Queensland **the Smart State**

Department of Primary Industries and Fisheries

Queensland Biosecurity Strategy

2009–14

Queensland Government
Department of Primary Industries and Fisheries

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The Department of Primary Industries and Fisheries (DPI&F) seeks to maximise the economic potential of Queensland's primary industries on a sustainable basis.

Department of Primary Industries and Fisheries

Queensland Biosecurity Strategy

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From the Minister

Biosecurity began in Queensland more than 150 years ago when the first sheep scab inspector was appointed in the Moreton Bay region. Biosecurity has certainly changed since then.

Globalisation has increased the trade of goods and movement of people across the world. As well as opening up new opportunities, it has increased our exposure to the spread of pest and diseases. We can no longer rely on the fact that we are an island nation for much of our protection.

Over the past decade, we have seen an escalation of major biosecurity events and spread of established pests and diseases. Major incidents in Queensland are likely to become more frequent as our climate and environment change and globalisation continues.

Biosecurity is important to Queensland as pests and diseases can have a long-term impact on the profitability of our primary industries, our unique biodiversity and our way of life.

Queensland is a frontline state for biosecurity in Australia. We deal with more major biosecurity incidents than any other state. Having a Biosecurity Strategy in place will better prepare us for the future.

Governments around Australia are working together to develop a strong national biosecurity system. With this strategy, Queensland will be well positioned to take advantage of the opportunities such a system offers and to showcase our experience and expertise.

This Biosecurity Strategy, the first of its kind for Queensland, maps out the key areas of focus over the next five years as we build a world-class biosecurity system.

It is a strategy for Queensland, to be owned by Queenslanders.

The new direction for biosecurity outlined in this strategy helps achieve the Queensland Government's targets in *Toward Q2: Tomorrow's Queensland*, particularly the government's ambitions for protecting our lifestyle and environment and creating a strong economy.

This strategy is the product of considerable collaboration between a wide range of stakeholders. More than 70 submissions were received and 24 forums were held. I thank everyone for their contribution.

The strong support from stakeholders for a quality biosecurity system and for developing this strategy is pleasing and provides a solid foundation on which we can all work together to build a world-class biosecurity system for Queensland.

The Hon. Tim Mulherin
Minister for Primary Industries and Fisheries

About biosecurity

Biosecurity means mitigating the risks and impacts to the economy, the environment, social amenity or human health associated with pests and diseases.[1]

Biosecurity deals with the risks from pests and diseases that impact on:

- plant and animal industries including agriculture, horticulture, aquaculture, fisheries, forestry and racing
- biodiversity and the natural environment (terrestrial and aquatic)
- cultural heritage, recreation, sport and social amenity
- infrastructure and service industries, including power, communication, shipping and water supplies
- tourism, lifestyle and pleasure industries
- the built environment
- human health through transfer of diseases from animals to humans (otherwise known as zoonoses).

While strictly not included in the definition of biosecurity, for the purposes of this strategy biosecurity will also cover biological and chemical contaminants of food-producing plants and animals, and the environment.

1 Source: *Intergovernmental Agreement on Enhancing the Australian Biosecurity System for Primary Production an the Environment (AusBIOSEC)*—Draft Version 2.0 26 August 2008

Biosecurity continuum

Prevention

Regulatory and physical measures to ensure that outbreaks are prevented or their impacts mitigated.

Preparedness

Arrangements to ensure that, should an outbreak occur, all those resources and services needed to address the outbreak can be efficiently mobilised and deployed.

Surveillance

The systematic investigation of a population or area to collect data and information about the presence, incidence, prevalence or geographical extent of a pest or disease.

Response actions

Taken in anticipation of, during and/or immediately after an outbreak to ensure that its effects are minimised.

Recovery

The reconstruction of the physical infrastructure and environment and restoration of emotional, social, economic, environmental and physical wellbeing following an emergency response to an outbreak of a pest or disease.

Ongoing management

Activities that occur after an initial emergency response to an outbreak of a pest and disease has been unsuccessful, is not considered feasible, or has ceased; and/or the management of established pests and diseases.

About this strategy

This strategy sets out the strategic directions all stakeholders in biosecurity will be working towards over the next five years. It builds on the various national commitments to which Queensland stakeholders are a party, including national animal and plant health deeds and national weeds and pest animal strategies.

The strategy aims to:

- articulate a shared vision for Queensland's biosecurity system
- set out the high level goals and strategies for biosecurity in Queensland
- identify the key strategies that will be pursued to achieve these goals
- position Queensland within the changing national and international biosecurity environment.

This strategy *does not* cover animal welfare. While an important priority in Queensland, a separate strategy will be developed in 2009 to align with the agreed national policies in this area.

This strategy also *does not* cover direct human health issues, but does deal with the animal aspects of zoonoses.

Specific action plans will be developed to implement the strategy and key performance measures will be developed to evaluate its success.

Australian Government biosecurity review

Queensland works collaboratively within a national biosecurity system, collectively referred to as AusBIOSEC, which in turn is linked into international agreements.

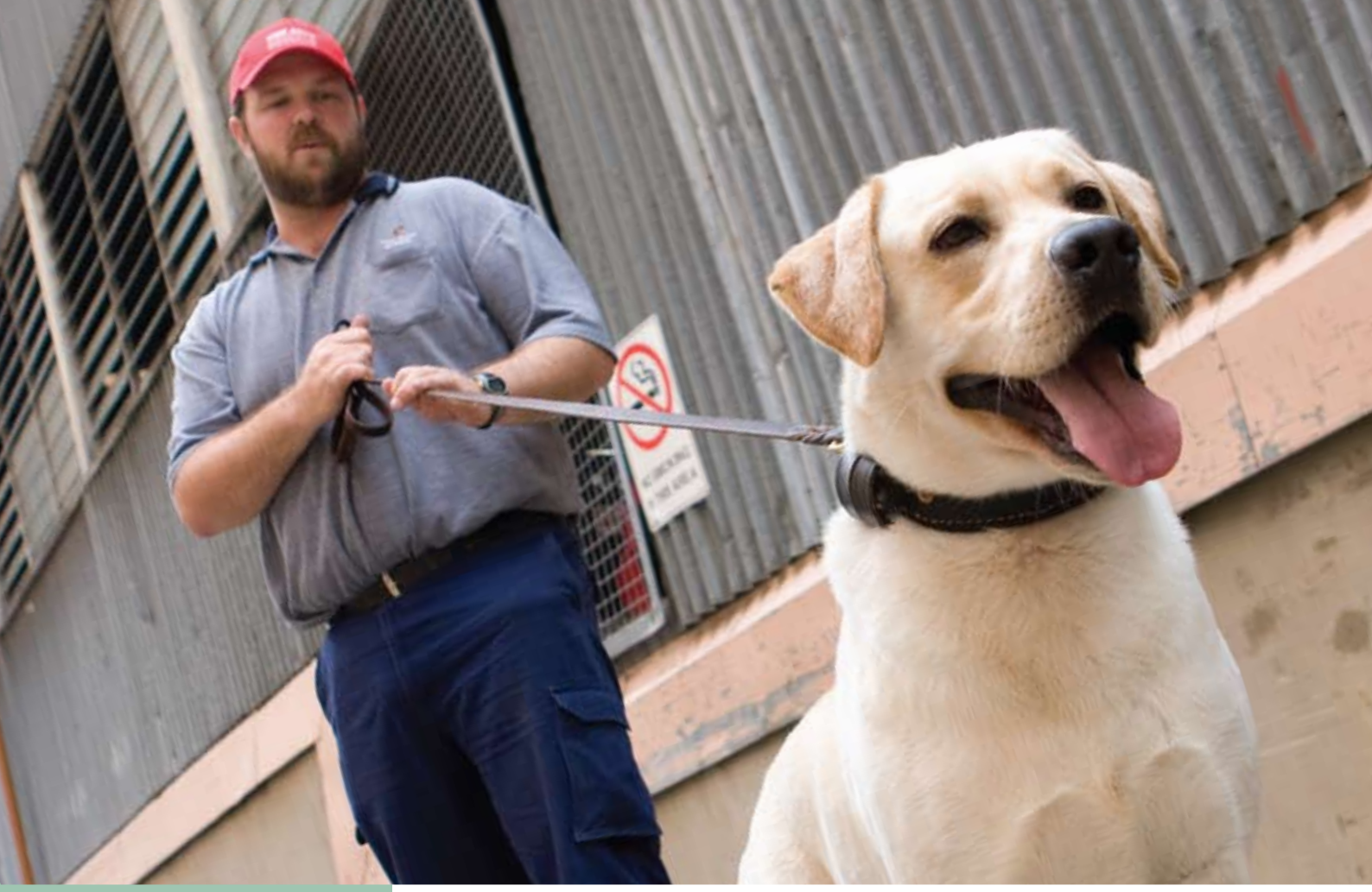
At the time of writing, the Australian Government was conducting a major review into Australia's quarantine and biosecurity arrangements. Known as the Beale Inquiry, it is expected to result in the creation of a stronger national biosecurity system.

Queensland strongly supports the creation of such a system.

While elements of this strategy may need to be revisited once the outcomes of the Australian Government review are known, the directions in this strategy are designed to position Queensland within the national biosecurity system and are considered necessary regardless of the final review outcome.

Vision

Queensland is protected from the risks and impacts of pests and diseases through the collaborative efforts of all Queenslanders



Challenges ahead

The number of significant pest and disease incidents has increased over the last decade. Queensland has been the frontline state for biosecurity, mounting more major responses than any other state in Australia. Indications are that we must be prepared for this trend to continue in the future.

We live in an unpredictable environment with a range of factors affecting our biosecurity risk profile, including our geography, climate change, the global movement of people, animals and goods, emerging diseases, new industries and changing demographics and land use.

It is not a matter of 'if' but 'when' a significant biosecurity event will occur in the future. What that event may be and how it will impact on Queensland is not possible to predict with certainty but Queenslanders must be prepared for any contingency. Changes need to be made now to ensure that Queensland is well positioned to protect against these threats.

Foot and mouth disease (FMD) is present in some of our neighbouring countries. Queensland exports approximately 80% of its $4.3 billion beef production each year. This market could be lost overnight if FMD was detected. It is estimated that a moderate outbreak of FMD anywhere in Australia could cost the Queensland economy at least $9 billion.

Maintaining market access

Queensland's agricultural production is worth about $12.5 billion a year, significant proportion of which is exported either overseas or interstate. Queensland trades on the credibility of our biosecurity systems and favourable pest and disease status. However, trading partners and international standards increasingly require us to objectively demonstrate evidence of our status. The biosecurity measures required for exported and imported products as part of our World Trade Organisation rights and obligations must be taken into account.

Prevention of major exotic pest and disease outbreaks is critical. An outbreak could shut markets, causing serious economic loss to local businesses, broader industries and communities.

Bees are humble little insects responsible for pollinating plants grown for our food supply. Without them we would starve and ecosystems could collapse. A tiny parasite, the Varroa mite, is already destroying bee populations around the world and it is on our doorstep in New Zealand and Papua New Guinea. The cost of attempting eradication in New Zealand is estimated at $55–70 million.

Managing increasing risk

Biosecurity is fundamentally about risk management. There is no such thing as zero risk when it comes to biosecurity.

No measures or mitigation strategies can completely remove the risk of a pest or disease entering, establishing or spreading in Queensland. Nor may it be possible to remove all biosecurity threats once they enter the state. Nevertheless, the aim should be to keep risk as low as possible and consistent with national policy settings on acceptable levels of risk.

Each biosecurity risk is unique and there are a number of ways that these risks can be addressed. Quite often there is a lack of information at the time decisions need to be made. Deciding what biosecurity risk to address and what measures to use in the biosecurity continuum is becoming increasingly important given the prevalence of risk and finite resources available to tackle them.

A key issue for the future is striking an appropriate balance between prevention, surveillance and preparedness. Everyone can play a role in preventing the establishment or spread of pests and diseases. Early detection is the key to effectively dealing with new incursions and prevention is the best line of defence.

The 4th Intergovernmental Panel and Climate Change Report said that the Queensland Fruit Fly could pose a significant threat to southern Australia, with the likely spread into currently fruit fly free zones. Estimates are that some apple, orange and pear growers could face increased fruit fly management costs of up to 80%.

Impact of climate change

For many species, temperature, moisture and carbon dioxide changes will alter their natural distribution and survival in the environment. However, ecosystems are complex and the precise impact of climate change on biosecurity in Queensland is largely unknown at this stage. Possible consequences include invasion of weeds into cyclone devastated regions, southern expansion of species due to increased temperatures and pressure to grow crops for bio-fuels using 'weedy' species.

These factors require a rethink of how biosecurity risk is approached in Queensland. Current and past risk assessments may be inadequate. The inclusion of biosecurity in climate change adaptation plans should be considered.

Many south-east Asian ports harbour marine species that could become pests if they are allowed to enter Australian waters. Diseases such as Avian Influenza and Classical Swine Fever could enter Queensland through Irian Jaya and Papua New Guinea.

Geography

Queensland is the second largest state in area, with the second largest coastline and border. It has the largest marine area and expansive tropical areas that are favourable to many pests and diseases and which are largely inaccessible for much of the wet season. The state also has a vast arid region in the west.

Queensland is close to south-east Asian and Pacific nations. The northernmost Torres Strait Island is just five kilometres from Papua New Guinea. Pests and diseases from neighbouring countries can also be introduced through migratory species or the movement of people and products.

Almost half of Australia's 220 declared noxious weeds were introduced deliberately. Approximately 34 species of alien fish have established in Australian freshwaters and 250 introduced marine organisms have become established in Australian waters.

Demography and changing land use

More than two million international tourists visit Queensland each year. The state has major domestic and international airports as well as several major seaports for commercial or community use.

South east Queensland is the fastest growing region in Australia with more than 1000 people moving there each week. Most of Queensland's population is within the coastal fringe. This contrasts with a sparsely populated state west of the Great Dividing Range.

The 'tree change' trend has seen an increase in the number of small, lifestyle landholders, who may not be fully aware or capable of managing biosecurity issues.

As the global competition for food continues, producers will always seek an economic advantage. Diversification into new crops brings new risks and there may be people tempted to illegally introduce new genetic material to provide that competitive edge.

Queenslanders cherish their gardens, but they should be aware that many of the biosecurity risks may be present. Many species found in home gardens represent 'sleeper' species and the risk of their establishment in the environment as weeds needs to be managed.

Goals

The goals for biosecurity in Queensland are to[2]:

- prevent exotic pests and diseases from entering, spreading or becoming established in Queensland
- ensure significant pests and diseases already in Queensland are contained, suppressed or managed
- contribute to the maintenance of Australia's favourable national and international reputation for freedom from many pests and diseases, market access for agricultural commodities, product safety and integrity, and diverse ecosystem sustainability.

Strategies

All Queenslanders share a responsibility for biosecurity. Over the next five years, the goals for biosecurity in Queensland will be achieved through government, industry and the community working together to improve biosecurity systems and build biosecurity capability and capacity.

Improving biosecurity systems

- build **leadership** and good governance within Queensland and nationally to underpin an effective biosecurity system
- take a more **preventative approach** to biosecurity risk
- pursue **early detection** of new pests and diseases and demonstrate our favourable status through better coordinated and designed surveillance systems
- be more prepared for and mount more efficient and timely **emergency responses** to incursions of pests and diseases[2]
- improve the **ongoing management** of established pests and diseases and reduce their impacts
- take a particular focus on **tropical biosecurity** to account for the unique climatic and demographic conditions that exist in Queensland.

Building biosecurity capability and capacity

- prioritise biosecurity resources and **investment** to areas of greatest biosecurity risk and impact
- take a more strategic approach to the **science** that underpins biosecurity through stronger partnerships, better linkages with biosecurity priorities and better extension
- increase **awareness** of biosecurity to get more people involved and help them understand the role they play
- provide a contemporary **legislative framework** and reduce the regulatory burden and compliance costs facing Queenslanders when they manage pests and diseases
- build the **capability** of Queenslanders to undertake biosecurity activities and deliver biosecurity services.

2 Adapted from AusBIOSEC (2008)

Improving biosecurity systems

- Building strong leadership
- Taking a more preventative approach to biosecurity
- Carrying out better surveillance and early detection
- Improving emergency responses
- Managing established pests and diseases
- Focussing on biosecurity in the tropics

Building strong leadership

Achieving the vision for biosecurity will require strong leadership from government, industry and other key stakeholders—to build and sustain relationships, systems, capacity and capability in biosecurity. Strong leadership and good governance will build resilience and confidence in Queensland's biosecurity system.

A shared responsibility approach means that roles and responsibilities for prevention, surveillance, preparedness and response measures need to be clearly defined, understood and accepted by stakeholders.

There are a large number of stakeholders with a contribution to make to Queensland's biosecurity—three levels of government, various committees, a diverse range of industries, a large number of businesses, natural resource management groups, other community groups and individuals.

A major priority over the next five years will be to construct a biosecurity stakeholder map that clearly defines and communicates the respective roles and responsibilities of all stakeholders. In doing so, the capacity of stakeholders to deliver on their responsibilities will be considered.

Queensland is part of a strong national biosecurity system. Many stakeholders have significant influence on national policy setting and decision making. Ways will be sought to take advantage of these areas for a common purpose.

With changes expected at the national level as a result of the current Australian Government review into quarantine and biosecurity arrangements, it is important that all stakeholders take strong and consistent messages into these forums on agreed matters affecting biosecurity in Queensland. Queensland's rights and obligations in managing our unique biosecurity conditions will need to be considered, particularly within the national and international biosecurity context. It will also be important for stakeholders to work together to maximise any opportunities for collaborative national effort.

Queensland's vision for biosecurity is achieved through strong shared leadership and good governance.

1 *Governments, industries and communities work together to build Queensland's capacity to manage biosecurity risks.*

2 *Roles and responsibilities are clearly articulated and understood.*

3 *Stakeholders have the capacity and capability to deliver on their roles and responsibilities.*

4 *Stakeholders use their influence in national biosecurity forums to achieve common outcomes for Queensland.*

5 *Governance and advisory arrangements are in place to support a shared responsibility approach to biosecurity in Queensland.*

Key highlights

Biosecurity stakeholder map

Influencing national agenda

Biosecurity Queensland strategic policy leadership

Formal consultative mechanisms

Ministerial Advisory Council

A particular priority for Queensland will be to lead development of national, harmonised arrangements for certification and market access for our produce across state borders.

Biosecurity Queensland is the single point of leadership and coordination for the State Government's role in biosecurity. Over the next five years, Biosecurity Queensland will build systems, capability and relationships to facilitate shared leadership and commitment from other stakeholders.

An important element of this approach will be to build the strategic policy capability of Biosecurity Queensland and to design consultative arrangements that allow better stakeholder input into policy development.

To assist this goal, a Biosecurity Queensland Ministerial Advisory Council will be established to provide independent strategic advice on biosecurity matters to the Minister. The Council will draw from a wide range of stakeholders and expertise and have an independent chair. The Council will be an important conduit for building shared responsibility and leadership for biosecurity in Queensland.

Taking a more preventative approach to biosecurity

Prevention is better than cure—a truism that applies well to biosecurity.

Much of Australia's biosecurity prevention activities are done pre-Australian border or at the Australian border, a responsibility of the Australian Government. Nevertheless, Queensland has an important role in contributing to compliance with Australia's obligations relating to biosecurity.

As part of the national system, Queensland will support the Australian Government where possible—to prevent the spread of pests and diseases within neighbouring countries and to build their biosecurity capability, reducing the risks from that source.

As well, a great deal can be done post-Australian border to prevent the establishment or spread of pests and diseases within and out of the state. Examples of existing strategies include:

- bans on feeding animal matter to livestock to prevent outbreaks of diseases such as foot and mouth disease and bovine spongiform encephalopathy (BSE)
- interstate or intrastate zoning for a range of pests and diseases to prevent their spread
- wash-down areas to prevent spread of weed seeds
- awareness programs for on-farm biosecurity practices, such as separating poultry from wild birds to minimise risk of exposure to avian influenza.

Existing programs tend to be regulatory and/or government driven. Through the duty of care principle[3] the opportunity exists to significantly improve preventative measures through education, awareness and market-based approaches.

Biosecurity threats are prevented from becoming established or spreading to new areas.

1 *Queenslanders are aware of their duty of care obligations to prevent establishment or spread of pests and diseases.*

2 *High risk activities are identified and specific risk mitigation strategies implemented.*

3 *Prevention strategies are supported by good science, awareness and education, and are prioritised according to risk.*

4 *Market access is supported through efficient pest and disease certification systems.*

5 *Queensland supports the Australian Government to improve pre-border, border and post-border biosecurity.*

6 *Regional and on-farm biosecurity planning is widely adopted.*

7 *Resilience of the natural environment to biosecurity threats is increased.*

3 The duty of care principle means that anyone conducting an activity that has biosecurity implications has a responsibility to take all reasonable measures to mitigate the biosecurity risks associated with that activity.

Key highlights

National obligations

Duty of care—raising awareness

On-farm and regional biosecurity plans

Research and risk analysis

There are a range of practices that landowners and the community can implement to reduce the risk of pest and disease establishment and spread. Ways will be explored to incorporate these practices into on-farm and regional biosecurity plans, linked into existing assurance, certification or farm management systems. Where possible, incentives will be incorporated that encourage good practices—for example through market-based incentives.[4]

Raising awareness within the general community of what can be done to prevent or lower a biosecurity risk will be a feature of a new biosecurity communications plan.

There will also continue to be a strong focus on research and risk analysis before any new species is released or allowed to be kept in Queensland. If necessary, enforceable management plans will be introduced to ensure such species do not escape or spread.

Ways to improve the resilience of the natural environment to biosecurity threats will be explored.

4 Market-based incentives—where market signals are used to positively influence behaviour.

Carrying out better surveillance and early detection

The effectiveness of any biosecurity system is underpinned by the quality of its surveillance systems.

Early detection enables action to be taken to prevent establishment and spread of pests and diseases, thereby reducing the potential long-term impacts and associated response and management costs. In many cases eradication is only possible if the pest or disease is detected before it is widely spread.

As well as detection, an essential surveillance function is to demonstrate proof of freedom or 'evidence of absence' of a pest or disease through structured surveys or other targeted methods. This is an increasing requirement for access to important international markets. Given the high cost of surveillance, more efficient ways of demonstrating proof of freedom will be explored.

Surveillance is also important in the management of established pests and diseases. The ability to predict the possible spread and impact of invasive weeds and pest animals is critical in designing and implementing cost-effective management programs.

An integrated surveillance plan for Queensland will be developed. This plan will clearly define surveillance priorities, coordinate effort, identify opportunities for collaboration between stakeholders, and focus on how to deliver surveillance activities more efficiently and effectively. Improving diagnostic services and capacity for all sectors, drawing on modern technology, good science, strong collaborative arrangements and better risk assessment practices will be a priority.

Queensland's surveillance system provides early detection of biosecurity threats and ensures market access.

1 *Surveillance activities are coordinated and planned to maximise the early detection of biosecurity threats and to ensure national and international market obligations are met.*

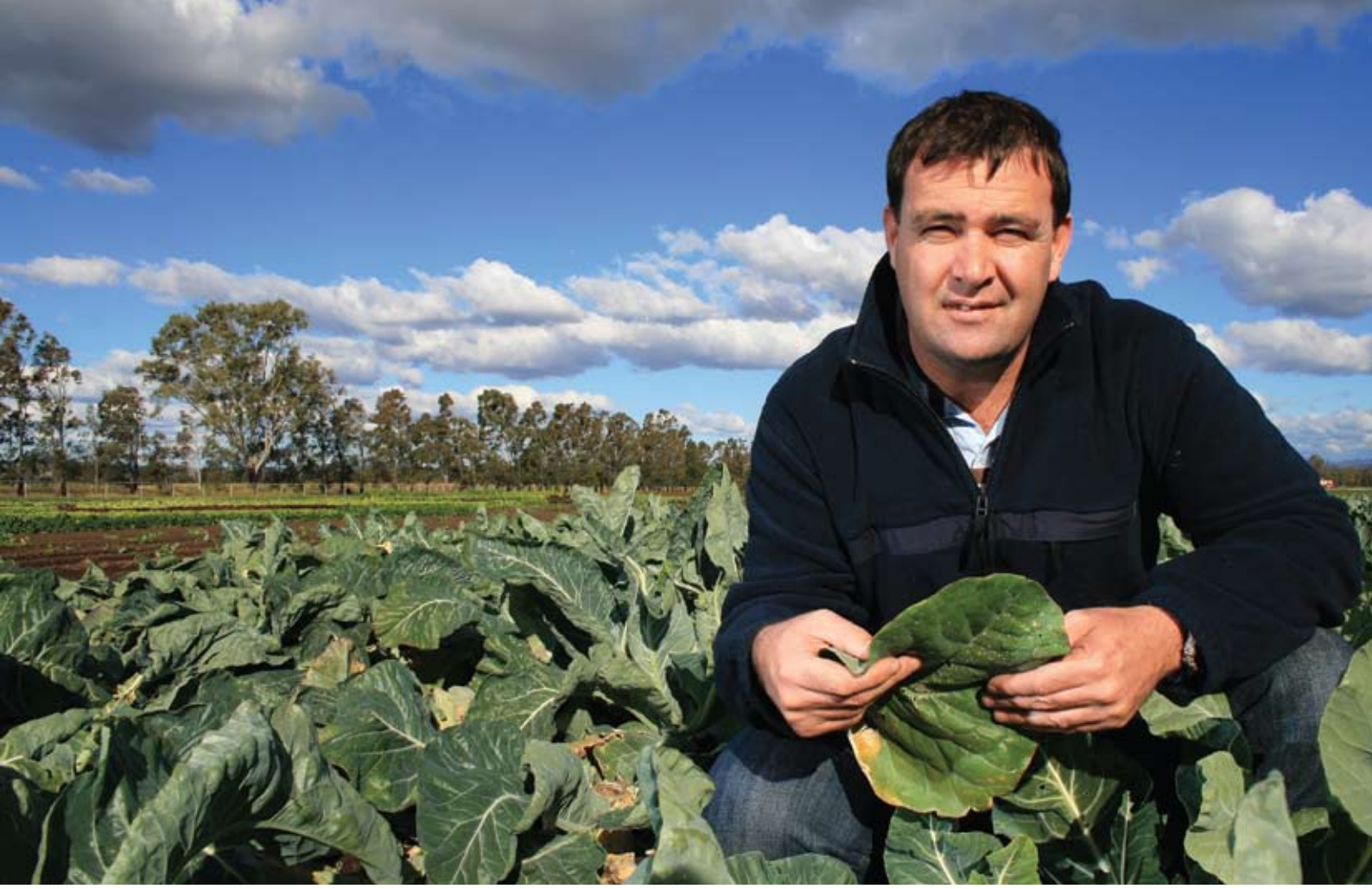
2 *Stakeholders are actively involved in surveillance and know what to look for and how to report possible biosecurity threats.*

3 *Queensland has access to the capacity and ability to identify reported pests and diseases.*

4 *Surveillance activities are grounded in good science and prioritised according to risk.*

5 *Information on pest and disease risks is shared between interested parties.*

6 *Surveillance activities are delivered efficiently and effectively and are able to adapt to changing circumstances.*



Key highlights

Surveillance for proof of freedom

Remote surveillance technology

Linking surveillance activities of stakeholders

Up to date information base

Property registration and traceability

The plan will ensure Queensland's surveillance efforts take into account the work of other jurisdictions and institutions, such as universities, in surveillance, detection and diagnostics.

There is a significant opportunity to expand and improve informal surveillance with landholders, industry, Indigenous communities, community groups and interested individuals. For this to be successful, consideration will need to be given to providing incentives for reporting, education, information systems to handle the reported data, and appropriate mechanisms to follow through with actions as needed.

Many people and organisations already collect, or have the potential to collect, surveillance data. Accurate and up-to-date spatial information is critical to the effective management of any biosecurity issues. Over the next five years, ways to collect and share surveillance data and to extract maximum value will be pursued.

The ability to identify properties, and what may be on those properties, is critically important in planning for and responding to biosecurity threats. At present, animal industries are required to register their properties. Consideration will be given to the inclusion of plant industries and other segments (e.g. peri-urban properties) to provide the best possible profile on which to build our system.

Improving emergency responses

High quality emergency response systems are important, particularly given Queensland's experience in dealing with a large number of significant pest and disease outbreaks and the expectation that this trend will continue.

Expectations are that emergencies will be dealt with quickly and efficiently with minimal impact on businesses and the community. Stakeholders also expect that core biosecurity services will continue to be delivered during an emergency.

Even though each biosecurity emergency response is different, good preparation, training, communications processes and quality systems will significantly increase the likelihood of mounting a successful response and reduce the costs of that response.

Despite Queensland's success at mounting large scale emergency responses, there is room for improvement. Over the next five years, priority will be given to:

- developing quality information, training and administrative systems to underpin an emergency response
- establishing and maintaining relationships with key stakeholders as it is more difficult to do this once the response has begun
- establishing communications and community engagement processes that provide timely information through a range of channels
- identifying and rapidly mobilising appropriately trained resources during the initial stages of the response
- developing and maintaining 'emergency ready' infrastructure that can be readily deployed
- developing a transparent decision-making framework, based on risk analysis and cost-benefit considerations, to guide decision making during an emergency and for ongoing recovery
- integrating Biosecurity Queensland's emergency response capability into Queensland's emergency management and disaster management networks.

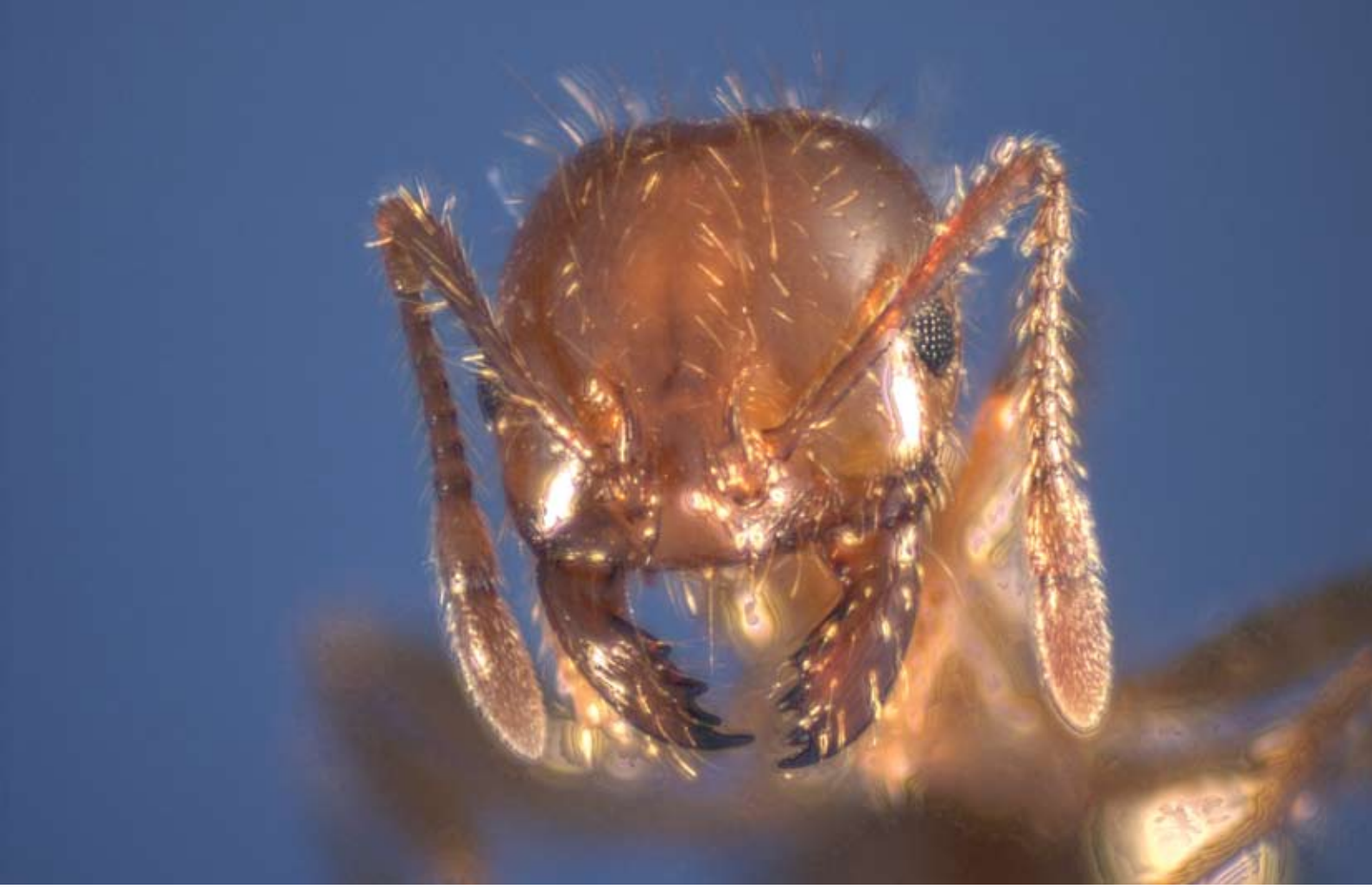
Queensland has a world-class biosecurity emergency management system.

1 *Queensland has a high level of preparedness to respond to biosecurity emergencies.*

2 *Biosecurity Queensland can rapidly and effectively respond to biosecurity emergencies with the strong support and involvement of stakeholders.*

3 *Relief and recovery measures are able to be deployed as appropriate to minimise the impacts of biosecurity emergencies.*

4 *National and Queensland policy frameworks are consistent and support best practice biosecurity emergency management.*



Key highlights

Biosecurity reserve

Rapid response unit/response systems

National deed requirements

Maintaining core services during emergency

Links to Queensland government disaster management system

While government will nearly always have the lead responsibility in mounting an emergency response, other stakeholders play critical roles—whether through formal cost-sharing arrangements, since they are affected by the outbreak, or because they have particular skills to contribute.

Bringing together relevant stakeholders through incident-specific control groups will continue and will assist communication and decision making during a response and the ensuing recovery period. Better coordination of training and resources will be sought to identify gaps and avoid duplication.

The creation of a 'biosecurity reserve' will be investigated. Drawing from people in industry, other government agencies, and the community, the reserve could be trained in emergency management and could be called upon during an emergency. Ways to strengthen the current stakeholder liaison officer network will also be investigated. These initiatives have the potential to provide a significant pool of skilled people to draw upon in an emergency.

Queensland's emergency response capability is underpinned by a number of existing plans and agreements with the Australian Government, other state and territory governments and industry and works as part of an integrated national system. Queensland will work with national partners to continuously improve the national arrangements in light of our experience with managing a wide range of emergency responses.

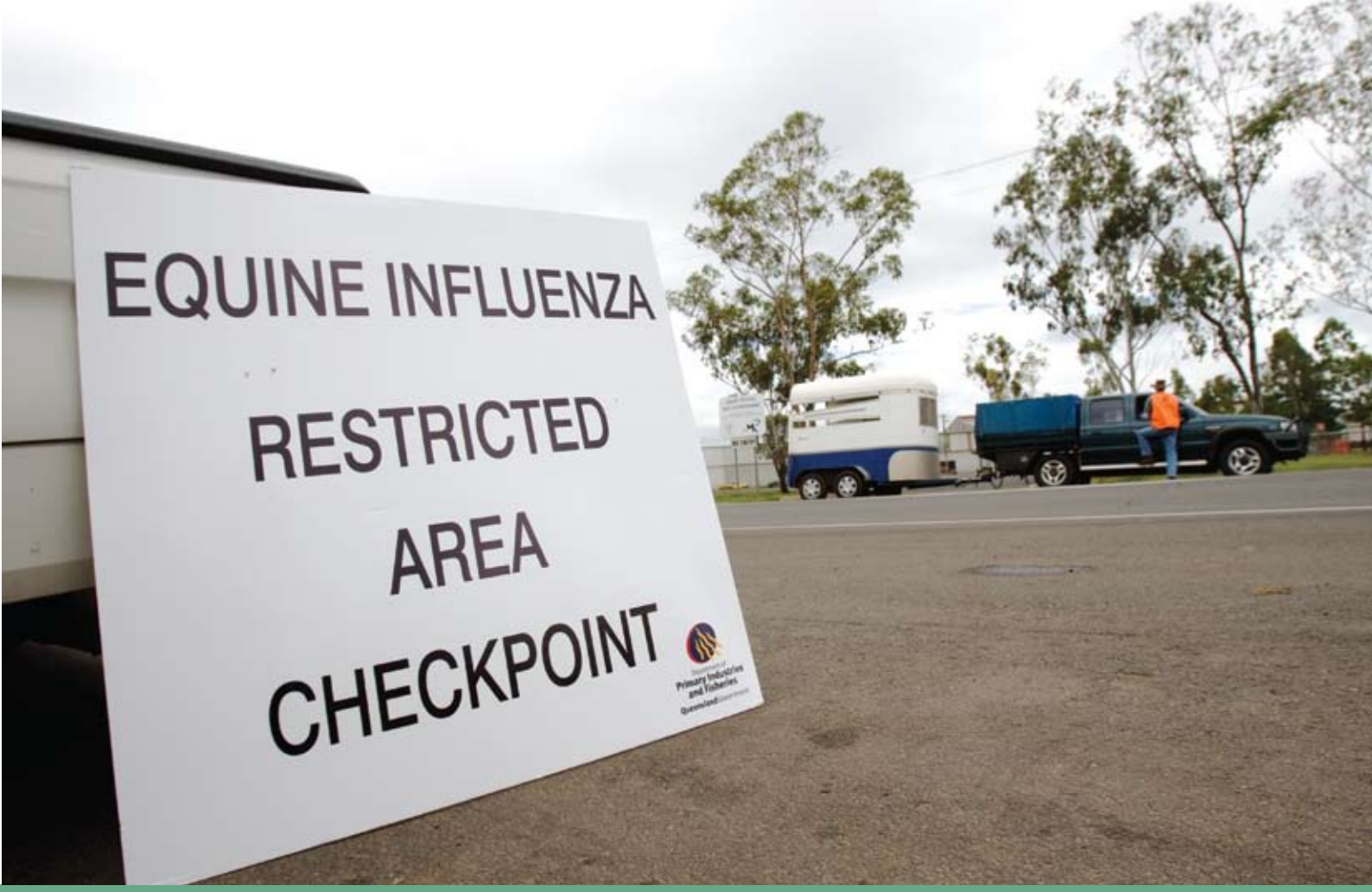
The Equine Influenza outbreak: a case study

Early on Saturday 25 August 2007, the Queensland Department of Primary Industries and Fisheries (DPI&F) was notified that horses suspected of having a highly virulent exotic disease called equine influenza (EI) had been detected in an equestrian centre in Sydney.

By that afternoon, DPI&F announced a statewide standstill, which prevented horses from being moved until further notice. That same afternoon, as a precaution based on reports of sick horses at Morgan Park, Warwick, 255 were quarantined on that property. EI was confirmed the following morning, and a seven-month response to eradicate the disease began.

Approximately three weeks into the EI response in Queensland, horse owners were introduced to a series of movement zones—red, green and amber.

At its peak, Queensland had more than 3800 known infected properties and nearly 70,000 horses had been vaccinated. The disease was contained and there have been no new cases of EI in Queensland since 25 December 2007.



The outbreak of EI had a profound financial effect on the horse industry, which is worth $6.2 billion per year to the Australian economy. With volunteer support, it is worth $8 billion a year. The response to EI also heavily impacted on social and recreational activities, and the many businesses that support the horse industries.

A key point that has been learnt from the response has been the need to engage with all relevant organisations in open and frank discussions, particularly in relation to striking a balance between minimising the negative impacts of the response and achieving the ultimate goal of eradication. Queensland horse owners responded diligently to the standstill and this high level of compliance was a key factor in containing the spread of the disease.

A number of state and national after-action reviews of the EI response have been held. The major points learnt that will aid future responses include the need for access to suitably trained staff, quality management and information systems tied to spatial and resource management systems, good community engagement mechanisms, fit-for-purpose infrastructure and better sharing of information within the response to improve operational efficiency and effectiveness.

The success of the EI response is reflected in the fact that Australia is one of only a few countries that has successfully eradicated EI.

Managing established pests and diseases

Many pests, diseases and contaminants are already well established in Queensland and continue to have a negative impact on Queensland's economy, biodiversity and way of life. Others are yet to reach their full distribution and impact. Some are managed through containment programs (such as barrier fences and movement controls), others by the minimisation of impacts through measures such as biological control and vaccination.

Established weeds are managed through cooperative programs. Most of the major pest animal and plant programs are coordinated on either a state, regional or local level. Some established pests and diseases of production systems are managed through coordinated programs, but most are dealt with 'on-farm'. Efforts are also made to build resilience in the natural environment to help reduce the risks posed by biosecurity threats.

With so many stakeholders and so many established pests and diseases, a more coordinated and collaborative approach is needed. This will be particularly important given that stakeholders are experiencing difficulties in delivering efficient and effective control programs within existing resources.

Clarifying the roles and responsibilities of each stakeholder and finding ways of effectively bringing people together is important. There is strong support for Biosecurity Queensland to facilitate greater collaboration and planning at the regional level with land owners, natural resource management groups and local governments.

Alongside the work with stakeholders, more effective ways to prioritise established pests and diseases for action will be explored, including more rapid and transparent risk assessment processes. Cost-effective tools and techniques to control priority pests will be developed. Existing control methods will be regularly reviewed to affirm or improve their effectiveness.

Minimise the impact and extent of existing pests and diseases.

1 *Long-term policy objectives, investment priorities and management responsibilities are based on an assessment of risk.*

2 *Stakeholders share responsibility for managing established pests and diseases.*

3 *Stakeholders coordinate their operational initiatives for 'maximum benefit'.*

4 *Effective prioritisation and planning underpins management of established pests and diseases.*

5 *Innovative measures supported by high quality science improve the management of established pests and diseases.*

Key highlights

Coordinated effort and planning

Roles and responsibilities

Prioritised according to risk

Monitoring and compliance

The application of objective and transparent risk approaches to the management of established pests and diseases will be critical. This will, in turn, help identify the risks by priority and determine the appropriate mix of measures to address a particular pest or disease, or broader pest and disease threats to particular natural assets. This will guide effort and investment across public and private sources.

Once decisions have been made about priorities, ways to enforce and monitor compliance must be found. The development of new biosecurity legislation will seek to provide a more robust regulatory framework for the management of established pests. Within this context, the role and effectiveness of local government pest management plans will also be reviewed.

Measures to encourage better collaboration between scientists and those involved in the management and delivery of pest and disease control programs will be encouraged to spark the development of new and innovative measures which will improve the management of established pests and diseases.

Strategies will also be developed to address new and emerging pest threats, particularly for pest birds, invertebrates, aquatic pests and pathogen threats to the environment.

Focussing on biosecurity in the tropics

Queensland is in a unique position to influence the direction of biosecurity as practised in tropical climates—both in terms of what we have to offer other countries with tropical climates and in how we approach biosecurity in our own state.

Our tropical areas have a different risk profile to the rest of the state, influenced by our proximity to South-East Asia, general inaccessibility, long coastline, sparse population and climatic suitability for a wide range of pests and diseases. The logistics of controlling pests and diseases, undertaking surveillance and mounting a response are difficult.

Significant World Heritage listed areas in North Queensland and the biological diversity and cultural heritage within these areas also need to be protected.

Climate change will impact on the current risk profile and will shift pest and disease distribution and alter conditions for different plants and animals. It is also likely that more agricultural products, particularly fruit and vegetables, could be grown in North Queensland as industry responds to changing temperatures and access to water.

Over the next five years, research will be undertaken on the factors influencing biosecurity in tropical areas, and appropriate mitigation strategies will be developed.

The government has identified *Tropical Futures* as one its six research and development priorities with tropical health, the environment and primary industries highlighted. The biosecurity science action plan will align to this priority. In June 2008, the Minister for Primary Industries and Fisheries announced a new partnership arrangement with James Cook University for tropical biosecurity science. This partnership will be developed over the next few years.

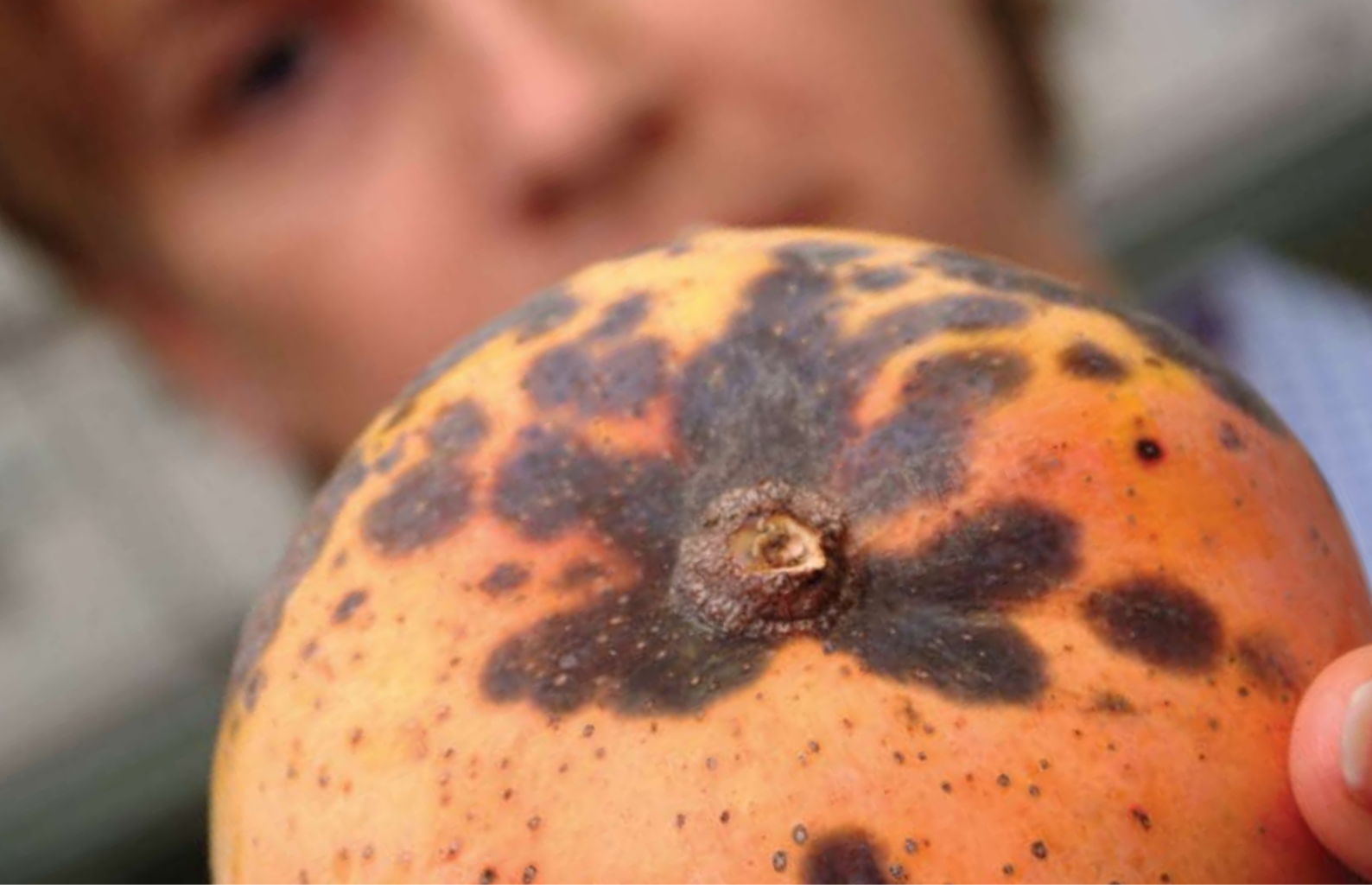
Queensland is a world leader in tropical biosecurity.

1 *Queensland has access to leading-edge science and understanding of tropical biosecurity risks and solutions.*

2 *Queensland's agricultural production, trade and environmental values are enhanced through leadership in tropical biosecurity and innovation.*

3 *A collaborative approach is adopted to tropical biosecurity science and risk management.*

4 *The unique contributions of Indigenous Australians to tropical Queensland's biosecurity is recognised and enhanced.*



Key highlights

Impact of climate change

NAQS/AQIS partnership

Prevention work with neighbouring countries

Surveillance/response logistics

Access to leading-edge science

The Australian Government's existing North Australia Quarantine Strategy (NAQS) focuses attention on these northern border and pre-border risks. Queensland will seek to be more influential in tropical biosecurity, working with NAQS and other agencies to further improve border and pre-border biosecurity and keep the unwanted pests and diseases out of Queensland.

Biosecurity outcomes will be improved through developing and leading cooperative relationships and partnerships with NAQS and our neighbouring tropical countries, assisting our neighbours to improve their own biosecurity while improving our capacity to keep pests and diseases offshore.

Good working relationships will be built between government agencies, local councils and Indigenous communities in the far north to underpin efforts in managing invasive plants and animals and early warning surveillance activities.

Indigenous Australians already have a long and unique relationship with the land and sea. Indigenous communities can make an important contribution to detection and response to biosecurity threats particularly in the Gulf of Carpentaria, Cape York and Torres Strait.

Building biosecurity capability and capacity

- **Biosecurity investment**
- **Biosecurity science**
- **Raising awareness and capacity building**
- **Legislation and compliance**
- **Building capability and enhancing services**

Prioritising investment

Biosecurity is resource intensive and there can never be enough funding to adopt a zero risk approach and either rid Queensland of all pests and diseases or stop the entry of new ones.

Biosecurity is fundamentally about managing risk and it is important to ensure that any investment mitigates as much of that risk as possible.

There are a complex set of considerations in making decisions about allocating resources in biosecurity, including:

- the severity of the risk and potential damage that may occur should that event happen
- the costs and benefits of taking early action as opposed to responding once an event happens
- underpinning infrastructure and capability requirements
- legal and regulatory responsibilities
- maintaining profitable primary industries
- protection of the natural environment
- social responsibility
- commitments under national arrangements
- public versus private benefit.

Over the next five years, Biosecurity Queensland will be developing a risk-based decision-making framework that will provide for a more consistent, transparent, robust and fair allocation of resources against all these considerations.

While this framework is primarily about resource allocation within government, the underlying methodologies and tools for analysing and comparing risks are expected to have wider application. Opportunities for sharing this information and different approaches will be considered throughout the development of the new framework.

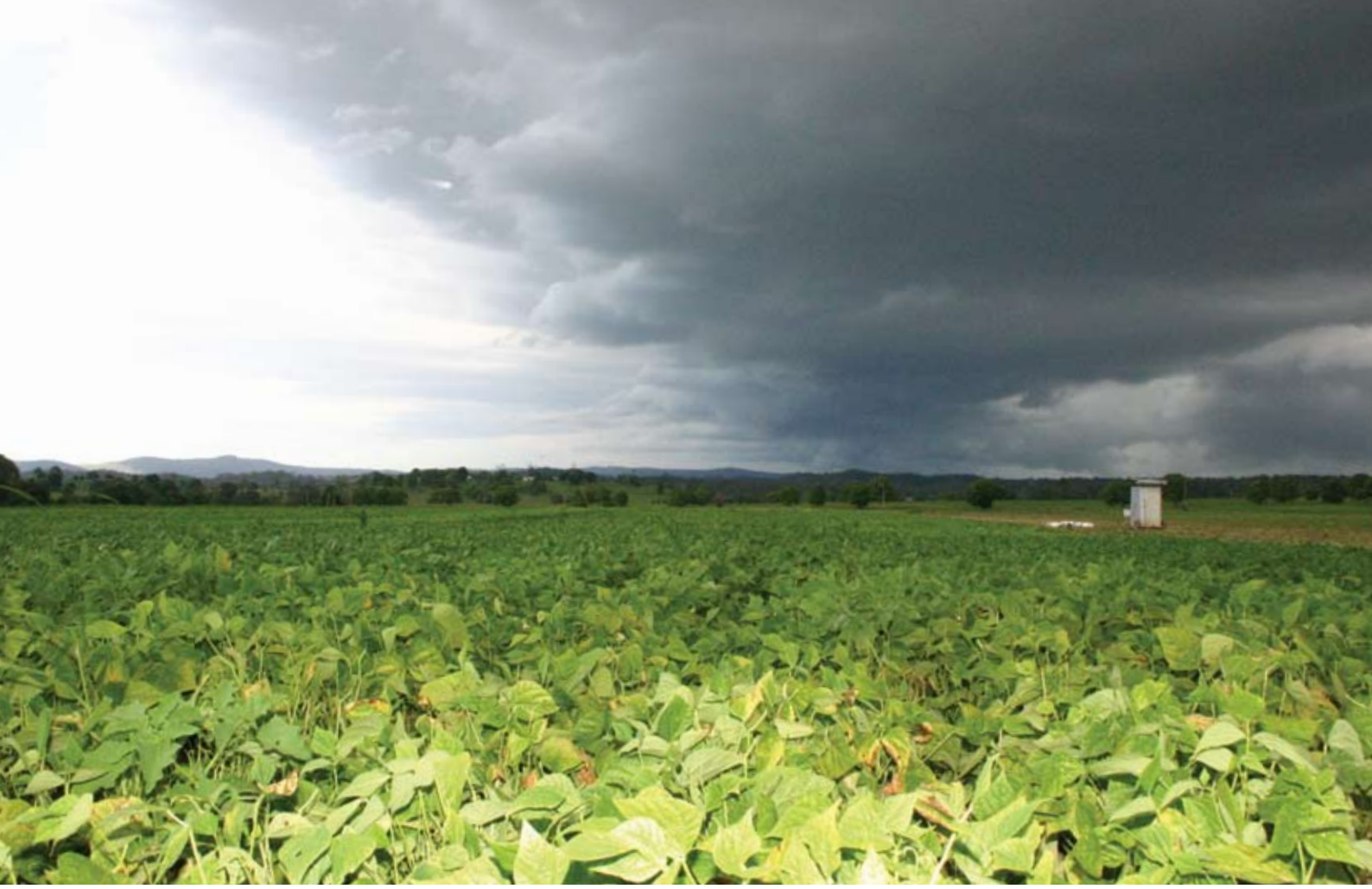
An important element of this work will be the identification, assessment and comparison of economic, social and environmental impacts of biosecurity events. While economic and social impacts can be relatively easy to identify, environmental impacts are often difficult to quantify and often not known until much later. Linkages will be made with other organisations to build a shared and coherent approach to this complex issue.

Investment is prioritised to maximise Queensland's biosecurity outcomes.

1 *Biosecurity investment and activities are evaluated and prioritised through a risk-based decision-making framework.*

2 *Opportunities for expanding biosecurity investment are actively pursued.*

3 *Collaborative approaches to funding are explored.*



Key highlights

Align resources to risk

Risk-based decision-making framework

Biosecurity risks are increasing, services are changing and national cost-sharing arrangements are in place for many aspects of biosecurity. As such, the levels and mix of biosecurity investment in the state will continually need to be re-examined.

Continuation of the significant investment in emergency response activities by government will be important and ways to increase resources into prevention, preparedness and surveillance activities will be explored.

There are many investors in biosecurity—public and private. As we move forward with more collaborative approaches to biosecurity, more flexible mechanisms by which partners can co-invest will need to be found.

The development of a risk management approach to biosecurity is likely to raise issues of what amount people or organisations who either exacerbate a biosecurity risk or significantly benefit from a biosecurity activity should contribute. These issues will need to be explored carefully over the next five years, particularly how they relate to any national agreements or legislative provisions.

Biosecurity science

Queensland's future success in addressing the range of biosecurity challenges will be shaped by having access to high quality, multi-disciplinary biosecurity science.

Risk assessments and decision-making need to be underpinned by high quality scientific information. Similarly, new and better ways to prevent, prepare for and manage biosecurity risks require assimilation of the best available information. Access to leading-edge, rapid diagnostics and scientific knowledge to guide treatment and control strategies is important, particularly during an emergency.

Biosecurity science is underpinned by a network of science-based institutions and covers a complex range of areas. Positioning biosecurity science in Queensland will be the subject of a specific action plan to be developed in 2009.

The Biosecurity science action plan will provide guidance on our science direction, priorities, delivery and uptake. It will include the development of innovative ways to adapt existing and new technologies to improve the efficiency of biosecurity programs. It will complement national R&D strategies and position Queensland within the national R&D framework.

A key area of focus will be the development of diagnostic capability, for which gaps exist across the range of sectors where biosecurity must operate, particularly in plant and marine biosecurity.

Collaborative work on climate change aspects of pest and disease distribution will be pursued as there are many unknowns and a holistic approach will be important.

World-class science underpins Queensland's biosecurity system.

1 *Queensland has access to leading-edge science to underpin biosecurity decision-making and solutions.*

2 *Biosecurity science investment is focused on priorities based on key risks.*

3 *Queensland's biosecurity science accesses expertise across a broad range of relevant disciplines including the social sciences.*

4 *A collaborative and partnership approach is adopted to develop science infrastructure and expertise.*

Key highlights

Science action plan

Strategic partnerships

Diagnostic capability

Social science

Developing scientific knowledge is resource intensive, and will rely heavily on private and public sector cooperation between science providers across state, national and international boundaries. Queensland is already well positioned with many existing linkages. Ways to strengthen these relationships and create new partnerships will be explored.

Queensland has an opportunity to capitalise on the Queensland Government's Smart State science initiatives to establish internationally recognised centres of excellence in biosecurity science. Better linkages will need to be formed with cooperative research centres, universities and the health sector.

Often good basic science remains under-utilised. Ways to improve collating, integrating and communicating existing scientific data and research will be explored.

Another area of growing interest, both nationally and internationally, is the relevance and importance of social sciences in modern biosecurity systems. Solutions to biosecurity risks are inherently social. This means that understanding human behaviours, values and attitudes, particularly in relation to response to risk, provides opportunities to better target biosecurity measures and achieve greater community engagement. Improving social science capacity will support better decision-making, risk management and community engagement.

Raising awareness and capacity building

Many people do not know what biosecurity is or what role they have to play in protecting Queensland from pests and diseases. Some businesses and industries do not pay close attention to good biosecurity practices until something happens that directly affects them.

These attitudes must change if new pests and diseases are going to be quickly detected, if those that are already established are to be controlled or the inadvertent introduction of a new serious biosecurity risk is to be prevented.

A proactive biosecurity system based on shared responsibilities relies on active participation from people across Queensland. Those on the ground are best placed to detect and respond to a biosecurity threat. They must, however, know what to look for, what to do, who to report it to and what might happen after they report the threat.

Education, awareness raising and community engagement will be used to help Queenslanders see the benefits of good biosecurity not only for themselves, but for the community at large. This will help achieve:

- early detection of possible biosecurity issues
- greater compliance during an emergency response
- support for recovery efforts, inspection and enforcement
- expansion in the overall capacity and capability to reduce the establishment and spread of pests and diseases.

A biosecurity communications and community engagement plan will be developed as a priority.

Changing people's attitudes to biosecurity may take a long time, and the transition could be generational. While every effort will be made to increase awareness of people working in industry—along the supply-chain and in the community—a strong focus will be placed on educating younger generations in good biosecurity practices.

Queenslanders are aware of their role in preventing, reporting and responding to biosecurity risks.

1 *High levels of community awareness of the importance of biosecurity.*

2 *Incentives to encourage people to actively participate in biosecurity.*

Key highlights

Communications and community engagement plan

Peri-urban engagement models

Incentives to act

More lateral thinking is required to engage the community in biosecurity. From a commercial perspective, if businesses knew they would be rewarded for good biosecurity through greater market returns they might pay more attention to implementing systems on their property. Incentives for people to report suspect biosecurity threats will be explored and better ways of rewarding people for coming together at the community level to tackle biosecurity issues will be considered.

Better social research into community attitudes to biosecurity and understanding what motivates them to act will be critical in ensuring communication effort produces results. Biosecurity Queensland will also adopt a stronger community engagement focus in how it approaches its business.

It will be particularly important to understand and engage with 'peri-urban' landholders, as traditional approaches to biosecurity management may not be effective. Targeted engagement models will need to be pursued, including the use of pre-existing networks and relationships (such as local government and financial institutions) to distribute information.

Legislation and compliance

Regulatory and administrative processes are important tools in changing or influencing people's behaviour. Regular reviews of such processes are needed to ensure that the measures are effective, efficient and of value.

Regulation should only be used where other approaches cannot produce the desired outcome or as part of a mix of strategies to achieve a biosecurity outcome.

A biosecurity regulatory reform program will be implemented to reduce the complexity of biosecurity for all stakeholders, while providing flexible tools and simplified risk-based decision-making processes for taking action regardless of the risk involved.

Legislation will adopt the principle of shared responsibility by recognising that everyone has a duty of care to ensure that Queensland is not exposed to biosecurity risks, or that risks are managed appropriately. A precautionary approach will be incorporated so that, where there are serious threats, lack of full scientific information will not prevent action being taken.

Regulatory systems to achieve biosecurity outcomes are efficient and effective.

1 *Queensland has best practice biosecurity legislation.*

2 *Regulations are complemented by education, awareness and other biosecurity systems.*

3 *Regulatory systems recognise and use industry and community processes.*

4 *Biosecurity regulatory frameworks are continually improved by stakeholder feedback.*

5 *Biosecurity systems and processes will be streamlined and client-focussed.*

Key highlights

Single biosecurity Act

Reduced compliance costs

Third party certification

The new biosecurity legislative framework will be designed to:

- make decisions and take actions based on risk analysis
- reduce administrative burden, enhance efficiency and reduce overall costs of biosecurity to government and stakeholders
- streamline processes and mitigate uncertainties for businesses and individuals
- remove regulations that are no longer necessary and where applicable replace them with more efficient regulatory tools
- enhance capability by making laws that are easier to administer, can be consistently applied to a range of biosecurity risks and enable stakeholders to share the responsibilities
- provide for greater use of co-management approaches to enable industry and community groups to more readily take an active role
- provide a range of flexible legal instruments to facilitate appropriate action while holding decision-makers accountable
- improve biosecurity governance and accountability and clarify roles and responsibilities for stakeholders.

Systems and processes will also be reshaped over time to improve efficiency and minimise compliance costs, particularly those relating to intra- and interstate movement of goods and materials. Electronic certification systems, online access to information, consolidation of auditing processes and use of third party providers will be investigated.

Building capability and enhancing services

Underpinning any biosecurity system is the need for a good skills base, quality systems, infrastructure and other resources.

There is a skills and labour shortage in the Queensland biosecurity workforce—across government, industry and the community. There is also a need to develop capability in new skills to reflect the contemporary biosecurity system.[5]

Biosecurity services are changing, particularly for government. Twenty years ago, services focussed on controlling ticks, eradicating brucellosis and tuberculosis, distributing 1080 bait and controlling weeds and other endemic pests. Today, the main focus is on traceability systems, certification services, disease and pest surveillance, planning, building capacity of others to deliver biosecurity services, management tools, and emergency response.

Changes in technology and communication techniques have opened up many channels for providing information or services to clients. It has also fundamentally changed the way business operates, with more transactions being done online and an increased need for access to 'just-in-time, just-for-me' information and services.

The needs of diverse biosecurity stakeholders must be understood. In the future, biosecurity services will be more client-focussed, aim to foster greater self-reliance, be viable, provide value for money and focus on areas of high biosecurity risk. Stakeholder feedback must drive the continual improvement of biosecurity tools and services.

Queensland can effectively deliver biosecurity outcomes.

1 *Queensland has access to appropriate skills, resources and infrastructure.*

2 *Skills development will cover a broad range of technical, scientific, education and community engagement skills relevant to a contemporary biosecurity system.*

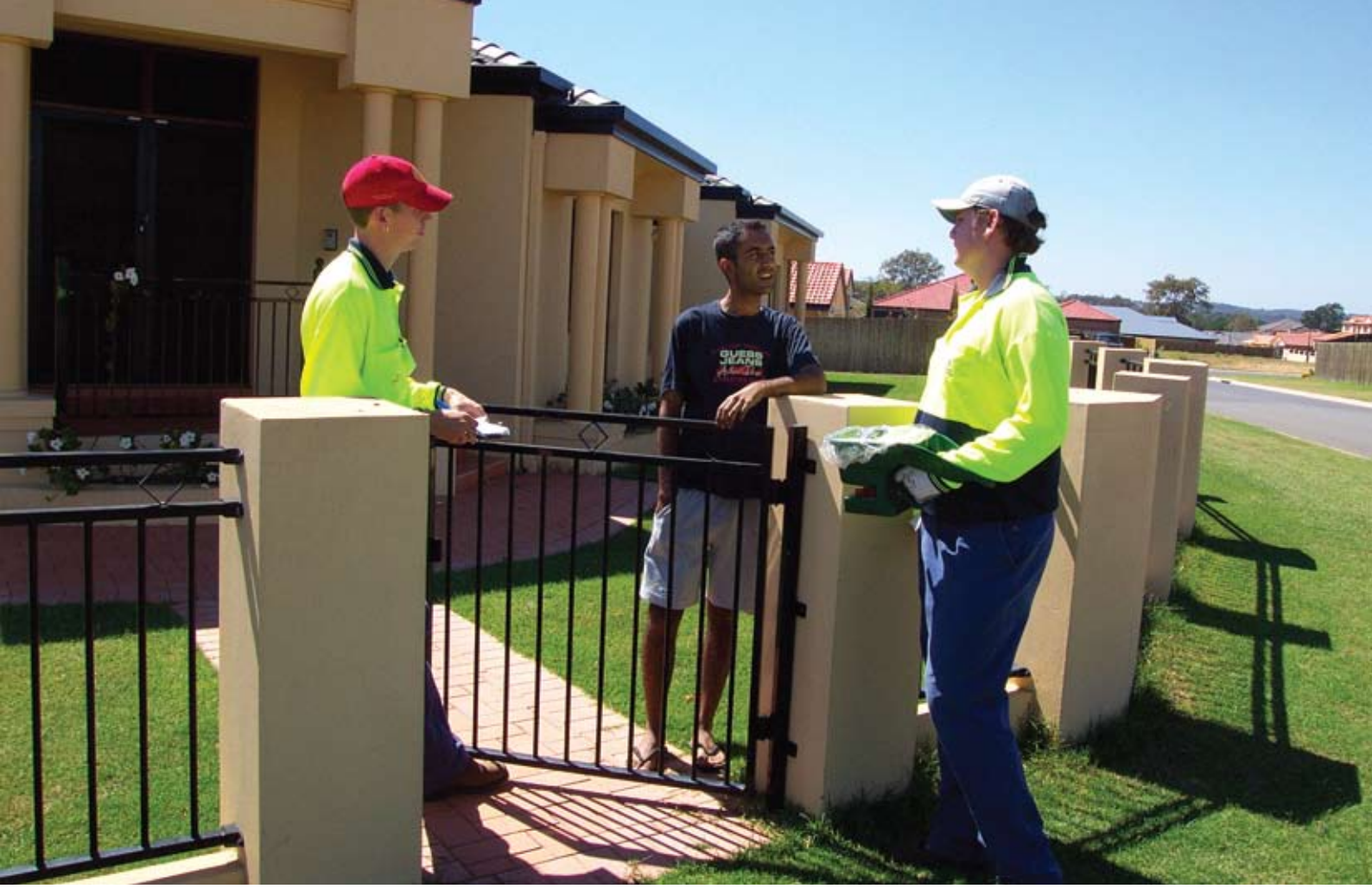
3 *More can be achieved by working together than working alone.*

4 *Biosecurity activities are delivered by a range of stakeholders.*

5 *Biosecurity services are aligned to biosecurity risk.*

6 *Delivery of biosecurity services is continually improved by stakeholder feedback.*

5 These skills include policy development, planning, program evaluation, risk assessment, modelling, conflict management, compliance monitoring, managing third-party delivery mechanisms, education, communications and community engagement.



Key highlights

Service delivery plan

Regional planning

Biosecurity skills plan

Over the next five years, work will be undertaken to better define biosecurity service delivery, based on biosecurity risk and client needs, and to examine the most effective and efficient service delivery models.

Industry organisations, local government, natural resource management groups and other community groups also have a role in building the capabilities of people either within their organisations or in the broader community. The availability of quality education tools or training packages for these groups to use will be important to ensure consistent and up-to-date competencies are being provided across the state. Agricultural colleges and other education providers have an important role to play in providing such training.

A high level biosecurity industry skills plan will be developed to address skills shortages and emerging skills needs.

Recognising the skills and strengths of people and organisations, and bringing them together in a constructive and focussed manner, will achieve far more than if people or organisations work separately. Opportunities for local facilitation, building networks and regional planning will be investigated.

Implementation and monitoring

This strategy outlines a vision for biosecurity in Queensland in five years time and what may be achieved by working together. Many of the goals and objectives in the strategy involve long-term processes and will take a number of years to implement. More detailed action plans and specific strategies will be developed over the next five years in order to implement the strategy.

Key performance measures and evaluation strategies will be developed and reported against as part of the implementation of this strategy. The strategy will be periodically reviewed to ensure it meets stakeholder expectations and our national obligations.

Biosecurity Strategy consultation

Targeted forums

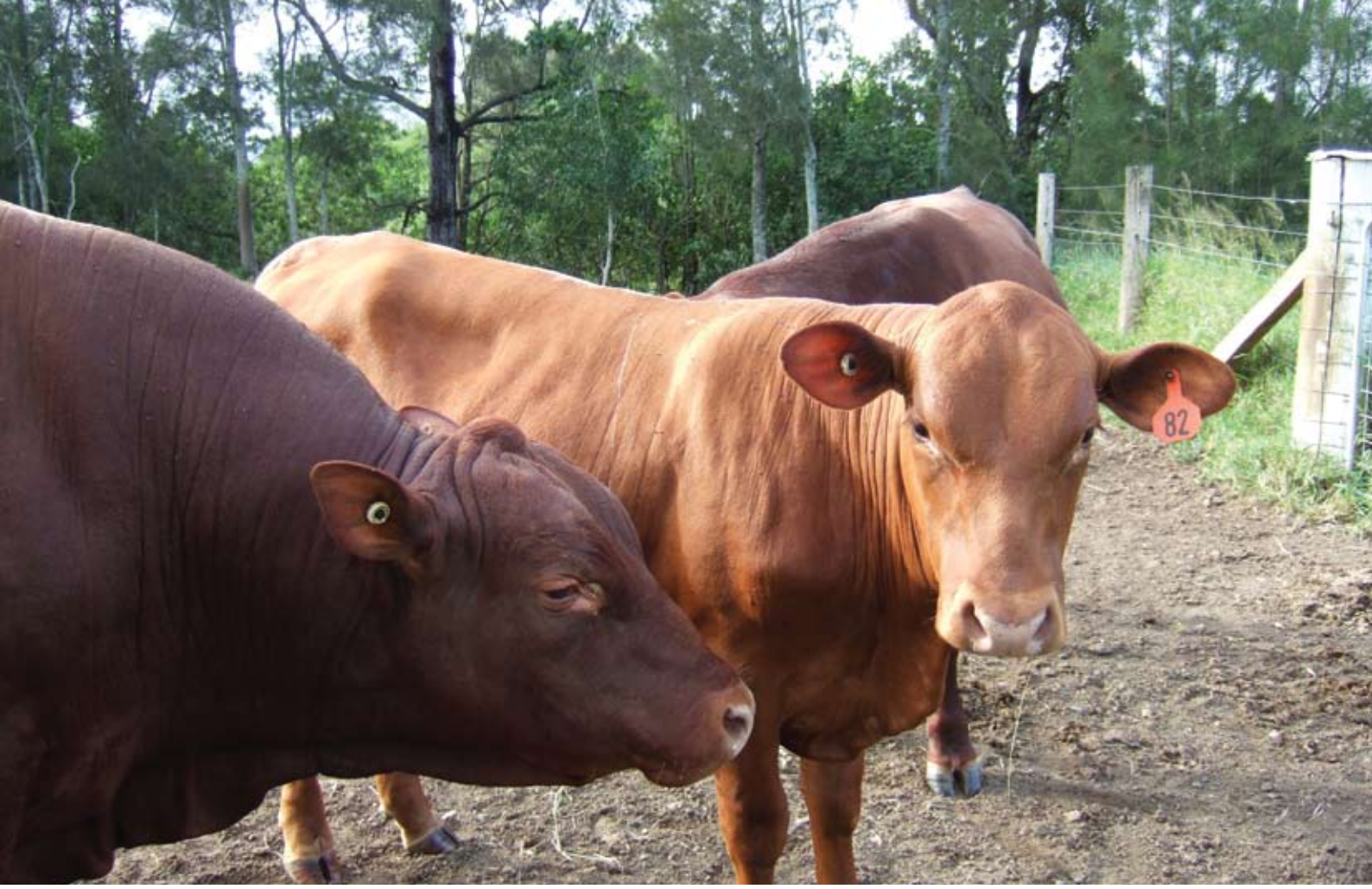
Twenty-four meetings were held around the state with key stakeholders to discuss specific aspects of the biosecurity strategy. Public meetings were held in Bundaberg, Mareeba and Brisbane.

Special interest forums covered were animal biosecurity, including separate forums for the bee and horse industries; plant biosecurity; invasive weeds and pest animals; marine biosecurity; biosecurity science; local government issues; and financial institutions.

Consultation also occurred with staff from the Department of Primary Industries and Fisheries and other government agencies.

Ministerial Dialogue Forum

On 21 October 2008, the Minister for Primary Industries and Fisheries hosted a dialogue forum of around 40 stakeholders to discuss the key themes of the Biosecurity Strategy.



Public submissions

More than 70 submissions were received from a wide range of biosecurity stakeholders: industry, local government, natural resource management groups, government agencies, shipping and ports, conservation groups and members of the public. A list of submitters is on page 38.

Stakeholder Reference Group

A Biosecurity Strategy Stakeholder Reference Group, comprising representatives of around 30 key stakeholder groups, provided advice on the development of the discussion paper and the key themes of the Biosecurity Strategy. The Group met five times. A membership list is shown on page 40.

Inter-governmental Reference Group

A reference group of 16 state government departments was established and met four times to provide advice on key elements of the strategy.

Stakeholder consultation

One hundred and thirteen stakeholders attended one of the consultation meetings and/or lodged a written submission with Biosecurity Queensland.

Submissions received

76 stakeholders lodged a written submission with Biosecurity Queensland.

AgForce
Animal Health Australia
Australian Pig Doggers and Hunters Association
Australian Seed Federation
Australian Shipowners Association
Breeders, Owners, Trainers & Reinspersons Association (Qld) Inc
Brisbane City Council
Brismark
BSES Limited
Cairns Port
CANEGROWERS
Carroll, MG
CSIRO
Circus Federation of Australia
Cunningham, Susan
Darling Downs-Moreton Rabbit Board
Deardon, Natalie
Department of Agriculture, Fisheries and Forestry—Australian Quarantine Inspection Service
Department of Education, Training and the Arts
Department of Housing
Department of Main Roads
Department of Primary Industries and Fisheries staff:

1. Atzeni, Michael
2. Colson, Emma
3. Lawson, Simon
4. McGaw, Clyde
5. Murray, David

Department of Primary Industries (Vic)
Department of Public Works
Department of Territory and Municipal Services (ACT)
Department of Tourism, Regional Development and Industry
Emergency Services Queensland
Environmental Defenders Office (Qld) Inc.
Environmental Protection Authority
Equine Hoofcare Services Pty Ltd
Flinders Shire Council
Flower Association of Queensland Inc
Gladstone Regional Council
Great Barrier Reef Marine Park Authority
Greening Australia Queensland (Ltd)
Growcom
Hodgon, John

Invasive Species Council Australia
Ipswich City Council
Local Government Association of Queensland
Lockyer Valley Regional Council
Logan City Council
Minister for the Environment, Heritage and the Arts, Hon Peter Garrett
Moreton Bay Seafood Industry Association
Nursery Garden Industry of Queensland
Ports Corporation of Queensland
Powerlink Queensland
Queensland Egg Farmers Association Inc
Queensland Regional NRM Groups Collective
Queensland Beekeepers' Association Inc
Queensland Conservation Council
Queensland Corrective Services
Queensland Farmers' Federation
Queensland Murray-Darling Committee
Queensland Outdoor Recreation Federation Inc
Queensland Ports Association
Queensland Water Commission
Queensland Weed Spread Prevention Committee
Queensland Weeds of National Significance Chairs: Hymenchne, Lantana, Parthenium, Prickle Bush and Rubber Vine
Rockhampton Regional Council
RSPCA—Queensland
Safe Food Production Queensland
Saw, Darryl
Shipping Australia
Sugar Milling
Sun Water
Sustainable Poultry Alliance
Thomas, Anthony
Timber Queensland
University of Queensland Veterinary School
Wet Tropics Management Authority
Wildlife Preservation Society of Queensland

Stakeholders who attended consultation meetings but did not lodge a written submission.

Australian Biosecurity CRC
Australian Mango Industry Association
Australian Passionfruit Industry Association
Australian Plantation Products and Paper Industry Council (A3P)
Australian Rural Exports Pty Ltd
Avocados Australia
Boar Busters
Brisbane Ports Corporation
Bundaberg Sugar Growers
Cairns Regional Council
Carter Holt Harvey
Cassowary Coast Regional Council
Corbek Timber Preservation

Forest Enterprises Australia
Goat Industry Council of Australia
Griffith School of Environment
Gympie Regional Council
Hinchinbrook Shire Council
Hyne Timber
Invasive Animals CRC
Meat and Livestock Australia
Northern Gulf Natural Resource Management
Osmose Australia
Parkside Timber
Plant Health Australia
Queensland Chicken Growers Association
Queensland Dairyfarmers' Organisation
Queensland Oyster Growers Association
Queensland Sea Scallop Ltd
Queensland Seafood Industry Association
Rapid Training
Shipping Australia Limited
Swift Australia Pty Ltd
Tablelands Regional Council
The Ecology Centre
Toowoomba Regional Council
Tropical Invasive Plants Research Project

Queensland Biosecurity Strategy Reference Group membership

AgForce Queensland
Australasian Regional Association of Zoological Parks and Aquaria Queensland
Australian Banana Growers Council Inc
CANEGROWERS
Cotton Australia
Department of Agriculture Fisheries & Forestry
Department of Premier and Cabinet
Department of the Environment, Water, Heritage and the Arts
DPI&F (Fisheries, Biosecurity Queensland, Strategic Policy)
Environmental Protection Agency
Growcom
Livestock Transporters Association Queensland
Local Government Association of Queensland Inc.
NRM Regional Groups Collective
Nursery Garden Industry of Queensland
Ports Corporation of Queensland
Queensland Conservation Council
Queensland Farmers Federation
Queensland Food, Fibre and Agribusiness Council
Queensland Health
Queensland Horse Council Inc
Queensland Seafood Industry Association
RSPCA Queensland
Timber Queensland
Treasury Queensland

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