

Native Trees – Characteristics, Tolerances & Site Suitability

**Supporting information/guidance in relation to
Trees & Development Supplementary Planning Guidance**

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***Prepared by: Planning & Development
The Moray Council
Contact: (01343) 543451***

Common name (Latin name)	Characteristics	Tolerances & Site Suitability
Common Alder (<i>Alnus glutinosa</i>)	<ul style="list-style-type: none"> - Alders are short-lived (about 150 yrs), medium to large (15-20m) deciduous trees. - Alders are fast-growing (90cm/yr in young trees) and they typically have a conical growth habit as single-stem specimens. - They are also available in a multi-stem form, due to their habit of producing 'suckers'. - Alders produce catkins and cones. The yellow catkins make a colourful display in early Spring and the empty cones are a distinctive feature from Winter through to Spring. - The Alder will attract wildlife, playing host to a large number of insects and many species of lichen, with Goldfinches attracted to its cones in Winter. 	<ul style="list-style-type: none"> - An Alder's natural habitat is boggy land and riverbanks. It therefore flourishes in moist, clay soils in areas of high rainfall - However, the Alder will also grow at elevations up to 500 metres in <i>any</i> soil type and it will enrich the soil with nitrogen as it grows. - They are not generally recommended for planting in dry, sandy situations as they are prone to dieback and have limited growth potential. - Alders, as pioneer species, thrive in open, well-lit conditions. They are particularly useful for establishing initial growth on poor, acid soils. - Alder is a useful species to plant where the ground is liable to flood, as it survives many weeks with its roots underwater. Its deep roots are also good for stabilising riverbanks - Alders tolerate air pollution and enjoy the 'pioneer' conditions presented by urban planting schemes (parks, roadsides, large gardens). - They are most effective when planted in single species clumps of 5-10 trees. - They are useful for screen planting due to their dense deciduous form, retaining their leaves well into the autumn. - Alders are useful for providing ongoing visual/biodiversity interest in a planting scheme over the longer term.
Common Ash (<i>Fraxinus excelsior</i>)	<ul style="list-style-type: none"> - The Ash is a very tough, medium sized tree (10-15m). - It is a fast growing and long-lived deciduous tree, with a life potential of 300 years. - It has a fine elegant, upright structural form. - The Ash produces vast quantities of fertile seed. It is widespread at low elevations and associated with oak, birch, elm, hazel, privet, willow and aspen. Ivy is a common companion plant. - Ash have invasive, shallow root systems. - The Ash is one of the last trees to burst its buds in the Spring and one of the first trees to lose its leaves in the Autumn. 	<ul style="list-style-type: none"> - Ash thrives on most soils but prefers moist, neutral, rich soil. - Its shallow, invasive roots make it unsuitable for planting close to buildings/services/utilities etc. - It will not thrive in dense planting schemes, where it is overshadowed, as it is light and nutrient hungry. - Ash are suitable for planting in a hedge or specimen trees in parkland and along highway verges, as they are elegant and fast-growing, thrive in an open situation and tolerate air pollution. - It is, however, not very useful in screen planting, due to its form and relatively short period in leaf. - Ash will tolerate windswept, exposed sites, such as coastal locations, but they are not a good tree for the first line of defence in a shelter-belt. - Young Ash need protection from the wind in exposed sites in order to establish rapidly, so tree shelters should be considered. - Ash are good trees for open, mixed woodlands although they need plenty of room to develop to their full potential and accommodate their shallow invasive roots. - Ash make fine individual specimen trees or avenues in the open countryside, as they enjoy the open, well-lit situation and are relatively quick to establish an elegant form in a landscape context - Ash seeds encourage birds (bullfinches) and small mammals. It is a good companion tree for ivy.

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Aspen (<i>Populus tremula</i>)	<ul style="list-style-type: none"> - Scotland's only native poplar, the Aspen is a medium sized (15-20m) tree, which is relatively slow growing and short-lived (100 years). - Aspen roots have the unusual ability of staying alive underground after the death of the parent tree, and rapidly, vegetatively reproducing new 'trees' (called ramets) which remain interconnected through their root system ('the clone'). This 'clone' is thought to be able to survive 10,000 years or longer. - Both male and female trees producing catkins in early Spring, attracting a range of insects, before the leaves appear. However, despite flowering, seed production by aspen rarely occurs in Scotland and vegetative propagation is hence the main method of reproduction. - Aspen are one of the last trees to break bud (May/June). They have distinctive 'trembling' leaves, which turn bright yellow in the Autumn. - They can be found growing in association with ash, oak and birch. 	<ul style="list-style-type: none"> - The Aspen is a resilient survivor, which has a wide tolerance in terms of soil, climate, exposure and water conditions. However, Aspen do not grow well on newly consolidated slopes, fly ash or shales. - The Aspen's invasive and widespread root system, light-demanding nature and propagative methods make it unsuitable for planting in confined spaces or close to services and structures. - It is ideal for large, open sites including urban parks and in the countryside where it provides a trembling splash of Autumn colour, growing well on both coastal and exposed, upland sites. - Aspen are an excellent pioneer species, as they are fast growing, wind tolerant and light-demanding. They also regenerate, vegetatively, profusely after disturbance of a site. They are a particularly useful pioneer species in damp, harsh conditions. - Aspen's vegetative reproduction method and need for light make it an appropriate and useful species for the edges of semi-natural woodlands. - Aspen a useful species to plant where grazing damage is likely, due to their propensity to regenerate readily. - Aspen rarely sets viable seed in Scotland, so the origin of the trees needs to be checked carefully to ascertain they are of Scottish origin or provenance.
Birch - Silver Birch (<i>Betula pendula</i>) - Downy Birch (<i>Betula pubescens</i>)	<ul style="list-style-type: none"> - Birch are hardy, short-lived (around 50-80 years), small to medium sized (about 15-20m) trees, which grow at a very fast rate once established (up to 2.6 metres per year). - There are 3 species of native birch, two of which are appropriate for planting in Moray – Silver and Downy Birch. - Both single and multi-stemmed (coppiced) varieties of Birch are elegant and striking with their white trunks, diamond marking and semi-weeping habit. - Birch can make a striking and elegant contribution to the urban and wider landscape throughout the year, but more particularly in the Winter when their bark reflects the changing colours in the winter sunshine. - Birch casts light shade, allowing ground flora to develop. Lichens are an associated species. The seeds attract birds, redpolls especially, and red squirrels. The leaves support over a hundred species of insects. 	<ul style="list-style-type: none"> - Birch grow well on most soil types and are particularly good in light, sandy soils or acid soils, but do not thrive in compacted soils. - They will grow in both wet and relatively dry conditions, although Silver Birch prefers dry conditions and Downy Birch prefers wet. - They also tolerate cold/exposed sites and, as such, are useful pioneer species. They regenerate profusely after disturbance. - As is characteristic of pioneer trees, however, they are light demanding with a preference for open sites. - They make an elegant show either as a single specimen or planted in a small clump. - Birch can be successfully integrated in more informal settings using coppiced/multi-stemmed trees. - Very suitable for all sizes of parks and gardens as long as sited away or protected from uses/activities that could cause compaction around the roots. - Birch are excellent pioneer species in a woodland context – particularly visually effective when planted <i>en masse</i>. - Birch are tolerant of exposed locations and their light-loving habit lends them to planting as single specimens or in clumps in the open countryside. - Birch is a valuable tree for planting to encourage wildlife. It is fast growing and quickly provides dappled shade and a mass of seeds, leaves and bark which are attractive to/conducive to other wildlife.

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Bird Cherry (<i>Prunus padus</i>)	<ul style="list-style-type: none"> - The Bird Cherry is a small (10-15m), deciduous tree with a low-branching, rounded form. - It is short-lived (up to 50 years) and has a moderate growth rate. - It is notable for its creamy white long spikes of fragrant flowers in late Spring. - Clusters of small, black, edible berries also appear in late Summer attracting frugivores, particularly birds. 	<ul style="list-style-type: none"> - It will grow on chalky or clay soil - It tolerates damper more acidic conditions – i.e. it is suitable for planting near water - It prefers sunnier sites but will tolerate semi-shade - It does not thrive in coastal or exposed sites - It tends to grow naturally in large clumps but can grow equally successfully trained as a single stemmed standard for more formal use. - Suited to urban planting – parks and gardens (including small gardens) due to its ornamental, compact form. - Suitable for planting in the urban streetscape it should, however, not be planted to overhang paths (due to fruit dropping and presenting a potential hazard) - Suitable for group plantings in woodland - Its flowers attract insects; its cherries attract birds/other frugivores.
Blackthorn (<i>Prunus spinosa</i>)	<ul style="list-style-type: none"> - Blackthorn is a small (5m+) and lived deciduous tree/shrub with a slow to medium growth rate - Blackthorn gets its common name from its prickly branches and black bark - Blackthorn grows naturally in hedgerows, woodland edges and as scattered patches in the open on hill-sides. It has a dense form and spreads out over an area by producing suckers (vegetative propagation). - Blackthorn produces white flowers in early Spring, before the shrubs' leaves unfurl. - It produces large, fleshy, black fruit, often with a bloom, follow and remain for most of the winter while ripening. 	<ul style="list-style-type: none"> - Light, dry or heavy ground and acid or alkaline soil – not waterlogged - It prefers to be in the open, tolerating exposed/windy/coastal sites. - Blackthorn is suitable for planting as part of a native hedging mix. - It is a useful tree for planting along the woodland edge or to cover a bank or slope. - It prefers moist but well-drained, moderately fertile soil in full sun, and dislikes wet ground. - Blackthorn makes a particularly hardy, attractive, multi-functional hedgerow. Blackthorn prickles spear litter and so planting them in litter prone areas such as slip roads, lay-bys or along footpaths should be avoided. - Makes an effective, dense hedgerow useful as a windbreak or for screen planting for fields and rural housing (with larger gardens). - Also a useful shrub or hedge (screen/windbreak) in a well-drained open area of a park or large garden but, due to its thorns, best kept away from paths and play areas etc. to avoid causing harm and to avoid litter build up issues. - Blackthorn produces suckers and so is good value for money in semi-natural self-sustaining woodland. - A valuable tree from a biodiversity perspective, blackthorn's early flowering attracts insects, its fruits are a valuable food source in winter and provides sheltered habitat
Crab Apple (<i>Malus sylvestris</i>)	<ul style="list-style-type: none"> - The Crab Apple is a reasonably fast-growing, medium sized (10-15 m) and relatively short-lived deciduous tree. - It produces dense clusters of pale pink flowers in Spring followed by green crab apples in autumn - The masses of 'crabs' provide food for birds well into the winter. - Crab apples are good pollinators for 	<ul style="list-style-type: none"> - Crab Apple prefers well-drained, fertile (chalky) soils, but will also grow well in heavy soils. It should not be planted on poor, dry soils as they are prone to pest and disease under these conditions. - It is a light-demanding tree that does not thrive in shady sites. - It also prefers sheltered sites and will not thrive in a coastal, windy or exposed location - Crab Apple is an underused small tree that could add greatly to the amenity and wildlife value to a variety

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	fruiting apples.	<p>of sheltered but well-lit locations in countryside and town.</p> <ul style="list-style-type: none"> - It is appropriate in urban sites such as parks and larger gardens and in roadside planting for providing colour, interest and biodiversity value.
<p>Elm</p> <ul style="list-style-type: none"> - Wych Elm (<i>Ulmus Glabra</i>) - English Elm (<i>Ulmus procera</i>) 	<ul style="list-style-type: none"> - Wych Elm is Scotland's only native Elm. - Elms are slow-growing, long-lived trees (up to 500 yrs), which can grow very tall (up to 40m) in more sheltered areas but remains a shrub on more exposed sites. - It is often found in mixed woods with Whitebeam and small leave Lime; also in Oak and Ash woods. - It attracts early insects and provides food for red squirrels. - Dutch Elm Disease-resistant varieties (non-native) of Elm are generally recommended for planting in Moray, although a strategy of repeated coppicing of the Elm, when the disease strikes, can prolong the life of the tree so that it may still make a significant contribution over time. 	<ul style="list-style-type: none"> - Elms are likely to be most successful in more exposed sites, where the conditions discourage the insects that carry the Dutch Elm disease. - Elm requires non-calcerous topsoil. It prefers drier sites but should not be planted in <i>very</i> dry soil. - It is, typically, a hedgerow tree but can be found at elevations up to 300m. - Elm dislikes atmospheric pollution, - Elm provides dappled light within woodland context, important for promoting diverse ground flora. - As feature trees and in hedgerows in the countryside elm can make a significant contribution. - Elm, given their potential size, can make a large and long-lasting contribution to urban parks where sufficient space is available. - The disease resistant varieties should be considered for specimen planting and avenues/hedgerows. - Elm attracts red squirrels and insects
<p>Gean or Wild Cherry (<i>Prunus avium</i>)</p>	<ul style="list-style-type: none"> - Gean (Wild Cherry) are fast growing, medium sized (10-15m) trees with a relatively short life of around 60 years. - They have a broadly rounded form with an abundance of white blooms in Spring (attracting insects), fruit in late summer (attracting birds), fiery red leaves in Autumn and a distinctive coppery bark. - The fallen leaves in Autumn have a distinctive scent of marzipan. - Gean tend to be 'clump' forming through growth from root suckers. - It has a very invasive and shallow rooting system. 	<ul style="list-style-type: none"> - Gean prefer chalky soil and do not like damp sites. - Gean prefer more sheltered locations and are not suitable for coastal or exposed sites - Gean are easy to establish and due to their fast growth can make an early impact in any planting scheme, attracting a variety of wildlife - Gean are ideally suited to parks and for larger gardens (away from services/buildings due to invasive roots; not overhanging paths due to fruit being slip hazard) - Gean is a useful component of a semi-natural woodland, as it multiplies itself by producing root suckers and is consequently excellent value for money. Caution must be taken so that it does not become over dominant in the long term. - Gean's all year round aesthetic contribution through bark, fruit, flowers and leaves can make a significant and early contribution to any park, wide roadside or new development's planting scheme.
<p>Common Hawthorn or Quickthorn or May (<i>Crataegus monogyna</i>)</p>	<ul style="list-style-type: none"> - Common Hawthorne is a small (up to 10m) but long-lived (up to 250 yrs) deciduous tree, with a medium growth rate. - It is dense-leaved and thorny with a short trunk, making it an ideal refuge for small birds. - It has distinctive small, white, fragrant flowers in May/June and small, red fruits (haws) in Autumn. - The fruit provides a feast for wild birds. 	<ul style="list-style-type: none"> - Hawthorne is a useful, versatile plant for most soil types/conditions. - It does well in most soils, including very dry and wet soils; both clay and chalk soils. - It also thrives in cold, exposed and coastal locations. - Particularly suitable for hedging in both urban situations and the open countryside, due to - Its tolerance of air pollution and its dense, compact form make it ideally suited for a variety of urban settings including small gardens, but particularly as a hedge (screen/windbreak). - Due to its thorns, it is best kept away from paths and play areas etc. to avoid causing harm and to avoid

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		litter build up issues. - Ornamental flowers and fruits make an attractive contribution to the amenity of any site - Flowers and fruit attract birds and insects through the summer/autumn and the Hawthorne hedge provides ideal habitat/shelter for birds.
Hazel (<i>Corylus avellana</i>)	- Hazel is a small (6-10m), short-lived (50-80 yrs), deciduous tree - It often forms the understorey component of deciduous forest, especially with oaks, ash and birch. - The male produces catkins in February and the female, red flowers which attracts insects. It has smooth and shiny, grey/brown bark. - Hazelnuts are food for a range of wildlife	- Hazel prefers relatively rich soils and does not thrive on acid soils - Hazel will not thrive in damp or coastal sites, although it is useful in other exposed/windy areas. - Its multi-stemmed habit makes it good for coppicing, which increases its life expectancy - Very useful for forming hedges in urban or rural areas - It is an appropriate species to use in a mixed woodland.
Common Holly (<i>Ilex aquifolium</i>)	- Holly is a hardy, long-lived (250-300 yrs), slow growing, evergreen tree, which grows to around 10-15m in height. - It forms a single or multi-stemmed small, conical tree or a hedge which both provide year-round interest. - It has prickly lower leaves, red berries and dense foliage making it ideal for birds to feed and nest in - Holly produces small white flowers in Spring with distinctive red berries forming in late Summer and persisting through winter. - It can also reproduce vegetatively, by means of shoots (suckers) growing off the root system of a tree.	- Holly grows on a wide range of soil types - from calcareous to poor and acid. - It is very shade tolerant, and so suited to growing as an understorey tree in woodlands e.g. oakwoods - It does not grow well in poorly drained soil and it dislikes exposure near the coast. - It is particularly suitable for sheltered and shaded areas of small or large gardens and parks, where it provides year-round ornamental and functional value as hedging and pollarding. - Note that a tree shelter is useful for encouraging the rapid establishment of holly in more open sites. - Holly supports biodiversity by providing useful winter food for deer and food/shelter for birds - It does not transplant readily and needs to be container grown for planting schemes.
Juniper (<i>Juniperus communis</i>)	- Juniper is small (5-10m) and relatively short-lived (100-120 yrs) evergreen tree. - It is slow growing generally (3-5 cm/yr) but, in good conditions, up to 28 cm/yr. - Juniper can be erect and columnar or bushy and spreading with needle/scale-like leaves. - It produces flowers and berry-like cones, which provide food for birds.	- Juniper is able to grow on both acid and alkaline soils, but prefers sandy/loam soils and can grow at varying elevations. - It is shade-intolerant, preferring open and even exposed, cold locations. - It is useful as an ornamental tree in a small or large garden or for use as a dense hedge in urban or rural locations. - It provides useful cover for birds and small mammals and is useful as a winter roost for birds. - Juniper is useful in rural locations as it responds well to grazing. - It is a useful pioneer species for longer-term rehabilitation in open, degraded and disturbed sites as it will grow on low-nutrient soils and is useful for preventing soil erosion.
Oak - Sessile or Durmast Oak (<i>Quercus petraea</i>)	- Oaks are large (20-40m), oval shaped deciduous trees, which are slow-growing (in early years) and very long-lived (500-1000 yrs). - There are two native oaks: Common & Sessile. - Both species can achieve a huge girth	- The Common Oak prefers clays and damp lowlands and will tolerate flooding, even by seawater, when mature. - The Sessile Oak prefers more acidic soil. It is more shade tolerant and hardier than the Common Oak. - In appropriate ground conditions and especially in a mixed woodland situation, oaks will grow

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-Pedunculate or Common Oak (<i>Quercus robur</i>)	<ul style="list-style-type: none"> of trunk (up to 10m). - They have large spreading, gnarled branches that produce substantial domed crowns - trees are often wider than they are tall. - Squirrels, jays and other small mammals enjoy the acorns of the oak - It also plays host to insects, birds, fungi and lichen and provides dead wood. 	<ul style="list-style-type: none"> surprisingly quickly in their early years. - Oak is a good choice for windy or coastal locations - Oaks prefer sites at elevations of less than 300 metres. - Longer life may be achieved by coppicing of the oak over long periods of time. - Oaks make wonderful avenues or individual specimen trees – but design aspirations should be realistic and take into consideration the time taken for oaks to develop into maturity. - Both species of oak make good companions with holly, honeysuckle and ivy. - The oaks' biodiversity value in a planting scheme over time is undisputed – providing food and shelter to a wide array of wildlife.
Rowan / Mountain Ash (<i>Sorbus aucuparia</i>)	<ul style="list-style-type: none"> - Rowan is a small (10-15m) fast-growing (10-15m in height) but short-lived (100 yrs) deciduous tree. - It can be multi-stemmed or single stemmed in form - It bears ornamental white flowers in spring and red berries in late summer - Grows naturally in pine, oak and birch woods, as clumps or in association with rural dwellings - Commonly grows in mountainous terrain 	<ul style="list-style-type: none"> - A pioneer species (preferring open ground), rowan is reliable and resilient and regenerates profusely after disturbance - It grows up to 1000m altitude and in all soils except heavy clay and calcareous soils - Rowan does not like excessive reflective heat and light e.g. planting within paved areas - Best planted in parkland, wide verges or large gardens - It produces the best autumn colour in colder, acidic soils. - Suitable for confined spaces, poor soils, rock outcrops, upland burn sides and reclaimed ground. - Being partially shade-tolerant rowan makes a good woodland edge species and can grow under a birch canopy. - Mixes well with birch, alder, holly, wild cherry and goat willow.
Scots Pine (<i>Pinus sylvestrus</i>)	<ul style="list-style-type: none"> - Scots Pine, Britain's only native pine, is a large, long-lived (250-300 yrs) evergreen tree, growing up to 45m high (average of 20-25m). - It has a broadly pyramidal crown with distinctively crooked branches and a strong and extensive root system. - Pine woodlands support a rich assortment of wildlife notably capercaillie, blackcock and red deer. - Red squirrel, coal tits, goldcrests and crossbills all feed on or around Scots pine. 	<ul style="list-style-type: none"> - Scots Pine prefers light, sandy, well-drained mineral soil and is able to grow in infertile ground. - It is light-demanding and drought resistant and dislikes salt spray. - A useful tree for all-round value - function, amenity and wildlife. - Suitable for parks and woodland planting - Appropriate tree for cold and exposed locations (but not at the seaside) and useful for forming shelterbelts - It looks most impressive when planted in clumps on mounds and crags (as it occurs naturally) - The strong root system is useful for preventing erosion in poor soils. - It needs recently disturbed ground to colonise naturally. - Useful as a 'nurse' species. - Grows well when planted as a companion plant with birch and improves the transplanting performance of the birch.
Whitebeam (<i>Sorbus aria</i>)	<ul style="list-style-type: none"> - Varieties of Common Whitebeam are small to medium sized (from 10 to 20 m), sturdy, deciduous trees with a generally compact, rounded form - They are slow growing and sort 	<ul style="list-style-type: none"> - Whitebeam tolerates most soils including dry limestone and chalk soils - They prefer full sun or lightly dappled shade - Useful in the countryside as a woodland edge tree or in hedge lines.

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	<p>lived, with a lifespan of about 80 years</p> <ul style="list-style-type: none"> - They are at their most attractive in Spring – when silvery-white leaves emerge from purple shoots - They bear white flowers in late Spring and orange-red, cherry like fruits in Autumn 	<ul style="list-style-type: none"> - A good tree for streets, gardens and parks in and around urban areas as it is an attractive, compact tree that tolerates atmospheric pollution. - Grows well in cold, exposed and coastal sites - Useful for shelterbelt planting - Ornamental and trainable they can be used to create ‘living’ sculptures/structures such as arches. - Need to be planted with other species or they have a tendency to be top-heavy and infirm
<p>Willow</p> <ul style="list-style-type: none"> - Bay Willow (<i>Salix pentandra</i>) - Crack Willow (<i>Salix fragilis</i>) - Goat Willow (<i>Salix caprea</i>) - White Willow (<i>Salix alba</i>) 	<ul style="list-style-type: none"> - Tree willows are generally fast growing, but short lived (up to 70 years) and deciduous. - Native tree species include white, bay, goat and crack willows - All species produce catkins in Spring; their mature bark is furrowed; branches are long and slender - White and Crack willows are tall (20m+) - Bay and goat willow are small/medium sized (10-15m) - Crack willows are longest lived (around 200 years) - Crack and Goat willows fruit in May/June 	<ul style="list-style-type: none"> - All willows prefer damp sites but thrive on most soils – goat willow is most versatile and can be used in woods and hedgerows and up to 600m elevation - Good choice for coastal areas and water-side plantings – will tolerate sites where temporary flooding occurs - Not suitable for planting close to housing as roots are invasive (can affect drains) - Useful for parks – particularly bay willow with its more compact form. - Not suitable in urban areas where there is a concentration of air pollution e.g. roadside planting beside busy roads - High biodiversity value due to supporting a wide variety of native insects (and hence food for birds and bats) - Useful for bioengineering work – bioremediation of contaminated soil - Can be used to create ‘living’ walls – providing rapid ‘screening’/windbreaks – and sculptures/structures such as arches.