4.8. PEST MANAGEMENT STRATEGY FOR PEST ANTS - Argentine Ant (*Linepithema humile),* Darwin's ant *(Doleromyrma darwiniana*) and Surveillance Ant Species

Adopted by the Northland Regional Council 26 July 2006

Description of Pests

Argentine and Darwin's Ants

Both species of worker ants are light to dark honey-brown, and 2-3mm long (most other common household ants in New Zealand are black). Although these species look very similar Darwin's ant can be distinguished from Argentine ant by its pungent smell when squashed. Darwin's ant is closely related to Argentine ant and has very similar behaviour and characteristics.

Surveillance Ants

The species listed in the Surveillance Ant list vary in their physical characteristics and positive identification requires a microscope. However, their common names are descriptive of features. All have biological characteristics and invasive habits that pose a similar or greater risk threat to the Regions biodiversity, cultural and economic values as Argentine and Darwin's ants.

- Big headed ant (*Pheidole megacephala*)
- Tropical fire ant (*Solenopsis geminata*)
- Crazy ant (*Paratrechina longicornis)*
- Ghost ant (*Tapinoma melanocephalum*)

Distribution of Pests

Argentine and Darwin's Ants

Argentine ants are generally present in or near sites of human habitation, throughout Northland. Darwin's ant, to date, has only been recorded in Whangarei.

Surveillance Ants

None of these species to date are established in Northland although they have been incursions and establishment in Auckland city and the ports of Tauranga and Auckland.

Problems Caused

Argentine and Darwin's Ants

1. Regional Economic Wellbeing

Agriculture/horticulture

Overseas both species can incur significant economic costs in the horticultural and agricultural sectors. Argentine ants have an impact in orchards and gardens by protecting honeydew-producing insects such as aphids and scales. The 'farming' of these insects by the ants allows the insect populations to increase to economically damaging levels. Integrated control programmes, which rely heavily on the activities of natural enemies, are completely disrupted by the activities of Argentine ants.

There are overseas reports of the ants invading beehives and removing the honey. They are also known to swarm into birds' nests, caged birds and to attack the newborn chicks. In poultry runs, hens may be driven from their nests.

Trade

National and International trade barriers may prevent export of goods to Argentine/Darwin's ant-free regions or countries.

Urban Commercial Centres
Both species of ants can become a serious problem with stored products in urban environments invading food processing plants and becoming important pests of the hospitality industry.

2. Human Health or Recreational Enjoyment

Both ants rank highly as a domestic nuisance species invading houses, swarming over foodstuffs and infesting gardens.

Argentine ants are known to invade beds at night seeking moisture and can swarm over sleeping babies. Some people are sensitive to the bite of the Argentine ant. Further, Argentine ants have the potential to spread disease around buildings, including hospitals, and are pests in rest homes.

3. Biodiversity

Argentine ants compete very effectively with all other ant species, both by fighting and by monopolising all available food sources. Where large infestations occur, Argentine ants eliminate all other ant species.

Argentine ants also negatively impact on invertebrate communities through predation, competition, and interference, and therefore ecosystem processes, such as soil formation and decomposition are likely to be negatively affected.

Additionally, Argentine ants have been known to drive fledging birds from their nests and eat them alive.

In its native Australia, Darwin's ant forms small colonies, however in New Zealand Darwin's ant form extremely large colonies and are a major household pest in areas where they have established. Meanwhile the Argentine ant has made the notable achievement of becoming classified as one of the "100 of the World's Worst Invasive Species" by the World Conservation Union.

Argentine ants in particular are known to swarm in their thousands with 'super colonies' of millions of nests and billions of individuals. Around the Mediterranean and Atlantic coasts, one Argentine ant colony has been recorded to span 6,000 kilometres.

<u>Surveillance Ants</u>
Ant risk assessment has been carried out for all these species based on their biological traits inferring invasiveness, invasive history elsewhere, pathways for spread/incursion, climate match**,** impact on native environment and likely pest status to humans in NZ. There is high risk of establishment and detrimental impact on the biodiversity,

All these species are aggressive capable of displacing indigenous ants, are a major nuisance pest where they have become established, indirectly and directly affect horticulture and in some instances affect human health.

Crazy ant and Tropical fire ant are among the "100 of the World's Worst invaders according to IUCN/SSC Invasive Species Specialist Group.

The big headed ant is established in east Auckland whilst the other listed species are

commonly intercepted at the boarder (including nests).

Parties Affected
Nearly every sector of the community is affected. Affected parties may include private land occupiers, orchardists, viticulturists, horticulturists, exporters, and commercial/retail industry. People who use recreational or conservation reserves and health services (e.g. rest home, hospitals) may be impacted.

Impact Evaluation
Argentine and Darwin's Ants

Impact	Current	Potential
Cultural	Medium	High
Ecological	Medium	High
Human Health	Low	Medium
Soil & Water	Low	low
Production	Medium	High
Public Infrastructure	Low	Medium
Public Safety	Low	Medium
Recreation	Low	High
Trade (International)	Low	Medium
Overall Regional	Medium	High

The benefits of having a these species of ant in a regional strategy outweighs the costs, after considering the likely costs of inaction and any alternative courses of action. Doing nothing would allow the spread of ants to new areas (including significant economic and ecological areas) and the increase in density of existing infestations thereby escalating the nuisance problem in urban areas.

Surveillance Ants

Impact	Current	Potential
Cultural	Nil	Medium
Ecological	Nil	High
Human Health	Nil	Medium
Soil & Water	Nil	Low
Production	Nil	High
Public Infrastructure	Nil	Low
Public Safety	Nil	Medium
Recreation	Nil	High
Trade (International)	Nil	Medium
Overall Regional	Nil	High

It is most cost effective to include these species in surveillance monitoring so that, where feasible, any infestation can be controlled prior to establishment and spread.

Regional Effects
The biological characteristics of these ants (reproductive and competitive ability) and their ability to inhabit a wide range of urban and rural habitats means that presence and therefore impact on economic, ecological, recreational and cultural values are regional.

Need to Intervene
All species are able to affect nearly every sector of the community including

indigenous ecosystems, health sectors and trade,

A regional strategy involving advice, publicity and community-initiated control in targeted areas, incursion response (where appropriate), and containment control in areas identified as prominent portals for spread, is required

Goal (Long Term)

1. To prevent the spread Argentine and Darwin's ants to areas of regional ecological, economic and cultural significance.

2. To restrict the spread of Argentine and Darwin's ants to other sites of human habitation in Northland.

3. To prevent the establishment in Northland of surveillance ant species

Objectives (Five Year)

1. To control pathways of spread by:
   - Education and advocacy
   - Industry liaison
   - Regulatory means where necessary

2. To require and maintain control of the targeted pests in designated community control areas to levels specified in the management plan.

3. To implement a surveillance and monitoring programme for pest ants at regionally significant areas and portals for spread

4. To control, where feasible, any infestations of surveillance ant species

5. To ensure control or containment of pest ants in heavy infestation areas which act as portals of distribution to other areas, by development of risk/control /containment management programmes.

Tactics And Technical Methods To Be Used

Research Support research into the ecology of pest ant species and their impact to indigenous ecosystems

Advocacy In conjunction with the Department of Conservation develop an advocacy campaign for Northland.

Advice and identification service to land occupiers

Media releases and publicity brochures.

Regulation

6.4.3.1 Prohibition on Distribution of Pests

6.4.3.2 Control of Pest Ants in Areas Identified as Portals for Distribution

6.4.3.3 Control of Pest Ants within Areas under Community Control Schemes

Failure to comply with these rules creates an offence under Section 154 (r) of the Biosecurity Act 1993.

Services — Regional Council assistance and facilitation for community control programmes, including the development of a management plan, and limited control operations within the designated area negotiated between the Council and affected land occupiers (see criteria for identifying significant areas in Procedures for Establishing Community Pest Control Areas).

Implementation of pest ant surveillance/monitoring programme of incursion and distribution pathways (e.g. garden centres), controlled areas and significant areas.

Where a new infestation of pest ant is discovered the Council may, if feasible, control or contain the infestation.

Tactics And Technical Methods Rejected

Services — Regional Council service delivery elimination (pest ants too widespread).

Effects Of The Strategy

Beneficial — Protection and enhancement of ecological, cultural, recreational and economic values.

Cost Of Strategy

The Council will fund the implementation of the Strategy by way the Council's Community Pest Control Areas budget.

Funding

The Council's costs of implementing the strategy are to be funded from a regional land management rate. The impacts of these ants affect nearly every sector of society and across the whole region and there the whole region benefits from the implementation of the Strategy.

Management Agency

The strategy is to be managed by the Northland Regional Council.

Relationship Of Strategy To Other Pest Management Strategies

The Northland Pest Management Strategy for Ants will not conflict with the Auckland Regional Council Pest Management Strategy, or other Northland Regional Council Pest Management Strategies or Regional Policies and Plans under the Resource Management Act.

Monitoring And Reporting

Annual schedule of surveillance surveys of prioritised vector portals, identified regionally significant (economic, ecological and cultural) areas, community pest control programmes and control operations.

Results, interpretation and progress towards Strategy objectives will each year be recorded in the Regional Council's Annual Report.

Term of Strategy

Five years

Rules

6.4.3.1. Prohibition on Distribution of Pests

(i) No person shall distribute or offer for sale to other persons any material or equipment which may contain or harbour pest ants specified in this strategy without first undertaking suitable control measures to eliminate ants specified in this strategy.

(ii) No person shall transport or use any equipment, machinery or product outside an area which is identified as having an infestation of pest ants specified in this strategy, that may contain or harbour the pest or otherwise pose a risk of spreading the pest without first undertaking suitable control measures to eliminate ants specified in this strategy.

6.4.3.2. Control of Pest Ants within Areas under Community Control Schemes

Where an management agency has undertaken initial control work on property and/or supplied resources to reduce pest population densities to a level in an agreed management plan, the occupier of the property shall maintain pest population densities to those agreed to in the management plan.

6.4.3.3. Control of Pest Ants in Areas Identified as Portals for Distribution

Where a property, through activities undertaken on the property, is identified as a portal for the active distribution of ants a management programme to control or contain the infestation is required, to be implemented by the land occupier