS
	34	Butterfly-bush / rhododendron	Other INNS / legally controlled
	35	Rhododendron	Legally controlled
	36	Himalayan balsam	Legally controlled
	37	Himalayan balsam	Legally controlled
	38	Himalayan balsam	Legally controlled
	39	Rhododendron	Legally controlled
	40	Rhododendron	Legally controlled
	41	Himalayan balsam / rhododendron	Legally controlled
	42	Rhododendron	Legally controlled
	43	Japanese knotweed	Legally controlled
G	44	Himalayan balsam	Legally controlled
	45	Rhododendron	Legally controlled
	46	Himalayan balsam	Legally controlled
	47	Himalayan balsam	Legally controlled
	48	Himalayan giant bramble	Other INNS

Appendix 7.4: Invasive Non-Native Plant Species Factual Report



Figures

Figure A 7.4.1 Invasive Non-Native Species



Appendix 7.4: Invasive Non-Native Plant Species Factual Report

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