

STAFF REPORT

TO: Environment & Planning Committee

FROM: Lindsay Vaughan, Biosecurity Co-ordinator / Policy Planner

REFERENCE: B104

SUBJECT: **MANAGEMENT OF INVASIVE ANTS UNDER THE REGIONAL PEST MANAGEMENT STRATEGY - REPORT EP09/04/12** - Report prepared for meeting of 23 April 2009

1. PURPOSE

This paper updates councillors on the management of invasive ants following three summers of intensive surveillance and two years of compulsory baiting and updates report EP08/04/05.

2. STATUTORY REQUIREMENTS

The Tasman-Nelson Regional Pest Management Strategy (“the Strategy”) became operative on 1 July 2007 and the Strategy rules require all land occupiers to undertake baiting to control ant numbers if Argentine or Darwin’s ants are present, and to take all reasonable precautions to avoid their spread in pot plants, rubbish, equipment and vehicles.

3. INFESTATION HISTORY

Darwin’s ants have probably been present in Nelson since the 1980s; Argentine ants were first identified at Port Nelson in 2001. Their natural rate of spread is estimated to be up to 50 m/yr for Darwin’s and about 150 m/yr for Argentine, but both species can be moved much greater distances in pot plants, household rubbish, equipment and vehicles. There are now 19 known localities, 10 in Tasman and nine in Nelson (see map in Appendix 1).

4. REASON FOR INCLUSION IN STRATEGY

Argentine ants are considered to be one of the world’s worst invasive species of ant. Both species are pests that can rapidly increase in numbers and over-run properties. They utilise a wide range of food sources above, on and under the ground, eliminating beneficial insects (worms, native ants, ladybirds), and cultivating unwanted insects (aphids and scale insects). Argentine ants are the more aggressive species and have been known to invade rest homes, eat caged birds and caged geckos, and kill baby birds. It is still unclear how significant their impact would be on our primary industries (viticulture, floriculture, horticulture) and on our native biodiversity, but the Strategy committee was sufficiently concerned to require landowners to treat invasive ants to slow the rate of spread.

5. SURVEILLANCE

In the last three years, Council contractors have undertaken intensive surveillance to provide better information of the unassisted rate of spread. Visual surveillance has been used alongside property frontages, supplemented by the use of baited pottles where ant numbers were low. This included surveillance of the high-risk locations - landfills, transfer stations, nurseries, landscape suppliers, and camping grounds.

6. BAITING

All residents (land occupiers) with ant-infested properties were contacted by mail and asked to undertake baiting on a specified weekend outside the Christmas period and long weekends. The letter included a leaflet on Argentine and Darwin's Ants and a brochure on baiting with Xstinguish (Appendix 2). To encourage coordination, baiting of the council-owned strip along roadsides was undertaken during this time. Coordination of baiting provides the most effective results, but it is difficult to achieve, even with a small group of neighbours.

7. RESULTS

The Council has very good information on the distribution of invasive ants in this region, as a result of three years of detailed surveillance, greater public awareness and a free ant identification service. In the last twelve months, only one new locality has been reported (10 properties in Nelson), bringing the total number of infested localities to 19. The number of infested localities in urban areas is shown in Table 1 below.

Table 1: Number of Infested Localities – Tasman and Nelson Urban Areas

Region	Argentine		Darwin's		Total
	Urban	Rural	Urban	Rural	
Tasman	2	1	4	3	10
Nelson	4	1	4	0	9
Total	6	2	8	3	19

There are now almost 900 infested properties within the urban areas (see Table 2 below), an increase of 23% on last year's numbers.

Table 2: Number of Infested Properties – Tasman and Nelson Urban Areas

Region	Argentine	Darwin's	Total
Tasman	176	64	240
Nelson	610	55	665
Total	786	119	895

There are a further 22 infested properties within the rural areas, an increase of four properties, mostly within Tasman District. These results reflect a higher level of public awareness and a greater willingness of residents and some pest management contractors to report new infestations.

8. DISCUSSION

Our surveillance confirms that the ants, particularly Argentine ants, are continuing to spread in urban areas, mostly along hard surfaces (footpaths, roadsides and culverts). A small number of residents who have baited with Xstinguish have reported disappointing results. Further investigations suggest that, in most cases, baiting instructions were not being closely followed. We have previously undertaken trials in that effective control was achieved when baiting instructions were followed and this was confirmed in a replicated laboratory trial in December last year. It appears that Xstinguish bait will only be taken when there is a shortage of food and only for a short period of time before rejection occurs, hence the need to apply in mid-summer.

It is frustrating that we are unable to determine how effective the current approach to baiting has been in slowing the rate of spread, despite millions of ants being killed annually. A desktop analysis, based on the amount of bait sold locally (excluding the bait used for treating reserves and roadsides), suggests that around 75% of infested properties are being baited. While this level of baiting is an impressive achievement, rapid re-infestation from untreated sections means re-baiting on an annual basis may be necessary for Argentine ants and at two-three yearly intervals for Darwin's ants.

The rule in the Strategy requiring compulsory baiting was included to keep ants out of rural areas for as long as possible with the intention of intensively treating infested rural properties. One of the frustrations for the Biosecurity team is that the rule is impossible to enforce.

Another issue relates to rural residents with large scale infestations who face high costs of baiting (\$1,000+/ha) and regular re-baiting. These costs are greatly in excess of any income that they are likely to make from their smallholdings. This was noted in last year's report as an issue that would need to be re-visited.

As with many other types of infestation, it is very difficult to determine how effective the current practice is in reducing the rate of spread of ants in urban areas and into rural areas. Surveillance of the heavily-infested reserve in Panorama Drive that was baited twice this season has resulted in no ants being recorded during a visual inspection.

The scale of the infestation with Tasman and Nelson (over 900 properties) is soaking up a significant proportion of biosecurity resources with the work involved with surveillance, ant identification, mapping, getting letters and brochures to residents, handling enquiries and monitoring.

A major concern has been the long period of market dominance by a single manufacturer with the only bait that has been available (Xstinguish) having a short field life, quality control problems (numerous reports of sloppy bait), a limited period of uptake by the ants, no residual effect, and ongoing bait cost increases.

There is also concern that the ants may develop bait rejection or become increasingly resistant to it. It is very pleasing to report that efforts to bring some competition into the market have been successful and laboratory and field trials have commenced in the Tasman-Nelson region using baits containing a different toxin in different formulations and a pesticide with a substantial residual life. Similar trials are now underway in Marlborough to deal with some extensive infestations of Darwin's ants and some local infestations of Argentine's ants.

There are a number of technical and political issues associated with the implementation of the Strategy rule on baiting invasive ants current that would benefit from further investigation by re-forming the Tasman-Nelson Biosecurity Strategy Review Committee to consider the issues and review the provisions of the Regional Pest Management Strategy rule that applies to invasive ants.

9. RECOMMENDATIONS

THAT the Council receive this report and:

- **note the demands that ant infestations are placing on limited biosecurity resources, and**
- **appoint three councillors to a joint Tasman-Nelson Biosecurity Strategy Review Committee to review the provisions of the RPMS Rule as they apply to invasive ants**

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APPENDIX 1:

Map showing Tasman and Nelson localities known to containing Argentine and Darwin's Ants

