



## 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 EP08/04/05** - Report prepared for 24 April 2008 Meeting

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### 1. PURPOSE

The purpose of this paper is to provide councillors with an update on management of invasive ants after two seasons of intensive surveillance and one season of compulsory baiting.

### 2. STATUTORY REQUIREMENTS

The Tasman-Nelson Regional Pest Management Strategy ("the Strategy") became operative on 1 July 2007. Two species of invasive ant, Argentine and Darwin's, were included in the Strategy and the Strategy rules require all land occupiers to undertake baiting to control ant numbers if either species is 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 been present in New Zealand since 1970 and Argentine ants since 1990 and both species have rapidly spread throughout the major urban areas of the North Island and the upper South Island. Darwin's ants have probably been in Nelson since the 1980s while 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 have the ability to move to new destinations in pot plants, household rubbish, equipment and vehicles. This is indicated in the present distribution of these ants (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 rapidly increase in numbers, over run properties, utilise a wide range of food sources on the ground and up in trees, outdoors and indoors, eliminate beneficial insects (worms, native ants, ladybirds), and cultivate unwanted insects (aphids and scale insects). Argentine ants are the more aggressive species and have been known to eat caged birds and geckos and to kill baby birds. It is unclear how significant their impact would be on our primary industries (viculture, floriculture, horticulture) and on our native biodiversity, but the Strategy committee felt strongly about the importance of treating the infestation in the urban areas to slow the rate of spread into rural areas.

## 5. SURVEILLANCE

In the last two years, the Council has deployed resources to undertake surveillance. Last year, the focus was on identifying the extent of the infestation using street frontage to identify infested properties at the outer edges. This year we increased the intensity of surveillance to allow a better estimate of the natural rate of spread. Visual surveillance has been used, supplemented by the use of baited pottles in areas where ant numbers were low or at the outer edges. Annual surveillance of the high-risk sites will continue; this includes landfills, transfer stations, nurseries, landscape suppliers, and camping grounds.

## 6. BAITING

All residents (land occupiers) with ant-infested properties and their immediate neighbours have been contacted and asked to undertake baiting during or close to a specified weekend if Argentine or Darwin's ants were present. The letter included an offer to provide baiting demonstrations to neighbourhood groups, a brochure on baiting, and a leaflet on Argentine and Darwin's Ants (Appendix 2). To assist with coordination, baiting of the council-owned strip along roadsides was undertaken over the specified weekend. Coordination is important to achieve most effective results, but it is extremely difficult to achieve, even with a small group of neighbours. This year, no resident asked for a baiting demonstration, but contractors baiting roadsides were frequently asked for advice on baiting, especially in newly-infested areas, as were bait suppliers.

## 7. RESULTS

The Council now has a much better idea of the distribution of invasive ants in this region, as a result of two years of detailed surveillance, increased publicity, greater public awareness and a free ant identification service. New infestations are still being reported but they are relatively small ones (less than 20 properties). The number of infested properties in urban areas is shown in Table 1 below and the map in Appendix 1 shows the known locations.

**Table 1: Number of infested properties – Tasman and Nelson Urban Areas**

| <b>Region</b> | <b>Argentine</b> | <b>Darwin's</b> | <b>Total</b> |
|---------------|------------------|-----------------|--------------|
| <b>Tasman</b> | <b>166</b>       | <b>61</b>       | <b>227</b>   |
| <b>Nelson</b> | <b>464</b>       | <b>38</b>       | <b>502</b>   |
| <b>Total</b>  | <b>630</b>       | <b>99</b>       | <b>729</b>   |

This is a substantial increase in the number of properties that were known to be infested, compared with last year (532); these are largely through additional number of properties found to be infested with Argentine ants around the Stoke foothills area (Panorama Drive/Arapiki Rd), in the Wood area, and in Olympus Way. The increase is primarily the result of natural spread from the edges of infested areas.

The number of infested properties in rural areas is shown in Table 2 below and the shown on the map in Appendix 1.

**Table 2: Number of infested properties in rural areas of Tasman and Nelson.**

| <b>Region</b> | <b>Argentine</b> | <b>Darwin's</b> | <b>Total</b> |
|---------------|------------------|-----------------|--------------|
| <b>Tasman</b> | <b>3</b>         | <b>6</b>        | <b>9</b>     |
| <b>Nelson</b> | <b>9</b>         | <b>0</b>        | <b>9</b>     |
| <b>Total</b>  | <b>12</b>        | <b>6</b>        | <b>18</b>    |

This is a substantial increase in the number of rural properties that were known to be infested, compared with last year (2); there are three new locations, two in Tasman and one in Nelson. These sites have been infested for several years and these results reflect a higher level of public awareness and the willingness of residents to report.

## **8. DISCUSSION**

Intensive surveillance confirms our expectation that the ants, particularly Argentine ants, are continuing to spread in urban areas, most rapidly along footpaths, roadsides and through culverts. We have undertaken trials that have confirmed that very effective control is achieved when the bait is applied as recommended. A small number of residents are achieving disappointing results, but investigations suggest that baiting instructions are not being closely followed. Advice from the local bait suppliers indicate that in the larger areas, bait is being applied over a long period of time, well before and after the specified weekend. Restricting sales of bait until close to the specified baiting weekend was considered, but with a number of external suppliers, this is not a feasible option.

It is difficult to determine how effective the current approach to baiting has been in reducing ant numbers in urban areas. A desktop analysis, based on the amount of bait sold locally, less the bait used for reserves and roadsides, suggests that around 75% of affected areas are being baited. This level of baiting is an impressive achievement. However, the significant number of very small tubes being sold suggests that partial baiting may be occurring on some larger sections. One implication is that properties adjoining untreated sites will be invaded within a relatively short period of time, requiring complying residents to bait more frequently to keep ant numbers down.

The new rule in the Strategy was intended to keep ants out of rural areas for as long as possible, and to treat rural areas intensively, but the cost of this for residents with large infestations is high. In one new site, there are two landowners facing costs for bait of more than \$2,000 to treat 4 – 6 ha. They will need to continue baiting on a regular basis (usually two-yearly) to control ants to meet the requirements of the Strategy rule. This is greatly in excess of any income that they are likely to be making from their smallholdings.

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 (729 infested urban properties sites and 18 rural properties) is now starting to soak up an increasing proportion of limited biosecurity resources with the amount of time needed for surveillance, ant identification, mapping, getting letters and brochures to residents and monitoring.

We are reviewing our methods of surveillance to see if this work can be done earlier to get baiting earlier. Having done intensive surveillance at the property level, future surveillance can be focused on the margins of existing infestations to assess the rate of spread and respond to public reports of new infestations.

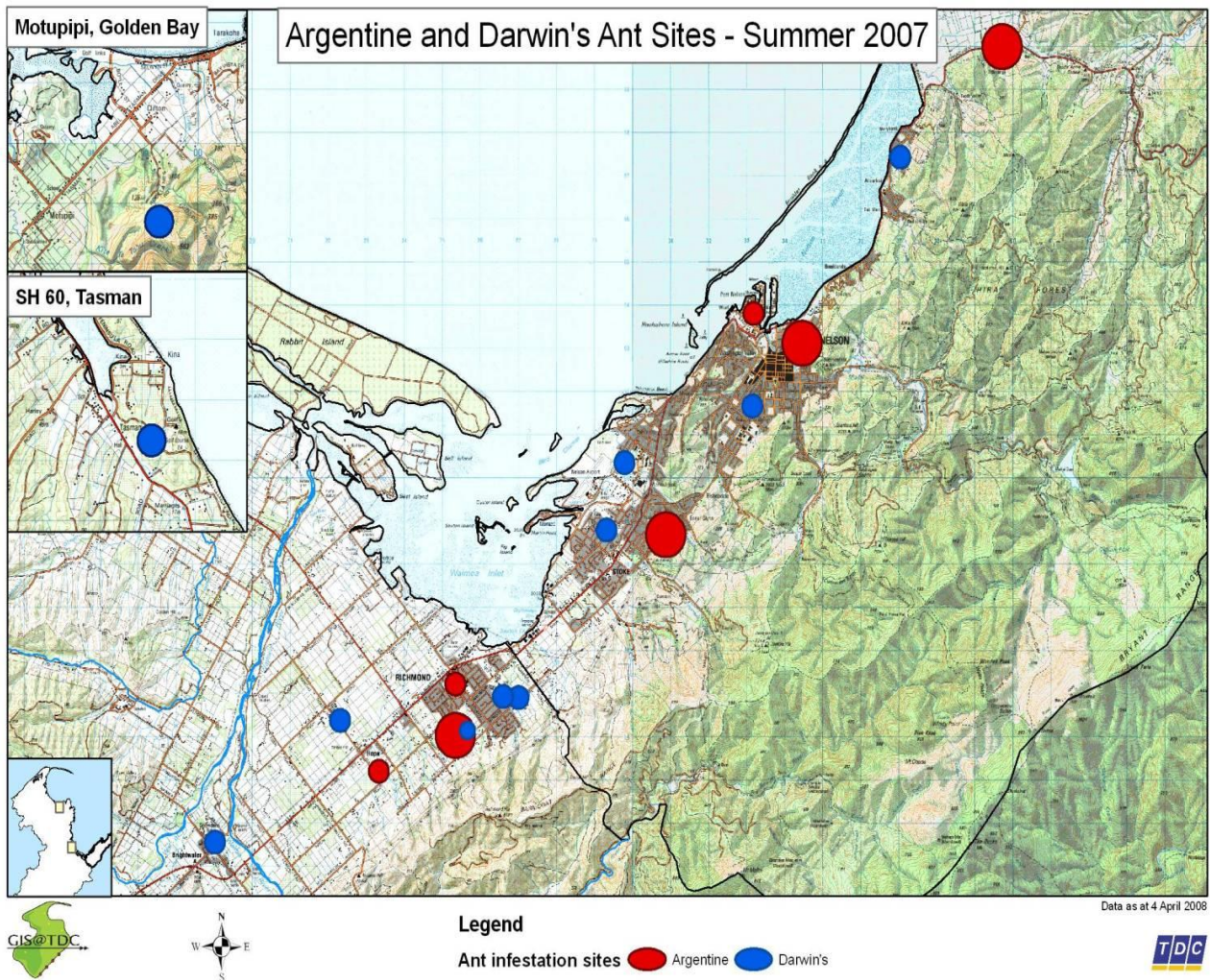
## **9. RECOMMENDATIONS**

**THAT the Council receive this report and:**

- **note the demands that ant infestations are placing on limited biosecurity resources, and**
- **note that there may be a need to review the RPMS Rule provisions as they apply to invasive ants after the completion of ant control in 2008/09**

Lindsay Vaughan  
**Biosecurity Co-ordinator / Policy Planner**

**APPENDIX 1:**  
**Map Showing Areas in Tasman and Nelson Infested with Invasive Ants**



## What you should do

### Control/Treatment

Talk to your neighbours, particularly those with properties adjoining yours. Get them to check their properties and at the same time lay the bait.

- **Do not** spray the foraging ants with any common household sprays. It won't significantly affect the ants in the nests underground
- Only one bait is effective against them. This is "Xstinguish" and it is available in 325 gm cartridges from Pest Management Training & Services (544 5274) and Flybusters/Antiants (0800 837 070) and in 100gm tubes from Alpha Environmental (544 4365). The 325 gm cartridge will treat one medium to large section (600 - 1,000 sq m) and have some left over for follow up baiting to kill any survivors, or two small sections. The 100 gm tube will only be sufficient for a small section, such as a town house (up to 400 sq m)
- Baiting should only be done in the warmer months from December to early April when ants are most active. They will carry the bait back to the nests
- For advice on how and when to lay bait, refer to the Tasman District Council brochure on baiting requirements
- The best results are achieved when baiting happens at the same time in the neighbourhood



## What you should do

### Control/Treatment

- Consider the use of ant repellent around vehicles, wheelie bins, recycle bins and entrances to houses. The Kiwicare product "No more ants" is available from many hardware stores
- Order your bait 8 - 10 days before treatment to allow your supplier time to order and freight bait from the Auckland manufacturer

### Precautions to take before the baiting season:

- Securely store food that is favoured by the ants
- Put pet food bowls in a tray of water to prevent access by the ants
- Clean kitchen and other surfaces with lemon juice, soapy water or diluted eucalyptus or tea tree oil
- Trim trees and plants near your house to reduce ant access to roof, windows or plumbing and block any obvious entry points

### Keeping up to date

These two ants have been included in the Tasman-Nelson Regional Pest Management Strategy as "Containment" pests. The occupiers of ant-infested land are required to bait to control them because of their pest potential and the ease with which they can spread.

Tasman District Council is the management agency for implementation of the Strategy within Nelson City and Tasman District.

For further information, call Tasman District Council:

**Phone 03 543 8400**

**or visit [www.tasman.govt.nz](http://www.tasman.govt.nz)**

or Nelson City Council:

**Phone 03 546 0200**

**or visit [www.ncc.govt.nz](http://www.ncc.govt.nz)**

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One of the world's  
most invasive insects

# Argentine & Darwin's Ants



**These ants are a major pest and a threat to our outdoor lifestyle. Stop the spread of invasive ants.**

**TDC** Tasman  
District Council

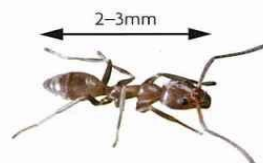
**NELSON CITY COUNCIL**

## Why they're a problem

- These ants multiply very quickly
- They have a huge appetite and utilise any food source they can find
- They can quickly over-run your property and make it almost impossible to enjoy your outdoor areas
- They are also a serious indoor pest. They can get into your food sources, including screw top jars, microwaves and fridges
- They can also be found in bedrooms, toilets and kitchens - nowhere is safe
- Argentine ants can bite but they are not poisonous
- They can eliminate other types of ants and destroy beneficial insects and earthworms
- They can kill baby birds in nests
- These ants will "farm" aphids and scale insects which may lead to an increase of them on your property
- If left unchecked, they could become a serious threat to viticulture, flowers, avocado, tomato and citrus crops. They are a particular threat to organic growers and gardeners



## How to recognise the ants



Approximate Size

**Colour:** light to dark-honey brown (most common household ants are black)

**Size:** Argentine 2.5–3mm long, Darwin's 2mm long

**Movements:** travel in multiple line, up to five ants wide, up walls, trees, etc.

### Where you're likely to find them:

#### Outside:

- Under or in pot plants
- Rockeries, paving and path edges
- Compost and under bark
- In bodywork of caravans or campervans
- Under debris like bricks, stones or boards - anything that may offer them protection and shelter

#### Inside:

- If these ants have moved inside your house they will be very obvious from their trails
- They usually nest outside and only travel inside to forage

#### Difference:

- Darwin's ants produce a very strong smell when squashed
- Argentine ants produce very little smell when squashed

## What you should do

### Identification

If you think you have them on your property, collect some ants in a small jar or pottle with a tight fitting lid. Place a small amount of peanut butter and jam (half teaspoon) in the jar and leave out for two hours). Bring the specimen jar to Tasman District Council 189 Queen Street Richmond, or Nelson City Council 110 Trafalgar Street, Nelson.

Make sure the jar is well sealed and labelled with your name, property address and contact number.

### Containment

Ants can spread quickly if aided by humans. Make sure you don't help them spread:

- If you are moving pot plants, compost or other garden matter, check thoroughly for ants
- Check underneath caravans, campervans etc (particularly if they have been sitting in the same spot for a while) before taking them off your property
- If you are moving house, check all your pot plants, vehicles and any other outdoor fixtures you are taking with you to ensure you are not transporting ants

### Treatment

- Apply Xstinguish bait to all areas where nests may be located
- Remove foraging ants with a high pressure hose from vehicles, caravans and trailers before moving off-site
- Bait at 2m intervals throughout the whole property, except for inside the house and garage
- Favoured locations for ants are in pot plants, rockeries, compost areas and under stones, bricks, and toby boxes (water supply taps)
- Bait at 1m intervals in bark gardens
- Bait along cracks and the edges of concrete and asphalt areas where ants will travel, but avoid the hard surfaces (driveways)
- The bait can be toxic to fish and aquatic organisms. Keep all baits out of any channels that drain into your pond and at least 1m away from the edge of the pond. Don't hose bait into the storm water drain