

ISLAND SOLUTIONS

RESTORATION REPORT - Weed Control Work Nov-Dec 2025

Location: Okura

Client: Friends of Okura Bush

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*Periwinkle
control Karepiro Bush*

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Summary of work done

Management Unit	General Approach
MU1A West Chenier	Surveyed thoroughly, all primary target weeds found controlled, and other weeds controlled where deemed appropriate.
MU1B East Chenier	Surveyed thoroughly, all primary target weeds found controlled and other weeds controlled where deemed appropriate.
MU1C Sandspit	Surveyed landward side of spit outside fenced-off seabird breeding area thoroughly and controlled all weeds found.
MU1D Chenier Margin	Surveyed entire seaward side of track and controlled all weeds found. Surveyed all flats and most of slope on landward of track between Sandspit and West Chenier and controlled most weeds found.
MU2 Coastal Scarp	Walked through southern half to determine priorities. Surveyed all flats and lower slope in northern half (i.e. part adjacent to Sandspit) and controlled all weeds found.
MU3 Karepiro Bush	Walked entire length of track to determine priorities. Surveyed vicinity of moth plant and climbing Asparagus records (per Webster 2025) and controlled all weeds found.
MU4 Coastal Cliffs	Walked along coast to determine priorities, controlled one large Cotoneaster (the only accessible weed worth controlling).
MU5 Karepiro Beach	Controlled entire area of periwinkle adjacent to Dacre Cottage and most other weeds found in that area.
MU6 Southern Esplanade	Reopened track, surveyed coastal margins and nearby disturbed areas, controlled selected weeds at selected sites, including all weeds in the “Kanuka Forest” and most weeds within a c.100m buffer around it, and many outliers of adult (i.e. fruiting age) weeds.

Introduction

Peter Russell (30+ years’ experience) and Louis Le Compte (a novice) were hired to conduct weed control in the management units during November and December 2025. Approximately 180 hours of field work were conducted. Primary target weeds and sites were identified by Geoff Reid, which provided a framework from which to expand the work. The updated management plan (Webster 2025) was used as a guide to identify secondary target weeds and sites.

Apart from the cheniers, no attempt was made to survey management units thoroughly, nor to detect all weed species present (reflecting time constraints). However, a strategically wise approach was developed on the job based on the time available. As a result, many parts of the management units were surveyed thoroughly and many new weeds were recorded. This report provides identifies all weeds detected and controlled in each management unit, related information and suggestions for future work.

MU1A West Chenier

Survey and Control Work

Entire area surveyed thoroughly. All primary target weeds found controlled. Most/all occurrences of other selected weeds found controlled. Circular access created through the southern shoulder of chenier (cut and shifted fallen macrocarpa branches etc) to provide adequate access to weed infestations etc..

Primary targets	Abundance & distribution	Control work	Notes
Climbing Asparagus	Common throughout	All plants found sprayed	Mostly seedlings, c.1% climbing, no fruit or flowers
Japanese honeysuckle	Rare at west end	All plants found sprayed	Small plants, no flowers or fruit
Periwinkle	Abundant at west end of Chenier (old homestead site?)	All plants found sprayed	
Smilax	Common throughout	All plants found sprayed	Fruit ripe and about 10% of established plants dead/dying. Optimal control timing: October?

*Not listed for this MU in 2025 management plan

Other weeds seen	Abundance & distribution	Control work	Notes
Agapanthus	Occasional S end	All plants found sprayed with Trich	
Arum	Occasional throughout	All plants found sprayed	
Banana passionfruit*	Rare – seedlings	All plants found pulled out	
Boneseed	Occasional throughout, mostly seedlings, several adult plants fruiting	All plants found sprayed or pulled out. All fruiting plants sprayed in hope of killing seed	Better to control before Nov to prevent seed development
Chinese privet	Seedlings common throughout, one tree	Drilled and filled tree, sprayed (or pulled out) all other plants found	
Climbing dock*	Rare near NE corner	All plants found sprayed	

Other weeds seen	Abundance & distribution	Control work	Notes
Gorse	Common	Nil	
Large leaved Cotoneaster*	Seedlings rare	All plants found sprayed	
Late Cotoneaster*	Seedlings rare	All plants found sprayed	
Loquat*	Seedlings rare throughout	All plants found pulled out	
Moth plant	Seedlings common and larger plants occasional in N half	All plants found sprayed	
Pale galingale*	Common in S half	Nil	Too difficult to control meaningfully
Stinking Iris?	Several seedlings in northern central area	All plants found pulled out	Stinking Iris listed as rare on West Chenier in Webster 2025. Leaves tore like stinking Iris, but did not have characteristic pungent odour when torn (not in flower or fruit which would have confirmed ID). May have been the similar-looking native sedge tuhara.
Taiwan cherry*	Seedlings occasional throughout	All plants found sprayed	
Tree lupin*	Adults and seedlings occasional in open areas	All adult plants controlled	
Tree privet*	Occasional throughout	All plants found sprayed	
Woolly nightshade	Seedlings occasional, larger plants rare	Some plants pulled out	

Comments

It is obvious that much weed control has been done well previously. Not surprising some “new” weeds have appeared given proximity to houses/gardens/neglected suburban areas. Boneseed and smilax control should be done earlier in future to prevent seed production.

Stinking Iris is listed as rare in West Chenier by Webster 2025 (and not in other management units). Young plants found there appeared to be stinking Iris and were therefore controlled, although their leaves did not have the usual (but variable) pungent odour of stinking Iris when torn (plants were not in flower or fruit, which would have confirmed ID, although that was not thought necessary at the time). Later, older plants with very similar foliage (which tore in the same manner, and were also not pungent) in the Coastal Scarp (on flat near Sandspit) were not controlled as they were in flower/seed and clearly not stinking Iris. These were later identified as the native sedge tuhara (*Macherina sinclairii*) – see <https://www.inaturalist.org/observations/332230893>, which is uncommon locally.

This raises the possibility that some/all plants on West Chenier referred to by Webster (2025) and/or those found and controlled there were actually tuhara and not stinking Iris. It is recommended that a clear means of distinguishing stinking Iris from tuhara (when not in flower or fruit) is found and that all future weed control personnel are made aware of the presence of both plants to ensure that: a. tuhara plants are *not* controlled when they encounter them, and b. stinking Iris plants *are* controlled when they encounter them.





MU1B East Chenier

Survey and Control Work

Entire area surveyed thoroughly. All primary target weeds found controlled. Most/all occurrences of other selected weeds found controlled.

Primary targets	Abundance & distribution	Control work	Notes
Climbing Asparagus	Common throughout	All plants found controlled	Mostly seedlings, c.1% climbing, no fruit or flowers
Japanese honeysuckle	Rare at west end	All plants found controlled	Small plants, no flowers or fruit
Smilax	Common throughout	All plants found controlled	Fruit ripe and about 10% of established plants dead/dying. Optimal control timing: October?

*Not listed for this MU in 2025 management plan

Other weeds seen	Abundance & distribution	Control work	Notes
Arum	Occasional throughout	All plants found controlled	
Boneseed	Occasional throughout, mostly seedlings, several adult plants fruiting	All plants found controlled. All fruiting plants sprayed in hope of killing seed	Better to control before Nov to prevent seed development
Buffalo grass	Occasional, southern half	Several outliers controlled	Difficult to determine appropriate level of control without a clear idea of abundance and distribution
Chinese privet	Seedlings common throughout, one tree	Drilled and filled tree, sprayed (or pulled out) all other plants found	Boneseed fruit starting to ripen
Gorse	Common	Nil	
Large leaved Cotoneaster*	Seedlings rare	All plants found controlled	
Late Cotoneaster*	Seedlings rare	All plants found controlled	

Other weeds seen	Abundance & distribution	Control work	Notes
Loquat*	Seedlings occasional throughout	All plants found controlled	
Macrocarpa*	Seedlings occasional in open areas	Some plants pulled out while conducting recces etc	
Moth plant*	Seedlings occasional and larger plants rare in N half	All plants found controlled	
Olive*	One seedling on south west coast	All plants found controlled	https://www.inaturalist.org/observations/334269925
Pale galingale*	Common in S half	Nil	Too difficult to control meaningfully
Pine*	Seedlings occasional in open areas	Most plants pulled out while conducting recces etc	
Rubber plant*	One small plant at top of beach mid S coast	Nil	Not invasive, fragment may have washed ashore and taken root
Sweet pea shrub*	One small plant on south west coast	All plants found controlled	https://www.inaturalist.org/observations/334269485
Strawberry guava*	One plant mid north coast	Nil	ID uncertain at the time. Should be controlled before fruiting. https://www.inaturalist.org/observations/334270966
Taiwan cherry*	Seedlings occasional throughout	All plants found controlled	
Tree lupin	Adults and seedlings occasional in open areas	Most plants found controlled, including all fruiting plants	
Tree privet*	Occasional throughout	All plants found controlled	
Tuber ladder fern*	Occasional in central areas	Most plants found controlled	

Other weeds seen	Abundance & distribution	Control work	Notes
Woolly nightshade	Seedlings occasional, larger plants rare	Some plants pulled out	

Comments

Obvious much weed control has been done well. Not surprising some “new” weeds have appeared given proximity to houses/gardens/neglected suburban areas. Boneseed and smilax control should be done earlier in future to prevent seed production.

Suggested priority for future work: control strawberry guava before fruiting this autumn.

MU1C Sandspit

Survey and Control Work

Landward area outside bird breeding zone surveyed thoroughly.

*Not listed for this MU in 2025 management plan

Weeds targeted	Abundance & distribution	Control work	Notes
Gorse	Small shrubs occasional	All plants found controlled	

Weeds targeted	Abundance & distribution	Control work	Notes
Pampas	Occasional	Nil	
Pine*	Seedlings occasional	All plants found controlled	

Comments

Suggested priority for future work: remainder of sandspit.

MU1D Chenier Margin

Survey and Control Work

Seaward side of track (between the two cheniers) surveyed thoroughly and all weeds found controlled.

Far west end to Sandspit surveyed within c.10-20m of track (including areas under pines and between track and power lines), including the lower $\frac{3}{4}$ of steep coastal slope above East Chenier (top $\frac{1}{4}$ more accessible from above). Selected weeds controlled.

*Not listed for this MU in 2025 management plan

Weeds targeted	Abundance & distribution	Control work	Notes
Arum*	Occasional throughout	All plants found controlled	
Banana passionfruit*	1 flowering plant at extreme west end and seedlings occasional in western $\frac{1}{4}$	All plants found controlled	

Weeds targeted	Abundance & distribution	Control work	Notes
Blackberry	Occasional in disturbed areas	All plants found controlled	
Boneseed	Occasional near West Chenier, esp. under pines	All plants found controlled	Better to control before Nov to prevent seed development
Chinese privet	Common throughout	All plants found controlled	Many visible beyond area focussed on. Large number of isolated adult plants on inland side of track on true right of gully between the two cheniers - a suggested priority for future control work.
Climbing Asparagus	Occasional, esp. near cheniers	Selected plants controlled	Mostly seedlings, c.1% climbing, no fruit or flowers
Elaeagnus	Rare on slope between cheniers	All plants found controlled	
Great stinging nettle (<i>Urtica dioica</i>)*	One patch <1m ² found on seaward side of track c.20m south of West Chenier	All plants found controlled	Strangely isolated occurrence close to track. Suspicion it was planted for butterflies (Geoff Reid pers. com.). May not be a major concern for biodiversity, but much potential to spread and become a serious nuisance. Has a particularly vicious sting, so would seriously impede human access. Site marked with red flagging tape labelled "Nettle". . https://www.inaturalist.org/observations/334273026
Kahili ginger	Common in and near inland side of track beside stream between the two cheniers	All isolated plants controlled. Edge of core infestation controlled.	Large number of isolated adult plants on inland side of track on immediate true left of gully between the two cheniers - a suggested priority for future control work.
Loquat*	Occasional, esp. near West Chenier	All plants found controlled	
Monkey apple*	Rare	All plants found controlled	Two small plants on slope above West Chenier
Moth plant	Occasional on slope above plantings in western ¼ and	All plants found controlled	

Weeds targeted	Abundance & distribution	Control work	Notes
	on lower slope above East Chenier		
Pale galingale*	Occasional	Nil	Too difficult to control meaningfully
Periwinkle	Abundant near West Chenier, esp. on ridge near pines	Nil	
Pine	Adults abundant on ridge	Nil	
Smilax	Occasional, esp. on slope near East Chenier	Selected plants controlled	Fruit ripe and about 10% of established plants dead/dying. Optimal control timing: October?
Tree privet	Occasional, especially western ½	All plants found controlled	Many visible beyond area focussed on
Woolly nightshade	Occasional throughout, esp. gully between the cheniers and near Sandspit	All plants found controlled	Many visible beyond area focussed on

Comments

Boneseed and smilax control should be done earlier in future to prevent seed production.

Difficult to access all weeds on steep slope above east chenier while carrying the necessary equipment. Drone and rope access may be required. ABC keen to consider delivering rope access work.

Suggested priorities for future work: remainder of steep slopes above east chenier, Chinese privet and Kahili ginger in gully on inland side of track between the cheniers.

MU2 Coastal Scarp

Survey and Control Work

Walked south along beach, then north in the interior to assess weed situation. Controlled selected weeds in north half, on flat and lower slopes.

*Not listed for this MU in 2025 management plan

Weeds targeted	Abundance & distribution	Control work	Notes
Arum*	Occasional throughout	Nil	
Chinese privet	Occasional at north end	All plants found controlled	
Climbing Asparagus	Occasional at north end	All plants found controlled	Mostly seedlings, c.1% climbing, no fruit or flowers
Kahili ginger	Seedlings occasional	All plants found controlled	
Gorse	Occasional at north end	All plants found towards north end controlled	
Japanese honeysuckle	Several patches in southern 1/2	First patch encountered (mid way through southern half) controlled	Several patches noted in southern half. Present on adjacent private land. Too abundant to make further control efforts worthwhile
Tree privet	Occasional towards north end	All plants found controlled	
Woolly nightshade	Common towards north end	All plants found controlled	

Comments

Difficult to access all weeds on the steep slope above Sandspit while carrying the necessary equipment. ABC keen to consider delivering rope access work.

Need to approach adjacent landowner/occupier re Japanese honeysuckle control.

Suggested priorities for future work: remainder of steep slopes above Sandspit.

MU3 Karepiro Bush

Survey and Control Work

Walked length of track to assess weed situation. Surveyed area within c.10m of adjacent moth plant and climbing Asparagus records in management plan (Webster 2025). Controlled other selected weeds.

*Not listed for this MU in 2025 management plan

Weeds targeted	Abundance & distribution	Control work	Notes
Climbing Asparagus		All plants found controlled	
Elagagnus	Small plant c.5m below track under moth plant site	Nil	Not controlled as did not have appropriate herbicide on brief mission targeting other weeds during last hour of work. Trackside marked with red tape labelled "Elaeagnus 5m below", plant also marked with red tape.
Japanese honeysuckle	Scattered patches at north end	Nil	Mostly on private land on other side of fence at north end. Too abundant locally to have a meaningful impact.
Moth plant	A few adult vines and several seedlings at site noted in management plan (Webster 2025), all between track and edge of cliff	All plants found controlled	Entire area within 10m of all plants surveyed. One vine in full flower. No plants visible on cliff but may be present.
Pale galingale*	Occasional in trackside lightwells	Nil	
Periwinkle	Common at south end, lower bush edge near stream. One 1m ² patch c.3m east of track c.100m from south end.	Controlled 1m ² patch and marked with red tape labelled "Periwinkle Dec 2025"	Too windy to spray exposed site near stream on the day we would have done so if less wind.
Queensland poplar*	Seedling at moth plant site	All plants found controlled	https://www.inaturalist.org/observations/334275620

Weeds targeted	Abundance & distribution	Control work	Notes
Smilax	One small seedling	All plants found controlled	
Woolly nightshade	Occasional at moth plant site	All plants found controlled	

Comments

Need to approach adjacent landowner/occupier re Japanese honeysuckle and climbing asparagus control.

Forest on private land adjacent to south end has relatively high biodiversity values. Strange that an expensive new stock fence divides the two sites. Would make sense to have the private forest legally protected/added to that managed by Auckland Council.

Suggested priorities for future work: Elaeagnus, follow up moth plant/climbing Asparagus site.

MU4 Coastal Cliffs

Survey and Control Work

Walked along beach to assess weed situation. Controlled one late Cotoneaster, barely accessible on lower cliff. Other areas were too inaccessible to survey adequately and time was better spent in accessible management units.

Comments

Drone and rope access required. ABC keen to consider delivering rope access work.

MU5 Karepiro Beach

Survey and Control Work

Focussed on periwinkle area near Dacre Cottage.

Controlled selected other weeds found near Dacre Cottage. Viewed abundant periwinkle on north-facing slope in Okura Bush, DoC land.

*Not listed for this MU in 2025 management plan

Weeds targeted	Abundance & distribution	Control work	Notes
Arum	Occasional among and adjacent to periwinkle near Dacre Cottage	All plants among and adjacent to periwinkle near Dacre Cottage controlled	
Blackberry	Occasional throughout, increasingly abundant further south	Most plants within 50m of Dacre Cottage controlled	
Boneseed*	Rare near Dacre Cottage	All plants found controlled	
Boxthorn	Occasional	Nil	
Buffalo grass	Abundant near Dacre Cottage	Nil	Dense among periwinkle
Periwinkle	Abundant near Dacre Cottage and south end (near Okura Bush SR)	All plants found near Dacre Cottage controlled	
Smilax*	One plant among taupata at south edge of periwinkle near Dacre Cottage	All plants found controlled	Fruit ripe and plant dying. Optimal control timing: October?

Comments

Boneseed and smilax control should be done earlier in future to prevent seed production. May be wise to spray buffalo grass and periwinkle simultaneously in future.

Suggested priorities for future work: boxthorn, blackberry, periwinkle flat near south end of beach.

MU6 Southern Esplanade

Survey and Control Work

Re-opened track to the largest branch of the estuary (c.580m as the crow flies NW of bridge over estuary) and marked hard-to-follow parts with orange flagging tape. Re-routed track immediately north of first major stream crossing (c.260m as the crow flies NW of bridge over estuary) as original track so overgrown it was not visible. Controlled most ginger and woolly nightshade c.20m downstream of that stream crossing.

Walked to a point c. 150m from the mouth of the largest branch of the estuary to assess the weed situation.

Surveyed the “Kanuka Forest” thoroughly and controlled all weeds found. Surveyed buffer zone within c.100m of the “Kanuka Forest” and controlled most weeds found.

Surveyed selected other areas. Controlled outliers of selected weeds.

*Not listed for this MU in 2025 management plan

Weeds targeted	Abundance & distribution	Control work	Notes
African clubmoss*	Abundant near the largest side-stream	Nil	
Arum	Occasional patches throughout	Many isolated plants controlled	
Blackberry	Occasional, esp. In the Kanuka Forest	All plants in the Kanuka Forest controlled	
Black passionfruit*	Rare, but found over wide area	All plants found (few) controlled	
Chinese privet	Common, especially in forest margins and disturbed areas	All isolated plants (including several small adults) controlled. All plants (including several small adults) in the Kanuka Forest	

Weeds targeted	Abundance & distribution	Control work	Notes
		controlled. All plants (including several small to medium adults) controlled in c. 100m buffer zone around the Kanuka Forest controlled.	
Climbing Asparagus*	Rare, but over a wide area	All plants found (2 small) controlled	Two isolated climbing Asparagus plants found and sprayed (no others seen). Observation added to iNaturalist – see https://www.inaturalist.org/observations/334028147
Elagagnus	Rare, but over a wide area	All plants found (2 seedlings) controlled	
Gorse	Occasional throughout	Nil	
Japanese honeysuckle	Rare, but over a wide area	All plants found controlled	Small plants, no flowers or fruit. Two isolated Japanese honeysuckle patches found: one c. 10m ² , another c.300m ²
Kahili ginger	Common (mostly juveniles) throughout	Most plants near the first stream crossing, all adults in the Kanuka Forest and most adults in its c.100m buffer zone controlled, along with selected isolated plants elsewhere	
Large leaved Cotoneaster*	Rare, but over a wide area	All plants found (few) controlled	
Late Cotoneaster*	Rare, but over a wide area	All plants found (few) controlled	
Loquat*	Occasional in and near the Kanuka Forest	All plants found (several) controlled	

Weeds targeted	Abundance & distribution	Control work	Notes
Moth plant*	Common beside old logging road	All plants found (several vines and many seedlings) controlled	
Pale galingale*	Occasional throughout	Nil	Too difficult to control meaningfully as widespread and seed viable for 10+ years
Pine	Common throughout	Several small and isolated plants controlled	
Taiwan cherry	Occasional in and near the Pine Apocalypse, including the Kanuka Forest and its buffer zone	All plants found (several seedlings and a few small trees) controlled, apart from those in Pine Apocalypse	
Tree privet*	Occasional, especially in forest margins and disturbed areas near the Pine Apocalypse	All isolated plants (juveniles) controlled. All plants (juveniles) in the Kanuka Forest controlled. All plants (including several small to medium adults) controlled in c. 100m buffer zone around the Kanuka Forest controlled.	
Woolly nightshade	Common throughout	All plants near the first stream crossing, and in the Kanuka Forest and its c.100m buffer zone controlled, along with selected plants elsewhere	Few large trees

Comments

Track only re-opened enough to enable comfortable daily access.

Kanuka Forest: grid searched and all major weeds controlled: blackberry (occ), black passionfruit (occ), Chinese privet (com), ginger (occ), Taiwan cherry (com), woolly nightshade (com).

Kanuka Forest Buffer: All adult weeds and most younger plants controlled within a c.100m buffer of the Kanuka Forest, most weeds in this area occur towards its north end: Chinese privet (com), tree privet (com), Taiwan cherry (com), loquat (occ). Much ginger controlled (focus on adult plants), many younger plants remain.

All weeds are in an early stage of invasion and will quickly become much more abundant and widespread unless controlled soon. Exponential growth rates for most weeds will occur during the next five years, and most of the remainder within 10 years from now.

Would be valuable to open track along full length of esplanade to enable us to become familiar with the vegetation: plants/sites of special value/concern, especially weeds. Doing so may have other benefits e.g. extending the trap network.

From several vantage points, a rising tide of weeds is becoming increasingly visible among the pines: especially Chinese privet, Taiwan cherry, tree privet, woolly nightshade and, in one area, moth plant. Kahili ginger and Japanese honeysuckle are also likely to be present. The worst site is an approx. 100m diameter area of fallen pines trees (dubbed the "Pine Apocalypse") in which the weeds mentioned became established since most of the pines in that area fell over several years ago. Fruiting plants are currently at a controllable level there, but seedlings of most are abundant and fruit production will grow exponentially within a few years. This would cause a tsunami of weeds to flow into surrounding areas. It may be worth contacting the landowner, former plantation owner/manager or Council to address this. See note below re Forest Stewardship Council certification.

Control Methods

Control methods used were primarily as per updated management plan (Richard Webster 2025) or, in the absence of that (in order of preference) Geoff Reid, Weedbusters website, and personal experience.

Photographs

It is difficult to capture weeds and weed control on camera. A number of photographs were taken as an attempt to illustrate the nature of the work done. These are available at

📷 Okura - Nov Dec 2025 Gallery

https://drive.google.com/drive/folders/1oZLMQVWf0NGN-usG5UHpDqZ9qzRxY_oH?usp=sharing

Reporting

Herbicide application methods, rates, approximate amounts of each mix and concentrate used in each management unit are provided in the attached spreadsheet. Summary:

Okura Herbicide Concentrate Used Per Site Nov-Dec 2025

	Metsulfuron -methyl	Glyphosate	Trichlopyr	Organosilicone
Site	g	ml	ml	ml
MU1A West Chenier	49	1,595	0	76
MU1B East Chenier	21	665	0	32
MU1C Sandspit	0	0	0	0
MU1D Chenier Margin	2	135	0	3
MU2 Coastal Scarp	1	50	0	0
MU3 Karepiro Bush	2	45	0	1
MU4 Coastal Cliffs	0	0	0	0
MU5 Karepiro Beach	31	13	0	124
MU6 Sth Esplanade	36	263	144	0
Total	141	2,765	144	236

It is recommended that reporting requirements (e.g. abundance and distribution of weeds found, weeds controlled, herbicide application methods, rates, and amounts used in each area) are made clear before future control work commences so that all relevant details can be recorded as the work progresses. Otherwise, sufficient details may not be recorded to enable an adequate report to be provided and/or it may be difficult to tease out the required data from any records kept. Standardised daily record sheets would make it easier for field personnel to satisfy reporting requirements.

Priorities

Having not visited any of the management units previously it was difficult to determine appropriate priorities beyond the primary target weeds identified for us by Geoff Reid. It is appreciated that some guess work was necessary – it was difficult to predict exactly how much time was required to control the highest priority weeds and important to avoid compromising that task by focussing on too many other weeds. The need to focus on the “grunt work” of controlling the primary target weeds was clear (capitalising on previous work; preventing recovery; large amount of unpleasant, technical spraying unsuitable for volunteers, etc.).

While focussing on the primary target weeds and sites we gradually gained sufficient understanding of the weed situation to enable us to identify additional target weeds and sites and make good use of our time. This approach would, however, be enhanced if in future abundance and distribution data (e.g. in the 2025 management plan) are used to help identify a wider range of priorities, with an emphasis on targeting rare and isolated weeds, especially those that are likely to spread quickly and those that are relatively easy to control. For example, having clearly identified high, moderate and low priorities would mean personnel can work down through priorities as time permits. Each category can be further divided if necessary, e.g. High 1, High 2, High 3, Moderate 1, Moderate 2, Low.

Addressing Weed Reinvasion

Introduction

Reinvasion of most of the weeds being controlled is a disconcerting certainty, at least for the foreseeable future. Surrounding areas with neglected vegetation pose a serious threat to the ability to prevent their abundance and distribution growing. This particularly applies to former forestry blocks where severe and widespread disturbance has created abundant opportunities for numerous established local weeds to spread.

Many new weeds (i.e. weeds not previously recorded) were detected in the management units. This will continue to occur as numerous weeds spread through surrounding areas from their original sources e.g. gardens. New residential developments in formerly grazed (and therefore relatively weed-free) areas, e.g. Weiti Bay housing project, also provide significant opportunities for locally established weeds to spread (since livestock will no longer destroy them) as well as for new weeds to become established, especially through the arrival of planted specimens of weedy plants.

The more numerous seed sources are and the closer they are to the management units, the more likely it is that seedlings will arise in them (mainly through birds and wind dispersing seeds).

The Advantage of Habitat Isolation

It is lamentable that the habitats in the management units are so small and fragmented and that so many of local native forests have been converted to pasture. However, what's done is done and, while habitat fragmentation clearly has some negative consequences for native biodiversity, it can also provide significant benefits. Islands surrounded by water have a natural buffer that is well recognised as an important means of helping protect native wildlife from mammalian predators. What is less recognised is that the same watery buffers also significantly reduce the chances of weed invasion. Even less widely recognised is that mainland habitat fragments surrounded by grazed pasture benefit from a similar degree of isolation from weed sources (most environmental weeds being highly palatable to livestock).

Mainland islands, as they are often called, are less likely to be invaded by weeds if the nearest sources of those weeds are some distance away. A distance of as little as 50m can be a significant advantage, at least as far as some weeds are concerned, but (obviously) the bigger the distance the better. The greater the degree of isolation from weed sources the fewer seeds reach habitat fragments and the easier it is to deal with those that do arrive because they are in smaller numbers and the boundaries of discreet management units are not blurred e.g. by invisible legal boundaries in the bush that often make it hard to know where to start or finish weed control work. Clear physical boundaries provide significant practical and psychological advantages that are greatly underappreciated.

We need to think outside the square when determining how to address to the immense challenge presented by environmental weeds. Having substantial bodies of water adjacent to them provides the management units with a good degree of natural buffering against weed spread. It would be wise to extend that buffering as much as possible. Doing so will help to create a more effective buffer around Okura Bush Scenic Reserve.

It appears likely that grazed pasture dominated many of the areas adjacent to the management units in recent decades (farm fences are visible in some areas, many of them relatively intact). If livestock currently graze any areas adjacent to the management units, it may be possible to encourage this to continue. It may be possible to reinstate grazing in some areas.

Increasing the size of habitat fragments, making them a more circular shape (reducing their edge-to-area ratio) and linking them together through retiring farmland and planting natives is positive in many ways. However, doing so may create so many opportunities for weeds to establish and spread that it may outweigh the positives and, all things considered, is often unwise. It is important to avoid biting off more than one can chew. To put it a different way, it is better to do a great job of caring for a small area than to make that area bigger and in so doing stretch yourself so thin that you're unable to care for it adequately.

Enhancing the Resistance of Native Vegetation to Weed Invasion

Enhancing the diversity of the native vegetation helps to reduce the chances of weed invasion. Before European colonisation, most lowland sites in Aotearoa would have had something in the order of 400 species of native plants occupying a wide range of niches. Many lowland sites are now occupied by closer to 100 species of native plants, leaving abundant opportunities for invasive plants to establish and spread. Most forest remnants, like those in the management units, have a seriously depleted diversity of native plants that makes them particularly

vulnerable to catastrophic climatic events (think disturbance events that favour weeds) and weed invasion.

With diversity comes stability (Prof. Alan Mark pers. comm.). Reestablishing missing and rare native plants to degraded vegetation enhances its resistance to weed invasion. Identifying what native plants are missing from, or rare in, habitat fragments and reestablishing as many of them as possible is a critical component of weed management, and of ecological restoration in general. ABC is keen to help to identify a process by which this can be achieved in the management units.

Field Personnel

Field personnel must be able to detect and control new weeds promptly to prevent their establishment. There are approximately 500 environmental weeds in Aotearoa. Many have limited distributions. It is impossible for all field workers to be familiar with all of them. Field workers are required to be able to readily identify most/all of the weeds likely to occur in the area. They should also be able to recognise unfamiliar weeds as suspicious and be capable of getting them identified promptly.

Public Relations

Efforts to address weed reinvasion should involve communications with local property developers, landowners and occupiers, Auckland Council, DOC, community groups, signage, and broader publicity. ABC is keen to contribute to this.

Forest Stewardship Council Certification

If the pine plantation previously harvested adjacent to Okura Bush was FSC certified (which seems likely as most are), environmental criteria for certification requires weed control to have been done - see National Standard for Certification of Plantation Forest Management in New Zealand; Principles and Criteria Relating to Environmental Weed Management (attached). This may provide an avenue to encourage weed control to be conducted in the area, or at least an opportunity to shame those responsible and discourage plantation owners from continuing to neglect weed control.

Adherence to Forest Stewardship Council (FSC) rules is not enforced by the government, although MPI does have some interest in it. Instead, FSC is a voluntary, market-based certification system. The FSC sets the international standards for responsible forestry, and these are adapted into a New Zealand-specific standard. Forest owners, managers and harvesters choose to be certified because many buyers and markets require FSC-certified timber. Premium prices are obtained from northern hemisphere markets for FSC certified timber.

Enforcement is carried out by independent, FSC-accredited certification bodies (private auditing companies). These auditors regularly inspect forest operations to check they meet environmental, social and legal requirements. If serious problems are found, they can issue

corrective actions, suspend certification, or remove it entirely. The forest company that holds the certificate is ultimately responsible for compliance, including the actions of its contractors. Losing FSC certification does not break the law, but it can have major commercial consequences.

Ernslaw One loses FSC certification licence, 17 February 2024

https://manataiao.wordpress.com/2024/02/17/ernslaw-one-and-auditor-sgs-lose-fsc-certification-licences/?utm_source=chatgpt.com

End.

















