### How to identify Japanese knotweed.

Introduced to Britain in the 19th century as an ornamental plant. Japanese knotweed is a tall, vigorous perennial that can quickly grow to over 3m in height, with a complex underground network of rhizomes which can extend to the depth of 3m and 7m laterally from visible above ground plants.

### Why manage Japanese knotweed?

The aggressive growth pattern of Japanese knotweed is capable of exploiting weaknesses in hard engineered structures such as concrete, tarmac and brick.

Early intervention can limit this damage, prevent spreading and stop any civil actions as it is an offence under the Wildlife and Countryside Act 1981 to cause to grow in the wild or plant in the wild.

### More info on Japanese knotweed.

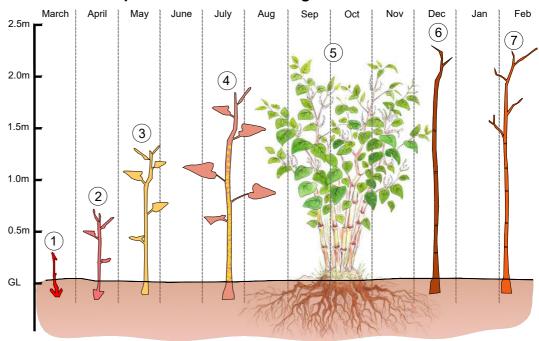
Rhizomes can remain viable for a number of years without producing shoots above ground, when disturbed shoots may appear.

Several control methods can be implemented. Disturbing the plant and rhizomes can also lead to further spread.

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### Japanese knotweed through the seasons



- 1 > Red shoots.
  - 2 Red stems, lighter shade green tips (similar to asparagus).
    - 3 ► Greenish shoots.
      - 4 ► Green stems speckled with purple/red, alternate leaves (one left then one right).
        - 5 Bamboo like and hollow stems with white flowers.
          - 6 ► Brown outer skin on stem and can peel, remains of flowers.
            - 7 ► Smooth light coloured brittle canes.



**Ers** Call: 0141 772 2789

### Identify Japanese knotweed treatment.

ERS has extensive experience in identification, management and remediation of Japanese knotweed infested sites.

We work with clients to develop a treatment strategy which meets the clients timescales, budget and future development requirements.

#### Japanese knotweed management plans.

When Japanese knotweed is identified on site ERS can develop and implement a Japanese knotweed management plan.

The plan is essential, both for the current owner and any future owners as a record for treatment of the site.

### ERS insurance backed guarantee.

ERS are members of the PCA and are able to provide up to a 10 year insurance backed guarantee for the treatment of Japanese knotweed.

### www.ersremediation.com











### **Types of Japanese knotweed treatment**

1 In-situ herbicide treatment.

The application of herbicide to the foliage.

- Efficient and effective control.
- Less labour intensive.
- Less intrusive method.
- 2 Combined digging and herbicide treatment.

Majority of the stand removed to landfill, leaving sensitive areas intact.

- Reduces area of Japanese knotweed infestation.
- Allows sensitive environments to be left undisturbed.
- 3 ► On-site treatment, ex-situ.

Contaminated soil is excavated and moved to a more convenient area on site for stockpiling and herbicide treatment.

- Cost effective immediate solution.
- Remediated soil can be used on site within landscaping and monitored.
- 4 ▶ On-site burial.

A cell 5m deep lined with root barrier membrane. The Japanese knotweed is excavated and placed inside the cell, capped with root barrier and then covered with soil.

- Cost effective way of removing the Japanese knotweed and an immediate solution.
- Ideal for areas of a site not to be built on.
- 5 Remove and dispose.

Used as a last resort where all other options are not viable.

- ERS is a licensed waste carrier we can dispose at an appropriate licensed landfill.
- Immediate solution to allow works to continue.

Lianne Cameron - Invasive Weeds Surveyor Email: Invasiveplants@ersremediation.com

#### How to identify Giant Hogweed.

Introduced to Britain in the 19th century as an ornamental plant. Giant Hogweed is a large, vigorous biennial, growing from seed in the first year, to producing flowers between 2-5 years, followed by setting seeds and eventually dying. Reaching 5m in height with large coarsley toothed leaves and large umbels of white flowers up to 80cm in diameter

Giant Hogweed is a highly toxic and commonly found growing on wasteground, streams, river banks, road verges and railway embankments.

### Why Giant Hogweed is dangerous?

Giant Hogweed produces a sap which is found in all parts of the plant. The toxic sap contains a chemical that photosensitises the skin, when the affected skin is exposed to the sunlight it can cause a severe red rash and blistering within 24-48 hours. The discoloured skin can last from several months to several years with the reactions to the sunlight persisting.

Early intervention can limit exposure of risk to people, prevent spreading and stop any civil actions as it is an offence under the Wildlife and Countryside Act 1981 to cause to grow in the wild or plant in the wild.

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## **Giant Hogweed**

The size of Giant Hogweed makes it easy to identify as it can grow up to 5m in height.

Serrated and sharply divided leaves with bristles growing up to 3m in length. (1)

Green hollow stem with purple blotches, hairy bristles and 5-10cm in diameter. (2)

Large umbels of white or rarely pink flowers from June to August. Setting seed and producing between 5,000 and 100,000 seeds, 1.5cm in length and lightweight, easily dispersed by wind and watercourses. Seed bank can remain active for up to 5 years. (3)



### If contact made with the sap of the plant:

Immediately wash thoroughly with soap and water.

Cover skin to reduce the exposure to sunlight/light for at least 48 hours.

Seek medical advice as soon as possible. Early treatment with topical steroids can reduce severity.

Use sun-cream on sensitive skin for several months thereafter.

The toxic sap containing furocoumarin causes the skin to become sensitive to sunlight/light. A red rash and painful burning blisters on the affected area can be observed within 48 hours. Photophtodermatitis is the resulting skin condition.



#### Identify Giant Hogweed treatment.

ERS has extensive experience in identification, management and remediation of Giant Hogweed infested sites.

We work with clients to develop a treatment strategy which meets the clients timescale's, budget and future development requirements.

### Giant Hogweed management plans

When Giant hogweed is identified on site ERS can develop and implement a Giant Hogweed management plan.

The plan is essential, both for the current owner and any future owners as a record for treatment of the site

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### **Types of Giant Hogweed Treatment**

1 In-situ herbicide treatment.

The application of herbicide to the foliage.

- Immediately kills the adult plant.
- Efficient and effective control for large stands.
- Less labour intensive.
- Less intrusive method.
- 2 In-situ manual treatment.

The removal of seeds heads and taproot cutting.

- Immediately kills the adult plant.
- Efficient and effective control for small isolated stands.
- Reduces further contribution to the seed bank.
- Ideal for sensitive areas.
- 3 Non-site treatment, ex-situ.

Contaminated soil is excavated and moved to a more convenient area on site for stockpiling and herbicide treatment.

- Cost effective immediate solution.
- Remediated soil can be used on site within landscaping and monitored.
- 4 Non-site burial.

Contaminated soil is excavated and buried at least 1m deep within a convenient area of the site.

- Cost effective immediate solution.
- Removes all of taproot and greatly reduces the seed bank.
- 5 Remove and dispose.

Used as last resort where all other options are not viable.

- ERS is a licensed waste carrier we can dispose at an appropriate licensed landfill.
- Immediate solution to allow works to continue.

Lianne Cameron - Invasive Weeds Surveyor Email: Invasiveplants@ersremediation.com

### How to identify Himalayan Balsam.

Introduced to Britain in the 19th century as a herbaceous annual plant. Himalayan Balsam can grow in one season from seed to 2.5m in height, flowering in summer, followed by setting seed and eventually dying. Hollow, shallow rooted stems with leaves growing opposite each other bearing white/pink/purple flowers up to 4cm long.

Himalayan Balsam is commonly found growing on semi-shaded damp areas, by slow-moving watercourses, riverbanks, streams and wasteground.

### Why manage Himalayan Balsam?

Vigorous growth of Himalayan Balsam outcompetes native plants. Forming dense stands which block out sun-light causing biodiversity issues. Large stands on riverbanks can impede water flow during the summer increasing the risk of flooding. In winter increasing the risk of erosion due to exposed riverbanks following dieback. Sweet scented flowers also attract pollinators away from native species.

Early intervention can limit the impact to biodiversity, prevent spreading and stop any civil actions as it is an offence under the Wildlife and Countryside Act 1981 to cause to grow in the wild or plant in the wild.

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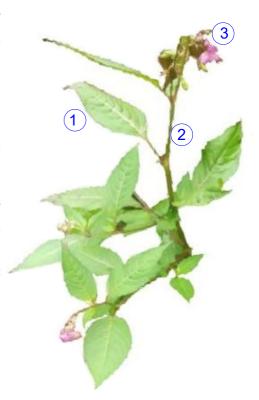
# **Himalayan Balsam**

Finely serrated edged whorls of 3-5 leaves form at the joints on the stem. Green with a pink mid-rib reaching 25cm long and 7cm wide. (1)

Up to 5cm in diameter hollow, fleshy, brittle stems reaching 2.5m in height. Green to red in early growth turning pink to red later. (2)

Trumpet shaped, sweetly scented white, pink or purple flowers appearing in the summer. Reaching 2.5-4cm in length. (3)

Exploding seed pods up to 3cm long, found on the end of red stalks, contain up to 16 seeds each, 2-3mm in length. A single plant can produce over 800 seeds expelling these up to 7m from the plant. Seeds are buoyant allowing further spread along watercourses. Seed bank can remain active for up to 2 years.



### Identify Himalayan Balsam treatment.

ERS has extensive experience in identification, management and remediation of Himalayan Balsam infested sites.

We work with clients to develop a treatment strategy which meets the client's timescales, budget and future development requirements.

### Himalayan Balsam management plans

When Himalayan Balsam is identified on site ERS can develop and implement a Himalayan Balsam management plan.

The plan is essential, both for the current owner and any future owners as a record for treatment of the site.

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1 In-situ herbicide treatment.

The application of herbicide to the foliage.

- Immediately kills the adult plant.
- Efficient and effective control for large stands.
- Less labour intensive.
- Less intrusive method.
- 2 In-situ manual treatment.

Hand pulling or cutting down of plants.

- Immediately kills the adult plant.
- Efficient and effective control for small isolated stands.
- Reduces further contribution to the seed bank.
- Hand pulling ideal for sensitive areas.
- 3 ► On-site treatment, ex-situ.

Contaminated soil is excavated and moved to a more convenient area on site for stockpiling and herbicide treatment.

- Cost effective immediate solution.
- Remediated soil can be used on site within landscaping and monitored.
- 4 ► On-site burial.

Contaminated soil is excavated and buried at least 1m deep within a convenient area of the site.

- Cost effective immediate solution.
- Greatly reduces the seed bank.
- 5 Remove and dispose.

Used as last resort where all other options are not viable.

- ERS is a licensed waste carrier we can dispose at an appropriate licensed landfill.
- Immediate solution to allow works to continue.



Lianne Cameron - Invasive Weeds Surveyor Email: Invasiveplants@ersremediation.com

#### How to identify Rhododendron ponticum.

Introduced to Britain in the 18th century as an evergreen shrub. Rhododendron ponticum is a large woody shrub with leathery leaves, reaching between 4-5m in height. Shallow rooted rhizomes can produce suckers of new plats flowering after 10-12 years in age on early summer followed by woody seeds pods produced in winter.

Rhododendron ponticum is commonly found growing on acidic, peaty or sandy soils found in moorlands, woodlands, rocky hillsides, riverbanks, gardens and parks.

#### Why manage Rhododendron ponticum?

Vigorous growth of Rhododendron ponticum outcompetes native plants by forming dense stands which block out sunlight, causing biodiversity issues. Rhododendron ponticum carries devastating diseases which can spread and kill woodlands.

Early intervention can limit the impact to biodiversity, prevent spreading and stop any civil actions as it is an offence under the Wildlife and Countryside Act 1981 to cause to grow in the wild or plant in the wild.

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## Rhododendron ponticum



Eliptical, leathery dull green leaves, between 6-12cm long with a pale underside. Leaves spiral towards the ends of the stems.

Light brown, woody stems, diameter up to 15cm and reaching 5m in height. When a mature plant stem forms into solid trunk, they can reach up to 8m in height.

Pink to purple clumps of individual flowers with 5 petals and 5cm in width. Flowering between May and June. (1)

Seed pods 3cm in length containing between 3,000-7,000 seeds are produced in autumn. They become woody before seeds dispersed in winter. Seeds are spread along watercourses, by wind, birds and mammals. Seeds bank can remain active for up to 1 year.

### Identify Rhododendron ponticum treatment.

ERS has extensive experience in identification, management and remediation of Rhododendron ponticum infested sites.

We work with clients to develop a treatment strategy which meets the clients timescales, budget and future development requirements.

### Rhododendron ponticum management plans

When Rhododendron ponticum is identified on site ERS can develop and implement a Rhododendron ponticum management plan.

The plan is essential, both for the current owner and any future owners as a record for treatment of the site.

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1 In-situ herbicide treatment.

The application of herbicide to the foliage.

- Stem injection used on larger plants 1.3m in height.
- Efficient and effective control for large stands.
- Less labour intensive.
- Less intrusive method.
- 2 In-situ manual treatment.

Hand pulling or digging out individual plants.

- Efficient and effective control for small isolated stands.
- Reduces further contribution to the seed bank.
- Hand pulling ideal for sensitive areas.
- 3 ▶ On-site treatment, ex-situ.

Contaminated soil is excavated and moved to a more convenient area on site for stockpiling and herbicide treatment.

- Cost effective immediate solution.
- Remediated soil can be used on site within landscaping and monitored.
- Woody material can be chipped and used on site.
- 4 Remove and dispose.

Used as last resort where all other options are not viable.

- ERS is a licensed waste carrier we can dispose at an appropriate licensed landfill.
- Immediate solution to allow works to continue.



Lianne Cameron - Invasive Weeds Surveyor Email: Invasiveplants@ersremediation.com

### How to identify American Skunk-Cabbage.

Introduced to Britain in the 20th century as a perennial herb. American Skunk-Cabbage differs from other plants, yellow flowers appear first in spring with ,skunk-like odour, followed by the growth of leaves reaching 1.5m in height. Shallow rooted rhizomes produce rosettes of leaves, flowering after 3 years in age and setting seed in late summer.

American Skunk-Cabbage is commonly found growing on wet, muddy areas, on the edges of ponds, swampy streams and marshy woodlands.

### Why manage American Skunk-Cabbage?

Vigorous growth of American Skunk-Cabbage outcompetes native plants. Forming dense stands which block out sun-light causing biodiversity issues. Large stands on riverbanks can impede water flow during the summer increasing the risk of flooding. In winter increasing the risk of erosion due to exposed riverbanks following dieback.

Early intervention can limit the impact to biodiversity, prevent spreading and manage already colonised stands as restrictions are imposed under EU Invasive Alien Species (IAS) Regulation 2014 on importing, selling and growing of listed plant species.

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## **American Skunk-Cabbage**

Large, yellow flower hoods (spathes) up to 45cm in length, formed around a spike of tiny green flowers 3.5-12 cm long, with a strong skunk-like odour. (1)

Large, leathery bright green leaves with a slight shine, growing up from a rosette forming on the soils surface. Reaching between 0.4-1.5 m long. (2)

Rhizome roots reaching 70cm deep can fragment and spread along watercourses or within soil. During winter die back rhizomes remain dormant during this period.

Seeds are contained in green berries produced in late summer, a single plant can produce up to 500 seeds. Seeds are spread along watercourses, by birds and mammals. Seed bank can remain active for up to 8 years. (3)



### Identify American Skunk-Cabage treatment.

ERS has experience in identification, management and remediation of American Skunk-Cabbage infested sites.

We work with clients to develop a treatment strategy which meets the client's timescales, budget and future development requirements.

### American Skunk-Cabbage management plans.

When American Skunk-Cabbage is identified on site ERS can develop and implement an American Skunk-Cabbage management plan.

The plan is essential, both for the current owner and any future owners as a record for treatment of the site.

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1 ► In-situ herbicide treatment.

The application of herbicide to the foliage.

- Ideal for hard to reach wet areas.
- Efficient and effective control for large stands.
- Less labour intensive.
- Less intrusive method.
- 2 In-situ manual treatment.

Hand pulling or digging out individual plants.

- Efficient and effective control for small isolated stands.
- Reduces further contribution to the seed bank.
- Hand pulling ideal for sensitive areas.
- 3 Non-site treatment, ex-situ.

Contaminated soil is excavated and moved to a more convenient area on site for stockpiling and herbicide treatment.

- Cost effective immediate solution.
- Remediated soil can be used on site within landscaping and monitored.
- 4 ► On-site burial.

Contaminated soil is excavated and buried at least 1m deep within a convenient area of the site.

- Cost effective immediate solution.
- Greatly reduces the seed bank.
- 5 Remove and dispose.

Used as last resort where all other options are not viable.

- ERS is a licence waste carrier we can dispose at an appropriate licensed landfill.
- Immediate solution to allow works to continue.



Lianne Cameron - Invasive Weeds Surveyor Email: Invasiveplants@ersremediation.com

### How to identify Buddleja davidii.

Introduced to Britain in the 19th century as a perennial shrub. Buddleja davidii has long arching woody branches reaching 5m in height. Flowers are produced in summer to late autumn, 15-20cm in length. Shallow rooted fibrous roots with no taproot sustain a plant that can grow between 0.5m-2m a year. Flowering after 2 years in age and setting seed late summer to early autumn.

Buddleja davidii is commonly found growing on dry open sites, brownfield sites, railway embankments, old quarries, walls and urban environments

### Why manage Buddleja davidii?

Vigorous growth of Buddleja davidii outcompetes native plants. Forming dense stands which block out sun-light causing biodiversity issues. Buddleja davidii has the ability to grow in extremely shallow soil or barely any at all. Often seen growing out of walls, chimney stacks and built structures. If allowed to mature it can cause significant damage to these features.

Early intervention can limit the impact to biodiversity, prevent spreading, reduce the structural damage to built structures and prevent damage to listed and historical buildings.

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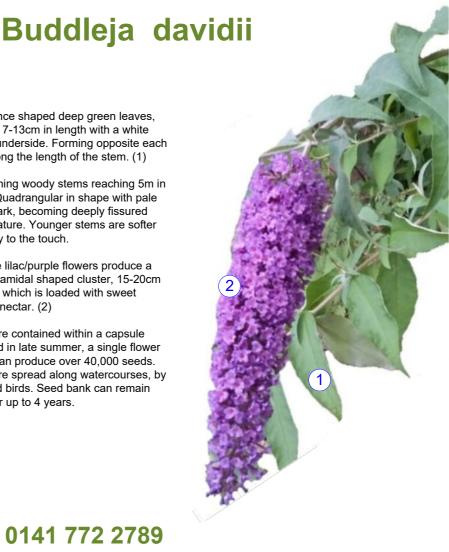


Long, lance shaped deep green leaves, between 7-13cm in length with a white velvety underside. Forming opposite each other along the length of the stem. (1)

Tall, arching woody stems reaching 5m in height. Quadrangular in shape with pale brown bark, becoming deeply fissured when mature. Younger stems are softer and hairy to the touch.

Tiny little lilac/purple flowers produce a long, pyramidal shaped cluster, 15-20cm in length which is loaded with sweet scented nectar. (2)

Seeds are contained within a capsule produced in late summer, a single flower cluster can produce over 40.000 seeds. Seeds are spread along watercourses, by wind and birds. Seed bank can remain. active for up to 4 years.



#### Identify Buddleja davidii treatment.

ERS has extensive experience in identification, management and remediation of Buddleja davidi infested sites.

We work with clients to develop a treatment strategy which meets the clients timescales, budget and future development requirements.

### Buddleja davidii management plans

When Buddleja davidii is identified on site ERS can develop and implement a Buddleja davidi management plan.

The plan is essential, both for the current owner and any future owners as a record for treatment of the site.

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### Types of Buddleja davidii Treatment

1 In-situ herbicide treatment.

The application of herbicide to the foliage.

- Cut-stump treatment used on mature plants.
- Efficient and effective control for large stands.
- Less labour intensive.
- Less intrusive method.
- 2 In-situ manual treatment.

Hand pulling, cutting or digging out individual plants.

- Immediately kills the adult plant. (Stump herbicide treated).
- Efficient and effective control for small isolated stands.
- Reduces further contribution to the seed bank.
- Hand pulling ideal for sensitive areas.
- 3 Remove and dispose.

(disposed of alongsode other native shrubs)

Used as last resort where all other options are not viable.

- ERS is a licensed waste carrier we can dispose at an appropriate licensed landfill.
- Immediate solution to allow works to continue.



Lianne Cameron - Invasive Weeds Surveyor Email: Invasiveplants@ersremediation.com

#### How to identify Giant Rhubarb.

Introduced to Britain in the 19th century as a perennial herb. Giant Rhubarb is a large clump-forming, long living plant reaching 2m in height. Shallow rooted rhizomes, thick and creeping are visible on the soils surface. Flowering after 5 years in age in late summer and setting seeds in autumn.

Giant Rhubarb is commonly found growing on damp or wet areas, within shaded areas along the edges of ponds, streams and drains.

### Why manage Giant Rhubarb?

Vigorous growth of Giant Rhubarb outcompetes native plants. Forming dense stands which block out sun-light, causing biodiversity issues. Large stands on riverbanks can impede water flow during the summer increasing the risk of flooding. In winter increasing the risk of erosion due to exposed riverbanks following dieback.

Early intervention can limit the impact to biodiversity, prevent spreading and stop any civil actions as it is an offence under the Wildlife and Countryside Act 1981 to cause to grow in the wild or plant in the wild.

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### **Giant Rhubarb**

Large, clump-forming umbrella sized leaves reaching 2m in height and 2m across. The leaf stem reaches 1.5m long with pale bristles and weak spines. (1)

Stems are thick creeping rhizomes, found horizontally on the surface of the soil. Can fragment and spread along watercourses or within soil. During winter die back rhizomes remain dormant during this period.

Tall, cone-like shaped flowers, tinged red reaching 1m height. Flowering between June and August. (2)

Seeds are produced in autumn, a single plant can produce over 250,000 seeds. Seeds are spread along watercourses, by birds and mammals. Seed bank can remain active for up to several decades. (3)





#### Identify Giant Rhubarb treatment.

ERS has experience in identification, management and remediation of Giant Rhubarb infested sites.

We work with clients to develop a treatment strategy which meets the client's timescales, budget and future development requirements.

#### Giant Rhubarb management plans.

When Giant Rhubarb is identified on site ERS can develop and implement a Giant Rhubarb management plan.

The plan is essential, both for the current owner and any future owners as a record for treatment of the site

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### **Types of Giant Rhubarb Treatment**

1 In-situ herbicide treatment.

The application of herbicide to the foliage.

- Effective at suppressing vigorous growth.
- Efficient and effective control for large stands.
- Less labour intensive.
- Less intrusive method.

#### 2 In-situ manual treatment.

Hand pulling or digging out individual plants.

- Efficient and effective control for small isolated stands.
- Reduces further contribution to the seed bank.
- Hand pulling ideal for sensitive areas.
- 3 Non-site treatment, ex-situ.

Contaminated soil is excavated and moved to a more convenient area on site for stockpiling and herbicide treatment.

- Cost effective immediate solution.
- Remediated soil can be used on site within landscaping and monitored.
- 4 ► On-site burial.

Contaminated soil is excavated and buried at least 2m deep within a convenient area of the site

- Cost effective immediate solution.
- Greatly reduces the seed bank.
- 5 Remove and dispose.

Used as last resort where all other options are not viable.

- ERS is a licenced waste carrier we can dispose at an appropriate licenced landfill.
- Immediate solution to allow works to continue



Lianne Cameron - Invasive Weeds Surveyor Email: Invasiveplants@ersremediation.com

#### How to identify Horsetail.

Introduced to Britain over 300 million years ago a prehistoric native perennial weed. Horsetail is a non-flowering, deep rooted plant with fir tree-like stems reaching 60cm in height. A cone shaped structure which contains fertile spores is produced in spring. Deep rooted rhizomes creeping through the soil can spread over large areas sending up dense stands of foliage throughout the summer.

Horsetail is commonly found growing on wet, boggy areas, on the edges of ponds, swampy streams, marshy woodlands, open fields, road verges, waste ground and brownfield sites.

### Why manage Horsetail?

Vigorous persistent growth of Horsetail can quickly form dense carpet out competing smaller plants by blocking out sun-light. Horsetail is toxic to horses, cattle and sheep if eaten fresh or dried within their feed. If rhizomes of Horsetail are within the soil, they can exploit weaknesses within hard standing areas, tar, concrete, gravel, paving, monoblock causing an unsightly problem within new developments.

Early intervention can limit the impact to smaller slow growing plants, prevent spreading and reduce the exploitation of weaknesses of hardstanding areas within new developments.

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## Horsetail

Light brown stems, between 20-50cm tall with darker brown joints (rings) along its length. To the tip of the stem a cone shaped structure is found containing fertile spores. These stems are produced in spring. (1)

Black with an off white coloured centre, creeping roots called rhizomes reaching as deep as 2m are the main cause of spread. Fragments of the rhizomes can generate new colonies of plants. During winter die back rhizomes remain dormant during this period. (2)

From the joint's rings of sterile, waxy, long, slender, green tube-like pointed leaves are produced. Giving the fir tree-like appearance of ridged, hollow stems seen throughout the summer and reaching up to 60cm in height. (3)

No flowers are produced.





### Identify Horsetail treatment.

ERS has extensive experience in identification, management and remediation of Horsetail infested sites.

We work with clients to develop a treatment strategy which meets the client's timescales, budget and future development requirements.

### Horsetail management plans.

When Horsetail is identified on site ERS can develop and implement a Horsetail management plan.

The plan is essential, both for the current owner and any future owners as a record for treatment of the site.

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### **Types of Horsetail Treatment**

1 In-situ herbicide treatment.

The application of herbicide to the foliage.

- Efficient and effective control for large stands.
- Less labour intensive.
- Less intrusive method.
- 2 In-situ manual treatment.

Hand digging out small isolated areas.

- Efficient and effective control for small isolated stands.
- Reduces the rhizome root system.
- Hand digging ideal for sensitive areas.
- 3 Non-site treatment, ex-situ.

Contaminated soil is excavated and moved to a more convenient area on site for stockpiling and herbicide treatment.

- Cost effective immediate solution.
- Remediated soil can be used on site within landscaping and monitored.
- 4 ► On-site burial.

Contaminated soil is excavated and buried at least 3m deep within a convenient area of the site.

- Cost effective immediate solution.
- Greatly reduces the rhizome root system.
- 5 Remove and dispose.

Used as last resort where all other options are not viable.

- ERS is a licensed waste carrier we can dispose at an appropriate licensed landfill.
- Immediate solution to allow works to continue.



Lianne Cameron - Invasive Weeds Surveyor Email: Invasiveplants@ersremediation.com

#### How to identify Ragwort.

Introduced to Britain over 12 thousand years ago a native biennial weed. Ragwort grows from seed in year one, producing flowers and setting seeds in year two and eventually dying. Reaching 1-1.5m in height with bluntly lobed leaves having a distinctively unpleasant smell. Yellow, dense, flat topped clusters of flowers from summer into late autumn.

Ragwort is commonly found growing on grazed/open fields, woodland, waste ground, road verges, brownfield sites and railway embankments.

### Why manage Ragwort?

Ragwort is a quickly spreading injurious weed containing many poisonous alkaloids which are toxic to horses, cattle and sheep. If eaten fresh or dried within their feed it can lead to cirrhosis of the liver. Can cause dermatitis in people with sensitive skin and may cause long term illness if handled incorrectly.

Early intervention can limit the impact to grazing fields, prevent spreading and reduce the risk of harvesting within animal's feed. Under the Weeds Act 1959 and the Ragwort Control Act 2003 landowners can be served notices to take action to control Ragwort within their land to prevent it spreading.

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## Ragwort

Seedlings 10-15mm in height grow from late summer in year one. Green, bluntly toothed leaves that over winter. Following spring seedlings form into rosettes. (1)

Green, bluntly toothed leaves alternate up the stem with size reducing as you travel upwards, 7-20cm long and 2-6cm wide, very fine hairs on underside. Distinctive unpleasant smell produced from the leaves. (2)

Upright, straight stems grow to 1-1.5m in height. Roots are deep rooted, if a small fragment of root remains a new plant can grow.

Daisy like bright yellow flowers, 1.5-2.5cm in diameter form dense flat topped clusters. 2,000-2,500 flowers produced per plant flowering June to October. (3)

75,000-120,000 seeds produced per plant in August, two differing characteristics. Seeds from the flowers centre are light with hairs easily spread by wind over long distances. Seeds from the flowers outer area are heavier with thick coats, falling next to the parent plant. Seed bank can remain active for over 16 years.



### Identify Ragwort treatment.

ERS has extensive experience in identification, management and remediation of Ragwort infested sites.

We work with clients to develop a treatment strategy which meets the client's timescales, budget and future development requirements.

### Ragwort management plans.

When Ragwort is identified on site ERS can develop and implement a Ragwort management plan.

The plan is essential, both for the current owner and any future owners as a record for treatment of the site.

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### **Types of Ragwort Treatment**

1 In-situ herbicide treatment.

The application of herbicide to the foliage.

- Efficient and effective control for large stands.
- Less labour intensive.
- Less intrusive method.
- 2 In-situ manual treatment.

Hand digging out individual plants.

- Immediately kills the adult plant.
- Efficient and effective control for small isolated stands.
- Reduces further contribution to the seed bank.
- Hand pulling ideal for sensitive areas.
- 3 Remove and dispose.

Used as last resort where all other options are not viable.

- ERS is a licensed waste carrier we can dispose at an appropriate licensed landfill.
- Immediate solution to allow revegetation works and grazing to continue.



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