



Glen Innes Natural Resources Advisory Committee and New England Weeds Authority

PRIORITY WEEDS OF GLEN INNES SEVERN

IMPACT - IDENTIFICATION - SPREAD

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Front and back cover images by Lyle Radford.

LEGEND

FORM OF PLANT



Grass, Shrub, Herb, Water plant

APPROX HEIGHT/WIDTH



Approximate vertical height and horizontal canopy width of an adult plant

ANNUAL/PERENNIAL



Annual: A plant completing its life cycle in a single season

Perennial: A plant living for three or more seasons and normally flowering and fruiting in the second and subsequent seasons

FLOWERING PERIOD



Autumn, Winter, Spring, Summer
Flowering season is bright orange

WEED DISPERSAL

Weeds typically produce a large number of seeds, assisting their spread and rapid invasion into disturbed and degraded areas.

Seeds can be carried by birds, animals, humans, vehicles, machinery, wind and water into natural environments, including waterways.

Human activities, and the introduction of animals such as pigs, rabbits, cattle, horses and goats create ideal conditions for weed growth. They contribute to soil disturbance, loss of plant cover, soil compaction or changed burning patterns.

Movement of plant material and seeds will continue with increased level of trade, tourism and development. Successful weed management can only occur through a coordinated regional approach.

As such, cooperative management is fundamental to achieving the goal of reducing weed impacts. It aims to:

- Prevent the introduction and establishment of new pests;
- Limit the spread of established pests; and
- Reduce the impact of infestations

Understanding the life cycle and methods of dispersal of the priority weeds of Glen Innes will greatly assist in minimising the extent and risk of spread.

LOCAL WEED ASSISTANCE



GLENRAC
02 6732 3443
www.glenrac.org.au



New England Weeds Authority
02 6770 3602
www.newa.com.au

WEED HYGIENE

Weeds are frequently introduced into clean areas in contaminated soil, seed, mulch, potted plants or on unclean machinery and tools. Thorough cleaning of vehicles, machinery and equipment before leaving an infested area will reduce the risk of weed seed spread.

Everyone has the potential to spread weeds. You can help prevent this by:

- Cleaning your equipment, boots, vehicles and machinery before you leave a known weed infested area
- Checking before you buy plants for your garden that you are not purchasing an invasive species. If the plant that you were planning to purchase is on a weed list, buy a similar non-invasive plant instead
- Good pasture management to provide competition to weeds
- Reducing soil disturbance – using minimum tillage and application of mulch to prevent weed establishment
- Asking for a weed hygiene declaration when buying any product that could be contaminated with weed seed

WEED PREVENTION AND CONTROL

Preventing new weeds from becoming established is Australia's best defence against invasive weed species. While it is impossible to stop every potential weed from introduction, effective management with a view to containment is necessary to reduce the risk of escape into the environment.

Weeds should be controlled as soon as possible to prevent further spread. There are currently a number of control methods available for the treatment of weeds including mechanical, chemical, biological, slashing, burning and hand removal practices. Integrated weed management (IWM) combines multiple weed control options to reduce weed densities and should be adopted as a long-term sustainable approach to weed management.

Many noxious weeds are toxic and many cause allergies, therefore anyone working in weed management should wear the appropriate protective clothing, including long sleeves, long pants, boots and gloves (when handling chemicals). When using herbicides always follow the instructions carefully and adhere to the mix rate to maximise efficacy and safety. To determine which chemical is registered for a particular weed, check the Australian Pesticides and Veterinary Medicines Authority website on **www.apvma.gov.au**

THE BIOSECURITY ACT 2015

The Biosecurity Act 2015 has repealed the Noxious Weeds Act 1993, which had provided regulatory controls and powers to manage noxious weeds in NSW.

The Biosecurity Act 2015 streamlines and modernises the way weeds are managed in NSW as it:

- Embeds the principle of shared responsibility for weed biosecurity risk across government, community and industry
- Applies equally to all land in the state regardless of whether it is publicly or privately owned
- Is premised on the concept of risk so that weed management investment and response is appropriate to the risk
- In keeping with its premise that biosecurity is a shared community responsibility, the Act introduces the legally enforceable concept of a General Biosecurity Duty

GENERAL BIOSECURITY DUTY

The General Biosecurity Duty (GBD) means that any person dealing with plant matter must take measures to prevent, minimise or eliminate the biosecurity risk (as far as is reasonably practicable).

A GBD applies to all weed species regardless of whether they are listed in this booklet or not.

'Dealing' has a broad definition in the Act and the GBD applies equally to a carrier of plant matter and to any person who knows or ought to know of the biosecurity risks associated with the activity. In general, if you deal with or carry plant matter as part of a commercial, professional, volunteer or recreational activity or lifestyle, you would be considered to know or ought to know the risks.

Plant matter includes plants, parts of plants and seeds.

Biosecurity is everyone's responsibility and further explanation of the GBD is available from the Local Land Services website and local offices, Local Government and NSW Department of Primary Industries (NSW DPI).

REGIONAL PRIORITY WEEDS

A number of invasive plants have been identified as of particular concern in the Northern Tablelands and North West regions. The biosecurity impact of these weeds varies across the region, so an objective and repeatable risk assessment was conducted.

CATEGORY	OBJECTIVE	WEEDS IN THIS CATEGORY
Prevention	To prevent the weed species arriving and establishing in the region.	These species are high risk (highly invasive and high threat) and have a high likelihood of arriving in the region due to potential distribution and/or an existing high-risk pathway. These species are not known to be present in the region.
Eradication	To permanently remove the species and its propagules from the region, OR to destroy infestations to reduce the extent of a weed in the region, or a part of it, with the aim of local eradication (extirpation).	These species have a high weed risk and very high feasibility of coordinated control. These species are present in the region to a limited extent only, and the risk of re-invasion is either minimal or can be easily managed.
Containment	To prevent the ongoing spread of the species in all or part of the region.	The species has a limited distribution. Regional containment strategies aim to prevent spread of the weed from an invaded part of the region (core infestation), and/or exclude the weed from an uninvaded part of the region (Exclusion Zone).
Asset Protection	To prevent the spread of the species to key sites/assets of high economic, environmental and/or social values if spread has already occurred.	These weed species are wide spread and unlikely to be eradicated or contained within the wider regional context. Effort is now focused on reducing threats to protect priority high value assets.



Image: Soils for Life



Image: You Say Snowy Monarto

AFRICAN LOVEGRASS

Eragrostis curvula

G



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THE IMPACT

African Lovegrass takes over pastures and disturbed areas. It degrades pastures due to its poor levels of nutrition for livestock. There are seven types of African Lovegrass in Australia.

HOW DO I IDENTIFY IT?

Leaves:

- are dark green to blue-green
- are 3 mm wide
- have rolled edges

Flowers are:

- grey or greyish-green when young
- straw-coloured when mature
- usually present in summer

Stems are:

- slender
- erect
- sometimes bent at the nodes

Seeds are:

- about 1 mm long
- clustered at the end of the stems
- in groups 6–30 cm long

HOW DOES IT SPREAD?

Each seedhead can produce 300 to 1000 seeds. Seeds have high viability in the first year and after 5 years, more than half of the seeds are still viable. Some seed can remain viable for up to 17 years.

Seed spreads:

- short distances by wind
- between paddocks by livestock
- along roads by machinery and vehicles
- in hay and fodder



Images: Harry Rose

BAHIA GRASS

Paspalum notatum

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THE IMPACT

Bahia Grass has a low to moderate feed quality in summer and once frosted off has very poor feed quality. It can become weedy and replace more nutritious pasture species on better soils in higher rainfall areas. It grows in dry conditions but is sensitive to frost.

HOW DO I IDENTIFY IT?

Leaves:

- arise from short, upright shoots from the nodes
- have 4-8mm wide blades which are 20-30cm long when mature
- have sheaths along the lower leaves which are usually white with a distinctive purplish coloured tinge

Stems are:

- thick and fibrous with short internodes
- held flush within the soil by deep fibrous roots

Seedheads:

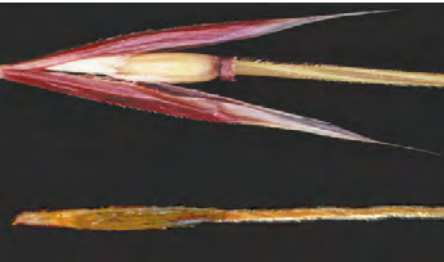
- have 2-3 racemes forming a 'V' shape
- are 5-12cm long, turning black when anthers and stigmas
- have spikelets that occur in 2 rows and are 2.7-4mm long
- are hairless, elliptical in shape and shiny

Seeds are:

- light brown in colour
- clustered at the end of the stems
- flat on one side, rounded on the other

HOW DOES IT SPREAD?

Bahia Grass spreads slowly but surely. Poor seedling competitiveness limits spread, but once plants are established, they spread strongly by virtue of the stout prostrate runners, and strong root system. Seed is spread through animal manure.



CHILEAN NEEDLE GRASS

Nassella neesiana

G



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THE IMPACT

Chilean Needle Grass takes over pasture, can halve productivity during summer, injures animals eyes, downgrades wool, pierces hides, can affect meat quality and reduces biodiversity.

HOW DO I IDENTIFY IT?

Leaves:

- are flat
- coarse or ribbed on the surface
- 1-5 mm wide
- with a small tuft of hairs at the junction of the leaf blade and leaf sheath

Seeds are:

- pale brown when mature
- 8-10 mm long
- held inside two purple coloured structures 16-25 mm long called glumes
- very sharp at the end joining the stem

Chilean Needle Grass has a long bristle called an awn attached to the end of the seed further from the stem.

The awn is:

- 6-9 cm long
- twisted when dry
- straight or with one or two distinctive bends
- surrounded by a corona of small teeth at the seed join - corona teeth are 1 mm long

HOW DOES IT SPREAD?

Animals, vehicles, and machinery spread Chilean Needle Grass seeds. The hairs at the sharp end of the seed anchor into in wool or fur. Seeds can stay attached to animals for months. Hay baled from paddocks with Chilean Needle Grass may contain seeds. Seed comes from the flowers and along the nodes of the stalks. Seeds can spread in floodwaters, and are only rarely dispersed by wind.



COOLATAI GRASS

Hyparrhenia hirta

G



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THE IMPACT

Coolatai Grass is an invasive drought, fire and herbicide tolerant tussock forming perennial grass. It is one of the few perennial grasses capable of invading undisturbed natural ecosystems and is a major threat to natural biodiversity in stock routes, nature reserves and National Parks.

HOW DO I IDENTIFY IT?

Leaves are:

- greyish green in summer
- orange/red in winter
- flat
- 2-3mm wide

Seeds are:

- up to 35mm long
- attached to bracts 3-8mm tall

HOW DOES IT SPREAD?

Seed sheds quickly on maturity. The hairy, awned seeds readily adhere to the hair and wool of animals, clothing and is easily caught on and in vehicles. Along roadsides the seed is spread by the common practice of slashing for 'road safety'. The light weight of the seed also spreads by passing vehicles, particularly trucks. Cattle are known to graze the heads of Coolatai Grass and it is assumed that some Coolatai Grass seed will survive the digestive track of cattle.



Image: Land for Wildlife



Image: Land for Wildlife

GIANT PARRAMATTA GRASS

Sporobolus fertilis

G



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THE IMPACT

Giant Parramatta Grass can dramatically decrease economic viability of grazing land and lower land values. It invades pastures and replaces more productive types of grass, especially after overgrazing or soil disturbance.

HOW DO I IDENTIFY IT?

Giant Parramatta Grass is a coarse tussocky grass, 70-160 cm in height.

Seed heads are:

- up to 40cm long and 1-2cm wide

Stems:

- grow in a fan-like arrangement and the leaf-sheaths are folded

Leaf blades are:

- up to 50cm long and 1.5-5mm wide

Flowerheads are:

- dark slaty green, dense with a spike-like panicle 24-45cm long with branches usually lax at maturity and sometimes diverging slightly

Spikelets are:

- 1.5-2mm long

HOW DOES IT SPREAD?

Giant Parramatta Grass produces a large amount of seed that is dispersed by water, wind and machinery. At maturity seeds become sticky and can attach to hair or fur. Plants are capable of producing 85,000 seeds per square metre.



Image: DPLPWE



Image: John Tanno



SERRATED TUSSOCK

Nasella trichotoma

G



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THE IMPACT

Serrated Tussock is a drought tolerant grass with low feed value. It takes over pastures and native vegetation and is not palatable to stock. Animals grazing on it become malnourished. Serrated Tussock can contaminate hay and grain.

HOW DO I IDENTIFY IT?

Leaves are:

- whitish at the base, looking like shallots
- tightly rolled, narrow and stiff
- upright
- serrated, felt when drawing the leaf between your fingers

Seedheads are:

- on a spike that leans over
- clustered in a group up to 35cm long
- branched with a single flower on each branch
- wrapped in red/brown bracts

Seeds are:

- in a seed head on the flower spike
- golden brown
- hard and small, 1.5mm long
- with a ring of white hairs where they connect to the plant
- with an awn 25mm long, offset from the centre at the other end

Roots are:

- deep
- fibrous
- difficult to pull out of the ground even when plants are small

HOW DOES IT SPREAD?

Serrated Tussock seeds can spread long distances by wind and water. Ripe seed heads break at the base and are carried long distances by wind 10 km or more if conditions are favourable. Seeds also spread by feed, animals and machinery. Animals can pick up seeds in hooves, fleeces or coats. Serrated Tussock seeds remain viable even after passing through an animal's gut.



Images: Colophonla Star



WHISKEY GRASS

Andropogon virginicus

G



P



THE IMPACT

Whiskey Grass invades open woodlands, grasslands, forests and other native vegetation in eastern Australia. It prefers very open sunny areas and is particularly common along tracks and roadsides.

HOW DO I IDENTIFY IT?

Stems are:

- branched and mostly hairless
- reddish-brown when older or brownish-orange in summer

Leaves have a:

- hairy to hairless leaf sheath partially enclosing the stem and a spreading leaf blade that is flat or folded, 10-40cm long and 2-5mm wide
- where the leaf sheath meets the leaf blade there is a small membranous structure topped with hairs

HOW DOES IT SPREAD?

The light seeds may be easily spread by wind and water and can also adhere to animals, clothing and vehicles. They are also commonly dispersed to new areas when seeding plants are slashed or mown, and can also move longer distances in contaminated soil and agricultural produce.



Images: NSW Department of Primary Industries



BLACKBERRY

Rubus fruticosus spp. agg.

S



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THE IMPACT

Blackberry is a prickly, scrambling shrub that forms impenetrable thickets that block access to humans and livestock. It quickly infests large areas and takes over pastures, is unpalatable to most livestock, reduces native habitat and fuels bushfires.

HOW DO I IDENTIFY IT?

Leaves are:

- alternate along the stem
- dark green on top, lighter green underneath
- covered in short, curved prickles
- absent in winter in cool climates

Canes are:

- up to 7m long
- verticle, arched or growing along the ground
- covered in sharp prickles
- green, purplish or red

Flowers are:

- white or pink
- 2-3cm diametre
- on the end of canes
- from late Nov-late Feb

Fruit:

- dark coloured berries
- 20-30 seeds per fruit

Roots are:

- woody
- in a crown up to 20cm wide
- main root up 4m deep

HOW DOES IT SPREAD?

Blackberry produces a lot of seed. There can be up to 13,000 seeds per square metre under a Blackberry bush at the end of a fruiting season. Birds and animals feeding on the berries spread the seeds in their droppings. Seeds also spread by water and with soil.

Vegetatively:

When first year canes (primocanes) touch the ground, they sprout roots and become new 'daughter' plants. The next year, primocanes produce short canes with flowers and berries on the end.



Image: Nature and Garden



Image: Denny S



Image: Denny S

BROOM - SCOTCH + CAPE

Cytisus scoparius, *Genista monspessulana*

S



P



THE IMPACT

Broom is an evergreen shrub that competes with native plants and can alter the natural ecosystem or reduce stocking rates. Broom forms dense thickets which can block access by humans whilst also harbouring feral animals. Broom is also toxic to humans if ingested.

HOW DO I IDENTIFY IT?

Leaves are:

- shortly stalked
- softly hairy with three leaflets per leaf
- middle leaflet is up to 20mm long, other leaves are shorter

Stems:

- are woody
- have numerous branches
- upper stems usually have five pronounced ridges

Flowers are:

- yellow and pea-like
- 2-2.5cm long
- occurring singly or in pairs

Seedpods are:

- brown to black and pea-like
- hairy along the margins
- up to 7cm long and 1.3cm wide
- containing 5-22 seeds

Seeds are:

- yellowish-brown to olive green
- oval shaped up to 4mm long
- smooth, round and slightly flat

HOW DOES IT SPREAD?

Brooms spread seed by soil, water, machinery, footwear, stock and wildlife. The ability of the plants to shoot their seed some metres away allows infestations to thicken quickly and to spread, particularly along watercourses. Their pods burst open in hot weather during spring and summer, scattering seeds up to several metres from the plant. Seeds of these species have a hard coat that can delay germination for months or years, allowing large seed banks to develop. Seed can remain viable in the soil for many years and significant germination can occur after fire.



BLUE HELIOTROPE

Heliotropium amplexicaule

H



P



THE IMPACT

Blue Heliotrope competes with desirable pasture plants and causes toxicity to stock. It is widespread and adaptable to a wide range of soil and climate types. It is also extremely drought hardy.

HOW DO I IDENTIFY IT?

Leaves are:

- alternate
- dull green
- soft
- tapered at both ends

Stems are:

- many, hairy and branched
- radiating from woody roots
- highly aromatic

Flowers are:

- bluish-purple with yellow centre
- in dense clusters along one side of a coiled stalk

Roots:

- have a strong, slender taproot, generally extending to over 1m
- woody
- have a complex system of lateral roots occurring at several depths

HOW DOES IT SPREAD?

Blue Heliotrope is adapted to a wide range of habitats, and can reproduce from both seed and root fragments. Blue Heliotrope spreads aggressively, as it produces many sticky seeds that adhere to animals and machinery. Seed can pass unharmed through the digestive tracts of most animals. Blue Heliotrope can also regenerate from root fragments. It is most commonly spread by road graders, farm machinery, livestock, humans and the movement of water along watercourses.



Images: Harry Rose



FIREWEED

Senecio madagascariensis

H



A/P



THE IMPACT

Fireweed invades pastures and can poison livestock, possibly resulting in death. It reduces productivity and is difficult to control.

HOW DO I IDENTIFY IT?

Fireweed plants are 10–60 cm tall. Most Fireweed is low growing, with many branches. You can see most stages of the plant (seedlings to flowering) at almost all times of the year. Flushes of seedlings appear after rain in warm weather.

Leaves are:

- bright green
- fleshy and narrow
- 2-7cm long, 3-10mm wide
- staggered
- serrated, smooth or lobed
- clasped around the stem when large

Seeds are:

- small and light, 1-3mm long
- attached to fine, white feathery hairs

Flowers are:

- small, yellow and daisy-like
- 1-2cm across
- in clusters at the ends of branches
- often with 13 petals per flower
- emerging from a small cup of modified leaves
- 0-200 flowers per plant

Roots are:

- fibrous, 10-20cm deep
- branched from a taproot

HOW DOES IT SPREAD?

Wind spreads the light, fluffy seeds. Most seeds fall within five metres of the parent plant. Some seed travels further on windy days. Spreading beyond one kilometre is more likely through livestock, wild animals, clothing, vehicles and machinery, contaminated hay, silage and grain products. Do not bale pastures with Fireweed for silage or hay.



Image: Tamar Valley Weed Strategy



NODDING THISTLE

Carduus nutans subsp. nutans

H



A/P



THE IMPACT

Nodding Thistle is an aggressive competitor of pastures. It occurs in dense patches and is not readily grazed by most stock because of its spiny foliage. Its presence also discourages animals from grazing other neighbouring pasture plants and it can affect movement of stock.

HOW DO I IDENTIFY IT?

Leaves are:

- in a flat rosette when young
- dark, shiny green
- often with a whitish mid-vein

Stems are:

- light green with a prominent white central vein when older
- deeply lobed
- usually only with one stem arising from rosette, branching profusely 20-30cm
- slightly downy with spiny wings

Flowers are:

- deep red, pink or purple
- tubular with a musky fragrance
- formed in a large head 1.2-4cm
- drooping at right angles to the stem

Seeds are:

- grey to yellowish-brown
- 3-4mm long
- topped by white hairs that detach readily when mature

HOW DOES IT SPREAD?

Nodding Thistle can only reproduce by seed, with most falling close to the parent. Long distance dispersal of viable seed by wind can occur, but is rare. Seed can also be dispersed in mud, agricultural seed and fodder and by water, vehicles, machinery and livestock.



Images: WeedWise



Image: Invasive Species Org



PARTHENIUM

Parthenium hysterophorus

H



P



THE IMPACT

Parthenium weed grows quickly and outcompetes other plants for nutrients and moisture. It causes human and animal health problems, is unpalatable to stock, reduces carrying capacity and crop yields, contaminates grain and is a host for crop viruses.

HOW DO I IDENTIFY IT?

Leaves are:

- pale green
- lower leaves 5-20cm long and deeply divided
- upper leaves less divided and smaller
- covered with soft, fine hair
- alternate on the stem
- most leaves die after flowering

Stems are:

- grooved or ribbed
- woody with age
- highly branched off the upper half of the main stem during flowering

Flowers are:

- creamy white
- 4-6mm diameter
- star shaped with 5 points
- made up of many tiny florets
- at the end of stems in clusters that look similar to 'baby's breath'

Seeds are:

- dark brown-black
- 1-2mm across
- flattened
- triangular with two thin, white spoon-shaped appendages

HOW DOES IT SPREAD?

Parthenium weed spreads by seeds through waterways, animals, wind, machinery and equipment, hay and grain and vehicles. Seeds close to the soil surface will germinate readily. Buried seeds can remain dormant for many years. Each plant can produce up to 15,000 seeds per year.



ST JOHN'S WORT

Hypericum perforatum

H



P



THE IMPACT

St John's Wort competes with pastures, poisons livestock, can downgrade wool with 'vegetable fault' and can reduce property value.

HOW DO I IDENTIFY IT?

Leaves are:

- paler green underneath
- opposite each other on the stem
- spotted with oil glands - can look like leaves have holes in them when in strong light

Non-flowering stems:

- grow from the crown
- can form tangled thickets
- present in autumn-winter

Flowering stems:

- upright and woody
- branch near the top
- have two opposite ridges along the length of the stem

Flowers are:

- bright yellow with five petals
- 20mm diameter
- three bundles of long thready stamens grow from the centre

Fruit are:

- sticky in a three-cell capsule
- 8mm long
- split open when ripening

Seeds are:

- in sticky seed capsules
- small (0.5-1mm)
- cylindrical
- light brown-black
- with a pitted seed coat

HOW DOES IT SPREAD?

The sticky seed capsules stick to animals and can also be carried in their digestive tracts. Wind spreads seed over short distances. Water, machinery, humans, livestock or feral animals spread seed over long distances. Roots sucker and new plants grow from fragments. Cultivation can move root fragments.



VIPER'S BUGLOSS

Echium vulgare

H



P



THE IMPACT

Viper's Bugloss is a weed of pastures, crops and roadsides and can be poisonous to livestock. It is often confused with Paterson's Curse (*Echium plantagineum*).

HOW DO I IDENTIFY IT?

Leaves are:

- rosettes
- stalkless
- spear-shaped
- warty in appearance

Stems are:

- erect

Flowers are:

- blue
- growing in a pronounced spike
- individual flowers are 1.5-2cm with four of the five stamens protruding past the end

Roots:

- descend to great depths

HOW DOES IT SPREAD?

Viper's Bugloss is spread only through the movement of seeds. It appears to be less palatable to stock than Paterson's Curse but less competitive.



THE IMPACT

Cabomba chokes water bodies and degrades water quality. Dense underwater infestations can taint drinking water, increasing treatment and storage costs, block pumps and troughs, outcompete native water plants and make water unsuitable for fish and other water animals.

HOW DO I IDENTIFY IT?

Submerged leaves are:

- emerald green
- divided into many strands
- fan-shaped
- covered in a sticky mucous
- opposite along the stem

Surface leaves are:

- few
- up to 2cm long
- not divided into strands
- diamond shaped

Stems are:

- up to 10m long
- with white or reddish hairs
- with creeping runners

Flowers are:

- white with yellow centres
- 2cm in diameter
- with 6 petals
- above water during the day

Roots are:

- attached to the water floor

HOW DOES IT SPREAD?

Any stem fragment with a node can break off and grow into a new plant. Stems break easily and float into new areas. Fishing equipment, watercraft and animals can move fragments.



MEXICAN WATER LILY

Nymphaea Mexicana

W



P



THE IMPACT

Mexican Water Lily can choke waterways, degrade water quality, out-compete native plant species and make aquatic habitats unsuitable for some fauna species.

HOW DO I IDENTIFY IT?

Leaves are:

- round and heart-shaped
- floating
- glossy green
- mature leaves have brown blotches and are mainly purple underneath

Flowers are:

- star-shaped
- 15cm across
- pale yellow

Seeds are:

- 2-3mm long

Stems:

- are fleshy
- bear banana-shaped tubers

HOW DOES IT SPREAD?

Underwater rhizomes produce white horizontal stems (stolons) that produce new plants at the nodes. New plants forming at the nodes can easily detach and establish elsewhere.



Image: Centre for Aquatic and Invasive Plants

SALVINIA

Salvinia molesta

W30 x
25cmPA
SU W
SP

THE IMPACT

Salvinia is a floating water weed that forms a dense mat which takes over waterways and reduces water quality. It can prevent native water plants from growing, reduce food and habitat for fish and other aquatic animals, cause stagnant water and unpleasant odours, interfere with floodgates and block pumps and troughs.

HOW DO I IDENTIFY IT?

Leaves/fronds:

- are round-oval
- grow in opposite pairs
- have many waxy hairs on upper surface
- are light green or yellowish in low nutrient water

Stems are:

- green
- covered with fine hairs
- slender
- submerged
- branched with nodes developing roots

Roots are:

- hairy and trailing from nodes
- up to 25cm long

HOW DOES IT SPREAD?

Salvinia can produce through plant fragments breaking away from the plant or daughter plants reproducing. It can also be spread by attaching to boats, trailers or vehicles, attaching to livestock or wildlife or spreading through waterways, particularly during flood and wind events.



WATER HYACINTH

Eichhornia crassipes

W



P



THE IMPACT

Water Hyacinth smothers the surface of waterways, dams, irrigation channels and drains. It reduces water levels and quality, restricts livestock access to water, damages pastures and crops when masses of the plant settle in paddocks after flooding and destroys fences, roads, bridges and culverts when masses of the plant become mobile during flood.

HOW DO I IDENTIFY IT?

Leaves are:

- bright green, sometimes rusty yellow on the edges
- glossy, smooth and hairless
- have obvious veins
- 30-60cm in diameter
- curved upwards with wavy edges

Stems are:

- erect, up to 60cm long
- horizontal, up to 10cm long

Flowers are:

- light blue-purple
- with six distinct petals
- 4-7cm long and 4-6cm wide
- funnel-shaped
- on upright stems, 3-35 flowers on each spike

Seeds are:

- 1-1.5mm long
- roughly egg-shaped with ridges

Roots are:

- fibrous and featherlike
- black-purple
- up to 1m long

HOW DOES IT SPREAD?

Water Hyacinth infestations increase most rapidly by producing new daughter plants. During high water flows and flooding, plant masses can break up and move to new locations. Plants are also spread by people planting water hyacinth in ponds or dams, dumping unwanted aquarium plants into waterways or moving contaminated fishing equipment, watercraft and boat trailers.



Image: Kim Starr

WATER LETTUCE

Pistia stratiotes

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THE IMPACT

Water Lettuce is a free floating weed that grows quickly, blocking waterways and smothering native plants. It causes poor water quality, less food and habitat for fish and other water life, blocked irrigation or trough equipment and large infestations can harbour disease.

HOW DO I IDENTIFY IT?

Leaves are:

- pale green and velvety
- 2-17cm long, 1.5-8.5cm wide
- ribbed and spongy
- wedge shaped
- clustered in rosettes
- on short inflated stalks

Flowers are:

- up to 1.5cm long
- hidden in the centre of the plant

Seeds are:

- green then brown when mature
- about 2mm long
- oblong shaped
- in groups 4-15 per berry

Roots are:

- unbranched
- feathery
- up to 60cm long
- floating free in the water beneath the leaves

HOW DOES IT SPREAD?

Flowering and seeding start from when plants develop four to five leaves. Water Lettuce seeds float on the water for a while, before sinking to the bottom. This helps the plant spread downstream to new areas. Each plant also produces daughter plants. Each daughter plant then produces its own daughter plants, forming dense mats. When broken up, each plant, or even pieces of plants, can start to grow a new mat. Boats and fishing equipment can move water weeds into clean water bodies. Water and plant fragments from fish tanks or garden ponds can spread the weed to new areas.



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