

THE MANAGEMENT OF INVASIVE PLANTS DURING ROAD CONSTRUCTION

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SIMBIOSYS Invasive Species & Roads Workshop

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Introduction

- *Guidelines On The Management Of Noxious Weeds And Non-Native Invasive Plant Species On National Roads* prepared in 2008 (Rev.2010)
- Cover the construction and maintenance of national road schemes but application relevant to all construction activities
- Recognition of the potential to contribute to the spread of invasive species during works
- Obligation to comply with Noxious Weeds Act, 1936



- Current distribution of many invasive plants along existing roads
- Risk of dispersal of seeds and plant fragments during construction & maintenance
- Invasive's pioneer spp – benefit from disturbed environments
- Early identification and management to reduce costs and impacts
- Applicable to all development sites



Aim of the Guidelines

To provide the information needed to effectively manage invasive plants during construction of road schemes:

- outlines the legislative background
- addresses procedures for assessing the presence/risks
- provides guidance on control and management



Species

Invasive Plant Species:

- Japanese Knotweed (*Fallopia japonica*)
- Giant Hogweed (*Heracleum mantegazzianum*)
- Himalayan Balsam (*Impatiens glandulifera*)
- Giant Rhubarb (*Gunnera tinctoria*)
- Montbretia (*Crocosmia x crocosmiflora*)
- Winter Heliotrope (*Petasites fragrans*)
- Old Man's Beard (*Clematis vitalba*)
- Rhododendron (*Rhododendron ponticum*)
- Buddleia (*Buddleja davidii*)



Noxious Weeds:

- Spear Thistle (*Cirsium vulgare*)
- Creeping or Field Thistle (*Cirsium arvense*)
- Ragwort (*Senecio jacobea*)
- Curled Dock (*Rumex crispus*)
- Broad-Leaved Dock (*Rumex obtusifolius*)



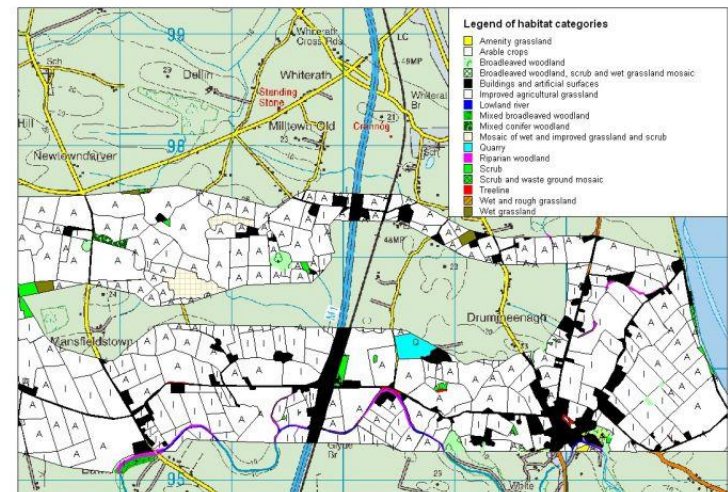
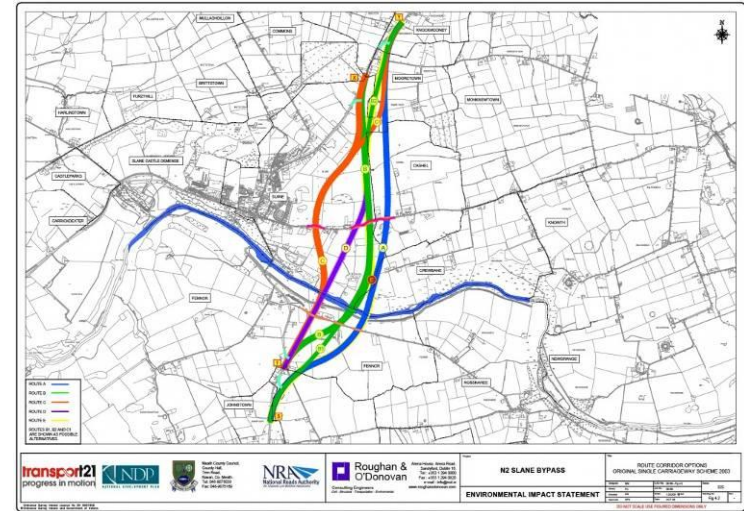
Impacts of Invasive Plants on Road Schemes



- Cause damage to infrastructure
- Result in soil erosion and collapse of river banks through exposure of the soil in winter
- Lead to colonization of adjacent habitats & facilitate future spread
- Generates adverse effect on landscape quality
- Reduce biodiversity value of roadside habitat

Phases in the construction of a Road Scheme

- Planning phases
 - Constraints study
 - Route Selection
 - EIA
- Pre-construction surveys
- Construction
- Operation & maintenance



Assessing the presence of Invasive Plants at the EIA phase



- General Habitat Survey EIA
- Location and full extent plotted on habitat mapping
- Records submitted to the National Biodiversity Data Centre
<http://www.biodiversityireland.ie/>
- Flag to lead consultants to avoid risk of spread during Site Investigations, Archaeological Survey, etc.
- Incorporate requirements into EIS

Environmental Impact Statement

- Invasive Plants dealt with as a specific element
- State species, extent & impacts
- Specify mitigation & control measures incl.
 - Area requiring treatment
 - Type of treatment required
 - Assessment of the risk of re-infestation from surrounding land
 - Requirement for a Management Plan
 - May have multiple species needing different management
 - Adherence to Guidelines, COP's and Legislation
- Incorporated in Contractual Documents
- Environmental Operating Plan (EOP)

Control and management of IS during construction

- Pre-construction detailed assessment:
 - Species, location, scale and extent of infestation (*if confined to lands made available*), growth stage, etc
 - sensitivity of the local environment (*including seasonality*)
 - Demarcate infestations
 - Awareness to all contractors
 - Priority to reduce risk of transfer of seed or material – no activity in infested zones
- Develop Management Plan
 - In place prior to any site works



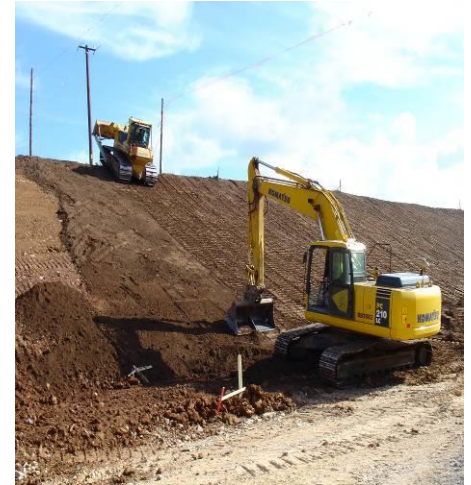
Management Plan Development

- Coordinator / Environmental Manager
- Species, locations, sensitivities, etc
- Specify control measures from the outset
- Specify disposal measures
- Specify soil management
- Implementation schedule
- Records of treatments undertaken
- Incorporation into Environmental Operation Plan (EOP)
- Incorporation to Landscape Contractor req.
- Communication to **all** Contractors



Soil Management

- Soil Management Plan
 - Section 5.5 *A Guide to Landscape Treatments for National Road Schemes in Ireland* (NRA, 2006)
- Imported soils subject to assessment
- Contaminated soils disposed of appropriately
- Stored soils seeded and periodically topped
- Systematic on-going monitoring of soil stores (monthly or bi-monthly)
- Incorporation into Landscape Contractors requirements



Selection of Control Measures

- Site specific
- On-going treatment & monitoring
- Risk of re-colonisation from outside site
- Use of herbicides minimized and targeted
- Risk of damage to adjacent plants / habitats of conservation value
- Risks of impacting on waterbodies
- Consultations as required (NPWS, IFI, etc)



Disposal of Infected Material

- Should not lead to risk of further spread
- Particular care near watercourses
- Options
 - Disposal to licensed landfill
 - Burying at a depth of >1.5m
 - Composting
 - Incineration
- In accordance with Relevant Legislation



Landscape Contractor Responsibilities

Incorporation to Contract ToR

- Awareness of responsibilities, risks and obligations
- Cover Defect Rectification Period (3 yrs)
(On-going monitoring requirement for relevant bodies)
- Adherence to Guidelines
 - *Horticulture Code of Practice* (Invasive Species Ireland, 2008)
 - *A Guide to Landscape Treatments for National Road Schemes in Ireland* (NRA, 2006)
 - *The Management of Noxious Weeds and Non-native Invasive Plant Species on National Roads* (NRA, 2010)
- Biosecurity Protocol = Cleaning of machinery & plant between infected sites (incl. footwear & tools)
- Extends to appropriate sourcing of plant material and screening for pests and diseases

SUMMARY

- Roads are a major means of Invasive Plant spread
- Early detection essential
- Management Plan required
- Clear responsibilities and awareness
- Effective control & disposal
- On-going monitoring and follow-up
- Approach applicable to all development sites

