

Appendix 1 - Mid Ulster Council Non-Native Invasive Plant Species Control Guidelines

Japanese Knotweed (Fallopia Japonica)

Locations:

Amongst the plants listed on Schedule 9, Japanese Knotweed has caused the most problems to date through adding to development costs and causing delays to development programs. It has the reputation of being able to seriously damage buildings; as a result, insurers and mortgage lenders generally have it on their 'Black List'. It occurs throughout lowland areas in the Mid-Ulster Council area and is particularly likely in urban brownfield locations.

Recognition:

Japanese Knotweed dies back to the ground every winter in Late-October/early-November to leave greyish skeletons of that years' growth. It starts to shoot again in mid-late April.

New canes are wide, often reddish, fast-growing shoots and grow to 20-60 cm or so before they start to unfurl leaves.



New Canes

In a mature patch of Japanese Knotweed in summer, the main bulk of the plant occurs as canes, like bamboo but thicker, and green, often speckled with red. These arise in distinct clusters from large crowns below the ground, and in very mature patches, the crowns begin to elevate above ground level. To the edge of a patch, canes are often shorter, giving the patch a slightly domed shape.

Shoots arising from frequently mown amenity grass will probably be numerous tiny and reddish. In the summer, mature leaves lose their red flush and the bright green foliage can stand out from other vegetation. Older leaves often have a lighter yellowish stripe along the midrib. Whatever form it takes, Japanese Knotweed has some distinctive diagnostic characteristics:

- New or old stems always have nodes with papery or worn, fibrous sheaths;
- Smaller stems and canes zig-gag between the leaf stalks;
- New leaves are produced in narrow rolled buds at the end of each shoot;
- Leaves may be variable in size, but all leaves big or small have a characteristic heraldic shield-shape with a slightly extended, pinched tip and in particular note the flattish 'cut-off' base of the leaf leading to a single corners at the end of the leaf base.

On the periphery of an established patch, new establishment has wiry, spreading, scarcely hollow stems, sometimes twining stems;



Adventive Growth



Japanese Knotweed Leaf Structure

Spread:

Japanese Knotweed flowers well, but does not produce viable seeds in Northern Ireland. Despite this, it has successfully become widespread in a relatively short time. If crowns are lifted and moved, they can become re-established; pieces of cut stem or cane can strike and form a new plant if discarded onto soil, but by far the most common way it spread is via underground stems called rhizomes. These are different from roots in that they have buds. As long as a section of detached rhizome has a bud, even a tiny fragment can regenerate a new plant.

Therefore collecting soil that has rhizomes and moving it to a new location is one sure way of illegally causing Japanese Knotweed to grow in a new location. This can be done not only by digging and dumping it, but as rhizomes are often in the surface layer of soil, by driving over soil with rhizomes or even walking over it if the ground is muddy – rhizome fragments can get lodged in mud, clinging to machinery or footwear. An undisturbed patch of Japanese knotweed will increase in size rather slowly, but if it is stressed (e.g. by cutting) it will 'run' by rapidly extending its rhizomes to as much as 7m from the parent plant, thus spreading the plant locally, and increasing the risk of it being transferred in soil to another location.

Control Methods:

It is recommended by many to excavating large volumes of contaminated soil, and take to deep fill landfill sites, however this is expensive and not a good use of our capacity for landfill in Northern Ireland. Therefore, unless there is a pressing need to excavate it e.g. in advance of a building or re-development project it is recommended to treat it in situ. Once Japanese Knotweed has been identified, it is best left undisturbed. **DO NOT** strim, mow, flail, break it down or otherwise damage the shoots or canes. This will only cause it to spread, and will result in regeneration.

Small plants

Small plants with relatively few canes exceeding 1cm in diameter can be treated by normal foliar herbicide application. Treatment by foliar application of glyphosate is effective, but probably not in a single season, eradication will likely require 2-4 seasons of treatment.

Two applications per season following the label instructions will help. Wait until the plant is in good leaf May/June before the first application, and delay the second application until September when rhizome uptake will be most effective.

As an alternative early-season Triclopyr may be used, however, Picloram is not recommended. It is not licensed for use near watercourses and remains active for several years, thus having a higher potential for ecological harm.

Picloram is widely used on Japanese Knotweed and may initially appears to be more effective as aerial growth is quickly suppressed, however it seems that the rhizome/crown is only kicked into dormancy but remains viable and regenerates 2-3 years later.

Large Plants

Once established as large patches with clumps of thick canes the plant will have a considerable underground presence, and spraying the leaves may only top kill it and keep

the plant in check. A more effective application is to inject the hollow canes close to the base of the plant with undiluted glyphosate. This introduces a comparatively massive dose of glyphosate directly into the underground parts. This can be carried out by specialized contractors or alternatively Council may prefer to train and equip in house staff

Injection is best done in June, when there are a good number of canes with a diameter > 1cm, but whilst there is time for follow up treatment in later in that season. In approximately 2 weeks, leaves will turn a custard yellow and drop off. For crowns with comparatively few canes compared to the underground mass, these may stay green and an additional dose will help. There will also be green leaves on small and sometimes twining shoots amongst the canes and especially at the stand edges where new plants are established – these are too small to inject and will need to be sprayed with a knapsack sprayer.

Japanese Knotweed often becomes established on the sides of watercourses from rhizome fragments that have been washed downstream. Treatment of these plants will require consent from DAERA.

Giant Knotweed (Fallopia Sachalinensis)

Locations

Found in similar locations to Japanese Knotweed this plant is much less widespread.

Recognition

In many respects, this plant is a larger version of the Japanese Knotweed. It dies back each winter and has jointed hollow canes. The canes commonly exceed 3m in height and the leaves are proportionately large, often in excess of 40 cm when fully extended. Like Japanese Knotweed it has a zigzag growth between the nodes, each node sheathed and bearing a leaf, it is often flushed red when young, and the recently emerged shoots are hard to tell apart. As the leaves mature though they quickly become hearth-shaped rather than shield shaped, i.e. with rounder lobes at the base of the leaf, and the deeper impressed leaf veins leave the surface of the leaf slightly crinkly.



Giant Knotweed - Early emergence



Giant Knotweed - Developing

(Young shoots with the heart-shaped leaves)

Spread

Unlike Japanese Knotweed, it does produce fertile seeds. However, there is no evidence that dispersal by seed is an important mechanism for this plant. Like Japanese Knotweed, the clumps expand by extending rhizomes underground, and like Japanese Knotweed; the moving of soil containing rhizome fragments to a new location is the main way in which new colonies are established.

Control Methods

As per instruction Japanese Knotweed

Himalayan Knotweed (*Persicaria Wallichii*)

Locations

It is widespread in the lowlands of the Mid Ulster Council area and is generally associated with roadsides and riverbanks where it can form very dense stands.

Himalayan knotweed grows best in unshaded areas or semi shaded areas like woodland edges or hedge bases but will not penetrate far into woodland or scrub areas. It is equally at home in the dry or damp soils but avoids peat.

Recognition:

Compared to the other two knotweeds on our target list, this is a diminutive plant in Northern Ireland. Many sources confirm that it grows to 1.8 m or more, however in Northern Ireland at least, the climate may not be as favourable and it generally will not be much more than 100 cm tall. In winter, the plants die back to brittle grey-brown stems that are easy to break. The ground will be covered by grey leaf litter. The stems when they appear in early spring are green, often banded reddish towards the tip. They will have conspicuous sheaths around the nodes along the stem that are at least 1 cm long and hairy; these will be retained through the summer. The stem slightly zigzags between large tapering spear-shaped leaves that are at least 3 times as long as they are wide. They are slightly hairy, at least on the underside, and often have a reddish leaf stalk and mid-rib. Small white to pink, and honey-fragrant flowers appear in late summer, usually in some profusion, making this plant stand out unmistakably. The only other plants that are likely to cause confusion in summer are related garden species, and these tend to be hairier and not grow as tall.



Himalayan Knotweed (1)



Himalayan Knotweed Flowers



Himalayan Knotweed Stems

Spread

Himalayan knotweed rarely produces viable seed probably because it flowers late in the year here, and some populations appear to be sterile. Once established it does spread via rhizomes and can take over flowerbeds, prompting gardeners to dig out clumps to make space for the other plants.

Plants can regenerate from rhizome fragments or stem fragments as short as 2 cm. The dumping of garden waste with live rhizomes or stems is believed to be the main mechanism by which it becomes established in new locations.

Himalayan Knotweed can still be bought as a garden plant. Once established as a garden escape, cutting of the plant in managed areas or the transferal of soil that includes rhizomes can cause the plant to spread to further locations.

Stem or root fragments can be spread in contaminated fill material. There is no clear guidance on how far the rhizomes extend, but this plant does not have the same underground presence as Japanese or Giant Knotweed, and in undisturbed stands are unlikely to spread more than 2m below ground.

Control

Small stands

Roots are shallow making it easy to pull up. Small populations of young plants can be removed by hand pulling or digging ensure that all rhizomes are removed. Regularly repeated cutting can eventually eliminate small stands. Plants should be cut close to the ground in April. It re-sprouts vigorously following cutting, especially early in the growing season and until at least August revisit and cut at least monthly through the summer. Expect 2- 3 years before the plant is eliminated, and keep checking for re-establishment after that. Where practical, small populations can be covered with heavy-duty black polythene after the first cut. The area covered should extend beyond the plant base for at least 2 m (preferably more) and must remain in place throughout the growing season and beyond. The site should be checked until at least September of the following year and again the following .All cut or dug material should be collected and disposed of where it will not re-grow. Composting it is a likely option.

Large stands

Large stands it may be necessary to resort to herbicide application. Glyphosate can be sprayed on the leaves in Spring and again in late summer, or alternatively cut the plants within three nodes of their bases in summer and brush the herbicide directly onto the cut portion as a 'stump treatment'.

Salmonberry (Rubus Spectabilis)

Location

Salmonberry is occurring in new locations at an alarming rate. It will tolerate a wide range of conditions with respect to soil type, wetness, and shade. This allows it to grow in poor soils on disturbed brownfield sites, spread through woodlands as an understory, and to grow in relatively upland and exposed peatland sites. Once it is in an area it is adept at local dispersal itself without the help of humans, so it can become increasingly frequent in the locality. In terms of the threat it poses to biodiversity, it is more of a problem than Japanese Knotweed

Recognition

Salmonberry is a multi-stemmed shrub with the woody stems (canes) that in a mature stand reach around 3m tall. Individual stems are usually biennial. They are deciduous and the leaves fall in late-October. Over the winter a few of the older canes will die, but most shoot again the following year, to be joined by a crop of new canes. It is related to Bramble but is generally more erect. The thorns of bramble are also very different – Salmonberry thorns, if present are much smaller and more crowded. Another common and closely related species Raspberry (*Rubus idaeus*) can sometimes have similar thorns. In the winter it is possible to confuse poorly developed Salmonberry and well-developed Raspberries. Salmonberry is generally thornier, and mature stems often develop light russet tones but thorn development and stem colour are variable. In the summer, Salmonberry leaves are a bright green – lighter in shade than bramble, and importantly green underneath, lacking the white felted under surface of raspberry. Salmonberry leaves have an extra lobe, like a 'thumb', with either pink flowers very early in the summer or orange (not pink) fruits later on.



Winter Stems



Salmonberry (but it's not always as thorny as this)



Salmonberry Seedling



Bramble Seedling



Salmonberry Young Leaves



Salmonberry Young Berries

Spread

Salmonberry is fertile i.e. it produces viable seeds. Many sources indicate that fruit production is low, and this is certainly true in less-favourable exposed or shaded locations, but in sunny lowland areas, seed production can be prolific on canes around the periphery of stands. Seedling establishment is a significant factor in its local dispersal. Seeds seem to be bird-spread, with new plants often appearing below bird perches in woodland/scrub edges and isolated shrubs in the locality of well-established fruiting stands. Although most seed germination occurs during the first growing season, seeds may remain viable for several years. Once established, spread of Salmonberry stands is through rhizome extension, above ground creeping stems and layering of arching stems, perhaps supplemented by seed drop. Salmonberry can sprout from stem base, root crown, root stock or from rhizomes (underground stems). These regenerative structures are capable of relatively rapid production of aerial stems.

The rhizome network is complex and extensive. Rhizome diameters range 5-50mm and younger rhizomes can have buds every 1cm. Most are close to the surface, but they commonly extend to 30 cm and can reach depths over 100 cm. Normally the speed of spread is slow, although it exhibits a vigorous rhizome growth response to fire or mechanical removal when annual growth rates of 190 cm have been recorded. In Northern Ireland, rhizomes seldom seem to extend more than 1m from an aerial stem, though in extensively managed or unmanaged open to semi-shaded habitats, this spread can be relentless. Thus movement of soil from within 2m of a Salmonberry stand, even if it appears not to be fruiting, can illegally cause a new stand to become established wherever that soil is dumped or used.

Control

Cutting of Salmonberry encourages new and vigorous growth. Grubbing out will not kill it, and may transfer it to another site. Burning does not kill it. The most effective approach is likely to require the use of herbicides. In general, Triclopyr are usually regarded as most effective herbicides for woody species. However, glyphosate has been shown to be more effective on Salmonberry, and has less potential environmental impact.

It is not a safe or even practical proposition to spray tall dense stands that are above head height. The patch should be marked in summer, and re-visited in winter with a brush cutter and the winter canes cut to the ground. Cut canes can be left on site until they are clearly dried out and brittle. Cut stumps will regenerate vigorously the following year and can be treated from Mid-June onwards once the leaves have fully unfurled and present a dense canopy with a high leaf surface area to receive the spray. This is likely to be effective at killing the mature plant in a single season, but subsequent revisits the following early summer should check for new seedling establishment as well as for re-sprouting from the stumps. New seedlings and small plants are very easily killed with a single Glyphosate application. It may be prudent to allow any regeneration to grow on a bit before re-treating.

Giant Hogweed (Heracleum Mantegazzianum)

Location

This plant is often associated with riverbanks because the rivers can readily disperse the buoyant seeds, however it is by no means confined to riverside habitats, and will occur on roadsides waste ground, parkland and woodland etc... It is a lowland plant and will tolerate significant shade. Plant growth can be rapid and once a colony is established, expansion into adjacent habitats can be prolific. A flowering plant produces many seeds and can rapidly become a significant invasive colony.

Recognition

The native Hogweed (*Heracleum sphondylium*) is common and widespread in the lowlands. It can grow too as much as 2m, but this will be where surrounding vegetation lends it support, and the stem diameters will be little more than 2 cm wide. More commonly, it is around 100 cm tall. Giant Hogweed is usually 2m or more tall when mature, and the stems are much stouter, usually in excess of 5 cm diameter. An established colony that has already flowered is identifiable year-round – although the plant dies back to ground level each year, it leaves these dead hollow stems in place, bleached to an off white colour, often standing throughout the following winter.



Giant Hogweed (Note the A4 clipboard for scale)

If there are no stems to identify, the leaves are distinctly different, native Hogweed leaves are hairier, giving them a softer grey-green look, compared to the nearly hairless upper leaf surface of Giant Hogweed. The outline of the leaf lobes of native Hogweed are also blunter than they are in Giant Hogweed. Native hogweed stems are also hairy, the downward pointing white hairs nearly obscuring the stem. The sparser bristly white hairs of the Giant Hogweed stem arise from swollen purple bases – this is another good characteristic. New establishment (year 1 seedlings, year 2 plants) early in the year may superficially resemble our native Hogweed. If there is doubt, visit later in the year.



Giant Hogweed Leaf



Native hogweed leaf (internet source - Picture by Andrea Moro)



Giant Hogweed Stem



Seedling Establishment Seedling

Spread

Giant Hogweed reproduction and spread is solely by seeds. Most germinate after a single winter, but around 8% remain dormant and some can remain viable in the soil for six or more years. Seeds germinate as early as March. Following germination in year 1, seedlings grow to usually <45 cm in the first season, and over- winter as a large tap root with a terminal bud that will form the following year's shoots, which grow considerably bigger. Flowering begins in early May and peaks in late June. By the end of August, most seeds have ripened and dispersed. The mature plants die after flowering, but the dead stem holds the seeds aloft often more than 3m above the ground, and it is from this height that the dropped seeds scatter when winds shake the plant. Soil from within at least 4m of the nearest plant potentially has seeds scattered over the surface, and bear in mind they can float, so they could be washed further from the parent plant.



Seeds

Look a bit like sunflower seeds

Any activity that moves soil with seeds in it to a new location, such as excavation and removal, sweeping, driving over the area, or walking over the area in muddy footwear can all potentially create a new plant and a new problem in a new place.

Control

Cordon off areas where seeds are likely to occur and take whatever additional measures seem to be necessary to keep seeds in the locality. Duckboards, bog mats, or other temporary roads may need to be installed if access is an imperative. In some places where killing off the knotweed will expose sloping bare soil, it may be prudent to install temporary soil stabilisation measures, or find a more permanent solution such as 'soil nailing' or geotextiles.

Treatment of Giant Hogweed is a major commitment; total elimination should be the target. No plants must be allowed to set seed during the treatment period of 4-6 years until the seed bank is exhausted. Allowing mature seeds to fall will replenish the seed bank and extend the required treatment period. Control is preferably achieved by mechanical methods - protective clothing must be worn to prevent any contact between skin and sap (see Health and Safety section below). Seedlings and young plants can be hand-pulled.

Larger plants can be killed by digging them out. This is best done early in the year (starting in

February) when new growth is still small. Hogweeds are in the Carrot family, and below ground, a large plant will resemble a bunch of pale carrots. Below large plants the 'carrots' can be around 10 cm thick. The taproots should be cut 8-12 cm below ground level to remove the growing crown (the thick stem base with leaf scars from previous seasons growth) then the plant will not recover. The cut part of the plants should be removed from the soil and left to dry. Unfortunately, not all plants emerge at the same time and re-visiting the colony up until mid- July to repeat the procedure on newly emerged plants will be necessary



Early Season 2nd Year Plant

Cutting plants at or above ground level will not remove the crown thus allowing the plant to regenerate. Giant Hogweed often follows a biennial life cycle in Northern Ireland, i.e. flowering in year 2 then dying. It can take longer before flowering, and if it is cut *whilst* flowering, it will regrow from the root crown the following year, and in successive years until it has flowered. However, cutting is a way of keeping it in control by ensuring that new seeds are not set. Using a lopping saw on the end of a long telescopic handle is a reasonable method. Where the soil is not suitable for cutting the plants underground, e.g. if it is growing in rubble, or in an area with a lot of tree roots, and where establishment is too dense to contemplate hand pulling year 1 plants.



Prolific regeneration

If mechanical means of control are not considered suitable, then early-season glyphosate application is known to be moderately effective, apply between March and early June when hogweed leaves are green, actively growing and not too tall. A follow-up treatment, in July or August, will be needed to treat re-growth. During this follow-up treatment remove any flower heads present to decrease next year's seed source. Giant Hogweed plants can be sprayed later in the season as long as they are still green and not dying back. Do not expect to kill the underground parts in a single season. Treatment of the same plant may need to be repeated in subsequent years. All visits should include the removal of any newly established (Year 1) plants. These can be pulled or sprayed with a herbicide application. If an area is required for a development, which will require excavation in the Hogweed area, and there is no time to kill off the plants first (which is likely) then ideally re-design the project to avoid the Hogweed area. Otherwise a management plan should be compiled which could include scraping the area and removing the soil (with seeds) to a deep fill landfill site, or burying it elsewhere in the locality.

Health and Safety

Do not underestimate the potential health threat posed by this plant and its injurious effects. Touching the plant is painless, but contact with the sap (which is exuded onto the plant surface), can lead to severe photo-induced dermatitis, and light sensitivity lasting for years. Full PPE should be worn leaving no skin exposed. In particular long industrial nitrile gloves however try to avoid touching the plant – use a cloth to pull seedlings and young plants. Be aware of the cross contamination risk posed by rubbing uncover areas such as eyes – ensure eyes cannot be rubbed with sap-covered gloves. Goggles are also advised. Working on plants early in the year before they are established are an effective way of controlling risk. Ensure risk assessment is complete with all operatives aware of control procedures. As part of the risk assessment clean water is should be available in the likelihood of accidental exposure Where Giant Hogweed is located on Council Property in areas with free public access, consider roping the standoff and posting signs

Himalayan Balsam (*Impatiens Glandulifera*)

Location

Himalayan Balsam also known as Indian Balsam is principally a riverside or streamside species, but it has also colonised areas well away from any watercourse, particularly in woodlands. It can form extensive and dense stands, particularly in semi-shade where it can out-compete most native species. It is widespread throughout lowland. Although it is common on riverbanks, it will not grow where it is normally inundated. It grows particularly well in damp soils and will thrive in soils that are rich or poor in nutrients. A problem often attributed to Himalayan Balsam is that as it is an annual plant, it dies back in winter leaving no roots to bind the soil, which may then become vulnerable to erosion, particularly in riverside stands.

Recognition

This species is only recognizable when it germinates in March and April; the seedlings have distinctive pale green kidney-shaped seed leaves, and a reddish edge to the first true leaves. These grow quickly in the late spring developing rather translucent, and brittle green fleshy stems, large spear-shaped pointed leaves with regular small teeth fully around teeth around their margins, each tooth carrying a small globular 'gland'. There will be plants of different sizes in a stand of Himalayan Knotweed, with some becoming distinctly stocky, whilst others do not prosper and fade away. Typically, the larger plants that do make it will reach heights in excess of 100 cm. The whole plant has a slightly unpleasant sweet balsam smell that help confirms its identification. Once the plants produce flowers and seedpods there is no mistaking them, and the complex helmeted flowers in various shades from white through to purple make the plant easy to spot as well as easy to identify.



New Germination – Himalayan Balsam



Mature Growth – Himalayan Balsam

Spread

Seed dispersal is relatively efficient, with seeds 'pinging' up to 6m from the plant. They are mercifully short-lived in the seed bank, most only viable for a single year and none for more than three years. A single large plant can produce thousands of seeds, so spread can be prolific if they land in suitable locations. A suitable location is generally one that is disturbed, with plenty of bare moist soil. Thus in areas where work has recently been undertaken and where Himalayan Balsam was present. Soil from within 7m of the nearest plant should be regarded as potentially infested with seeds – less if it is upslope from the plant, and more if it is downslope, particularly if there is a pathway for seeds to be washed downslope in surface water. Thus, movement of soil from within 7m of a Himalayan Balsam plants that have set seed can start a new colony in a new site, and once again, seeds can be transported in mud clinging to machinery or to footwear.

Control

Even for the heavily infested areas, it is normally recommended that control be gained by mechanical methods to prevent seed production rather than by herbicide application. Although glyphosate is known to be effective, the plants are brittle and easy to scythe or strim, shallow-rooted and easy to uproot. The best time for cutting is when flowering has commenced, hence the plants are tall, colourful and easy to spot, but obviously before any viable seed is produced - between mid-June and mid-July. Cutting before mid-June results in the re-growth of plants, which develop flower heads that produce greater numbers of seeds than uncut stems. If there is access, a mower, or power scythe may be a quick way to dispense with the bulk of the stand.

The seed is short-lived, two years of intensive and thorough treatment should achieve a very dramatic reduction in the presence of Balsam, making the subsequent effort required in year 3 trivial in comparison to the first two years. Be aware that in typical waterside stands, there are likely to be untreated stands upstream from the council property, and hence a supply of new seeds each autumn carried downstream and deposited on the river bank.

Invasive Species Register And Action Plan

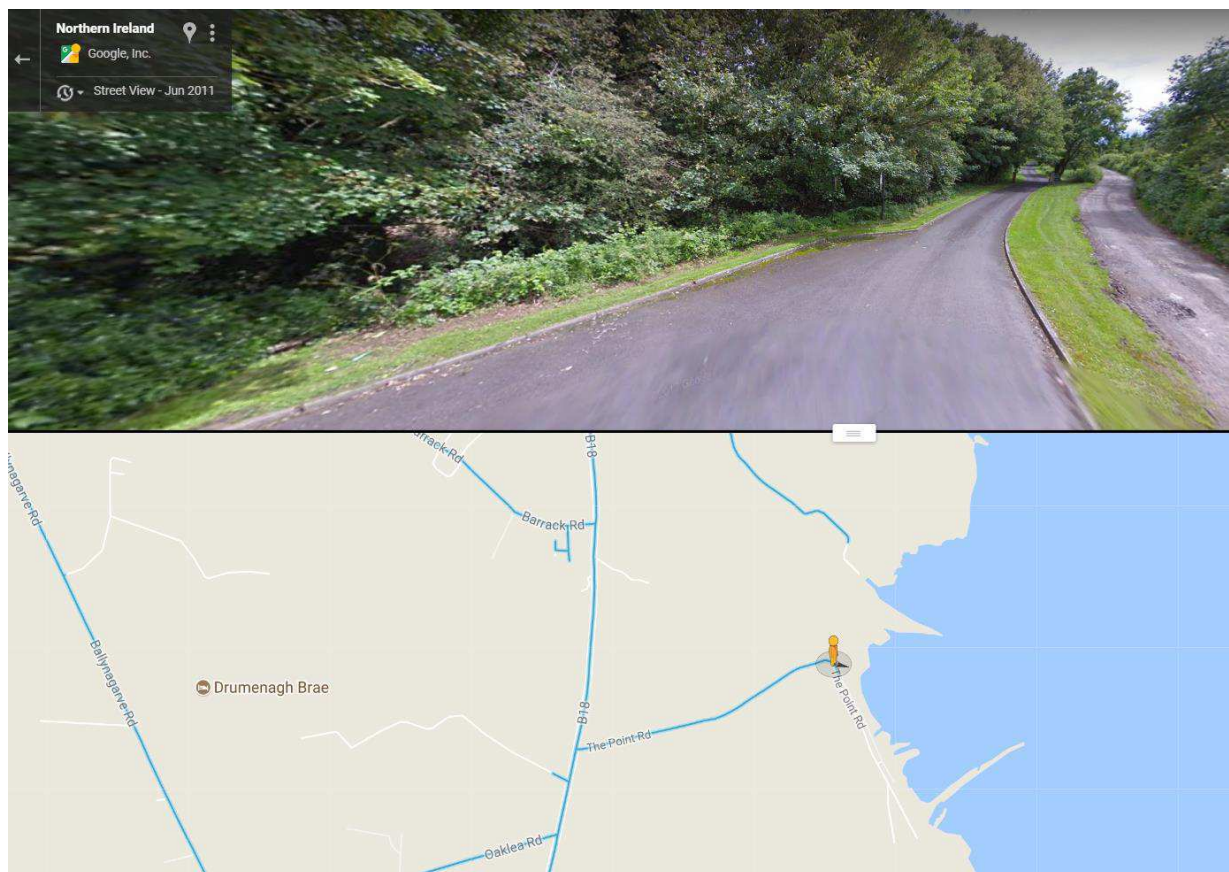


Identified Council sites with invasive species

- 1 Traad Point / Nature Reserve, Point Road, Ballyronan.
- 2 Polepatrick Cemetery/ Nursery, Castledawson Road, Magherafelt
- 3 Tobermore Driving Range, Maghera road, Tobermore.
- 4 Moykerran Woodland, Moykerran Crescent, Draperstown.
- 5 Swatragh Play area, Carhill Road, Swatragh
- 6 Riverside Park, Main Street, Coagh.
- 7 Cookstown Council Offices, Burn road, Cookstown.
- 8 Battery Harbour Building, Battery Road, Coagh.
- 9 Cabin Wood, Tullywiggan road, Cookstown
- 10 Ballyronan Wood, Shore Road, Ballyronan.
- 11 Railway Yard, Molesworth Road, Cookstown.
- 12 Blackhill, Drum Road, Cookstown.
- 13 River Blackwater Slipway, Charlemount Street, Moy.
- 14 Coalisland Canal, Lineside, Coalisland.
- 15 Brewery Lane, Donaghmore.
- 16 Washing Bay, Ballybeg Road, Coalisland.
- 17 Railway Park/Linear Park, Railway Road, Dungannon.
- 18 Drumcoo Park, Oaks Road, Dungannon.
- 19 Anne Street Carpark, Anne Street, Dungannon.
- 20 Dungannon Leisure Centre, Circular road , Dungannon
- 21 Moygashel Play Area, Ardmore Terrace, Moygashel
- 22 Washingford, Dungannon, Railway Road, Dungannon.

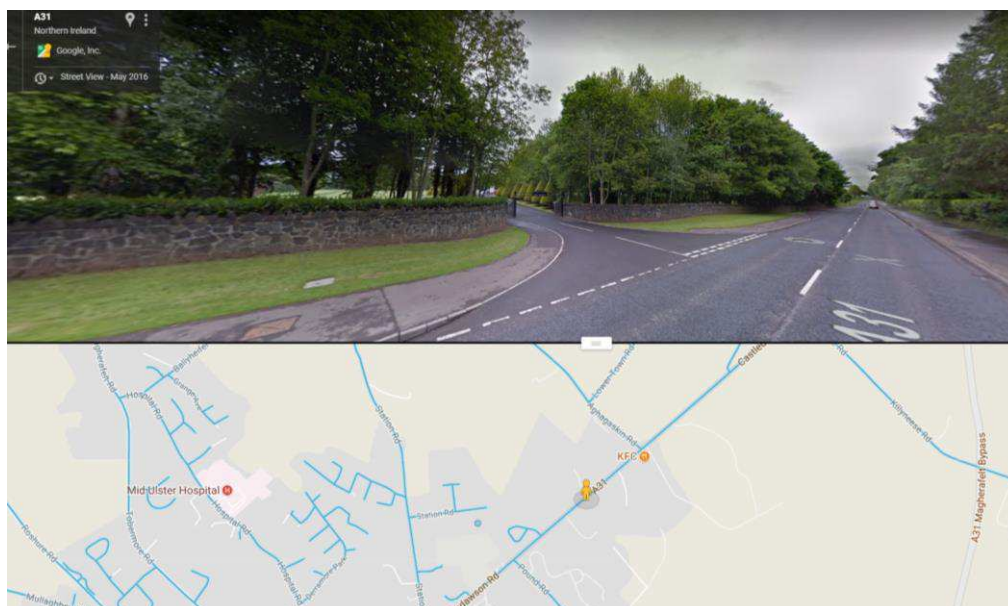
1) Traad Point / Nature Reserve, Point Road, Ballyronan.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Hard Surface	Japanese Knot weed	Treated with glyphosate	Treat with combination of glyphosate stem injection and spray	June September
Scrub land	Himalayan Balsam	Treated with glyphosate	Cut and remove were assessable and Bi annual treatment of glyphosate	June September
Wetlands	Giant Hogweed	Treated with triclopyr	Removal by mechanical means were accessible and treat with glyphosate	February
Wetlands	Himalayan Balsam	Treated with glyphosate	Cut and remove were assessable and Bi annual treatment of glyphosate	June September



2) Polepatrick Cemetery/ Nursery, Castledawson Road, Magherafelt.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Woodland	Giant Hogweed	Treated with triclopyr	Removal by mechanical means were accessible and treat with glyphosate	February



3) Tobermore Driving Range, Maghera road, Tobermore.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Woodland	Giant Hogweed	Treated with triclopyr	Removal by mechanical means were accessible and treat with glyphosate	February



4) Moykerran Woodland, Moykerran Crescent, Draperstown.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Woodland	Himalayan Balsam	Treated with glyphosate	Cut and remove where accessible and Bi annual treatment of glyphosate	June September



5) Swatragh Play area, Carhill Road, Swatragh.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Woodland	Giant Hogweed	Treated with glyphosate	Removal by mechanical means were accessible and treat with glyphosate	February
Wetland	Himalayan Balsam	Treated with glyphosate	Cut and remove were assessable and Bi annual treatment of glyphosate	June September



6) Riverside Park, Main Street, Coagh.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Grassland	Giant Hogweed	Treated with glyphosate	Removal by mechanical means were accessible and treat with glyphosate	February
Riverside	Himalayan Balsam	Treated with glyphosate	Cut and remove were accessible and Bi annual treatment of glyphosate	June September



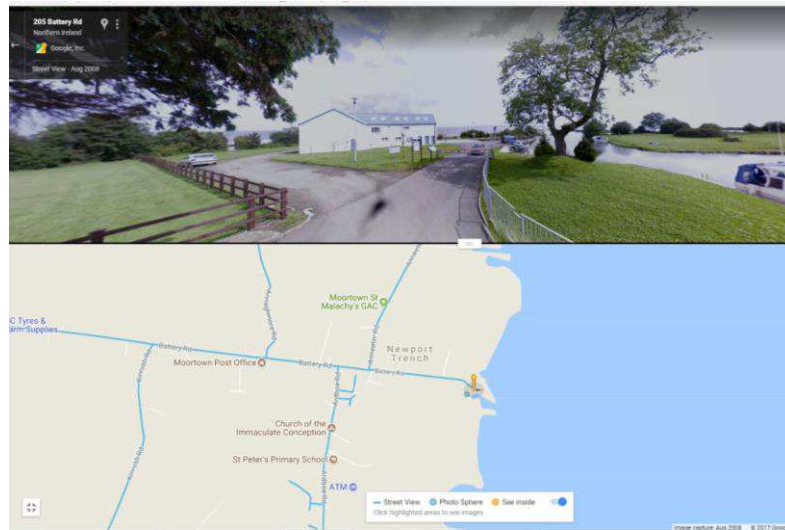
7) Cookstown Council Offices, Burn road, Cookstown.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Grassland	Japanese Knotweed	Outside council boundary	Treat with combination of glyphosate stem injection and spray	June September



8) Battery Harbour Building, Battery Road, Coagh.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Wetlands	Japanese Knotweed	Treated with glyphosate	Treat with combination of glyphosate stem injection and spray	June September



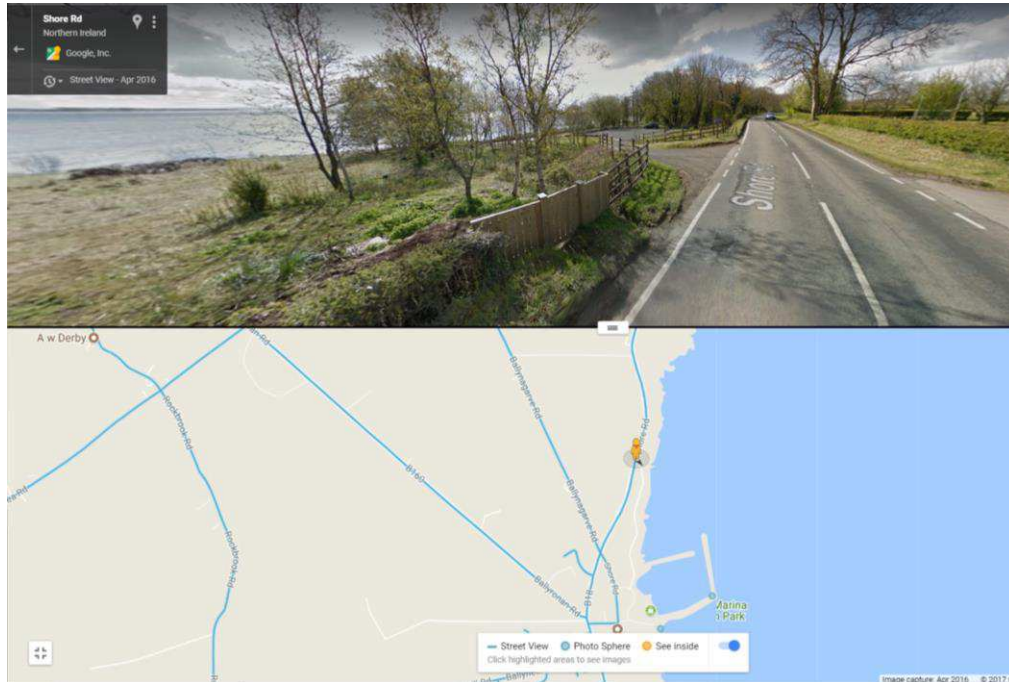
9) Cabin Wood, Tullywiggan road, Cookstown

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Woodland	Giant Hogweed	Removed and Treated with glyphosate	Removal by mechanical means were accessible and treat with glyphosate	February
Woodland	Japanese Knotweed	Treated with glyphosate	Treat with combination of glyphosate stem injection and spray	June September



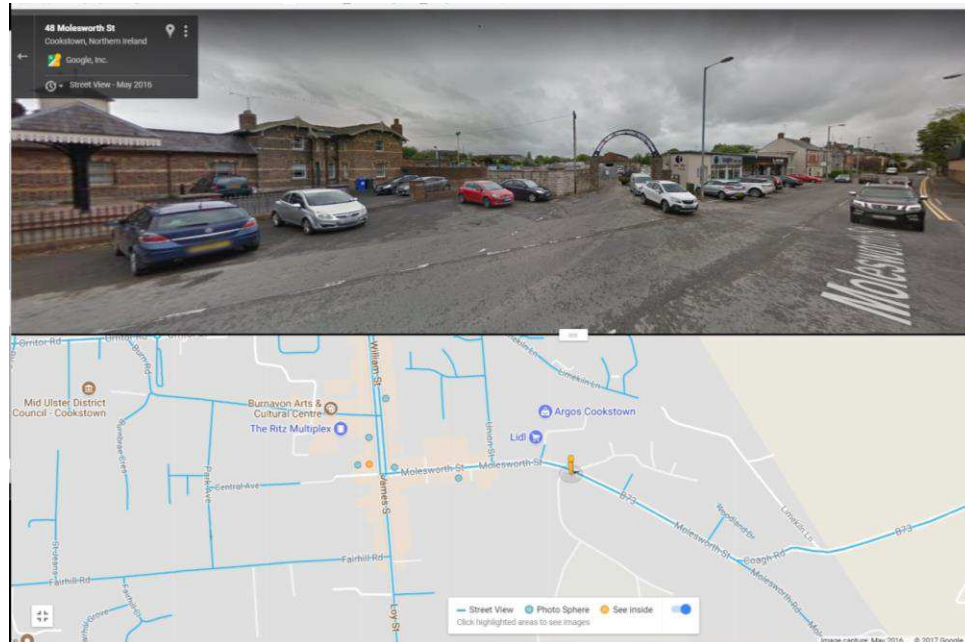
10) Ballyronan Wood, Shore Road, Ballyronan.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Wetlands	Himalayan Balsam	Treated with glyphosate	Cut and remove were assessable and Bi annual treatment of glyphosate	June September



11) Railway Yard, Molesworth Road, Cookstown.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Scrub land	Japanese Knotweed	Treated with glyphosate	Treat with combination of glyphosate stem injection and spray	June September



12) Blackhill, Drum Road, Cookstown.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Wetlands	Giant Hogweed	Removed and treated with glyphosate	Removal by mechanical means were accessible and treat with glyphosate	February
Wetlands	Himalayan Balsam	Treated with glyphosate	Cut and remove were assessable and Bi annual treatment of glyphosate	June September



13) River Blackwater Slipway, Charlesmount Street, Moy.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Wetlands	Giant Hogweed	Treated with glyphosate	Removal by mechanical means were accessible and treat with glyphosate	February
Wetlands	Himalayan Balsam	Treated with glyphosate	Cut and remove were assessable and Bi annual treatment of glyphosate	June September



14) Coalisland Canal, Lineside, Coalisland.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Waste Land	Giant Hogweed	Treated with glyphosate	Removal by mechanical means were accessible and treat with glyphosate	February



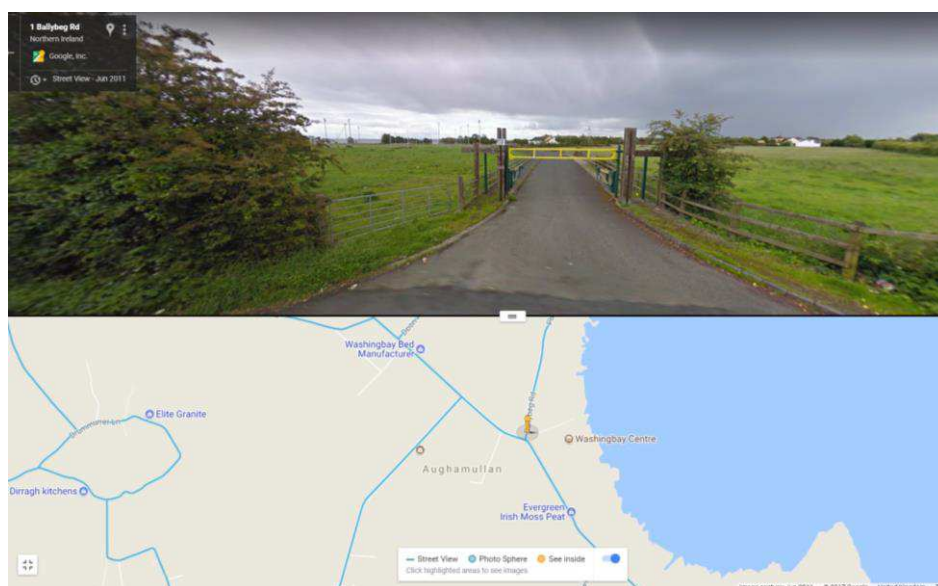
15) Brewery Lane, Donaghmore.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Grassland	Giant Hogweed	Treated with glyphosate	Removal by mechanical means were accessible and treat with glyphosate	February



16) Washing Bay, Ballybeg Road, Coalisland.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Wetlands	Himalayan Balsam	Treated with glyphosate	Cut and remove were assessable and Bi annual treatment of glyphosate	June September



17) Railway Park/Linear Park, Railway Road, Dungannon.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Parkland	Japanese Knotweed	Treated with triclopyr	Treat with combination of glyphosate stem injection and spray	June September



18) Drumcoo Park, Oaks Road, Dungannon.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Woodland	Japanese Knotweed	Treated with triclopyr	Treat with combination of glyphosate stem injection and spray	June September



19) Anne Street Carpark, Anne Street, Dungannon.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Grassland	Japanese Knotweed	Treated with triclopr	Treat with combination of glyphosate stem injection and spray	June September



20) Dungannon Leisure Centre, Circular road , Dungannon

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Scrub land	Japanese Knotweed	Treated with triclopr	Treat with combination of glyphosate stem injection and spray	June September



21) Moygashel Play Area, Ardmore Terrace, Moygashel

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Woodland	Japanese Knotweed	Treated with triclopr	Treat with combination of glyphosate stem injection and spray	June September



22) Washingford, Dungannon, Railway Road, Dungannon.

SITE DESCRIPTOR	TARGET SPECIES	ACTION TAKEN	CONTROL PROGRAM	WHEN
Scrub area	Japanese Knotweed	Treated with triclopr	Treat with combination of glyphosate stem injection and spray	June September

