




Coal Seam Gas & Biosecurity Field Days

July 2014

Overview:

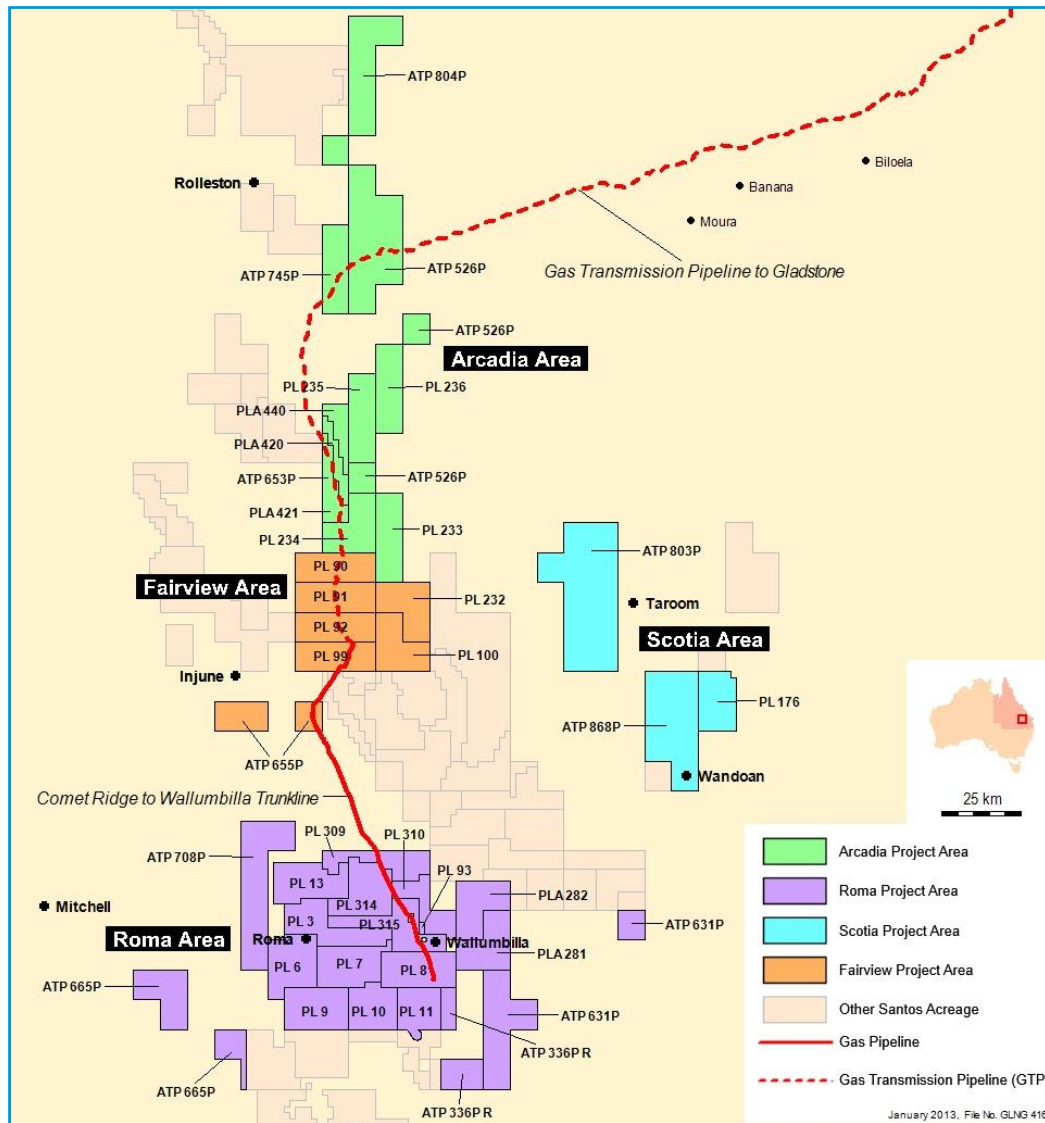
- Santos GLNG footprint
- Procedures to manage biosecurity risk
- Roles & responsibilities
- Activities and partnerships
- Weed risk management



-  PLANT
-  SHIP
-  PIPELINE
-  GAS



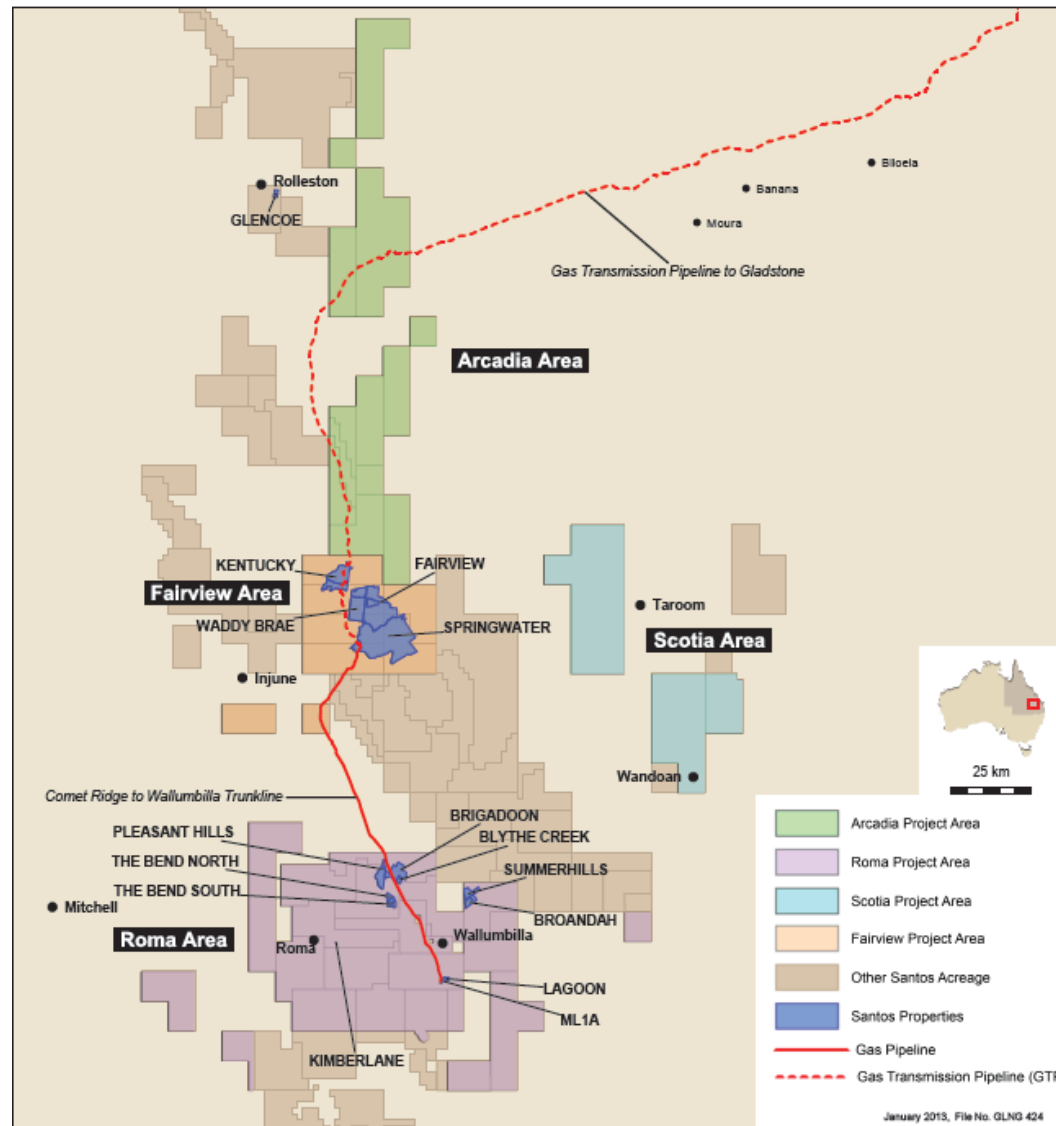
Santos GLNG - upstream: ATPs and PLs



GLNG is a Santos PETRONAS Total KOGAS project.



Santos GLNG - DOCE Properties:



GLNG is a Santos PETRONAS Total KOGAS project.



Legal requirements:

- *Land Protection Act (Stock Routes & Pest Management) 2002*
- *Local Government “Pest Management Plans”*
- *Land Access Code, Section 15 parts 1 – 4*
- *Environmental Protection Act (1994) states: “Santos must” have an **Environmental Authority (EA)** for each **PL & ATP**.*
- **No EA = No ATP or PL = No Business**
- **All of Santos’ EAs** state that “**we must**” have a “**Weed/Pest Management Plan**”



Corporate Requirements :

“Santos EHS09” (EMS standard) applies to **all Santos activities**:

- ❖ Santos locate presence of weeds & pests around exploration (ATPs) and operational area (PLs)
- ❖ Requires development of Weed and Pest Animal Management Plans for areas of activity.

Santos GLNG – “Upstream Pest and Weed Management Plan”

- Staff Training (Weeds & Pests)
- Control & monitoring of Declared Weeds
- Vehicle Wash Down
- Wash Down facility design & management
- Planning of new works
- Sourcing materials and products
- Quarantine Zones

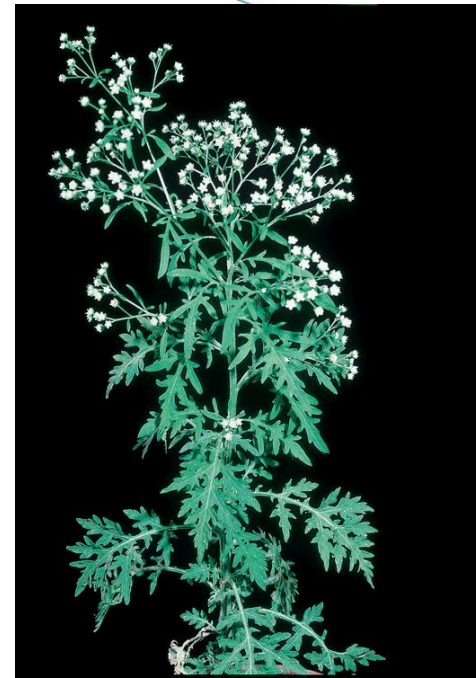
Roles & responsibilities for biosecurity:

Team	Key functions
Sustainability	<i>Regulatory Liaison, Planning, & Social Investment</i>
Ops Environment	<i>Regulatory compliance & contractor management (operational areas)</i>
EPC Environment	<i>Regulatory compliance & contractor management (construction areas)</i>
Land & Resources	<i>Management of company properties; including weed and pest issues.</i>
Landholder Relations	<i>Land Access, Landholder Interactions & Wash Down Compliance</i>
Community & Support	<i>Technical advice, mapping, project development, education/awareness, external/internal engagement</i>

Current Activities:

Public wash down & projects:

- Invested **\$200,000** in new wash down facility at Moura (complete)
- Committed **\$500,000** to double capacity of Roma wash down
- **\$220,000** to QMDC for private wash downs and weed signage

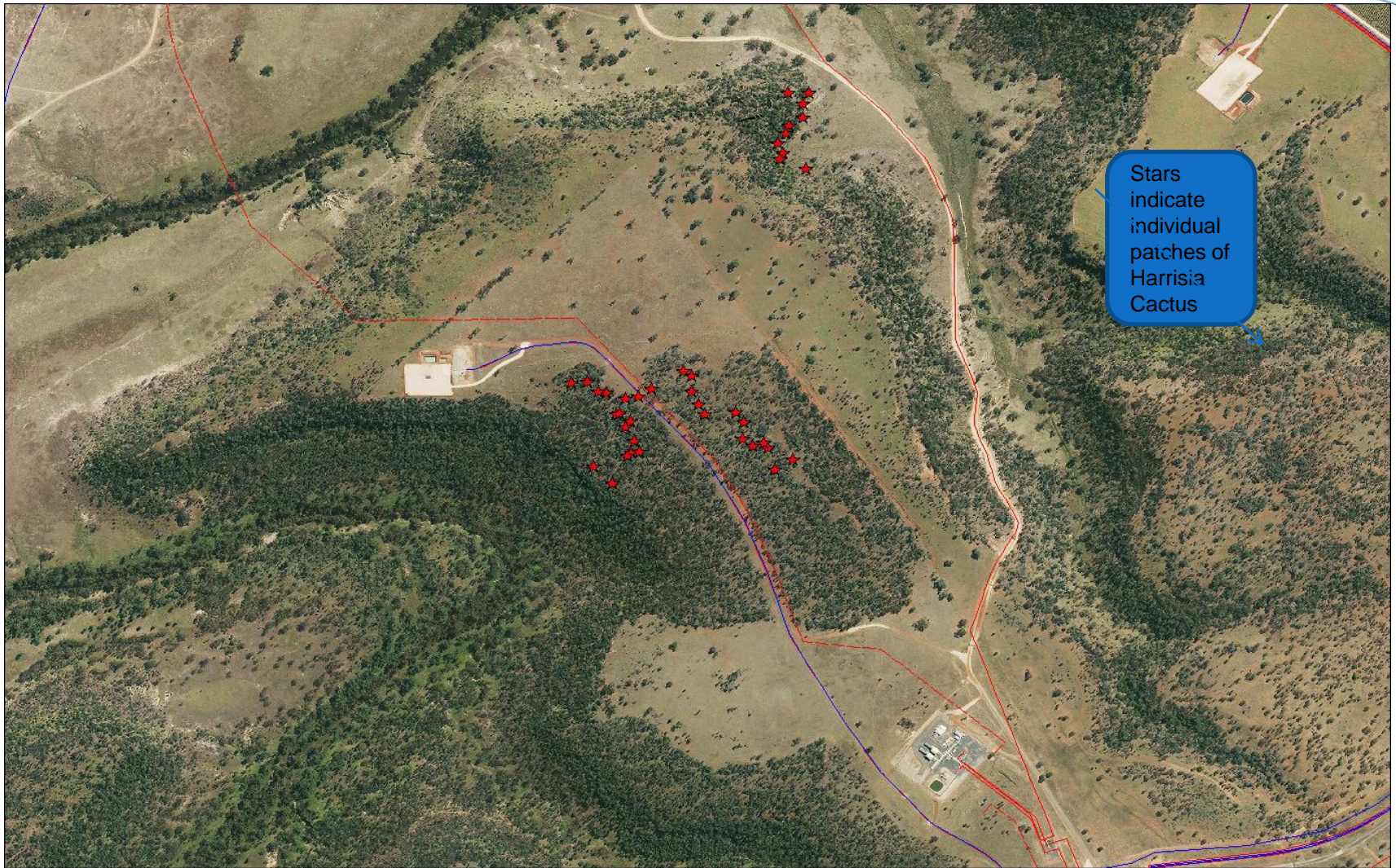


Santos GLNG wash downs:

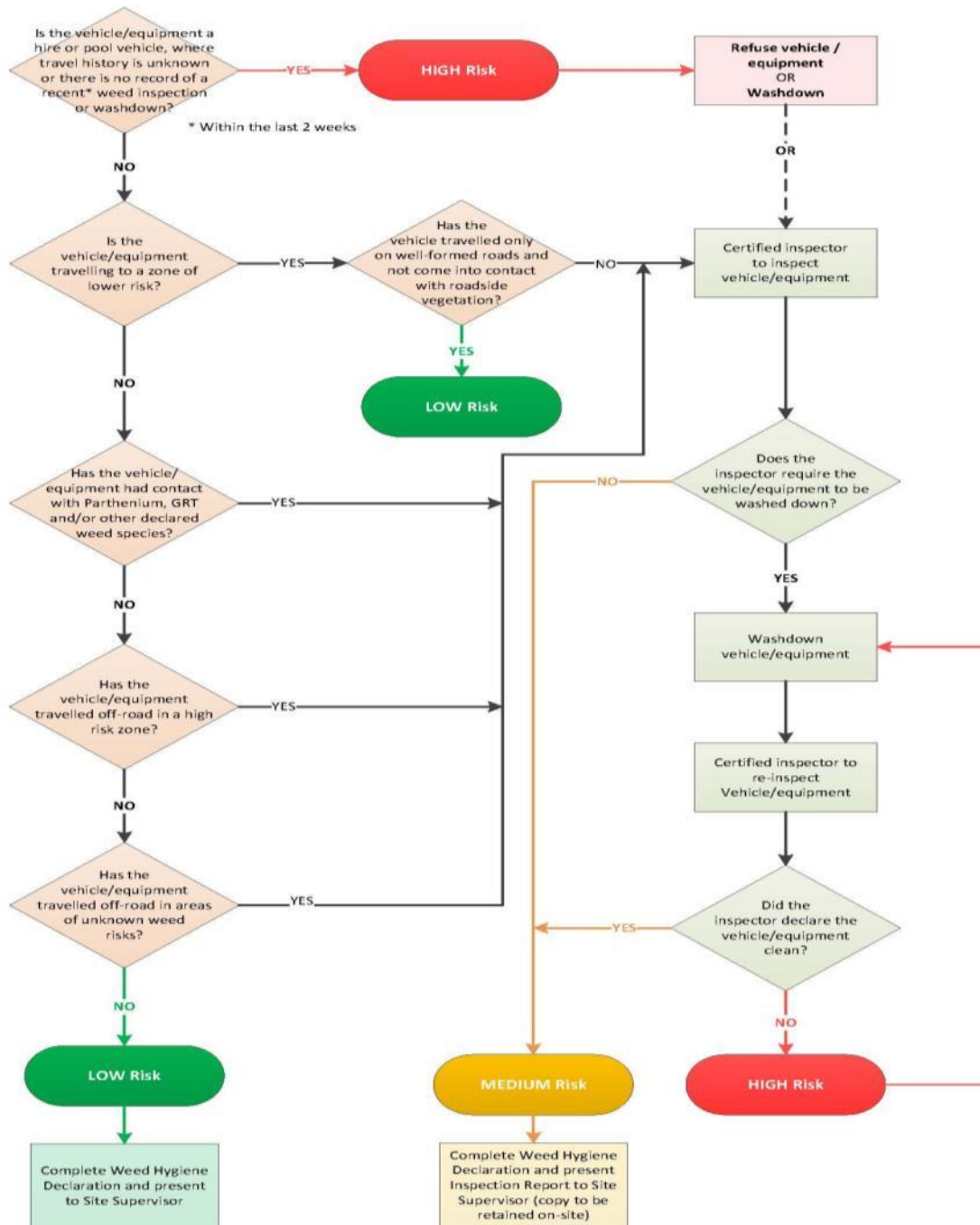
- Three (3) new “Santos GLNG” wash down facilities in Injune/Fairview and Roma
- Upgraded Santos GLNG facility in Roma
- Investigating usage of portable wash down facilities in high risk areas



In-field weed mapping using “Pest Central”:



Risk Management



RISK ZONES

Northern Arcadia Valley (ATP526, PL235, PL236)	HIGH Risk
Fairfield Road	HIGH Risk
Mapala Road	HIGH Risk
Nuga Nuga Road	HIGH Risk
Southern Arcadia Valley (ATP653, PL234)	MEDIUM Risk
Fairview	MEDIUM Risk
Roma/Scotia	LOW Risk

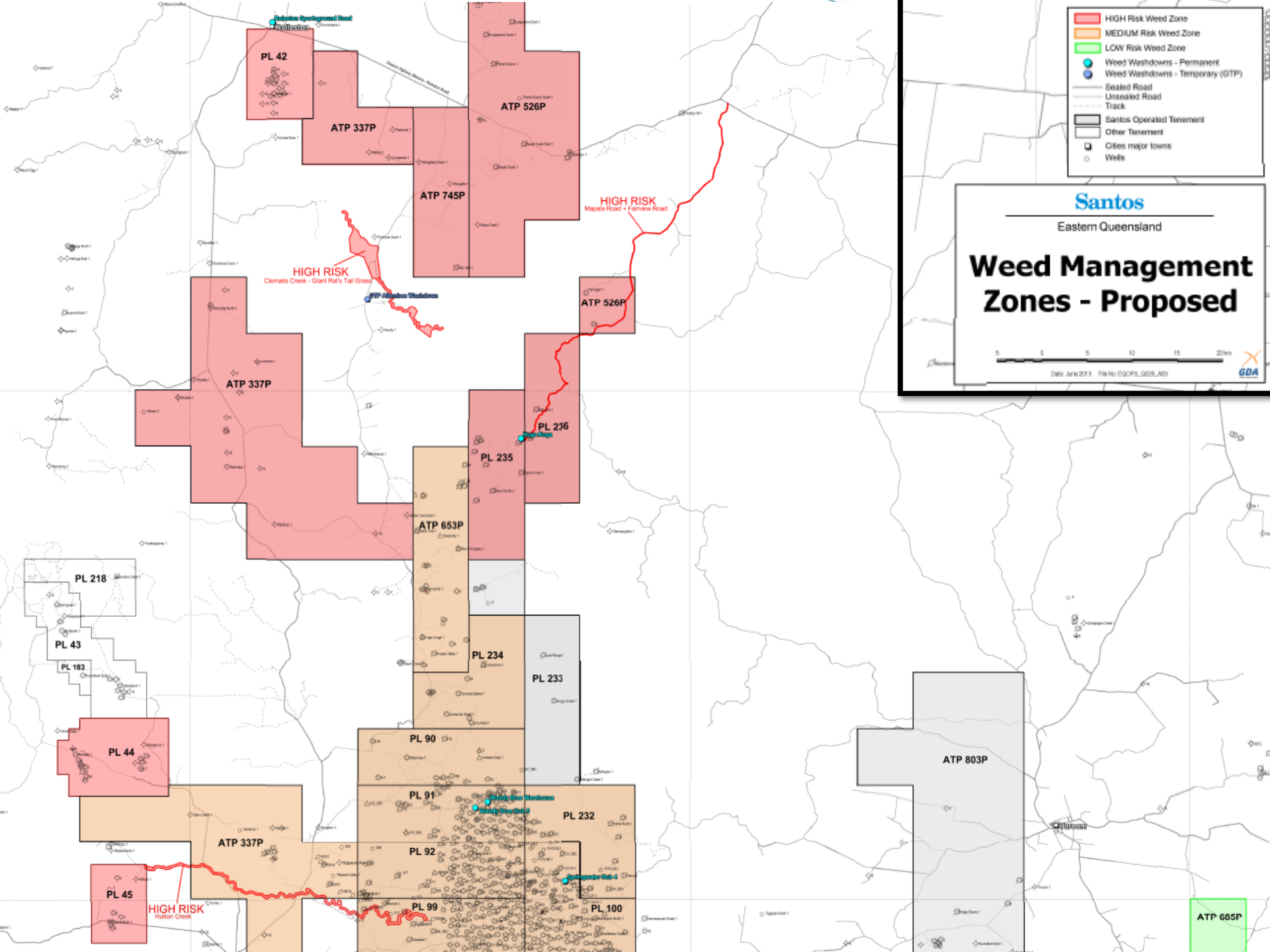
Check the *'Weed Management Zones'* Layer in the WebGIS to become familiar with risk zone boundaries.

Vehicles deemed LOW Risk to remain LOW Risk:

- **Shift Staff: Wash-down at handover (as a minimum)**
- **Mon – Fri Staff: once per**

These are Minimum Standards!

If you are unsure of your obligations, always WASH DOWN



- HIGH Risk Weed Zone
- MEDIUM Risk Weed Zone
- LOW Risk Weed Zone
- Weed Washdowns - Permanent
- Weed Washdowns - Temporary (GTP)
- Sealed Road
- - - Unsealed Road
- Track
- ▭ Santos Operated Tenement
- ▭ Other Tenement
- Cities major towns
- Wells

Santos
Eastern Queensland

Weed Management Zones - Proposed

0 5 10 15 20km

Dec. June 2013 File No: 5204PL_5205_LMS

PL 42
ATP 337P
ATP 526P
ATP 745P
ATP 526P

HIGH RISK
Clematis Creek - Giant Rat's Tail Grass
GTP Weed Washdown

HIGH RISK
Macopa Road - Fairview Road

ATP 337P

PL 236

PL 235

ATP 653P

PL 234

PL 233

PL 218

PL 43

PL 183

PL 44

PL 90

PL 91

PL 232

PL 92

PL 99

PL 100

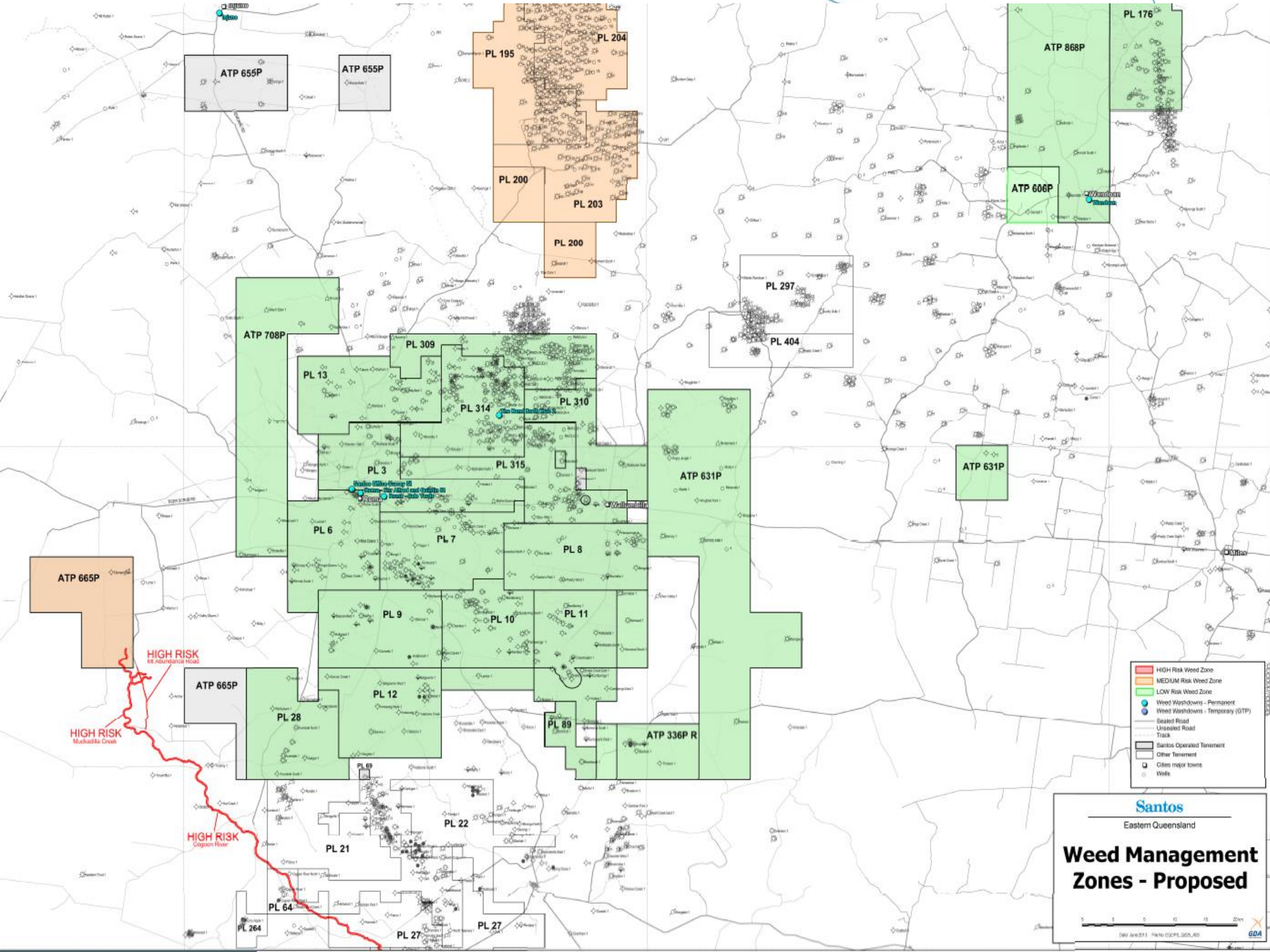
ATP 337P

ATP 803P

PL 45

HIGH RISK
Hutson Creek

ATP 685P



ATP 655P

ATP 655P

PL 195

PL 204

PL 200

PL 203

PL 200

ATP 868P

PL 176

ATP 606P

PL 297

PL 404

ATP 708P

PL 309

PL 13

PL 314

PL 310

PL 3

PL 315

ATP 631P

ATP 631P

PL 6

PL 7

PL 8

ATP 665P

HIGH RISK
Mt. Adamburgh Road

HIGH RISK
Muckadju Creek

ATP 665P

PL 28

PL 12

PL 10

PL 11

ATP 336P R

PL 89

HIGH RISK
Gungah Road

PL 21

PL 22

PL 64

PL 264

PL 27

PL 27

Santos
Eastern Queensland

Weed Management Zones - Proposed

0 5 10 15 20km

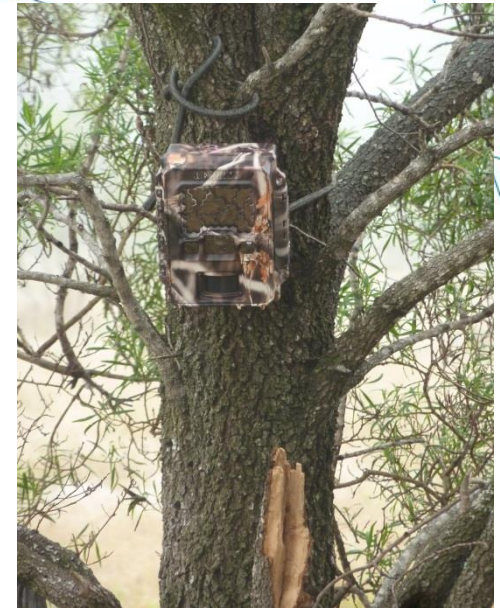
14th April 2011 File: EQPL_2011_01



- HIGH Risk Weed Zone
- MEDIUM Risk Weed Zone
- LOW Risk Weed Zone
- Weed Washdowns - Permanent
- Weed Washdowns - Temporary (ATP)
- Basal Road
- Unsealed Road
- Track
- Santos Operated Tenement
- Other Tenement
- Cities major towns
- Wells

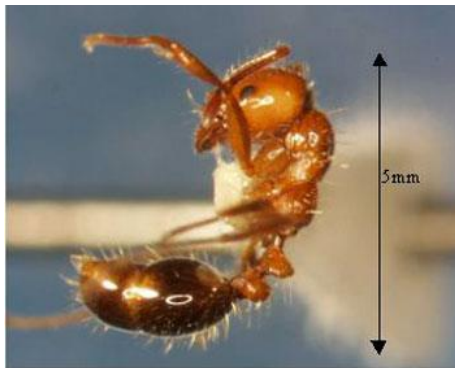
Vertebrate Pest Management:

- Partner with QMDC, Origin Energy and MRC to control Vertebrate Pests.
- 2 rounds of trapping to control **Pigs, Wild Dogs, and Foxes** per year
- Participate in MRC Baiting Campaigns
- Monitor Populations using video footage
- **30,500Ha** controlled



Other initiatives:

- Partnered with *Biosecurity Queensland Control Centre* to deliver *Fire Ant Awareness Training* to Staff & Contractors
- Member of *Maranoa Regional Council (MRC)* Weed & Pest Steering Committee (*meets Quarterly*)
- Member of Surat Basin Pest & Weed Collaborative Group
- Regularly conduct both accredited & non-accredited training sessions on *Weed ID & Wash Down Risk Assessment* for staff & contractors (*ongoing*).



Source: *Biosecurity Qld, 2012.*