

# Red Imported Fire Ants and Queensland electorates

***If allowed to spread throughout Queensland, each year fire ants could cause six deaths, 116,000 medical visits and costs to households alone of \$188 million, \$128/year for each household. The most impacted electorates are likely to be Coomera, Bundamba, Jordan and Logan, between Brisbane and the Gold Coast. Eradication efforts should be a major budget and policy priority.***

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## INTRODUCTION

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Red Imported Fire Ants (RIFA) have the potential to inflict enormous environmental, social and economic damage. Previous Australia Institute research shows that that RIFA will cost Australia more than \$22 billion by the 2040s if allowed to spread. For every dollar spent eradicating the ants, the public benefit is between \$3 and \$9.<sup>1</sup>

Southeast Queensland is ground zero of Australia's RIFA infestation.<sup>2</sup> Modelling shows that RIFA could spread as far as far north Queensland by 2035,<sup>3</sup> unless funding for existing eradication programs is increased.<sup>4</sup>

As this brief shows, if RIFA become firmly establish in Queensland they could cost Queensland households at least \$188 million every year. This includes only the cost to

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<sup>1</sup> Le and Campbell (2024) *Red imported fire ants - the benefits of avoiding a national disaster*, <https://australiainstitute.org.au/report/red-imported-fire-ants-the-benefits-of-avoiding-a-national-disaster>

<sup>2</sup> National Fire Ant Eradication Program (2024) *Fire ant map*, <https://www.fireants.org.au/fireantmap>

<sup>3</sup> National Fire Ant Eradication Program (2021) *Response Plan 2023-2027*, <https://invasives.org.au/wp-content/uploads/2023/08/National-Fire-Ant-Eradication-Program-response-plan.pdf>

<sup>4</sup> Invasive Species Council (2023) *Alarm bells ringing: Analysis points to funding shortfall ahead of fire ant eradication decision tomorrow*, <https://invasives.org.au/media-releases/analysis-points-to-funding-shortfall-ahead-of-fire-ant-eradication-decision-tomorrow/>

households of suppressing RIFA outbreaks, and the costs associated with RIFA-related medical and veterinary expenses.

## METHOD

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Our estimates are based on the best available data, and draw on prior studies about the impact of RIFA. The following assumptions have informed our method:

- Medical costs
  - The population for each electorate is consistent with the 2021 ABS Census.<sup>5</sup>
  - 30% of population will be stung each year.<sup>6</sup>
  - 7.5% of people stung will seek medical attention.<sup>7</sup>
  - \$100 cost per medical visit.<sup>8</sup>
  - 2% of people stung develop an anaphylactic reaction requiring an EpiPen.<sup>9</sup>
  - An EpiPen costs \$80.<sup>10</sup>
  - 0.02% of people who require an EpiPen after a RIFA attack die.<sup>11</sup>
  - The value of a statistical life is \$5.4 million.<sup>12</sup>
- Veterinary costs
  - As a proxy for the number of households affected by RIFA we used the number of occupied private dwellings from the 2021 ABS Census.<sup>13</sup>

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<sup>5</sup> ABS (2021) 2021 Census -cultural diversify/Geographical Areas/State Electoral Divisions, <https://tablebuilder.abs.gov.au/webapi/jsf/tableView/tableView.xhtml>

<sup>6</sup> Lopez et al (2024) 'The Human Health Impacts of the Red Imported Fire Ant in the Western Pacific Region Context: A Narrative Review', p 4, *Trop. Med. Infect. Dis*, <https://doi.org/10.3390/tropicalmed9040069>

<sup>7</sup> Lopez et al (2024) 'The Human Health Impacts of the Red Imported Fire Ant in the Western Pacific Region Context: A Narrative Review', p 6, *Trop. Med. Infect. Dis*, <https://doi.org/10.3390/tropicalmed9040069>

<sup>8</sup> Seyfort (2023) *Cost of doctors appointment to rise for third time this year*, <https://www.9news.com.au/national/gp-appointment-cost-doctors-appointments-rise-for-third-time-in-2023/5862a7ee-7a78-43e8-a01f-3710a201a10c>

<sup>9</sup> Lopez et al (2024) 'The Human Health Impacts of the Red Imported Fire Ant in the Western Pacific Region Context: A Narrative Review', p 6, *Trop. Med. Infect. Dis*, <https://doi.org/10.3390/tropicalmed9040069>; Kruse (2023) *Fire Ant Bites*, <https://www.ncbi.nlm.nih.gov/books/NBK470576/>; Solley et al (2002) 'Anaphylaxis due to Red Imported Fire Ant sting', *the Medical Journal of Australia*, <https://doi.org/10.5694/j.1326-5377.2002.tb04548.x>

<sup>10</sup> Chemist Warehouse (2024) EpiPen 300mcg Injection 1 - Adrenaline (epinephrine)-Private prescription price, <https://www.chemistwarehouse.com.au/buy/33739/epipen-300mcg-1-injection-adrenaline-epinephrine>

<sup>11</sup> Star and Rolfe (2021) *Assessing the Impacts of the Red Imported Fire Ant*, Report for Biosecurity Qld, Department of Agriculture and Fisheries: Of people using EpiPens, further 2% require medical attention, with 1% of those resulting in mortalities. Therefore, 0.02% of people need to use EpiPens may be end in mortalities.

<sup>12</sup> Australia Government (2023) *value of statistical life*, <https://oia.pmc.gov.au/sites/default/files/2023-10/value-of-statistical-life.pdf>

<sup>13</sup> ABS (2021) *2021 Census-selected dwelling characteristics/Dwelling and Household Characteristics/Occupied private dwelling*, <https://tablebuilder.abs.gov.au/webapi/jsf/tableView/tableView.xhtml>

- 50% of households have a cat or dog.
- 19% of pets get stung each year requiring veterinary care.<sup>14</sup>
- \$100 cost per vet visit.<sup>15</sup>
- Household control costs:
  - We have assumed that people living in apartment buildings will not spend on ant control, while people in occupied standalone houses will. Therefore, our calculations of household investment in RIFA control are based on the number of occupied standalone houses from the 2021 ABS Census<sup>16</sup>
  - Each household in standalone houses will pay \$83 annually in pesticide/pest control expenses.<sup>17</sup>

Our estimates understate the full cost of widespread RIFA infestation because they do not include:

- Any environmental costs.
- Costs to agriculture.
- Other costs to industry and government that affect:
  - Electricity and water infrastructure.
  - Parks, golf courses and other recreational areas
  - Schools, day care centres, and hospitals

Star and Rolfe (2021) have shown that these costs can be considerable.<sup>18</sup> However, as the availability of reliable data makes these costs difficult to accurately calculate, we have chosen to omit these costs. This means that total costs are likely to be higher.

## RESULTS

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The table below estimates the annual cost of RIFA to each electoral division in Queensland. It shows that every year, across the state, RIFA could:

- Sting more than 1.5 million people (30% of the population).
- Cause 115,679 extra medical visits.
- Cause 30,848 people to develop anaphylactic reactions.

<sup>14</sup> Barr and Drees (1994) cited in Star and Rolfe (2021) *Assessing the Impacts of the Red Imported Fire Ant*, Report for Biosecurity Qld, Department of Agriculture and Fisheries.

<sup>15</sup> Cyrus (2024) *Vet Fees In Australia Explained*, Forbes, <https://www.forbes.com/advisor/au/pet-insurance/vet-fees/>

<sup>16</sup> ABS (2021) *2021 Census-selected dwelling characteristics/Dwelling and Household Characteristics/DWTD Dwelling Type/Occupied private dwelling and 2021 Census-selected dwelling characteristics/Dwelling and Household Characteristics/STRD Dwelling Structure/Separate house*, <https://tablebuilder.abs.gov.au/webapi/jsf/tableView/tableView.xhtml>

<sup>17</sup> Star and Rolfe (2021) *Assessing the Impacts of the Red Imported Fire Ant*, Report for Biosecurity Qld, Department of Agriculture and Fisheries

<sup>18</sup> Star and Rolfe (2021) *Assessing the Impacts of the Red Imported Fire Ant*, Report for Biosecurity Qld, Department of Agriculture and Fisheries

- Be responsible for 6 extra deaths every year.
- Result in medical costs of \$47.35 million.
- Cause 189,812 extra vet visits, which would cost Queensland households \$18.9 million.
- Cost households \$121.4 million in eradication costs.

Each electorate will need to spend an average of more than \$2 million every year to control fire ants and to pay for RIFA-related medical services and veterinary visits. In the average electorate, fire ants will:

- Sting 16,585 people.
- Cause 1,244 extra medical visits.
- Lead 332 people to develop anaphylactic reactions.
- Cost medical systems \$509,000.
- Cause 2,041 extra vet visits, at a cost of \$204,000.
- Cost households \$1.3 million in eradication costs.

Full results are presented in the tables below.

## The 10 Queensland state electorates that will be most severely affected by fire ants

State electorate	Number of people stung per year	Number of stung people seeking medical attention per year	Number of people with anaphylactic reaction, needing EpiPens per year	Number of expected fatalities due to RIFA stings per year	Total RIFA related medical cost per year (\$)	Vet cost per year (\$)	Pesticide and pest control expenditure per year (\$)	Total RIFA related cost for electorate per year (\$)
<b>Coomera</b>	25,795	1,935	516	0.1	791,913	266,171	2,002,956	3,061,040
<b>Bundamba</b>	21,450	1,609	429	0.09	658,506	234,717	1,750,553	2,643,775
<b>Jordan</b>	20,736	1,555	415	0.08	636,595	210,587	1,733,372	2,580,554
<b>Logan</b>	19,718	1,479	394	0.08	605,327	209,029	1,674,940	2,489,296
<b>Hill</b>	17,133	1,285	343	0.07	525,983	235,049	1,724,325	2,485,357
<b>Woodridge</b>	21,354	1,602	427	0.09	655,559	222,737	1,556,001	2,434,297
<b>Gympie</b>	16,277	1,221	326	0.07	499,707	215,584	1,688,054	2,403,344
<b>Nanango</b>	15,747	1,181	315	0.06	483,442	210,121	1,690,959	2,384,522
<b>Murrumba</b>	20,624	1,547	412	0.08	633,160	241,063	1,492,506	2,366,728
<b>Maryborough</b>	15,878	1,191	318	0.06	487,467	206,948	1,639,748	2,334,163

## RIFA-related costs by Queensland state electorate division

State electorate	Number of people stung per year	Number of stung people seeking medical attention per year	Number of people with anaphylactic reaction, needing EpiPens per year	Number of expected fatalities due to RIFA stings per year	Total RIFA related medical cost per year (\$)	Vet cost per year (\$)	Pesticide and pest control expenditure per year (\$)	Total RIFA related cost for electorate per year (\$)
Algerier	18,765	1,407	375	0.08	576,086	202,179	1,444,449	2,222,714
Aspley	16,400	1,230	328	0.07	503,474	190,865	1,357,382	2,051,720
Bancroft	17,802	1,335	356	0.07	546,531	202,322	1,471,922	2,220,774
Barron River	16,994	1,275	340	0.07	521,710	214,482	1,447,271	2,183,462
Bonney	16,941	1,271	339	0.07	520,098	230,128	742,518	1,492,744
Broadwater	14,819	1,111	296	0.06	454,956	197,705	1,000,067	1,652,727
Buderim	16,727	1,255	335	0.07	513,513	197,553	1,245,747	1,956,812
Bulimba	17,301	1,298	346	0.07	531,150	216,942	1,079,830	1,827,922
Bundaberg	15,166	1,137	303	0.06	465,593	200,859	1,355,141	2,021,593
Bundamba	21,450	1,609	429	0.09	658,506	234,717	1,750,553	2,643,775
Burdekin	16,784	1,259	336	0.07	515,281	210,948	1,521,141	2,247,370
Burleigh	15,097	1,132	302	0.06	463,484	198,446	848,758	1,510,688
Burnett	15,032	1,127	301	0.06	461,467	206,473	1,552,266	2,220,206
Cairns	17,682	1,326	354	0.07	542,837	233,387	1,051,527	1,827,751
Callide	15,312	1,148	306	0.06	470,069	201,524	1,550,025	2,221,618
Caloundra	16,864	1,265	337	0.07	517,722	215,935	1,285,504	2,019,161
Capalaba	15,449	1,159	309	0.06	474,297	184,376	1,323,020	1,981,693

<b>Chatsworth</b>	15,514	1,164	310	0.06	476,268	178,097	1,210,140	1,864,504
<b>Clayfield</b>	17,443	1,308	349	0.07	535,488	244,768	861,374	1,641,629
<b>Condamine</b>	16,590	1,244	332	0.07	509,313	191,416	1,580,486	2,281,215
<b>Cook</b>	15,763	1,182	315	0.06	483,921	205,124	1,267,908	1,956,953
<b>Coomera</b>	25,795	1,935	516	0.1	791,913	266,171	2,002,956	3,061,040
<b>Cooper</b>	15,750	1,181	315	0.06	483,534	187,758	1,188,892	1,860,184
<b>Currumbin</b>	14,427	1,082	289	0.06	442,909	179,075	889,511	1,511,495
<b>Everton</b>	15,910	1,193	318	0.06	488,425	186,552	1,275,129	1,950,105
<b>Ferny Grove</b>	15,704	1,178	314	0.06	482,125	180,320	1,296,045	1,958,490
<b>Gaven</b>	15,011	1,126	300	0.06	460,850	177,460	1,082,901	1,721,211
<b>Gladstone</b>	15,095	1,132	302	0.06	463,420	190,029	1,347,256	2,000,704
<b>Glass House</b>	14,960	1,122	299	0.06	459,257	168,673	1,414,818	2,042,747
<b>Greenslopes</b>	16,094	1,207	322	0.06	494,070	210,862	1,028,785	1,733,717
<b>Gregory</b>	11,849	889	237	0.05	363,749	162,811	1,117,180	1,643,740
<b>Gympie</b>	16,277	1,221	326	0.07	499,707	215,584	1,688,054	2,403,344
<b>Hervey Bay</b>	16,395	1,230	328	0.07	503,317	229,701	1,563,139	2,296,157
<b>Hill</b>	17,133	1,285	343	0.07	525,983	235,049	1,724,325	2,485,357
<b>Hinchinbrook</b>	15,371	1,153	307	0.06	471,884	191,777	1,511,596	2,175,256
<b>Inala</b>	19,678	1,476	394	0.08	604,112	205,390	1,400,625	2,210,127
<b>Ipswich</b>	15,155	1,137	303	0.06	465,271	188,043	1,402,368	2,055,682
<b>Ipswich West</b>	16,152	1,211	323	0.06	495,866	187,207	1,468,353	2,151,426
<b>Jordan</b>	20,736	1,555	415	0.08	636,595	210,587	1,733,372	2,580,554
<b>Kawana</b>	15,738	1,180	315	0.06	483,157	194,912	1,246,743	1,924,811
<b>Keppel</b>	16,048	1,204	321	0.06	492,661	200,697	1,475,325	2,168,683
<b>Kurwongbah</b>	17,223	1,292	344	0.07	528,737	189,981	1,450,674	2,169,392
<b>Lockyer</b>	15,850	1,189	317	0.06	486,592	182,134	1,498,399	2,167,125

<b>Logan</b>	19,718	1,479	394	0.08	605,327	209,029	1,674,940	2,489,296
<b>Lytton</b>	16,302	1,223	326	0.07	500,462	200,726	1,336,798	2,037,986
<b>Macalister</b>	18,172	1,363	363	0.07	557,877	216,372	1,511,679	2,285,928
<b>Mackay</b>	16,745	1,256	335	0.07	514,056	216,201	1,404,277	2,134,534
<b>Maiwar</b>	18,734	1,405	375	0.07	575,128	234,650	839,047	1,648,825
<b>Mansfield</b>	17,285	1,296	346	0.07	530,653	193,506	1,273,635	1,997,793
<b>Maroochydore</b>	15,210	1,141	304	0.06	466,956	219,080	844,857	1,530,893
<b>Maryborough</b>	15,878	1,191	318	0.06	487,467	206,948	1,639,748	2,334,163
<b>McConnel</b>	20,472	1,535	409	0.08	628,490	329,793	270,746	1,229,029
<b>Mermaid Beach</b>	16,120	1,209	322	0.06	494,890	206,055	831,992	1,532,937
<b>Miller</b>	15,088	1,132	302	0.06	463,189	186,371	1,056,092	1,705,652
<b>Mirani</b>	15,057	1,129	301	0.06	462,250	179,351	1,420,960	2,062,560
<b>Moggill</b>	15,193	1,139	304	0.06	466,413	162,317	1,343,106	1,971,836
<b>Morayfield</b>	17,724	1,329	354	0.07	544,127	207,243	1,445,445	2,196,814
<b>Mount Ommaney</b>	15,546	1,166	311	0.06	477,262	177,888	1,317,376	1,972,526
<b>Mudgeeraba</b>	17,612	1,321	352	0.07	540,691	196,479	1,144,902	1,882,072
<b>Mulgrave</b>	16,777	1,258	336	0.07	515,051	190,551	1,435,236	2,140,838
<b>Mundingburra</b>	15,362	1,152	307	0.06	471,598	177,983	1,268,655	1,918,236
<b>Murrumba</b>	20,624	1,547	412	0.08	633,160	241,063	1,492,506	2,366,728
<b>Nanango</b>	15,747	1,181	315	0.06	483,442	210,121	1,690,959	2,384,522
<b>Nicklin</b>	14,924	1,119	298	0.06	458,161	183,208	1,332,233	1,973,601
<b>Ninderry</b>	16,932	1,270	339	0.07	519,822	200,441	1,442,042	2,162,304
<b>Noosa</b>	14,719	1,104	294	0.06	451,879	198,265	1,306,005	1,956,149
<b>Nudgee</b>	16,853	1,264	337	0.07	517,372	221,303	1,174,865	1,913,539
<b>Oodgeroo</b>	13,454	1,009	269	0.05	413,041	166,678	1,095,185	1,674,903
<b>Pine Rivers</b>	16,680	1,251	334	0.07	512,076	185,212	1,397,886	2,095,174



<b>Pumicestone</b>	15,672	1,175	313	0.06	481,130	210,777	1,466,527	2,158,434
<b>Redcliffe</b>	15,928	1,195	319	0.06	488,977	223,972	1,301,274	2,014,223
<b>Redlands</b>	16,206	1,215	324	0.06	497,533	199,044	1,550,191	2,246,768
<b>Rockhampton</b>	16,176	1,213	324	0.06	496,594	203,975	1,503,960	2,204,528
<b>Sandgate</b>	16,350	1,226	327	0.07	501,936	198,123	1,380,124	2,080,182
<b>Scenic Rim</b>	16,386	1,229	328	0.07	503,059	193,449	1,557,910	2,254,418
<b>South Brisbane</b>	19,567	1,468	391	0.08	600,713	281,504	527,714	1,409,931
<b>Southern Downs</b>	14,947	1,121	299	0.06	458,861	197,486	1,548,531	2,204,878
<b>Southport</b>	17,104	1,283	342	0.07	525,099	223,108	820,289	1,568,495
<b>Springwood</b>	15,919	1,194	318	0.06	488,719	177,422	1,338,458	2,004,599
<b>Stafford</b>	17,044	1,278	341	0.07	523,257	223,326	1,169,055	1,915,638
<b>Stretton</b>	17,945	1,346	359	0.07	550,896	183,521	1,296,875	2,031,292
<b>Surfers Paradise</b>	16,773	1,258	335	0.07	514,922	247,380	586,229	1,348,531
<b>Theodore</b>	17,823	1,337	356	0.07	547,175	190,931	1,239,107	1,977,213
<b>Thuringowa</b>	15,602	1,170	312	0.06	478,984	184,509	1,457,148	2,120,641
<b>Toohey</b>	17,245	1,293	345	0.07	529,418	197,819	1,267,493	1,994,730
<b>Toowoomba North</b>	16,418	1,231	328	0.07	504,045	211,803	1,436,232	2,152,079
<b>Toowoomba South</b>	17,225	1,292	344	0.07	528,801	219,564	1,419,051	2,167,416
<b>Townsville</b>	15,113	1,133	302	0.06	463,963	213,893	1,069,455	1,747,310
<b>Traeger</b>	12,936	970	259	0.05	397,126	183,236	1,056,424	1,636,786
<b>Warrego</b>	12,887	967	258	0.05	395,625	172,235	1,309,823	1,877,683
<b>Waterford</b>	18,308	1,373	366	0.07	562,049	209,143	1,425,691	2,196,883
<b>Whitsunday</b>	16,292	1,222	326	0.07	500,167	196,432	1,354,560	2,051,159
<b>Woodridge</b>	21,354	1,602	427	0.09	655,559	222,737	1,556,001	2,434,297
<b>TOTAL</b>	1,542,389	115,679	30,848	6.17	47,351,345	18,981,219	121,382,769	187,715,333

## CONCLUSION

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To deal with Australia's fire ant problem, a nationally cost-shared eradication program has been developed (the National Fire Ant Eradication Program).<sup>19</sup> The Queensland Government has contributed \$15.236 million per year for four years (2023-2027), which is about 10% of the program's total \$592.8 million in funding.<sup>20</sup>

However, a 2021 report for the NFAEP Steering Committee<sup>21</sup> estimates that eradicating fire ants will cost \$200-\$300 million every year for ten years. This would mean that Queensland needs to increase its annual contribution to \$20.56-\$30.75 million.

While fire ants pose a risk to all of Australia, Queensland faces the most immediate and significant danger. With increased investment in eradication, and active advocacy for additional funding from the Commonwealth and other state governments, there is still a chance to stop the spread of RIFA.

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<sup>19</sup> National Fire Ant Eradication Program (2024) *Fire Ant Response Plan 2023–27*, <https://www.fireants.org.au/home/about-us/fire-ant-response-plan>

<sup>20</sup> National Fire Ant Eradication Program (2021) *Response Plan 2023-2027*, <https://invasives.org.au/wp-content/uploads/2023/08/National-Fire-Ant-Eradication-Program-response-plan.pdf>; The Australian Government (2024) *Funding, eradication priorities in fight against fire ants*, <https://minister.agriculture.gov.au/watt/media-releases/funding-eradication-fire-ants>

<sup>21</sup> Scott-Orr, Gruber and Zacharin (2021) *National Red Imported Fire Ant Eradication Program Strategic Review August 2021*, <https://www.agriculture.gov.au/biosecurity-trade/policy/partnerships/rifa-eradication/strategic-program-review>.