NSW Agriculture

Strategic Plan for the Management of Alligator Weed

In the Hawkesbury-Nepean Catchment

Developed by the Hawkesbury-Nepean Aquatic Weeds Task Force 2001

HAWKESBURY NEPEAN ALLIGATOR WEED STRATEGIC PLAN

AIM

The aim of the Hawkesbury Nepean Alligator Weed Strategic Plan is to minimise, and where possible, locally eradicate Alligator Weed infestations across the hydrological catchment; and better protect the catchment's natural ecosystems, the productivity of its lands and the diversity of its economy.

In achieving this aim the strategy will progressively and substantially improve:

- The range of control and local eradication tools available and their integrated use
- The availability of funding support from catchment managers, users and beneficiaries
- The effective participation of stakeholders and the community
- The institutional and regulatory arrangements which underpin aquatic weed management
- The capacity of stakeholders to comprehensively assess risk and monitor performance

SUPPORTING STRUCTURE AND PROCESS

The Strategic Plan has been developed and will continue to be further refined through the Hawkesbury Nepean Aquatic Weeds Taskforce. Taskforce membership is made up of more than forty government and non-government stakeholder groups and organisations. They represent the environmental, social and economic interests that impact on or are impacted upon by the river system within the hydrological catchment area. Taskforce Sub-groups provide input to the decision making process. The Sub-groups address:

- Community education, awareness and information
- Research, technical support and regulation
- Operations
- Funding
- Risk assessment and monitoring

FUNDAMENTAL PRINCIPLES TO THE STRATEGY

The Strategy is based on the following Taskforce endorsed principles and assumptions:

1. Once Alligator Weed is established within a catchment it is not possible to achieve total eradication with current technology, information and management practice. It is possible however to achieve 'local' eradication and substantially minimise infestation on a whole of catchment basis given sufficient funding and coordination of resources within a strategic framework. As technology, information and management practice improve the degree of eradication will increase.

2. There is a distinct relationship between the nutrient levels in the river system and the amount of weed infestation at identifiable points.

3. Better determination of the source of the problem, the cause of the problem and who benefits from aquatic weed eradication and control and management in the Hawkesbury Nepean hydrological catchment will enable more effective targeting of individuals, groups and organisations to secure funding and in-kind contributions to support the implementation of the Strategic Plan.

RELATIONSHIP TO THE NATIONAL AND STATE ALLIGATOR WEED STRATEGIES

While the Hawkesbury Nepean Alligator Weed Strategy meets the particular circumstances of the Hawkesbury Nepean catchment the Taskforce has ensured and will continue to ensure it retains its consistency with the National and State Alligator Weed strategies. Details relating to such things as the biology of Alligator Weed, the history of its spread, current impacts and the socio-economic factors affecting management decisions can be obtained from the NSW and National Alligator Weed strategies.

GOAL 1. EFFECTIVE, ON-GOING RISK ASSESSMENT AND PERFORMANCE MONITORING

Strategies	Actions	Timing	By whom
1.1.Develop and implement a comprehensive risk assessment and monitoring framework applicable to all appropriate scales (catchment, industry, land system, local area, infestation site, and ecosystem) to: ➢ Assess infestation risk and potential impact (incl. post flood responses) ➢ Develop management/ eradication responses (incl. post flood responses) ➢ Monitor performance of management/eradication responses (incl. impact on the environment) ➢ Ensure effective, integrated data collection and analysis ➢ Co-ordinate actions across multiple stakeholders	• Establish criteria for high to low risk assessment	ASAP	Criteria Sub-group of Taskforce, Regional Information Monitoring Centre (RIMC)-UWS
	• Establish criteria for eradication or management potential	ASAP	Criteria Sub-group of Taskforce, RIMC-UWS
	• Develop protocols to acquire data information (incl. surveillance information provided by land-holders) and improve its reliability and accessibility	ASAP	Criteria Sub-group of Taskforce, RIMC-UWS
	• Survey rivers, creeks, lagoons and dams to collect data to be recorded, collated, categorised and mapped	Monthly during growth period and in each August	LCAs, Penrith Lakes Dev. Corp
	• Record, collate, categorise, map and analyse the data collected	On-going	RIMC-UWS
	• Coordinate actions at all levels	On-going	Taskforce and LCAs until such times as an across-LCA structure is

			established - refer Goal 5.4

GOAL 2. EFFECTIVELY MANAGE/ERADICATE INFESTATIONS

Strategies	Actions	Timing	By whom
2.1.Determine management/ eradication responses consistent with the risk assessment and monitoring framework	• Develop and implement management/eradication action plans	On-going	Taskforce and LCAs until an across-LCA structure is established - refer Goal 5.4
	• Develop a post-flood emergency response action plan and implement where necessary	On-going	
2.2. Efficiently and effectively utilise the catchment resources to action the management and eradication priorities	• Identify the human, physical and financial resources required to deal with each situation	On-going	Ditto
	• Identify the available resources and determine the gaps	On-going	Ditto
2.3.Implement integrated chemical, biological , mechanical and human mng't strategies	• Develop action plans to fill the gaps and achieve the planned outcomes	On-going	Ditto
	• Implement plans including working with community groups	On-going	Ditto
2.4.Monitor sites for progress of plan implementation and re-infestation	• Undertake regular inspections	Monthly (high risk) and bi-monthly (low risk)	Ditto
	• Utilise the community and other stakeholders to broaden surveillance	On-going	Ditto
2.5. Address key vectors of introduction and spread	• Identify the key vectors and develop management strategies	On-going	Ditto
	• Develop and apply safe disposal protocols	On-going	Ditto

GOAL 3 EFFECTIVE PARTICIPATION BY ALL STAKEHOLDERS - LANDHOLDERS, GOVERNMENT OFFICERS, INDUSTRY EMPLOYEES AND THE COMMUNITY

Strategies	Actions	Timing	By whom
3.1.Ensure landowners along rivers, creeks and wetlands are: ➢ aware of their legal obligations in regard	• Identify landowners in high priority areas and prepare databases.	Short term	LCAs, NSW Ag., HRCC, DLWC
	• Gain the support of landowner		

to aquatic weeds ➢ able to identify aquatic weeds ➢ willing to take appropriate action	'leaders' and peak bodies. • Identify key messages for landowners • Provide appropriate support to land-holders to empower them to take suitable action • Collect, prepare and disseminate appropriate education material.	Ongoing On-going	
3.2.Enlist the support of relevant government officers and private sector representatives to: ➢ Identify the locations of aquatic weed infestations. ➢ Educate their 'clients' and distribute information about the threat of aquatic weeds and the appropriate reporting and control responses.	• Identify appropriate individuals from: agencies (Agriculture, HRCC, DLWC NPWS Waterways, EPA); Councils (bushland officers, parks and reserves staff, EHOs, rangers and inspectors); and private providers (rural supply, irrigation installation and equipment, dam contractors) ▪ Prepare database of officers/private providers and seek support of senior managers. ▪ Prepare information kits, hold information sessions for government officers and distribute bulk copies of landowner brochures.	Short term	NSW Ag. supported by Government agencies, HRCC, DLWC

3.3.Enlist the support of professional, recreational and other community users of the riparian corridors, wetlands and other water bodies in reporting aquatic weeds and preventing their spread	▪ Identify relevant individuals, 'leaders' and peak bodies from Government (SRA, RTA), professional (earth moving, irrigation and dam contractors,), recreational (water-skiers and boat enthusiasts, fishers, canoeists, walkers and picnickers) and other community users (Landcare and Bushcare groups, Streamwatch other environmental monitoring groups) ▪ Prepare databases and gain the support of 'leaders' and peak bodies. ▪ Prepare information material, brief user groups and distribute recognition/reporting material	Short term Medium term	NSW Ag. supported by Government agencies, HRCC, DLWC
3.4.Encourage education and training providers to include aquatic weeds information in appropriate courses	• Identify relevant TAFE, university and other adult education courses and gain support of providers to incorporate information on aquatic weeds • Facilitate the preparation of appropriate course material.	Medium to long term	NSW Ag. supported by Government agencies, HRCC, DLWC
3.5.Ensure the aquarium and nursery industries and the Sri-Lankan Australian community are aware of the prohibition on the cultivation and sale of aquatic weeds and aware of alternative species.	• Gain the support of nursery and aquarium industry associations. • Gain the support of 'leaders' of the Sri-Lankan Australian community • Prepare and disseminate awareness information.	Medium to long term	NSW Ag. supported by Government agencies, HRCC, DLWC

GOAL 4. EFFECTIVE RESEARCH AND ASSOCIATED TECHNICAL SUPPORT TO UNDERPIN STRATEGY DEVELOPMENT AND IMPLEMENTATION

Strategies	Actions	Timing	By whom
4.1.Develop techniques for improved herbicide control	• Evaluate a range of chemicals within the following parameters: ➢ Timing of application ➢ In aquatic and terrestrial situations ➢ Impact on target weed ➢ Impact on related eco-systems	Short term	NSW Ag, CSIRO, HRCC, EPA
4.2.Obtain NRA approval for use of a broader range of chemicals	• Fulfil procedures	Medium to long term	NSW Ag, EPA

4.3.Explore the potential of mechanical harvesting	• Evaluate local and world wide experiences taking into consideration: ➢ Type of machinery used and its suitability to the H/N River system ➢ The most effective time for its use ➢ How it best fits with chemical and biological controls ➢ The environmental impacts of the machine (incl. Increased turbidity, damage to native reed beds, compaction of access points and weed spread) • Develop protocols for cleaning of machine before moving • Develop protocols for safe disposal of collected weed	Short term	NSW Ag, HRCC, EPA, Penrith Lakes Dev. Corp
4.4.Introduce a range of biological control options	• Mass rear, release and monitor the performance of current bio-control agents in the catchment • Investigate the potential of mico-herbacides • Further investigate the potential of other known bio-control agents for release in Australia • Investigate further options for biological control in the native range of Alligator Weed	Short term Short to Medium term Medium term Long term	CSIRO, NSW Ag, HRCC, UWS-H NSW Agriculture, CSIRO CSIRO CSIRO
4.5.Develop an Alligator Weed model to assist in prediction and decision making	• Define model specifications and scope • Use the model to: ➢ Determine gaps in knowledge and thus direct research ➢ Develop integrated weed strategies that reduce/eradicate the targeted weed/s • Review the progress • Produce best management practice guidelines	Short term Short term Medium to long term Medium to long term	CSIRO, NSW Ag, HRCC, UWS-H, other agencies involved in active control eg. Port Stephens Shire Council, Newcastle City Council CSIRO, NSW AG, HRCC, other agencies involved in active control eg. Port Stephens Shire Council, Newcastle

			City Council
4.6.Use research results for promotion, lobbying and funding purposes	• Collate and prepare the information • Present the information to achieve the strategic outcome required	On-going	CSIRO, NSW Ag, LCAs
4.7.Determine technical support requirements	• Include as part of funding submissions	On-going	CSIRO, NSW Ag, LCAs

GOAL 5 EFFECTIVE INSTITUTIONAL ARRANGEMENTS ARE CONDUCIVE TO FUNDING AND OPTIMISING STRATEGY OUTCOMES

Strategies	Actions	Timing	By whom
5.1. A core on-going funding stream is established and maintained	• Determine those aspects of the Hawkesbury Nepean Alligator Weed Strategy to be funded on an on-going basis	On-going	NSW Agriculture and DLWC on behalf of the Taskforce
	• Prepare proposals which identify the socio-economic threat posed by Alligator Weed; identify current public investment in containment and control (from all sources); detail the total cost of implementing the strategy ; and identify the specific funding sought	On-going	NSW Ag and DLWC on behalf of the Taskforce
5.2.Apply for complementary and supporting funding from bodies such as the Natural Heritage Trust and the EPA Environmental Trust	• Maintain a schedule of funding bodies including application criteria; and their opening, closing and notification of success and availability of funds dates	As per schedule	Taskforce
	• Facilitate the development of applications to be submitted by the closing dates	Ditto	Ditto
5.3Apply for one-off funding from State and Commonwealth Governments	• Develop a check list of criteria required for successful one-off funding applications	On-going	Taskforce
	• Facilitate the development of applications and apply in situations where funding criteria is met	On-going	Ditto
5.4.Ensure efficient implementation by assessment of institutional arrangement	• Assess institutional arrangement options	ASAP	Ditto
	• Develop proposal on preferred option	ASAP	Ditto

GOAL 6. EFFECTIVE LINKAGES TO TOTAL CATCHMENT MANAGEMENT AND RELATED NATURAL RESOURCE REFORM INITIATIVES

Strategies	Actions	Timing	By whom
6.1.Maintain natural characteristics of waterways by: ➢ Reducing nutrient inflow ➢ Establishing environmental flows ➢ Improving weir management ➢ Ensuring appropriate land use patterns ➢ Maintaining riparian vegetation	• Identify indicators of nutrient enrichment	ASAP	Taskforce, RIMC-UWS-Richmond
	• Identify diffuse and point sources of nutrient inflows and develop strategies and action plans to deal with them	On-going	Taskforce and LCAs until an across LCA structure is established - refer Goal 5.4
	• Establish linkages to the Hawkesbury-Nepean Strategic Plan and the Water reform initiative	On-going	Ditto
	• Link with other programs such as Streamwatch and Waterwatch	On-going	Ditto
	• Develop and implement management plans with stakeholder participation and community based management groups	On-going	Ditto