

Community Monitoring With SWAMP



Harley West

Stanthorpe Water Assessment and Monitoring Project

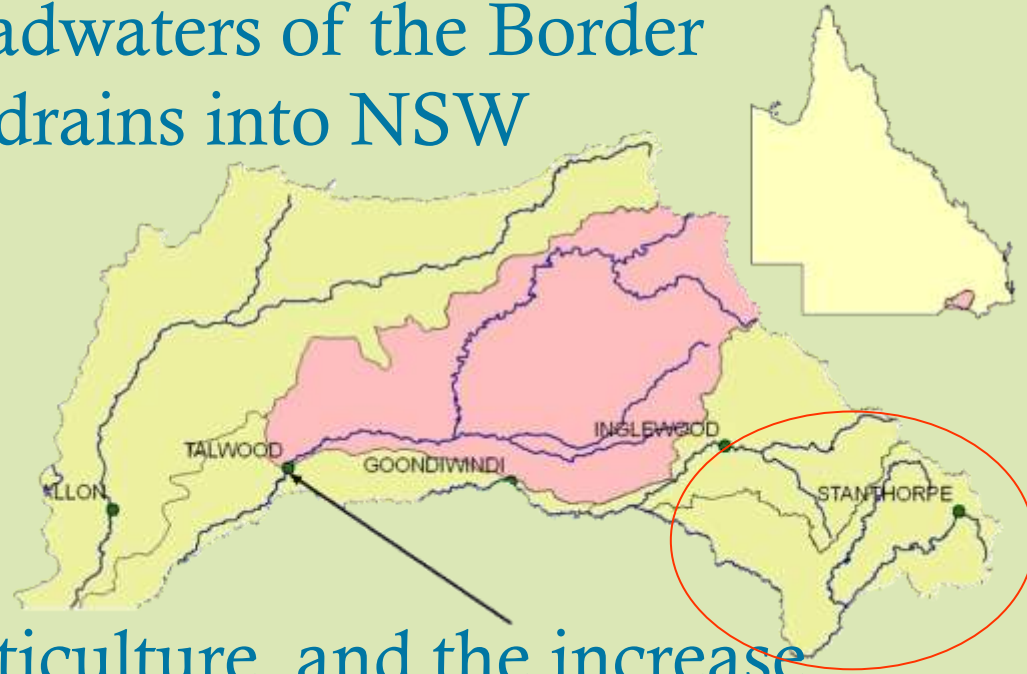


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Location:

- Stanthorpe sits in the headwaters of the Border Rivers catchment, which drains into NSW
- The streams are upland inland waterways
- Land uses range from grazing to the expansion of intensive irrigated horticulture, and the increase in “lifestyle blocks”
- Water quality issues are irrigation tailwater, compromised riparian zones and ground cover





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Background:

- Community Reference Panel is established to inform the development of a *“Water Resource Operation Plan”*
- Several working groups are established, including the *Environmental Sustainability Working Group*
- First question is *“Where is the historical data?”*



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Background (continued):

- Answer: “Umm..”
- Data which exists is poor spatially and temporally
- The SWAMP steering committee was formed in 2003 and consisted of people from local sheep industry, horticulture, local government, DPI, and NRM&W



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SWAMP: Steps To Success

- Diverse and committed group
- Plenty of thought into project planning, in particular site selection
- Purchased kits and carried out accredited training



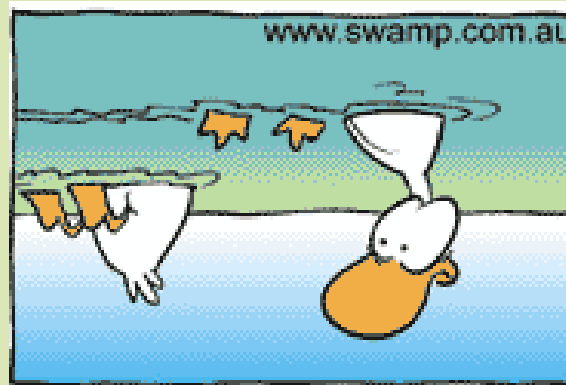
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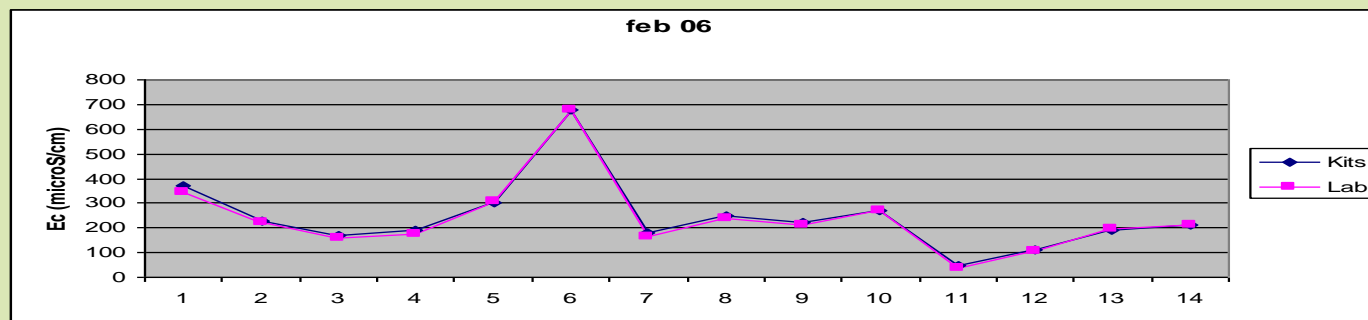
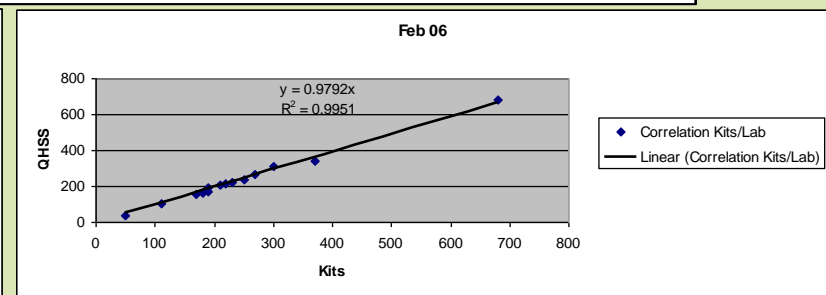
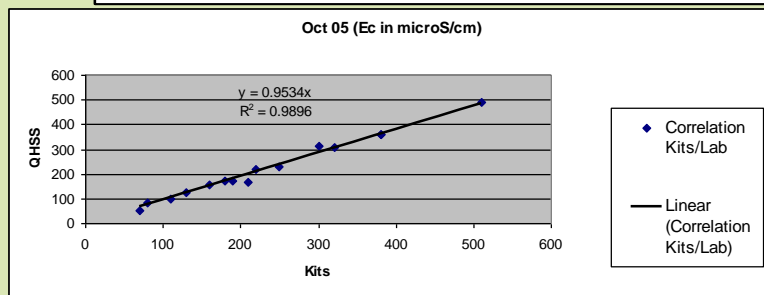
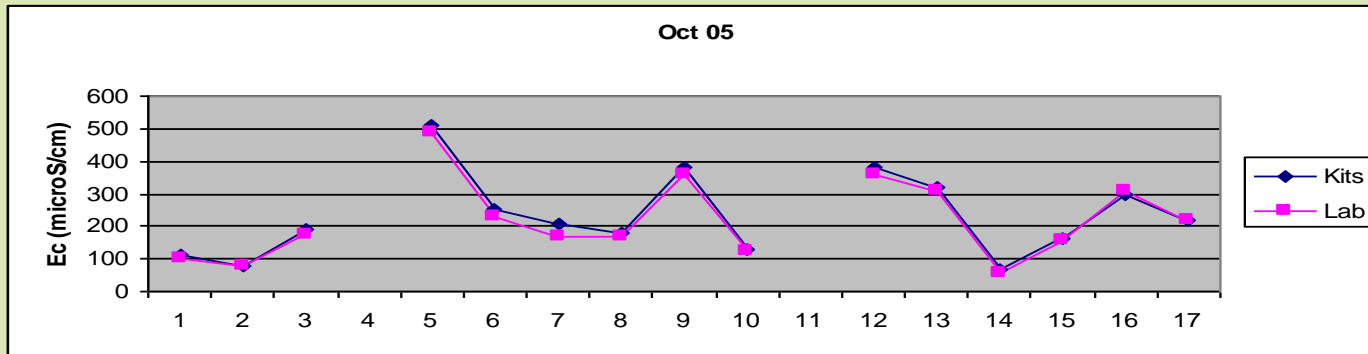


SWAMP: The early years..

- Lab testing to validate kit monitoring with assistance from the NAP WQSIP program
- Strong commitment to continuous improvement and fine tuning
- Two full reviews of project conducted



Ec: Correlation between kit results and lab testing



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SWAMP: Since Then....

- SWAMP has conducted 33 rounds of ambient monitoring, taking kit samples at 14 sites across the district
- Kit sampling:
pH, Temp; Ec;
Turbidity, stream height, width etc



SWAMP: Since Then....

- Samples sent:
 - 64 Major Ions.
 - 74 Unfiltered Nutrients (Total P and Total N)
 - 46 Filtered Nutrients (NO_x, NH₄ and FRP)
 - 41 Pesticides – Broadscan (127 chemicals scanned)



SWAMP: Since Then....

- Three events have been monitored



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Water Quality Results

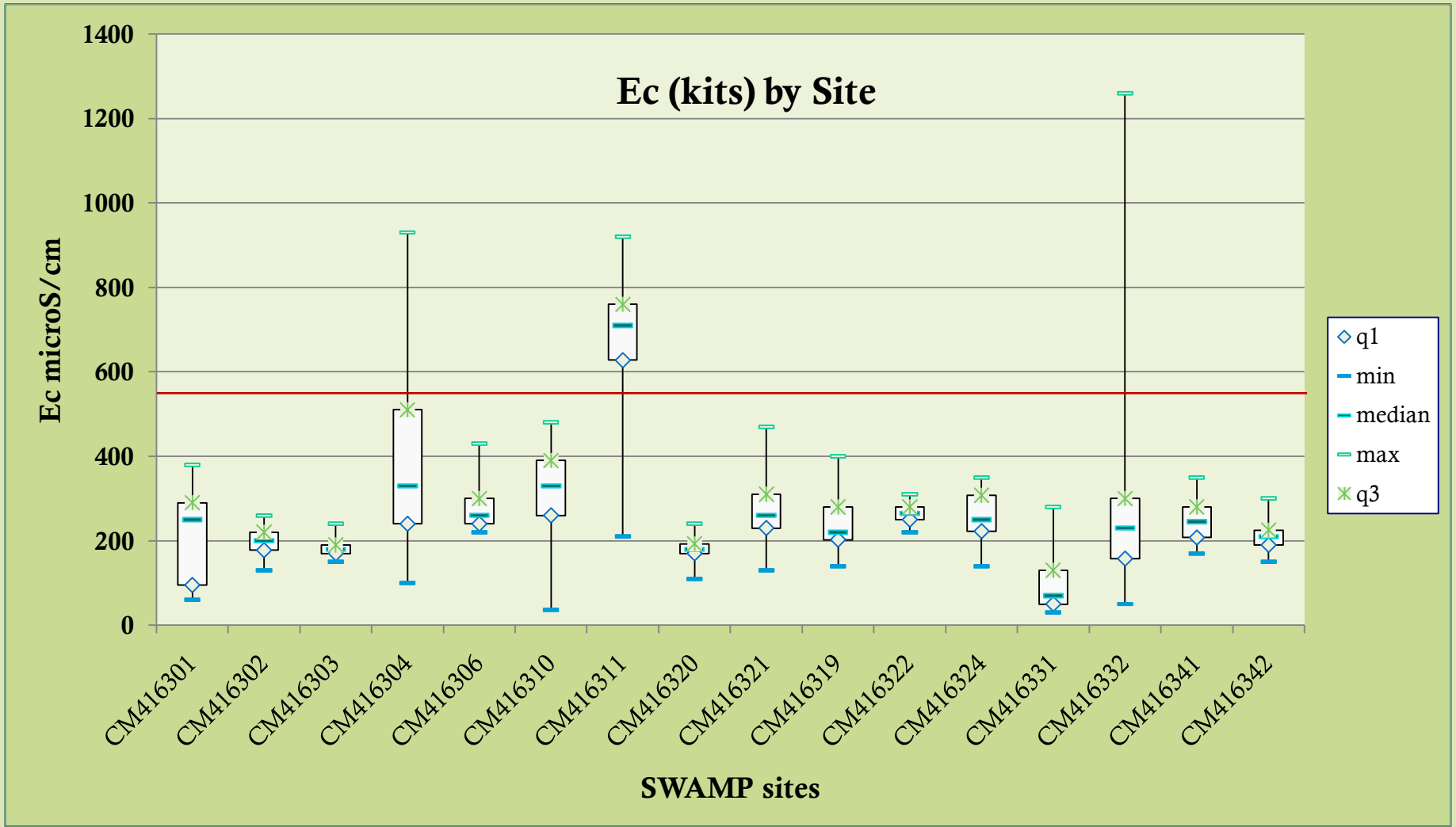
- Field Testing with Kits shows:
- Ec is within the broad ANZECC guidelines
- Turbidity is very low, generally below ten, with some higher results on the western side
- Temperature and pH are also recorded

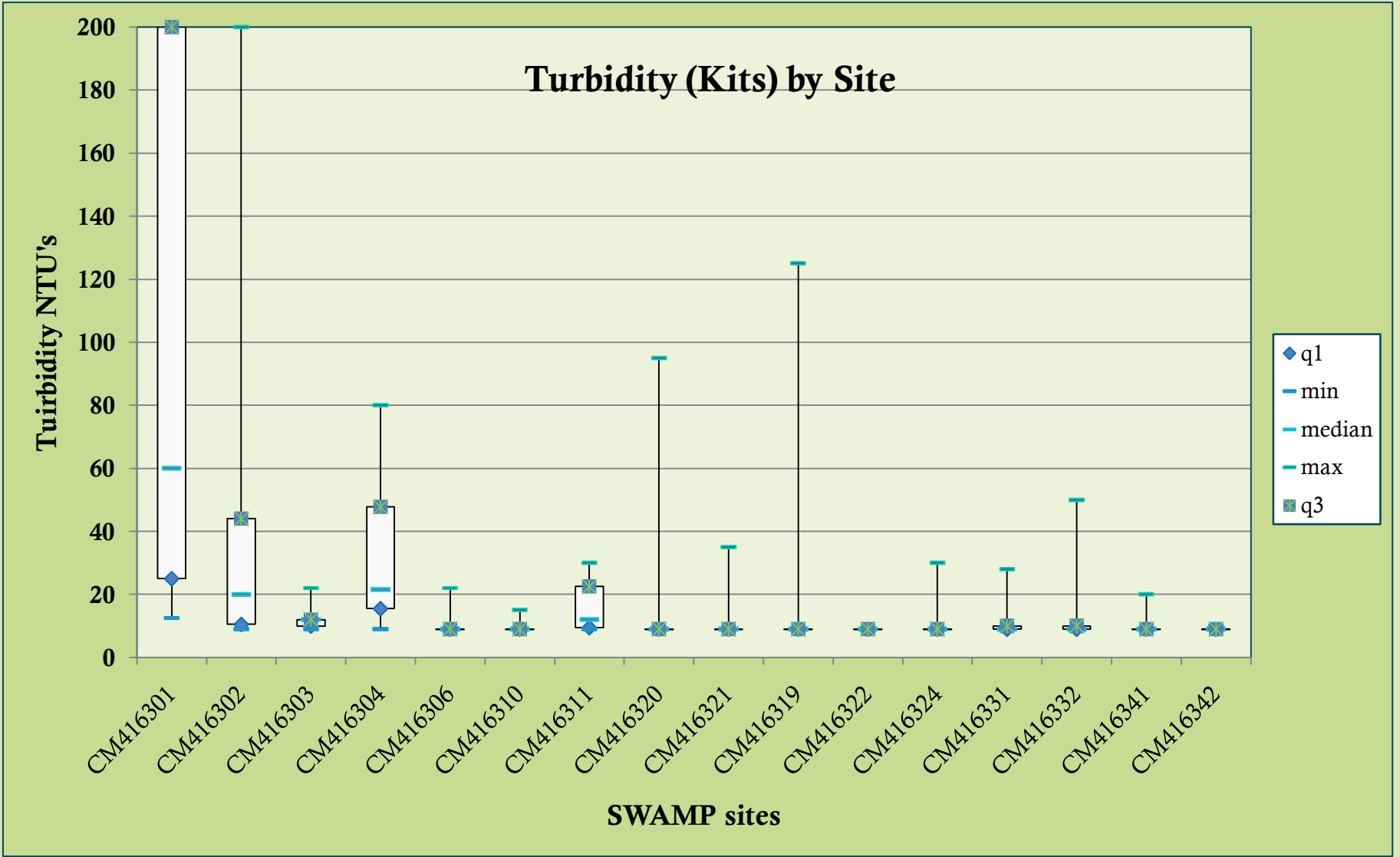


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SWAMP Results





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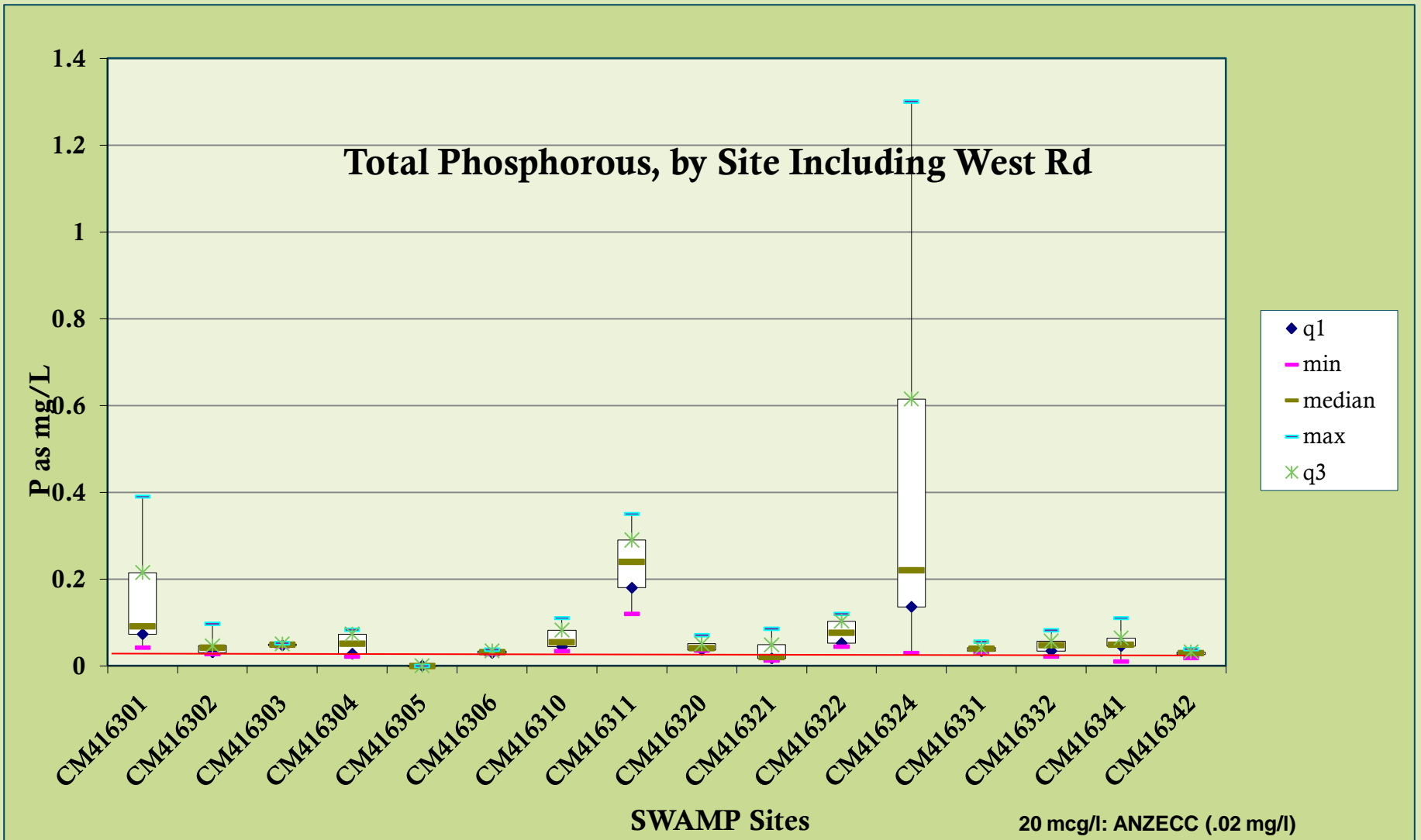


Water Quality Results

Lab Analysis of Nutrients shows

- Total Nitrogen and Total Phosphorous are higher than ANZECC guidelines
- FRP, NO_x, and NH₄ are generally below ANZECC guidelines for upland inland streams.

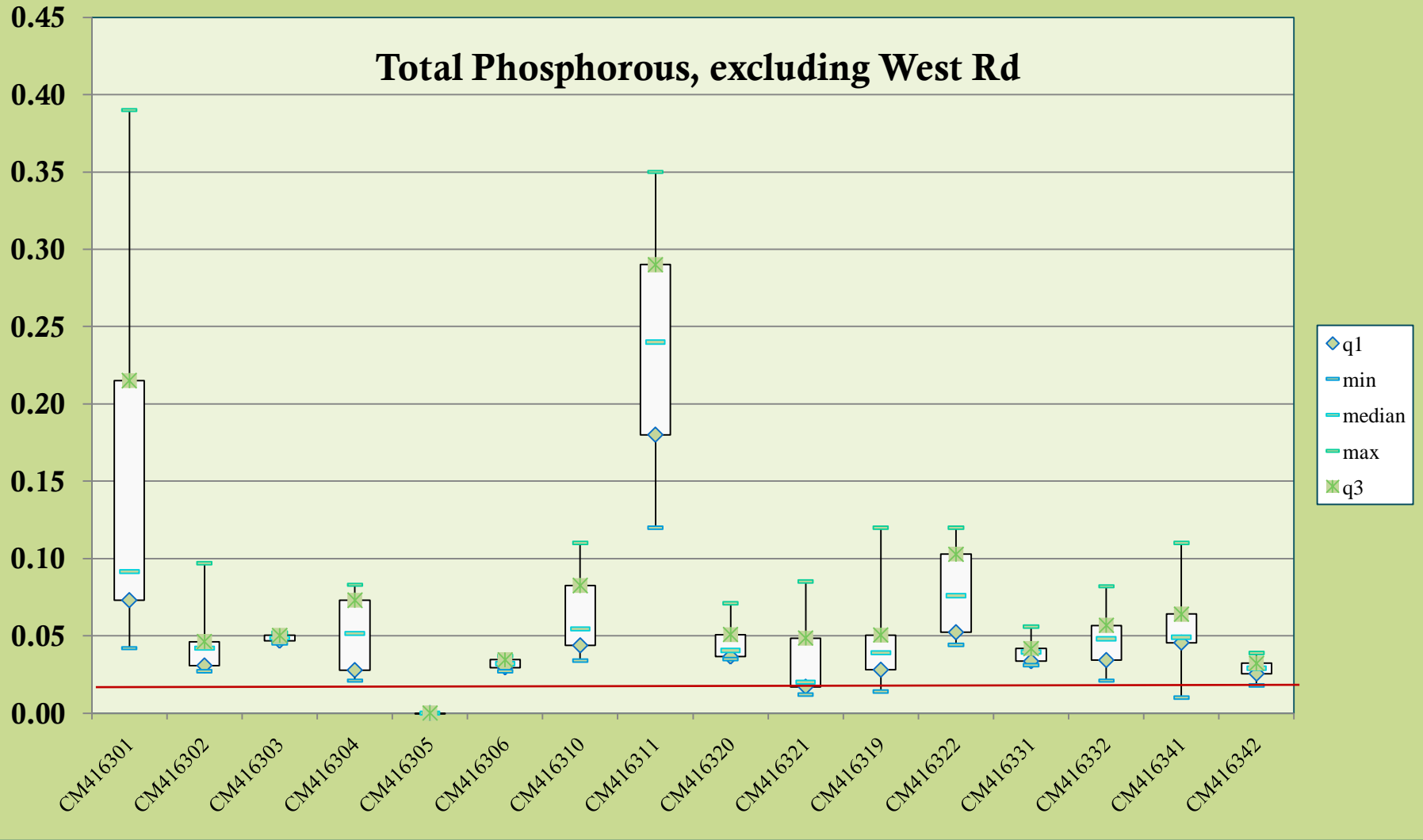




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Total Phosphorous, excluding West Rd



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Comparison between West Rd (STP) and Britannia St Gauging station Total Phosphorous (mg/L)

Date	Feb 2005	Oct 2005	Feb 2006	April 2006	August 2006	April 2008	August 2008
West Rd	1.3	1.0	.230	.190	.220	.082	.030
Britt St GS	.044	.026	.047	.078	.017	.050	.019



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Pesticides

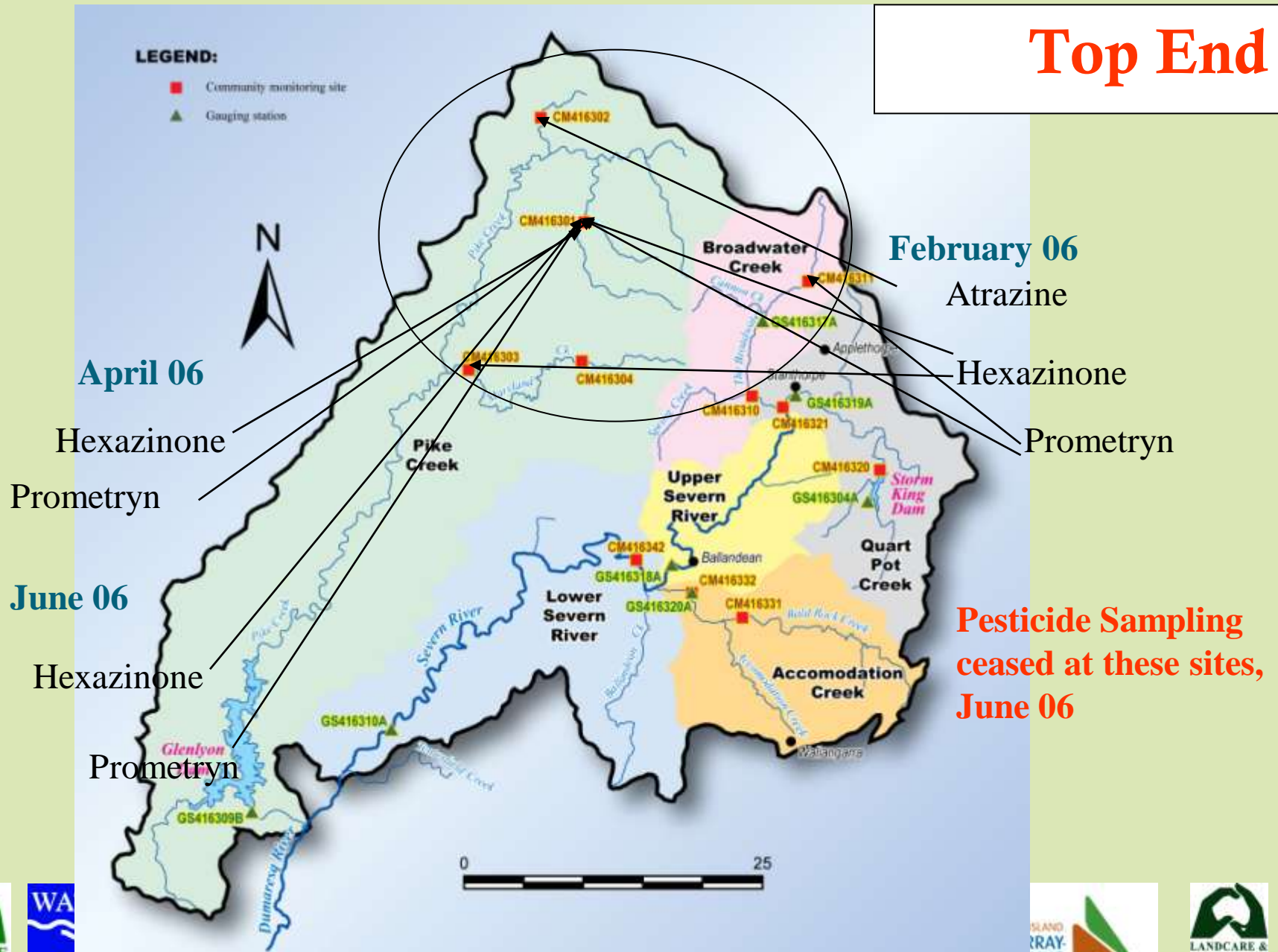
- What is SWAMP doing about it?
 - SWAMP adopts an “information sharing” approach and is in contact with agronomists from the resellers in the district, officers from DEEDI and the Regional Council



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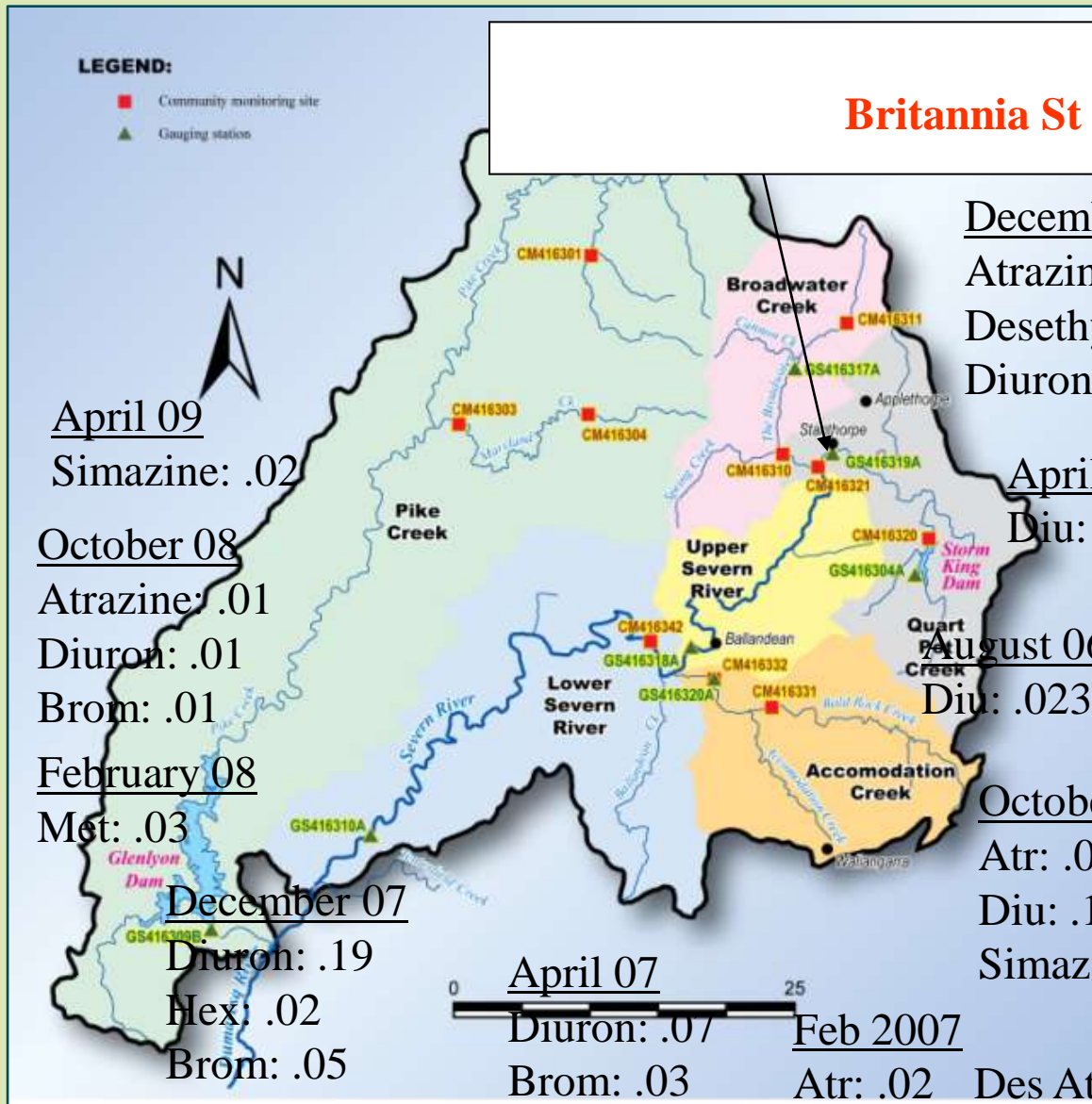


Top End



CM416319

Britannia St at Gauging Station



April 09

Simazine: .02

October 08

Atrazine: .01

Diuron: .01

Brom: .01

February 08

Met: .03

December 07

Diuron: .19

Hex: .02

Brom: .05

April 07

Diuron: .07

Brom: .03

Feb 2007

Atr: .02

December 05

Atrazine: .05

Desethyl Atrazine: .01

Diuron .03

February 06

Atr: .01

Diu: 1.5

April 06

Diu: 4.1

June 06

Diu: .43

August 06

Diu: .023

Bromacil: .02

Simazine: .01

October 06

Atr: .01

Diu: .15

Simaz: .01

December 06

Atr: .02

Diu: .07

Brom: .02

Simaz: .01

Diu: .04 Hex: .02

Brom: .02

Combination herbicides?

Diu/Hex/Brom



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Ref.	10KE210	10KE211	10KE212	10KE213	Reporting Limit		
Reference	20100107319	20100107324	20100107325	20100107320			
Media	Water	Water	Water	Water			
Description	CM416319	CM416324	CM416325	CM416320			
Method	Herbicides by LCMS	Units					
	Ametryn	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	0.01
	Atrazine	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	0.01
	Bromacil	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	0.01
	Desethyl Atrazine	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	0.01
	Desisopropyl Atrazine	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	0.01
	Diuron	µg/L	0.01	< 0.01	< 0.01	< 0.01	0.01
	Fluometuron	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	0.01
	Hexazinone	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	0.01
	Metolachlor	µg/L	< 0.01	0.27	0.13	< 0.01	0.01
	Prometryn	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	0.01
	Simazine	µg/L	0.02	< 0.01	< 0.01	< 0.01	0.01
	Tebuthiuron	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	0.01
	Terbutryn	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	0.01



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Training for Macros



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[Home](#) > [Organisations](#) > **SWAMP (Stanthorpe Water Association Monitoring Program)**

 **SWAMP (Stanthorpe Water Association Monitoring Program)**

[Expand All](#) | [Collapse All](#)

Organisation Details

Organisation Name	SWAMP (Stanthorpe Water Association Monitoring Program)	ABN
Phone Number		Email Address
Fax Number		Internet Address


Regions

Region	Border Rivers
--------	-------------------------------

Sites Monitored

- [Accommodation Creek Sundown Road Site - Organisation](#)
- [Bald Rock Creek McDonagh Road Site - Organisation](#)
- [Broadwater Creek Amiens Road Site - Organisation](#)
- [Broadwater Creek Texas Road Site - Organisation](#)
- [Fifteen Mile Creek Goldfields Road Site - Organisation](#)
- [Maryland Creek Stanthorpe Inglewood Road Site - Organisation](#)
- [Pike Creek Barelli Site - Organisation](#)
- [Pike Creek Inverary Road Site - Organisation](#)
- [Pike Creek Texas Road Site - Organisation](#)
- [Quart Pot Creek Red Bridge Site - Organisation](#)
- [Quart Pot Creek Stanthorpe GS \(Brittania St\) Site - Organisation](#)
- [Quart Pot Creek Storm King Dam Site - Organisation](#)
- [Quart Pot Creek West Road Site - Organisation](#)
- [Severn River Bents Road crossing \(2nd\) Site - Organisation](#)
- [Ten Mile Creek Stanthorpe Inglewood Road Site - Organisation](#)

Organisation Address

 [Items below here](#)

Done



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Monitored | **Graphs** | Not Monitored

Accommodation Creek Sundown Road

Expand All | Collapse All

Site	
Site Name	Sundown Road
Waterway	Accommodation Creek
Ambient Water Quality Guideline Name	Accommodation Creek
Macro-invertebrate Method	QMDC 2007 QMDC 2007
Region	Border Rivers
Catchment	Accommodation Creek

Organisations that Take Samples at This Site				
Organisation	Field Sample Type	Method/Guideline	Licence Code	BoM Reportable
Queensland Murray Darling Committee	Ambient WaterQ Sample			Yes
Queensland Murray Darling Committee	Macro-invertebrates	QMDC 2007		No
Border Rivers Catchment Management Association (Queensland Murray Darling Committee)	Ambient WaterQ Sample			Yes
Border Rivers Catchment Management Association (Queensland Murray Darling Committee)	Macro-invertebrates	QMDC 2007		No
SWAMP (Stanthorpe Water Association Monitoring Program)	Ambient WaterQ Sample			No
SWAMP (Stanthorpe Water Association Monitoring Program)	Macro-invertebrates			No
SWAMP (Stanthorpe Water Association Monitoring Program)	WaterQ Laboratory Analysis			No

Site Details						
GPS	UBD Ref	Site Code	Old Site Code	Latitude	Longitude	Datum
		416332000		-28.807200	151.836300	WGS84

Local Government Area

Site Map



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http://qmdc.unidapwaterq.com.au/cgi/console/view.asp?5=DF59500865EC4BB28D2BABEFBA58B0E9&E=AB16591D-4AFE-442A-A6F0-5D9C8080

QMDC - Ranger program | grazing land management - Google Se... | ABC News - Just In - Breaking News a... | How to get climate data from the Bure... | http://qmdc.un...-5D9C80806955

GPS	UBD Ref	Site Code	Old Site Code	Latitude	Longitude	Datum
		416332000		-28.807200	151.836300	WGS84


Local Government Area

Site Map

Default Map Type: HYBRID

Default Zoom Level (1=world, 20=street): 20

Site (Image)



Map | Satellite | **Hybrid** | Terrain

Accommodation Creek Sundown Road

Last Selected Marker:
Accommodation Creek Sundown Road

Current position:
-28.8072, 151.8363

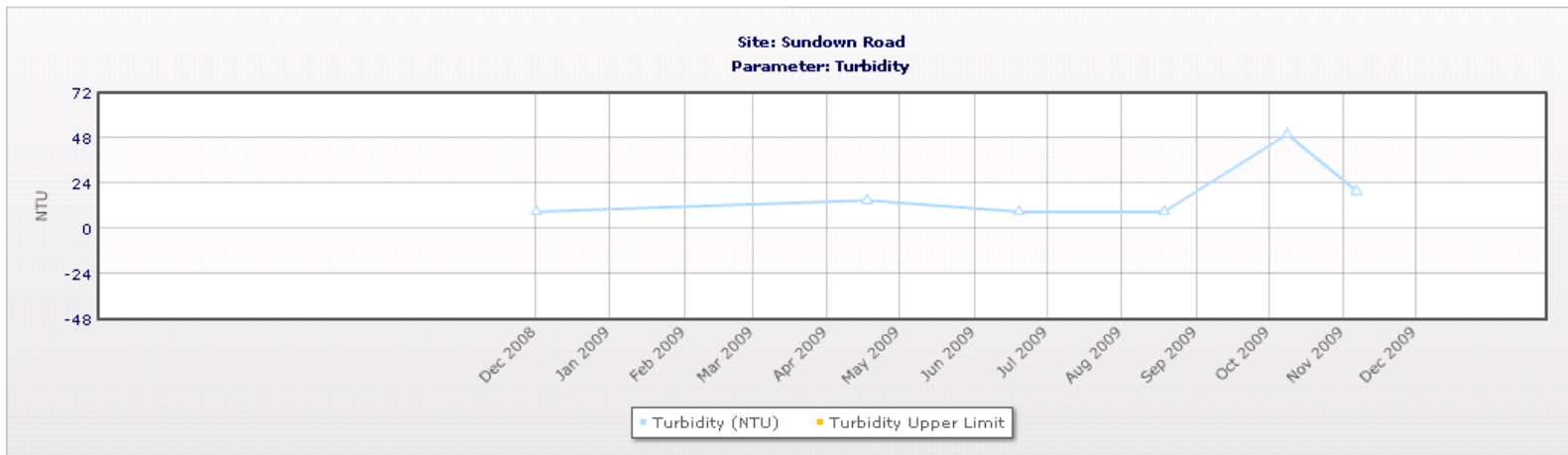
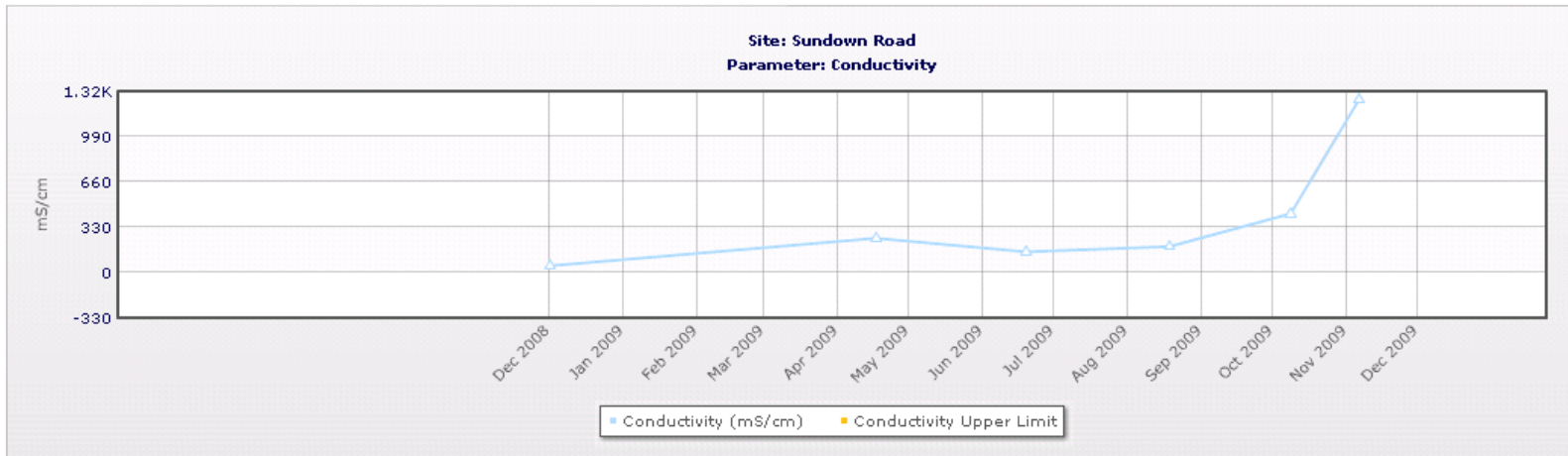
Closest matching address:
LOT 47 Sundown Rd, Ballandean QLD 4382, Australia

Done



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Fetching data from qmdc.unidapwaterq.com.au...



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http://qmdc.unidapwaterq.com.au/cg/console/view.asp?5=DF59500865EC4BB28D2BABEFBA58B0E9&e=118A2A05-EFF9-4CCF-8DB6-A692EEBB

QMDC - Ranger program grazing land management - Google Sea... ABC News - Just In - Breaking News as ... http://qmdc.uni...6-A692EEBB7457

Home > Water Quality Guidelines > Accommodation Creek

Proposed Active Inactive

Accommodation Creek

Expand All | Collapse All

Water Quality Guidelines Details

Guideline Values

PH LCL 6.50	PH UCL 7.20
Conductivity - mS/cm LCL 77.50	Conductivity - mS/cm UCL 255.00
Turbidity - NTU's LCL 9.00	Turbidity - NTU's UCL 10.90
Dissolved Oxygen - mg/L Slightly Disturbed LCL	Dissolved Oxygen - mg/L Good/Clean LCL
Ammonia Nitrogen - mg/L LCL	Ammonia Nitrogen - mg/L UCL
Reactive Phosphorus-mg/L LCL	Reactive Phosphorus-mg/L UCL

Sites Using This Guideline

[Accommodation Creek Sundown Road Site - Guideline Stream Type](#)
[Bald Rock Creek McDonagh Road Site - Guideline Stream Type](#)

Items below here

top

Done



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Key Points for Success

- Don't expect success overnight
- Take baby steps
- Build strong foundations before expanding project
- Have fun along the way
- Can not function in isolation, need lots of support and a dedicated coordinator



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Lessons Learnt

- Have less sites and do these better (needs to include spending some money on lab analysis)
- Choose appropriate kits
- Ensure quality assurance and quality control (QA/QC) commitment is maintained at all times
-
- Ensure data is credible through strong quality assurance
- Allow for continuous improvement through regular progress reviews



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Future Direction

- Made a decision to scrap field kits for Nitrogen and Phosphorus as the reagents are too unstable to give anything other than “crude” results when used under field conditions
- Looking at possibility of better event monitoring, rising stage samplers etc
- Undertaking macroinvertebrate surveys and riparian health assessments
- Develop easy Macro Id format for bugs found locally

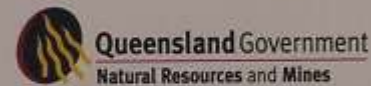




The Stanthorpe Water Assessment and Monitoring Project (SWAMP) is funded by:



The Stanthorpe Water Assessment and Monitoring Project (SWAMP) is Supported by:



Queensland Government
 Natural Resources and Mines
 Granite Borders Landcare
 Growcom
 Stanthorpe Shire Council
 Stanthorpe River Trust
 Department of Natural
 Resources and Mines
 Queensland Murray Darling
 Committee

Border Rivers Catchment
 Management Authority
 Granite Belt Irrigators
 Association
 Traprock Wool Association
 Department of Primary
 Industries
 Border Landcare Organic
 Group
 and Stanthorpe Community
 members

THANKS AND GOOD LUCK



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