



Department of
Primary Industries

Invasive Species Biosecurity

NSW Tropical Soda Apple Strategic Plan

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More information

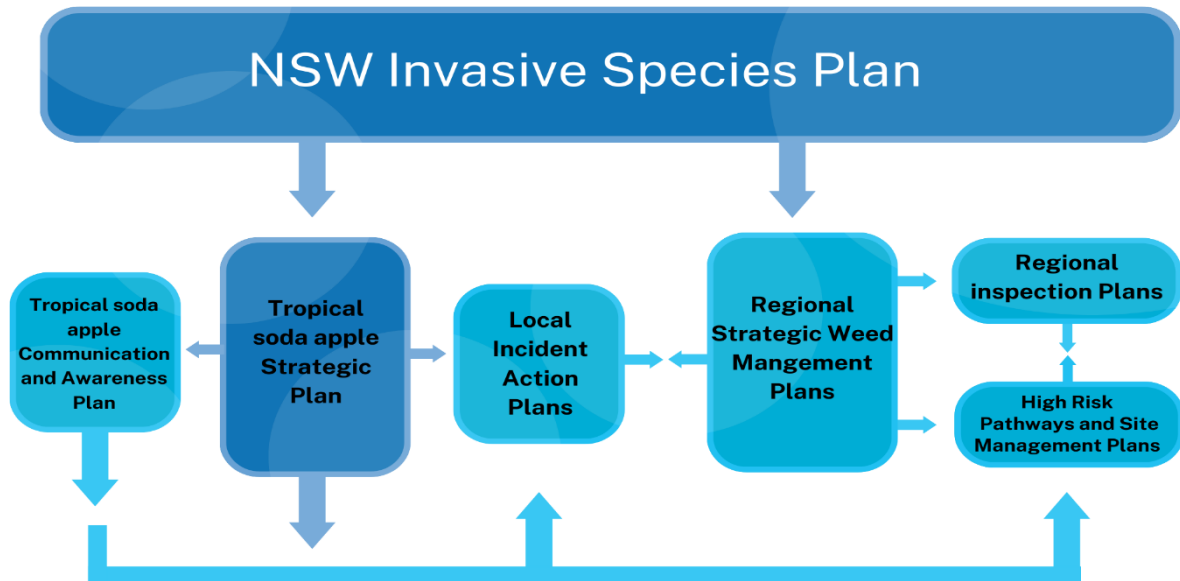
Rod Ensbey / Weeds Biosecurity / Grafton

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© State of New South Wales through Regional NSW 2023. The information contained in this publication is based on knowledge and understanding at the time of writing (October 2023). However, because of advances in knowledge, users are reminded of the need to ensure that the information upon which they rely is up to date and to check the currency of the information with the appropriate officer of the Department of Regional NSW or the user's independent adviser.

Planning hierarchy



Mission

That existing populations of tropical soda apple are contained and destroyed with the view of eradication and that all new incursions be eradicated rapidly.

Broad aims for eradication:

- Delimit all populations
- Destroy to prevent fruiting and seeding
- Revisit previous infested sites for 8 years after the last plants have seeded to confirm seed bank exhausted and locally eradicated

Legislative Controls

Tropical soda apple (*Solanum viarum*) is regulated under a Biosecurity (tropical soda apple) Control Order 2022 (the control order) under the NSW *Biosecurity Act 2015*.

Control Zone

- 1) Pursuant to sections 62(1)(a) and 67 of the Act, the control zone to which control measures are required to be implemented under this Control Order 2022 is the whole of New South Wales.
- 2) The control zone is called the **Tropical Soda Apple Control Zone**.

Control Measures: Owners and occupiers of land on which there is tropical soda apple must:

- notify the local control authority of new infestations;
- destroy the plants including the fruit;
- ensure subsequent generations are destroyed; and
- ensure the land is kept free of the plant.

A person who deals with a carrier of tropical soda apple must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant on the land, or on or in a carrier.

Risk and impact

Tropical soda apple (TSA) reproduces via seed and can regenerate from root material. The fruit is highly palatable when ripe and readily eaten by animals with major vectors of spread including cattle, feral pigs and deer as well as birds. Movement by water through flood events also contributes to downstream spread. In NSW, cattle movement is currently the major spread pathway and infestations have been found by tracing cattle movements from infested areas using the National Livestock Identification Scheme. Seed can also be spread by contaminated produce, soil and equipment.

TSA invades open to semi shaded areas, including pastures, forests, riparian zones, roadsides, recreational areas, horticultural and cropping areas in a wide variety of soils. The leaves of the plant are unpalatable to livestock, thus reducing carrying capacity.

TSA reduces biodiversity in natural areas by displacing native plants and disrupting ecological processes. Prickles on this plant restrict native animal and stock grazing and can create a physical barrier to animals, preventing movement to shade and water.

The weed risk assessment of TSA indicates the feasibility of control is rated as very high; the weed risk category is high at 196; and the management priority is to destroy infestations. This risk assessment supports the continued listing of TSA as a State priority weed as a Control Order species.

Current extent in NSW

Under the Biosecurity Control Order, no new incursions of TSA have been found outside of the known Local Control Authority and regional areas. TSA only occurs within the North Coast, the Midcoast LCA part of the Hunter, the Armidale and Tenterfield LCA parts in the New England LLS regions, in areas on the eastern fall and at low altitude.

Councils, including Rous County Council, Clarence Valley, Coffs Harbour, Bellingen, Nambucca Valley, Kempsey, Port Hastings, Tenterfield, New England Weeds Authority and Midcoast Council all include TSA known and high-risk sites as part of their regular or high-risk inspection programs. Known problematic properties can be inspected up to 4 times annually.

During 2021 DPI coordinated a tracing program for the movement of livestock from TSA infested properties across NSW using the NLIS system. This data identified 7,500 movements over the last 8 years, with no new sites of TSA detected outside of the current know LCAs.

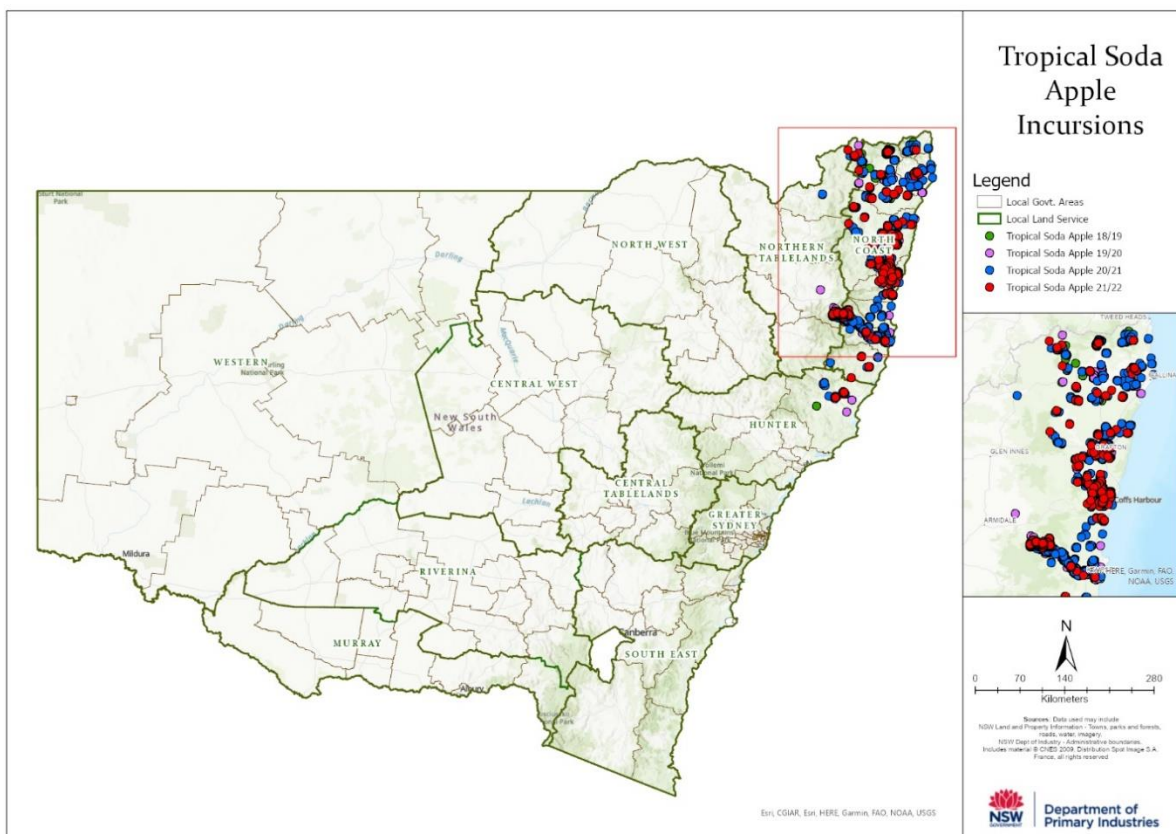


Figure 1: Tropical Soda Apple infestations detected across NSW

Current suitable habitat in Australia

The extent of suitable habitat for tropical soda apple in Australia is shown in Figure 2. The potential risk for population establishment and expansion is highest in the dark red areas.

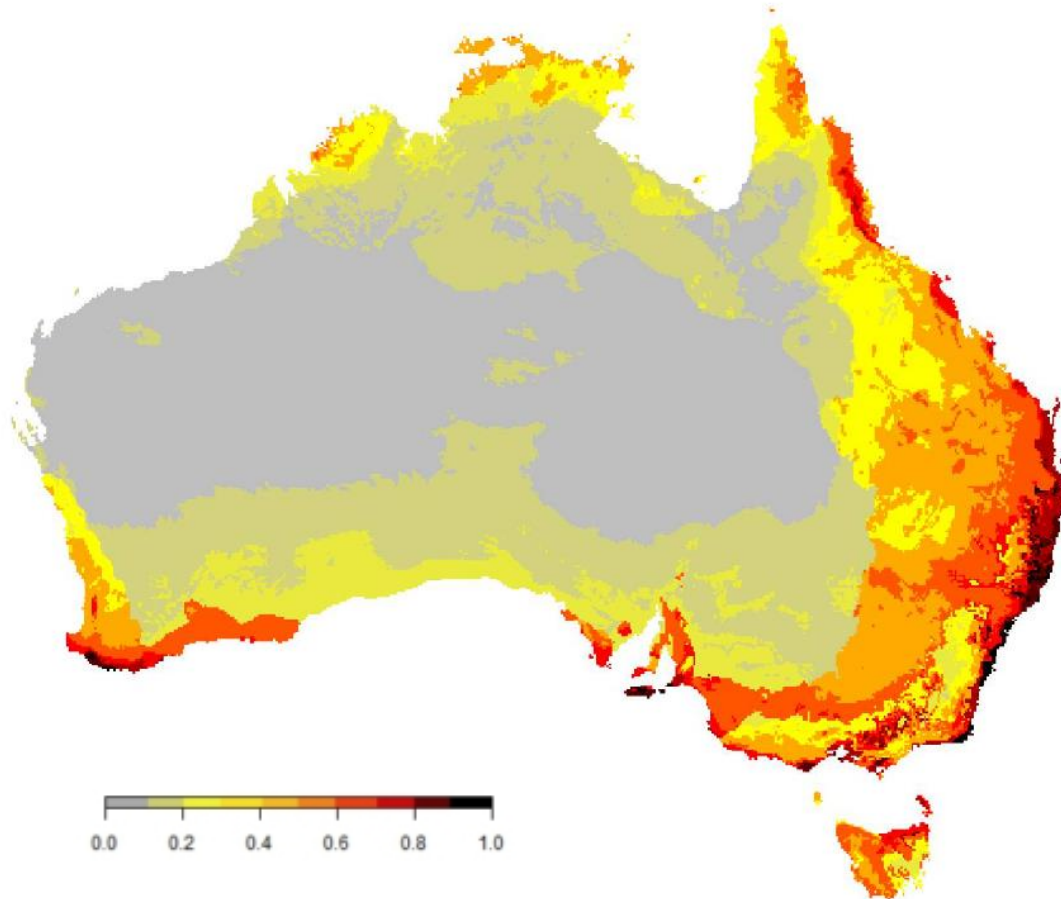


Figure 2. Potential distribution of tropical soda apple in Australia (www.weedfutures.net).

Strategic Plan Management Objectives

1. Coordinated governance
2. Early detection of new incursions
3. Timely response to new incursions
4. Biosecurity duties are met
5. Spread and movement are minimised

Objective 1 Coordinated governance

Key Performance Indicators

Success	Performance indicator	Basis for comparison
<i>Operate the NSW Tropical Soda Apple taskforce to implement this plan</i>	TSA Strategy is implemented and reviewed annually	Taskforce minutes inform the operational plan and progress towards success of this strategic plan

Strategies and Deliverables

	How	By when	Who	Output/Activity
1.1	Operate a NSW TSA taskforce to implement this strategy	Three meetings held per annum	DPI Taskforce	A minimum of 75% of Taskforce members attend meetings Members complete all agreed actions identified at meetings Taskforce members endorse Terms of Reference
1.2	Provide situation reports to the taskforce and the State Weeds Committee	Annually (post-season) and as required when new infestations occur	DPI	Annual situation reports provided to the Taskforce and the State Weeds Committee BIS record entered for all inspections and control activities relating to TSA
1.3	Review this strategy annually within the scope of the NSW Invasive Species Plan	Every two years	DPI, Taskforce	TSA strategy is reviewed every two years and updated as required
1.4	Maintain legislative arrangements for management of high-risk pathways and sites	Annually	DPI, LCAs	TSA Control Order gazetted State and regional plans in place
1.5	Work with nearby jurisdictions to maintain eradication programs	Annually	DPI DPI	Updates provided to QLD Maintain taskforce memberships with NPWS, Forests and NSW Farmers Participate in cross border meetings

Objective 2 Early detection of new incursions

Key Performance Indicators

Success	Performance indicator	Basis for comparison
<i>Early detection of incursions reduces time until eradication</i>	The proportion of infestations detected early enough that eradication is practicable	Improvement over time

Strategies and Deliverables

	How	By when	Who	Output/Activity
2.1	Include TSA high risk sites and pathways in regional inspection plans	May each year	LLS, LCAs	11 regional inspection plans include TSA high risk sites and pathways
2.2	Exchange information and collaborate with cross border contacts on high-risk pathway inspections	Prior to each taskforce meeting	DPI	Cross border contacts exchange information and collaborate on high-risk pathway inspections
2.3	Develop and implement an awareness and communications plan	Working draft by June 2024 Reviewed annually	DPI	A TSA awareness and communications plan campaign is developed
2.4	Develop tools and training to assist weeds professionals to recognise TSA and inspect high risk sites and pathways	Annually	DPI, LCAs	Trained authorised officers inspect high risk sites and pathways Virtual 3D model available
2.5	Trial the use of drones, computer vision and machine learning for surveillance of high-risk sites and pathway	According to a prescribed training timetable (in development) December 2023	LLS, DPI	The effectiveness of where and how technologies can assist with surveillance of high-risk sites and pathways is determined

	How	By when	Who	Output/Activity
2.6	Inspect TSA high risk sites twice annually, as a minimum, including; saleyards, abattoirs, paunch sites, cattle dealers/ carriers, roadside, showgrounds	Inspected twice annually, during growing season	LCAs	Inspections twice annually as per regional inspection plans
2.7	Inspect lands adjacent to and downstream of known sites	Annually	LCAs	Inspections annually of properties in 2km radius from known sites
2.8	Undertake delimiting surveys after flood events	3-6 months after the event	LCAs	Flood delimitation surveys completed
2.9	Undertake NLIS traces from infested properties	Every 3 years	DPI, LLS, LCAs	NLIS Traces undertaken, and properties provided to LCAs

Objective 3 Timely response to new incursions

Key Performance Indicators

Success	Performance indicator	Basis for comparison
<i>Timely response to incursions reduces time until eradication</i>	Incursions responded to in the specified timeframe	Improvement over time

Strategies and Deliverables

	How	By when	Who	Output/Activity
3.1	Treat new outbreaks within 7 days of detection	Within 7 working days of discovery	LCA	New infestations treated and reported to DPI within 7 working days of discovery and uploaded to BIS
3.2	Report new TSA outbreaks	Within 48 hours of detection	Landowners	Landowners report new infestations to LCAs as soon as practicable but within 48 hours of detection
3.3	Undertake delimiting surveys of new infestation sites within 2 weeks of confirmation	Within 2 weeks	LCAs	100% of delimitation surveys are undertaken within 2 weeks of confirmation
3.4	Inspect all known infested properties twice annually, or more/less frequently depending on risk and compliance	Inspected twice annually	LCAs	All sites inspected and treated, Biosecurity Control Order compliance actions undertaken
3.5	Remove fruit from TSA plants where practicable to assist with eradication	Within 2 weeks of detection	LCA, landowners	TSA fruit removed and destroyed or LCA may approve the landowner to burn or bury onsite
3.5	Source additional funding for the inspection and control of TSA along high-risk pathways and sites	Annually	Taskforce members	Funding applications prepared for TSA programs Additional funding sourced outside of the NSW Weeds Action Program

	How	By when	Who	Output/Activity
3.7	Implement Best Practice measures	As required	Landowners manager/ occupier LCAs	Implement control, inspection and hygiene procedures from the TSA Best Practice manual
3.8	Undertake priority research as recommended by the taskforce	Annually	DPI, Universities	Research projects presented to the taskforce to identify funding opportunities

Objective 4 Biosecurity duties are met

Key Performance Indicators

Success	Performance indicator	Basis for comparison
<i>Stakeholders discharge biosecurity duties</i>	Proportion of stakeholders meeting biosecurity duties: <ul style="list-style-type: none"> • voluntarily • after receiving a direction • after receiving a penalty infringement notice or prosecution 	Voluntary compliance reaches or maintained at 100%

Strategies and Deliverables

	How	By when	Who	Output/Activity
4.1	Support stakeholders with infestations and whose activities spread TSA to understand and discharge their biosecurity duties	As required	LCA, DPI, LLS	Proportion of landholders with incursions implement control measures
4.2	Landowners that fail to meet requirements of the Control Order are penalised	When required	LCAs	Directions issues Infringement notices issued Cost recovery actions taken

Objective 5 Spread and movement are minimised

Key Performance Indicators

Success	Performance indicator	Basis for comparison
<i>Reduction in spread and movement caused by human vectors</i>	Number of new infestations traced to human-vector	Decrease over time

Strategies and Deliverables

	How	By when	Who	Output/Activity
5.1	Landowners/managers advised to quarantine stock before sale and movement	As required	Landowners, LCAs, LLS	Stock held in TSA free areas for 7 days prior to movement
5.2	Ensure machinery and farm hygiene best practices are in place	As required	Landowners, NSW Farmers, LCAs	Silage and hay makers aware of responsibilities Machinery hygiene practices in place Biosecurity Control Order compliance actions undertaken
5.3	Ensure stock transportation is undertaken hygienically	As required	Stock transporters, LCAs	Stock transporters made aware of responsibilities under the Biosecurity Control Order
5.4	Restrict the movement of manure from commercial stock sale yards	Annually	LCAs, DPI, Saleyard managers	Permits in place for movement of manure Compliance with composting procedures Manure contained locally Signposting and washdown facilities
5.5	Restrict movement of paunch from abattoirs	Annually	LCAs, DPI, abattoir managers	Paunch managed with onsite disposal Permits in place for movement of paunch

Monitoring, evaluation and reporting

The NSW Tropical Soda Apple Taskforce will evaluate stakeholder progress against this strategy. This strategy will be reviewed annually commencing in November 2025 and revised on a needs basis. A report card against this strategy will be completed annually (commencing June 2024) and provided to the NSW Tropical Soda Apple Taskforce and State Weeds Committee.

Acronyms and definitions

BIS – Biosecurity Information System

DPI – New South Wales Department of Primary Industries

LCA – Local Control Authority

LLS – Local Land Services

NLIS – National Livestock Identification System

NPWS – NSW National Parks and Wildlife Services

TSA – Tropical Soda Apple

RWC – Regional Weed Committee

Additional information

NSW Invasive Species Plan:

www.dpi.nsw.gov.au/biosecurity/weeds/strategy/strategies/nsw-invasive-species-plan-2018-2021

NSW Biosecurity Act 2015:

www.dpi.nsw.gov.au/about-us/legislation/list/biosecurity-act-2015

NSW WeedWise profile:

<https://weeds.dpi.nsw.gov.au/Weeds/TropicalSodaApple>

Weed risk assessments and Biosecurity Information System records in WIDX:

widx.nsw.gov.au