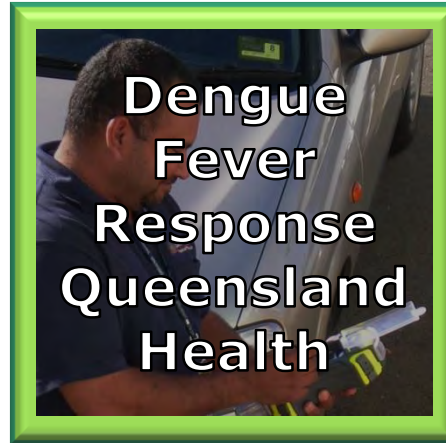




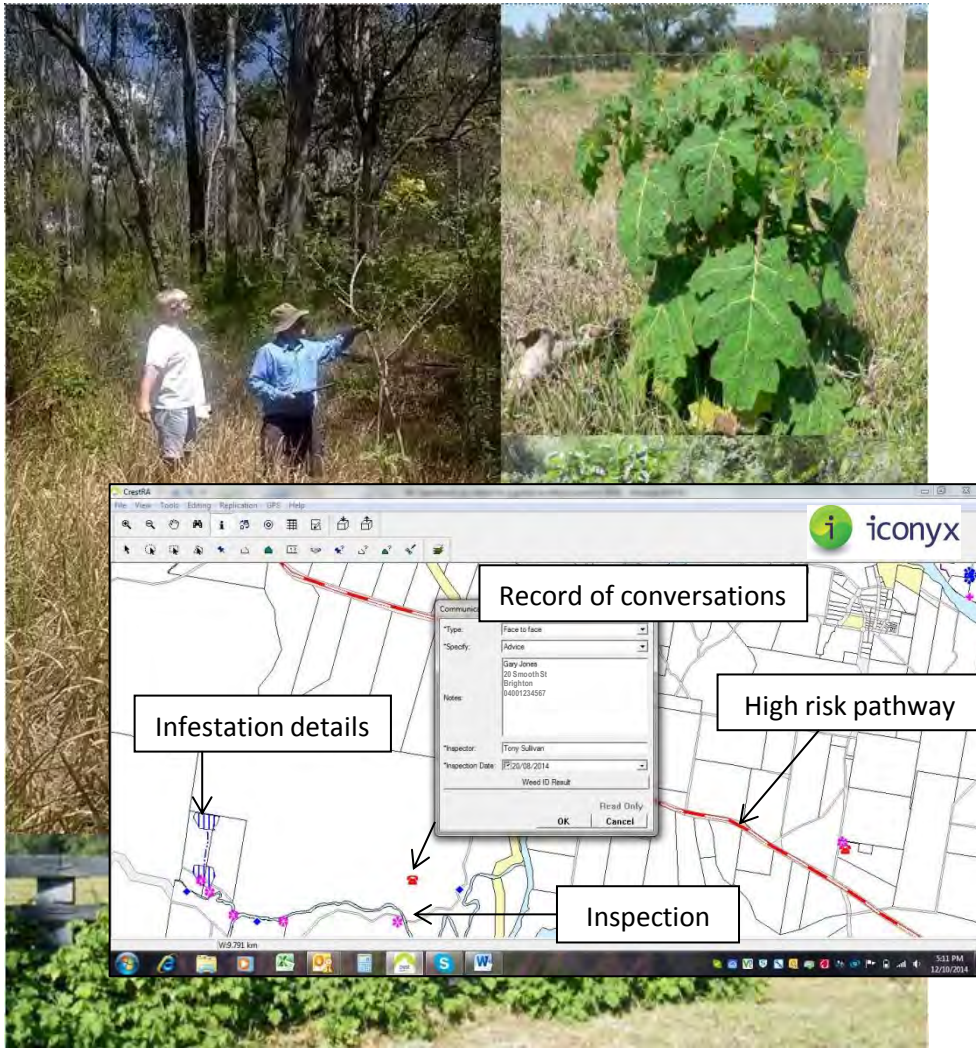
iconyx - BRILLIANT IDEAS BROUGHT TO LIFE

Case Studies on Benefits of Spatial Technologies for Pest & Environment Management and Biosecurity

Case Studies



Biosecurity Initiatives – NSW Coastal Councils



Tropical Soda Apple

Australian Class 1 Agricultural Weed
US Federal Noxious Weed

Analysis showed weed appearing at
stockyards



Multi-region "Weed Access Program" Biosecurity Initiative

Infestations cross-referenced against
NLIP registered cattle movements

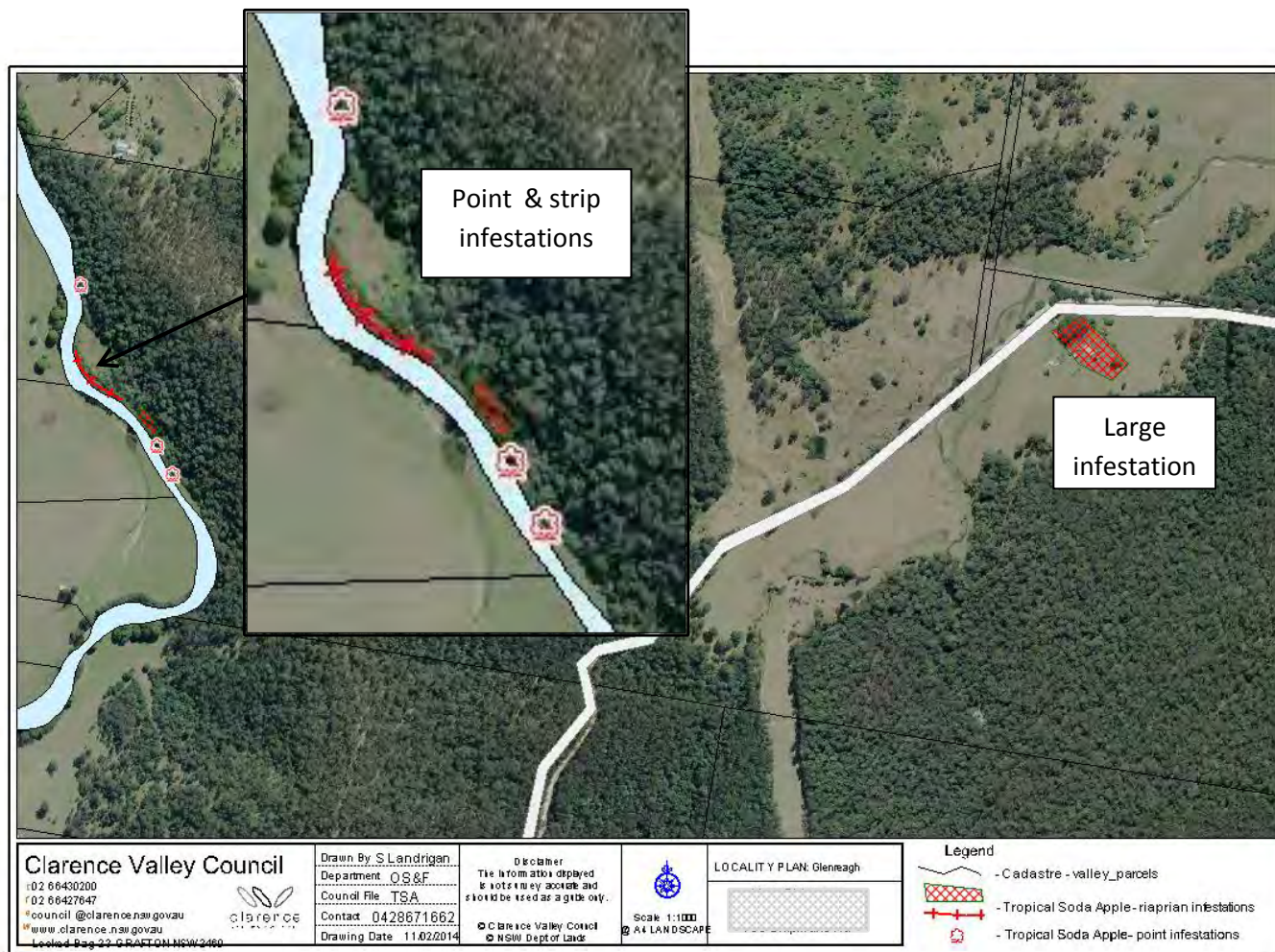
Cattle transport pathways identified

Properties at risk identified

***New infestations proactively
prevented***

Communicating to Landholders

- NSW Coastal Councils



Key Success Factors

Using maps to discuss problem

Automatic maps in formal notices

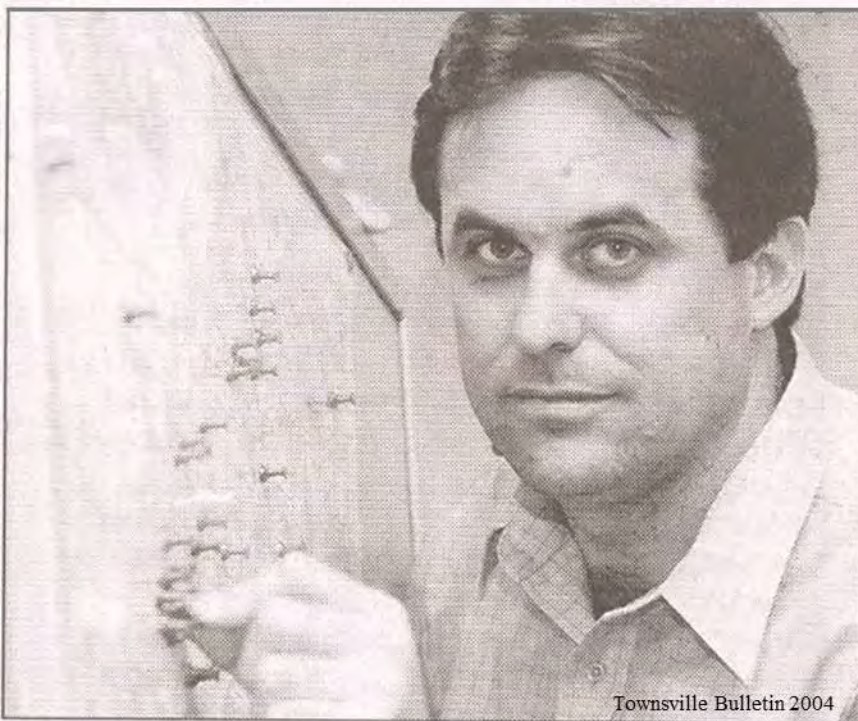
(State Weed/Pest Control Acts)



Strong support

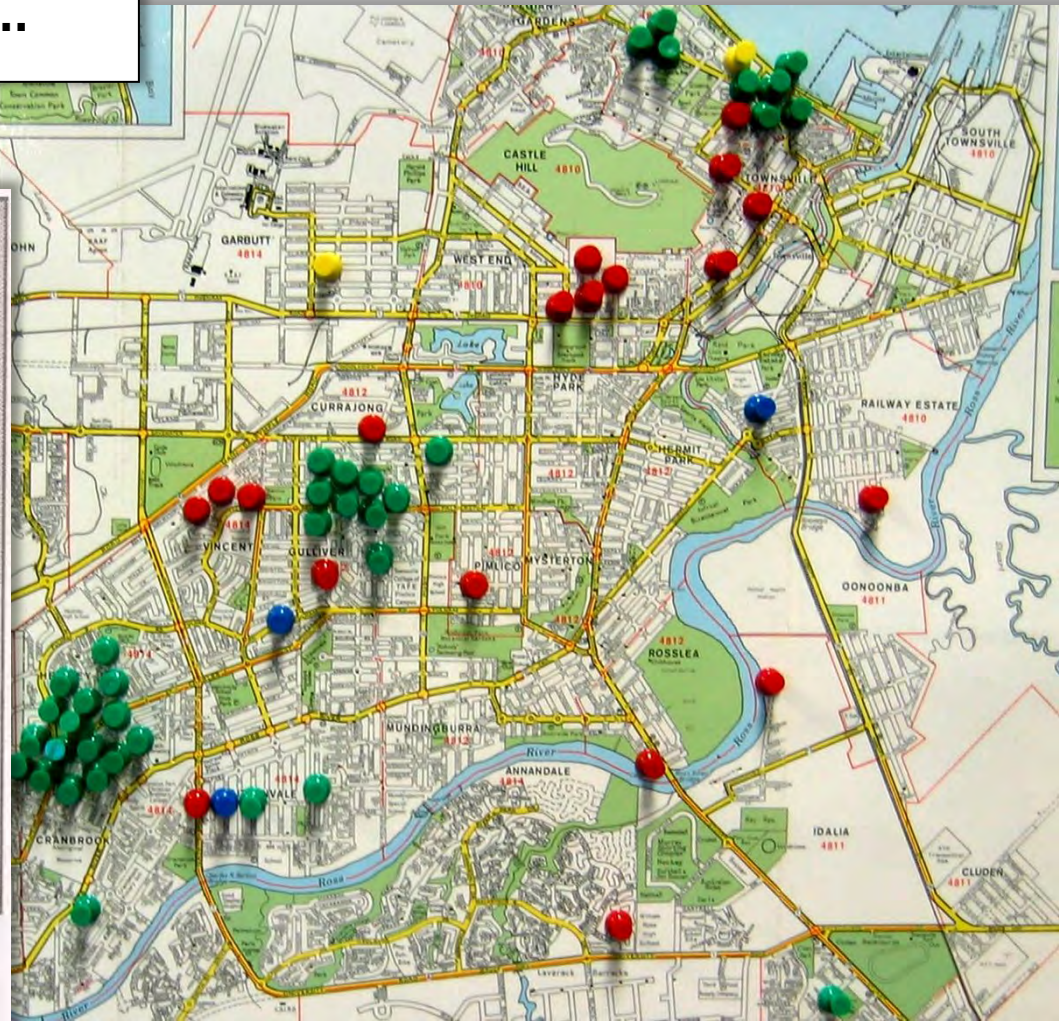
Dengue Fever Response – Queensland Health

Fully Paper Tracking ...



Townsville Bulletin 2004

ALARMED ... John Piispanen plots dengue hot spots throughout the city



March 2015

Fully Handwritten Forms ...

Sava Sea

MISE SURVEY FORM

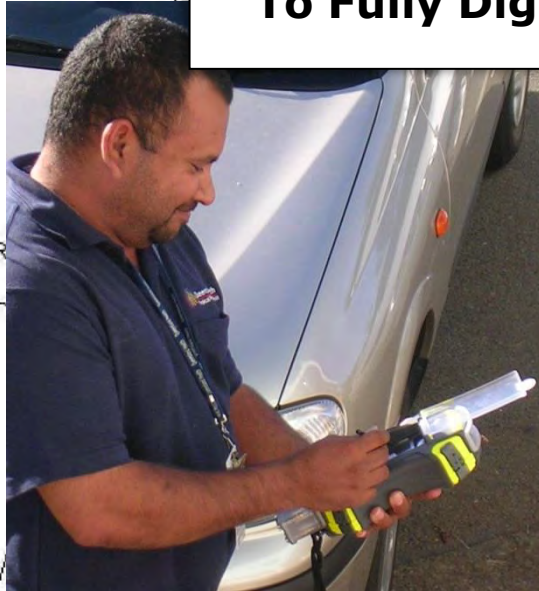
R. D. Heston - A45

DATE(S): 13-8-97

6

Dengue Fever Response – Queensland Health

To Fully Digital ...



- **Daily updates of hot spots**
- **Automatic aging – know reinspection is due**
- **Find difficult addresses (often run-down high risk houses)**
- **Two way link to Dengue patient case management**

Park Works Management – Whittlesea City

COORDINATING

- Maintenance
- Pest control
- Habitat mgmt

Bushland Works Recording - 519017

*Property ID:	HR24	ACTIVITY HOURS
*Reserve:	Hunter Road Conservation Reserve	CHEMICAL USE
*Site Supervisor:	Aleks Arsocki	GENERAL FIELD MAINTENANCE WORKS
*PKLatitude:	-37.619068	HABITAT MANAGEMENT MONITORING
*PKLongitude:	145.073741	PEST ANIMAL CONTROL
*User:	Tim Connell	REVEGETATION ACTIVITIES
*Date:	22-Jun-2014	WEED CONTROL (NON SPRAYING)

OK Cancel Read Only

Endangered Growling Grass Frogs

– Whittlesea City

GGF Incidental Monitoring - 1214647

*Reserve: Northern Landfill
*What is being recorded: Adult Frog(s)
*Month: February
*Within Breeding Season (December-February): Yes
*Time of recording (24.00): 3.00

Notes on Habitat Description:
Quarry Hole, some in water semi-aquatic vegetation, open water and mind flats. Walls of quarry escarpment covered in open woodland plantings of wattle and River Red Gums.

HABITAT DESCRIPTION

Include Photo of Recorded Habitat (from 4D Cam)



WEATHER CONDITIONS

*Temperature (C): 31
*Sunshine: Clear and Sunny
*Wind Conditions: Gentle Breeze

SURVEY RESULTS

*Survey Method: Audio Survey (Frogs Heard)
Number Heard: 0
Number Seen: 0

OK

CORRELATING

- Detailed Records
- Reports to Authorities
- Funding Applications

Site Name	Type of Waterbody	Size (approx.)	Permanence	Emergent	Vegetation cover %				Grazing		Substrate %				Comments
					Submergent	Floating	Fringing	Dominant plant species	Bare rock	Bare ground/soil	Rock rubble	Logs/fallen timber	Artificial		
McGreggor Rd Drain	Drain	100m transect	3	35	0	0	100	Melaleuca, broom, blackberry	No Grazing	0	0	0	0	0	Degraded banks, blackberry, broom, slow flowing water
McDonalds Rd Drain	Drain	100m transect	3	35	0	1	95	Melaleuca, Phragmites, Watsonia	No Grazing	0	0	0	0	0	Medium flow speed, good cover of fringing and emergent vegetation
North West Catch Drain	Drain	100m transect	3	20	0	1	90	Melaleuca, Dock, Triglochin	No Grazing	0	0	0	0	0	Moderate flow, good emergent and fringing vegetation
Bunyip River Drain	Drain	100m transect	3	30	0	0	100	Phragmites, Melaleuca, blackberry	No Grazing	0	0	0	0	0	Fast flowing drain with dense fringing vegetation

Controlled Burning – Whittlesea City

PLANNING & TRACKING

- Just like paper maps
- Enforced process
- Accurate measurements

6 - Burn Day Execution - 1358673

TO BE COMPLETED ON DAY OF BURN

*Property ID:

*Reserve:

SMEACSQ Breifing (SUMMIT FORM)

*Was SMEACSQ Completed?:

Questions Arising from SMEACSQ briefing:

COMMUNICATIONS

*All participant details recorded? (SUMMIT FORM):

*All teams assigned radio coms?:

UHF Radio Channel:

*Prescribed Burn Coordinator Contact Circulated?:

PPE EQUIPMENT CHECKS

*PPE Checks / Inspections Completed?:

Note any issue regarding PPE:

*Plant and Equipment Checked?:

Note any issue regarding Equipment:

*Road Pedestrian Signage Placed?:

FINAL BURN PLAN

*Burn Plan Map Created and Available for Staff?:

*Will Burn Plan Vary from Prescription?:

Page 1 | Page 2

Rapid Disaster Response – Nillumbik Shire VIC

**Black Saturday
Bushfires
2009**

**Dead & injured
wildlife, stock
and pets**

Legend
Intact
Damaged
Destroyed
Fire Affected Area
National Park

COORDINATING

- Mapping by Air
- Multiple Field Teams
- Public Service Desk

**Made complex
statistics easy to
understand**

Legend
Cattle (13)
Goat (3)
Horse (13)
Kangaroo (37)
Other (2)
Sheep (5)
Wallaby (1)

Nillumbik Shire Council
House Condition

Helpdesk No: 15518
Printed on: 18/3/2009
Printed by: EC



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Nillumbik Shire Council

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Vector Control – County of Santa Clara (in progress)

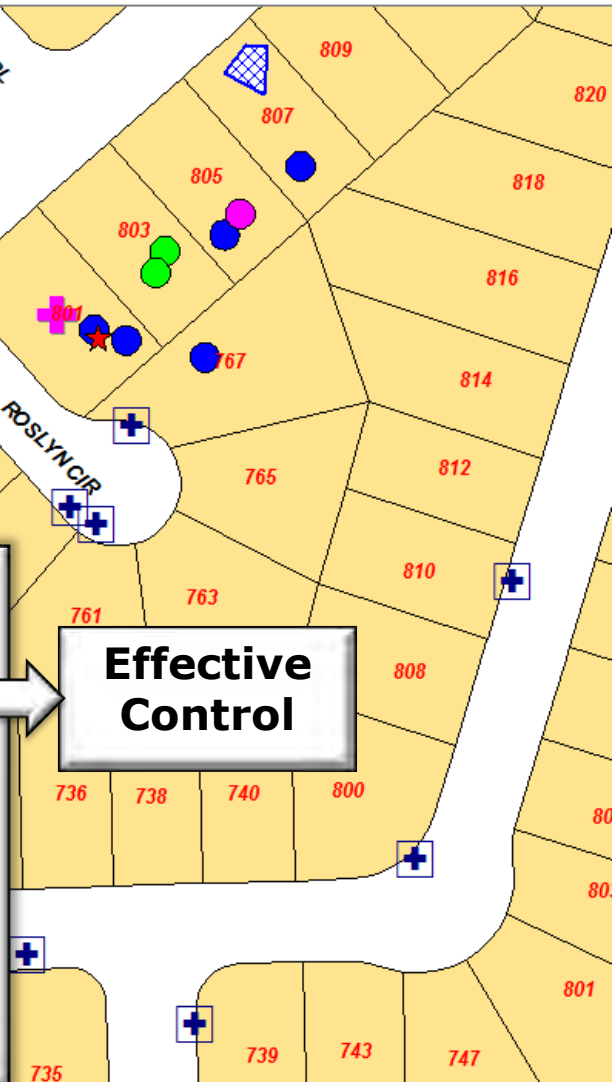
TARGETTING West Nile Virus,
Hantavirus, Lyme Disease,
Malaria, Plague, Dengue Fever,
Baylisascaris, Chikungunya,
Dog Heartworm, Tularemia



TECHNICIANS CAN SEE

- Work history
- Other reports in area
- Known sources
- Surveillance sites
- Pest pathways
- Protected species

**Effective
Control**



Integrated Pest Management

- County of Santa Clara (in progress)

COORDINATORS CAN SEE

- **Work history**
- **Other reports in area**
- **Known sources**
- **Environmental concerns**
- **Impact of geography**
- **Pest trends over time**

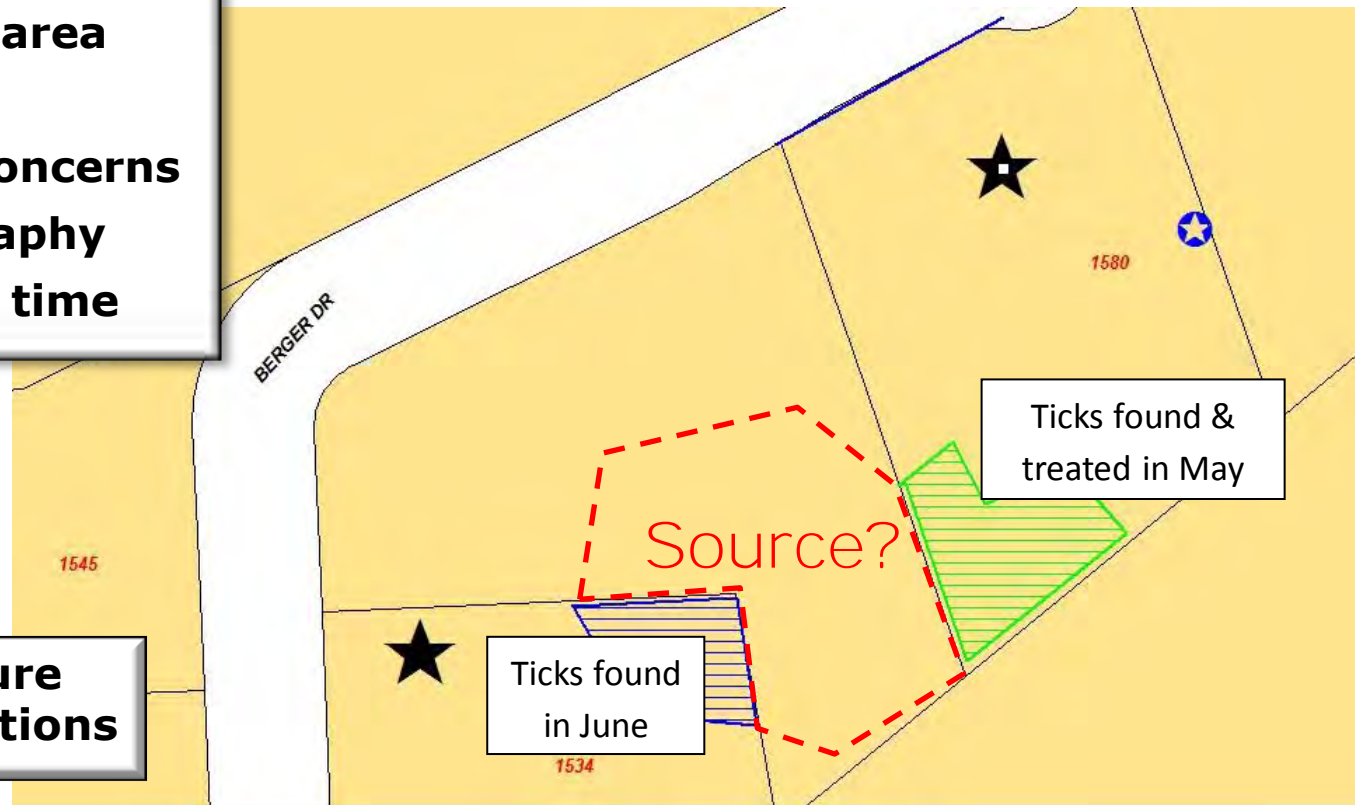


**Effective
Control**

**Minimum
Chemicals**

**Future
projections**

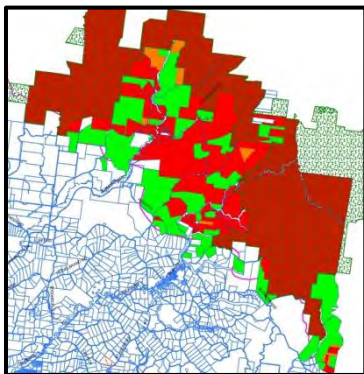
- Close to 200 sites requiring pest management
- Complex sites with multiple ongoing problems



Spatial Technology enables major steps forward in managing pests, environmental health and biosecurity

In the Field

Rich information on environment, assets and threats, service requests and call history, all together



In the Lab

Rapid analysis of problem areas and coverage

Consolidated view of all pests and vectors

Standardize and share data over large areas – find vector pathways

In the Office

Map reports of spread and containment

Strong evidence for funding

Strong evidence for enforcing legislation in court

Accurate records of chemicals used

Tight controls



Questions & More Info



**Come up and
grab a card**

My contact details

Special link to more case study information
for IPM Symposium participants

Technology Concepts



Reference Documents

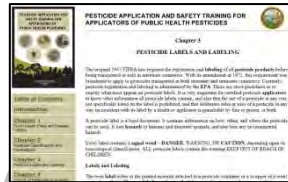


Image Store



Secure private data



Other Corporate Systems & Databases

(Property, GIS, Asset Mgmt, Finance, CRM, Resources etc.)

Web services

GIS Maps

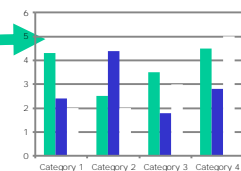
Hosted SQL Database



Web-based Management SW – Form design, Notices, Workflow, Scheduling



Full spatial data Reporting Portal

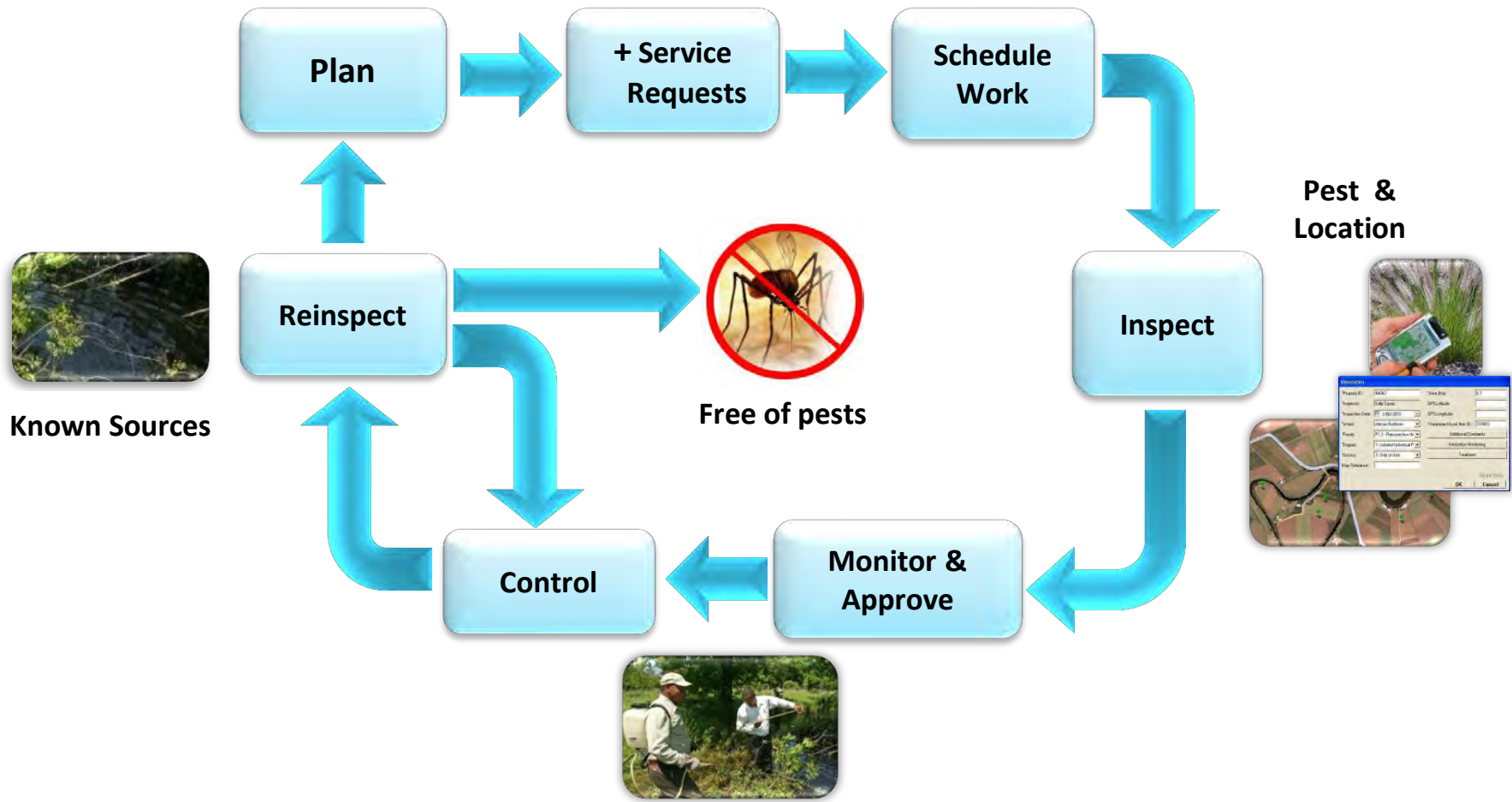


Synch from field via 3G/WiFi

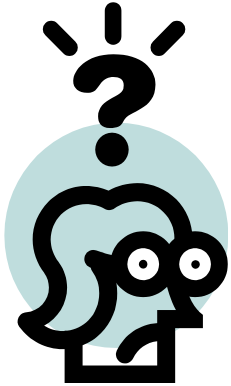
Mobile digital forms and maps



Pest Management Workflow



Advice on the Practical Side of Introducing Technology



- Business process and reporting requirements can be a moving target
- Field staff, admin staff and management all need to learn a new way of working and communicating
- Does it fit the way you work? E.g. all day in the car, on foot or on a bicycle
- Managers and admin staff will appreciate the automation benefits the most
- Field staff will get most benefit from not needing to come back to the central office for paperwork
- Skilled field staff will also benefit from having a really good **view of what's going on around them, knowing the full history** when speaking to the public, finding sites more easily, and be more independent and effective
- **BUT it's all too easy to make things too complicated for the people in the field**