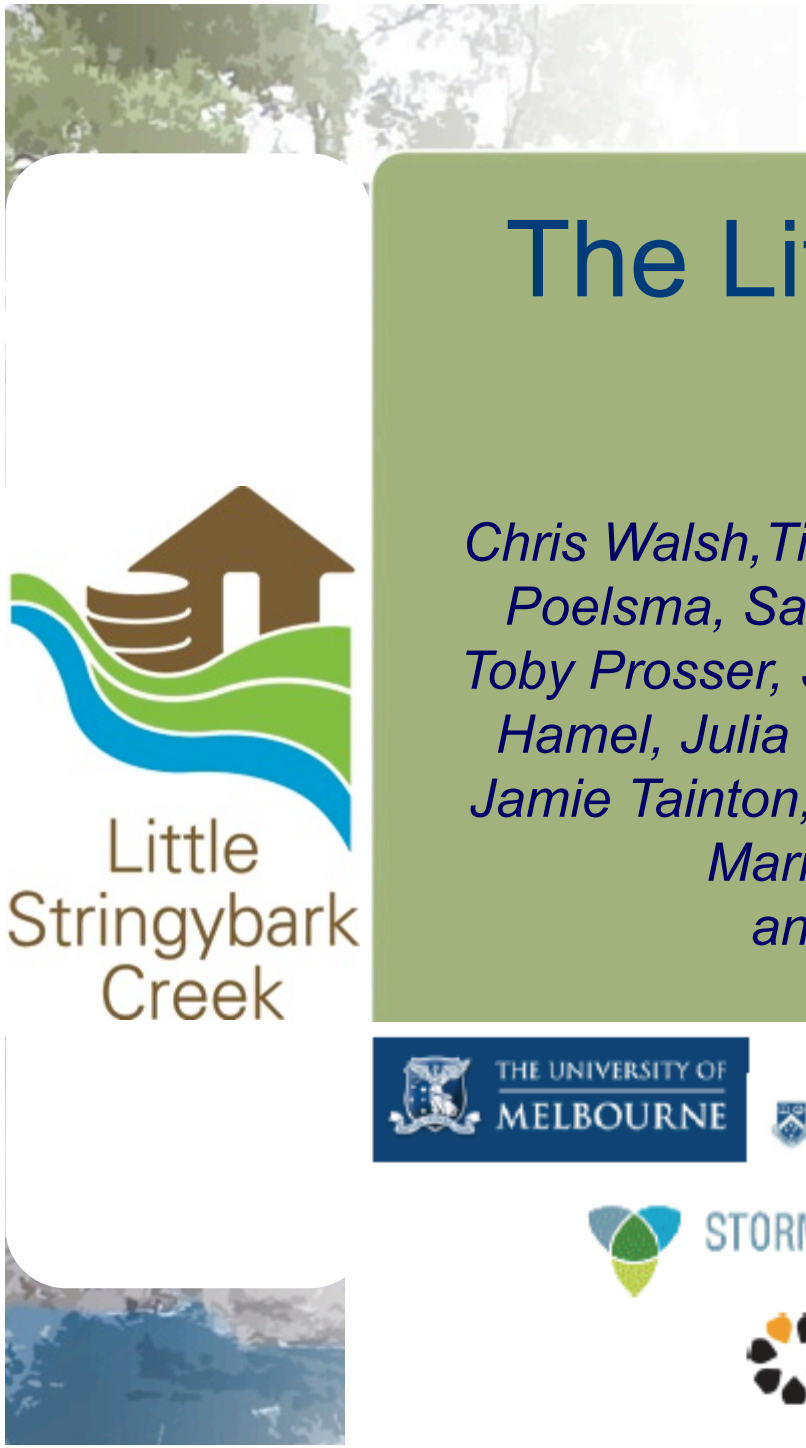


# The Little Stringybark Creek project

*Chris Walsh, Tim Fletcher, Darren Bos, Helen Brown, Peter Poelsma, Sam Imberger, Rhiannon Birch, Belinda Hatt, Toby Prosser, Sharyn Rossrakesh, Matthew Burns, Perrine Hamel, Julia White, Jemima Milkens, Helena Woollums, Jamie Tainton, Mike Sammonds, Vjeko Matic, Beth Wallis, Marit Larson, the people of Mt Evelyn, and introducing Lucy the Labrador*

Little Stringybark Creek

THE UNIVERSITY OF MELBOURNE

MONASH University

Melbourne Water

Yarra Ranges Council

STORM_CONSULTING

Yarra Valley Water

Victoria The Place To Be

Port Phillip & Westernport CMA

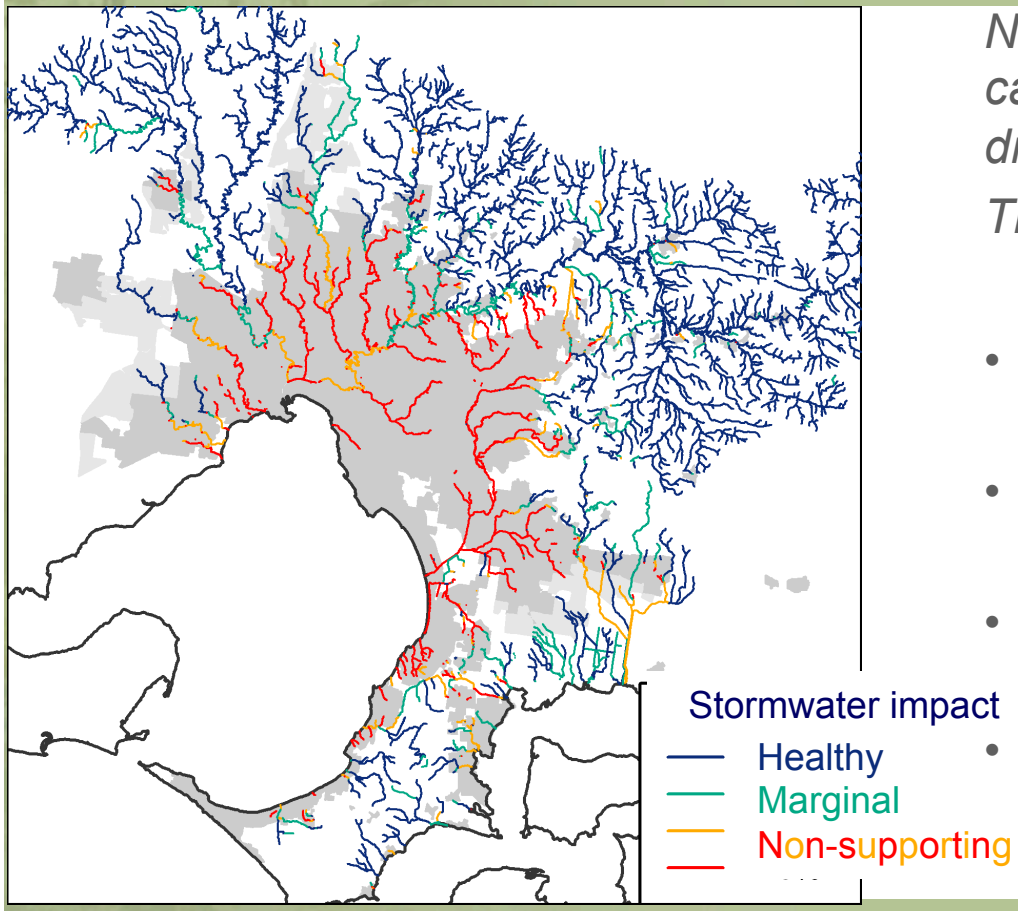
CARING FOR OUR COUNTRY

# An overview of the project

- Features of the project (differences and similarities with the Shepherd Creek project)
  - Its genesis - Why the project began
  - The study catchment(s)
  - Our objectives and approaches
  - Where we have got to.

Little Stringybark Creek

# Conventional stormwater drainage is the primary cause of sick urban streams




*Non-supporting streams have >2% of their catchment covered by conventionally drained impervious surfaces.*

*They certainly:*

- fail SEPP objectives for water quality and biodiversity;
- are unable to support valued animals like platypus, blackfish;
- suffer elevated algal growth (if sufficient light);
- have reduced capacity to retain and transform nutrients and other pollutants.

Little Stringybark Creek

Sassafras Creek

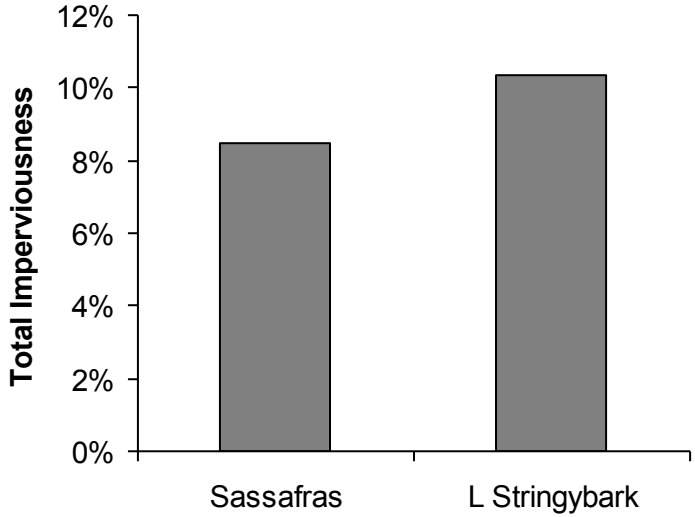
Clean water, stable channel, supports a diverse array of sensitive animals and plants, a very efficient retainer of nutrients and other contaminants in the catchment

Little Stringybark Creek

Eroding, polluted, very few sensitive animals or plants, no longer provides the services it once did.

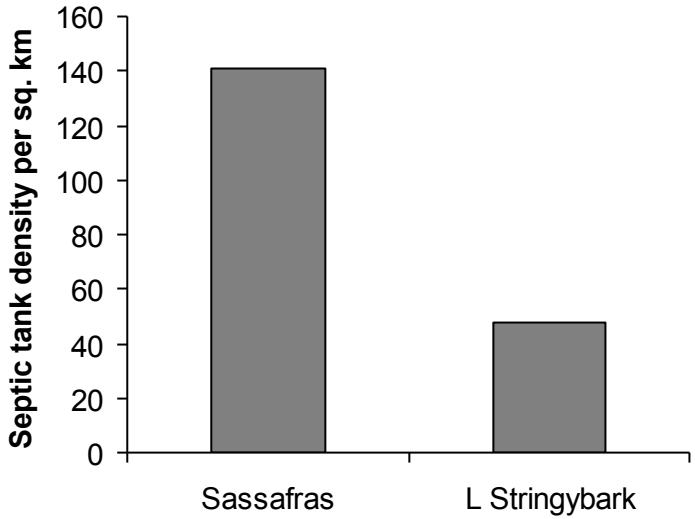
***A sick degraded stream***

The catchments of these creeks have about the same level of urbanization:
~10% of the catchment covered by roofs and roads



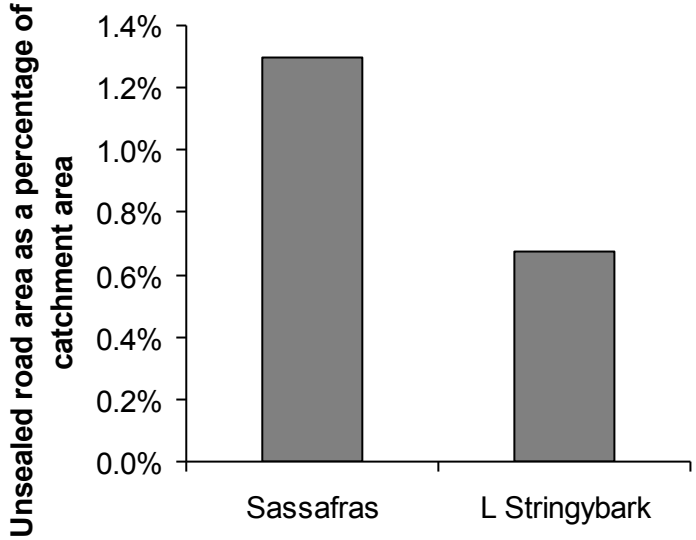

*So why is Sassafras in such good condition, when L Stringybark is trashed?*

It's not the number of septic tanks...



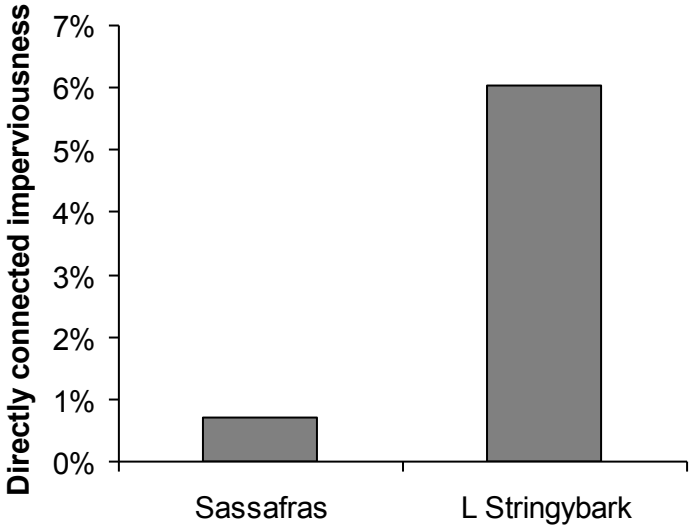

*Sassafras has many more septic tanks, but is in great condition*

It’s not the number of unsealed roads...



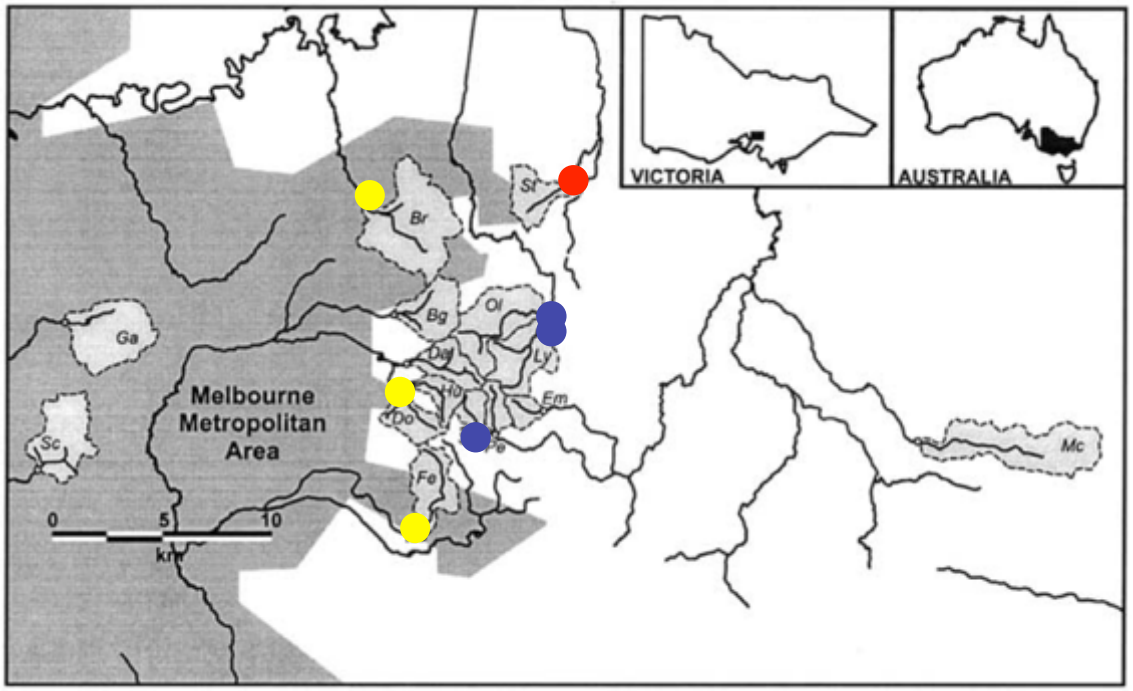

*Sassafras has many more unsealed roads, but is in great condition*

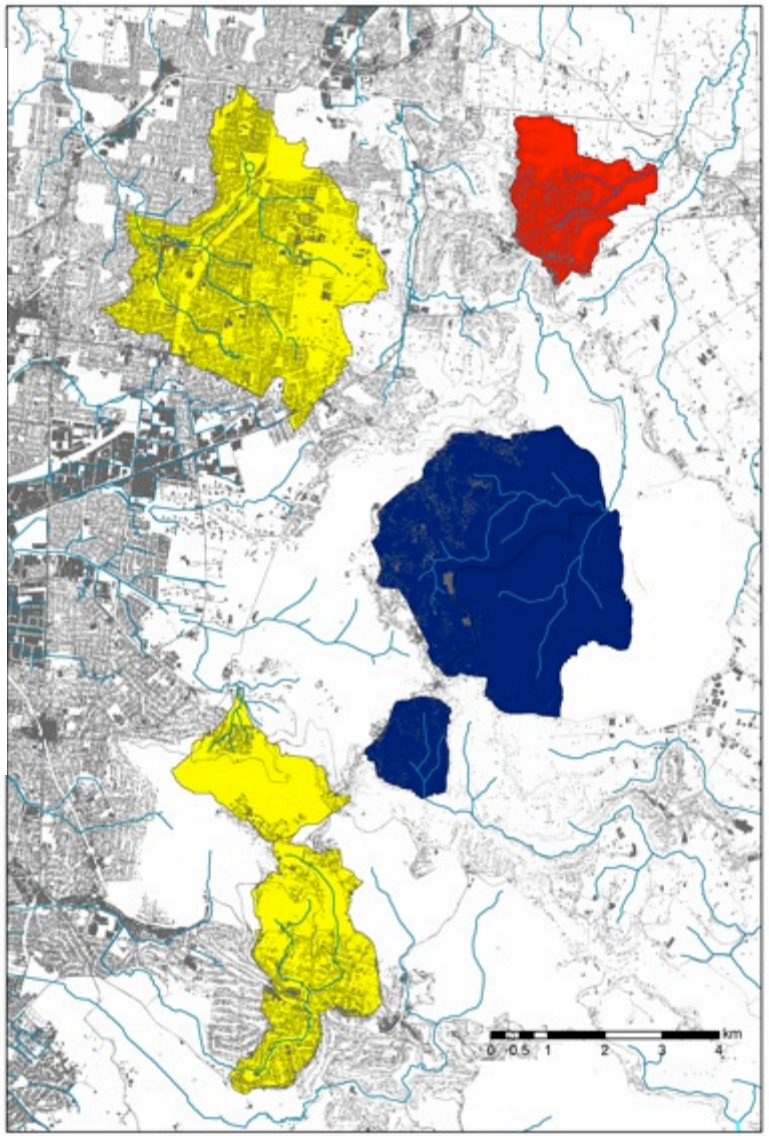
It's those roofs and sealed roads that are directly connected to streams by pipes




*Virtually none of Sassafras Creek's roofs and roads have stormwater drainage pipes –* ***informal drainage helps protect streams. Piped drainage wrecks them***

# Can we (truly) restore a degrade urban stream?



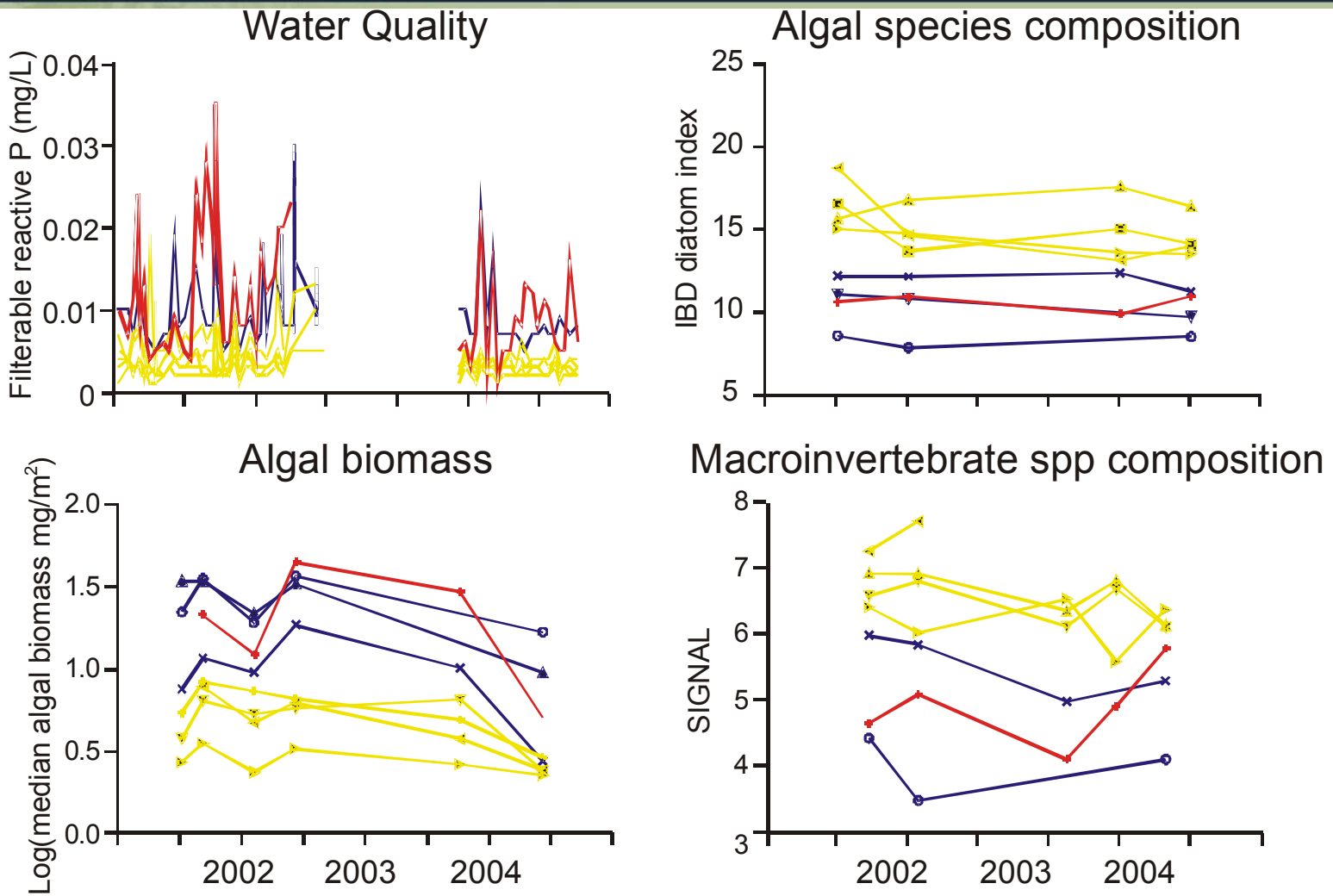

**LSC** chosen as a catchment in which :

- stormwater could be tractably retrofitted
- an ecological response was likely.

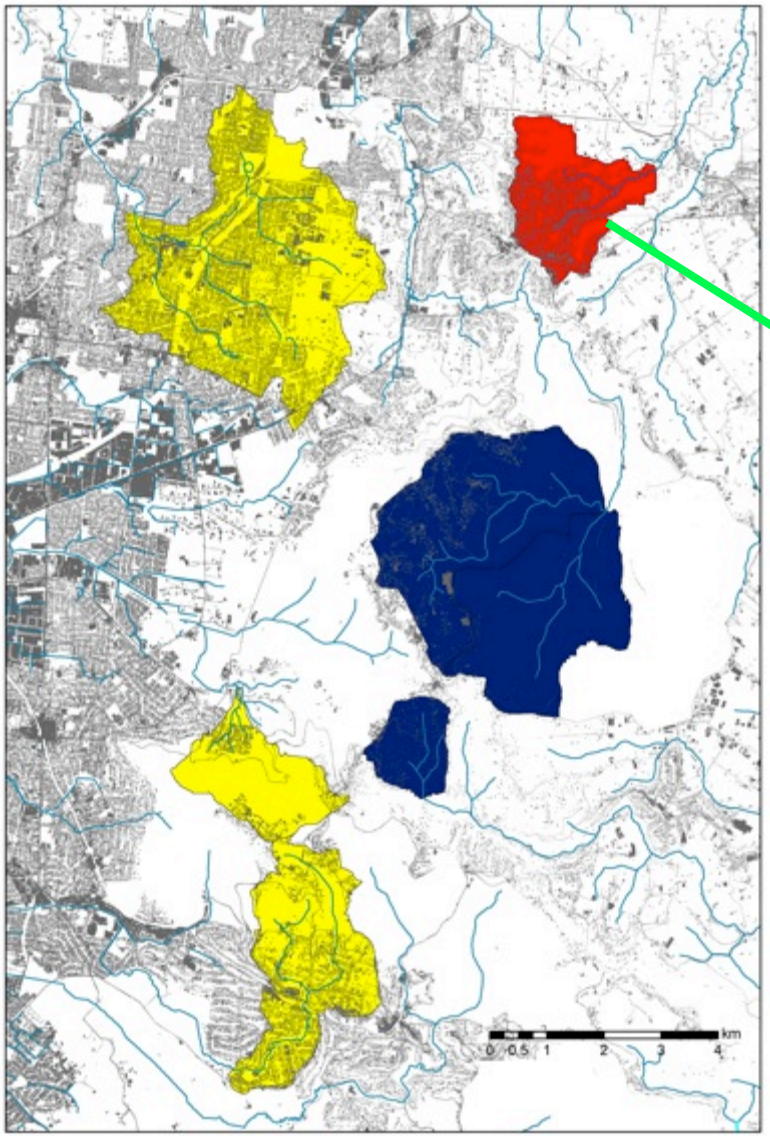
**Three similarly degraded urban streams** chosen as controls

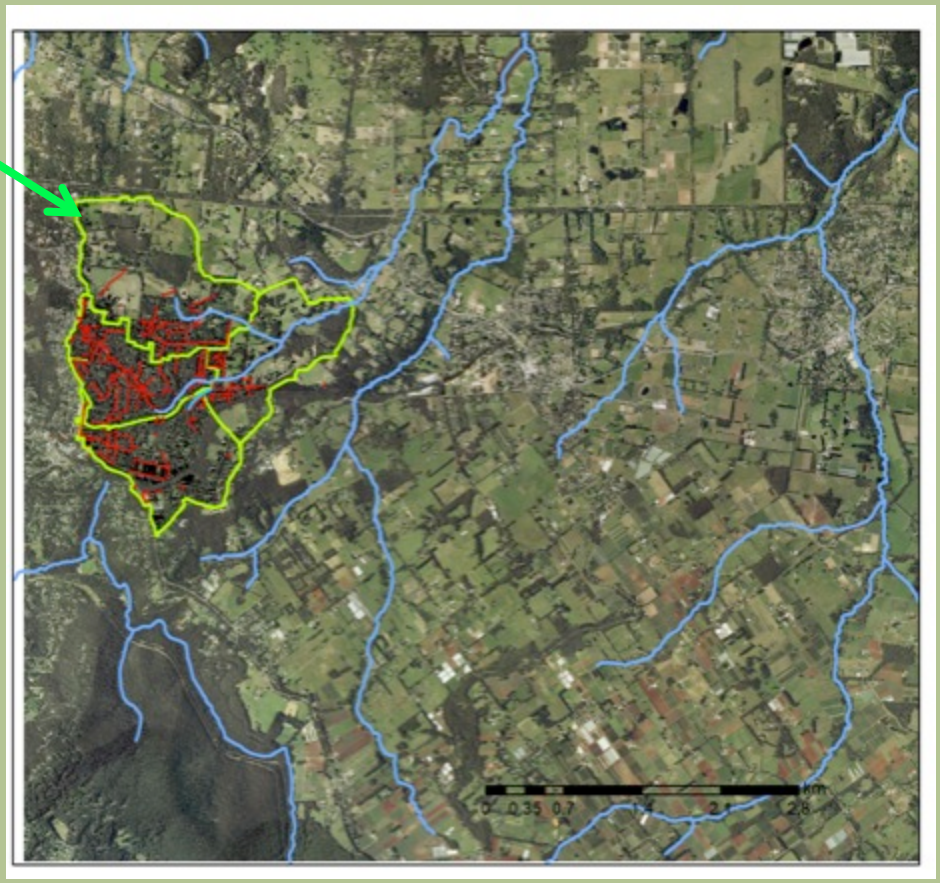
**Three streams with little drainage connection** chosen as reference sites

# Ecological monitoring to detect change



# The creek and its catchment



Little Stringybark Creek

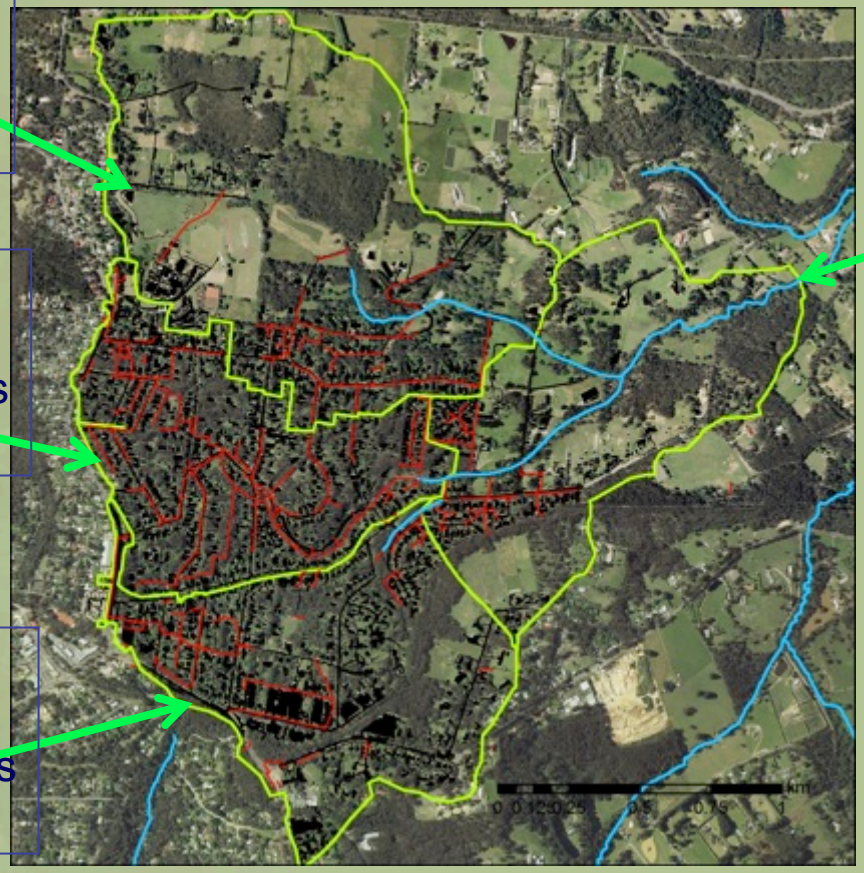
# The catchment and its sub-catchments

Little Stringybark Creek catchment
3 sub-tributary catchments

Northern trib
1.5 km$^2$ catchment
6% total imperviousness
4% connected imp.

Middle trib
0.83 km$^2$ catchment
24% Total imperviousness
21% Connected imp.

Southern trib
0.95 km$^2$ catchment
22% Total imperviousness
13% Connected imp.



Main sampling site
4.2 km$^2$ catchment
13% Total imperviousness
8.5% Connected imp.
1,096 properties
~750 connected

Little Stringybark Creek

# The history of the LSC project

- 2000-2004 – Monitoring began (for an earlier project): the idea forms
- 2004-2008 – some monitoring continues, the search for funding begins
- 2008-2009 – The pilot phase: Stormwater Tender (Community engagement and property treatment)
- 2009-2011 – Phase 2: Stormwater Fund (Refinement of ST, Council works)
- 2011-2012 – Final phase of works
- 2001-2013+ – Monitoring of changes to the creek





# A nest of objectives

*To increase the adoption and effectiveness of new management approaches for water conservation and stream management*

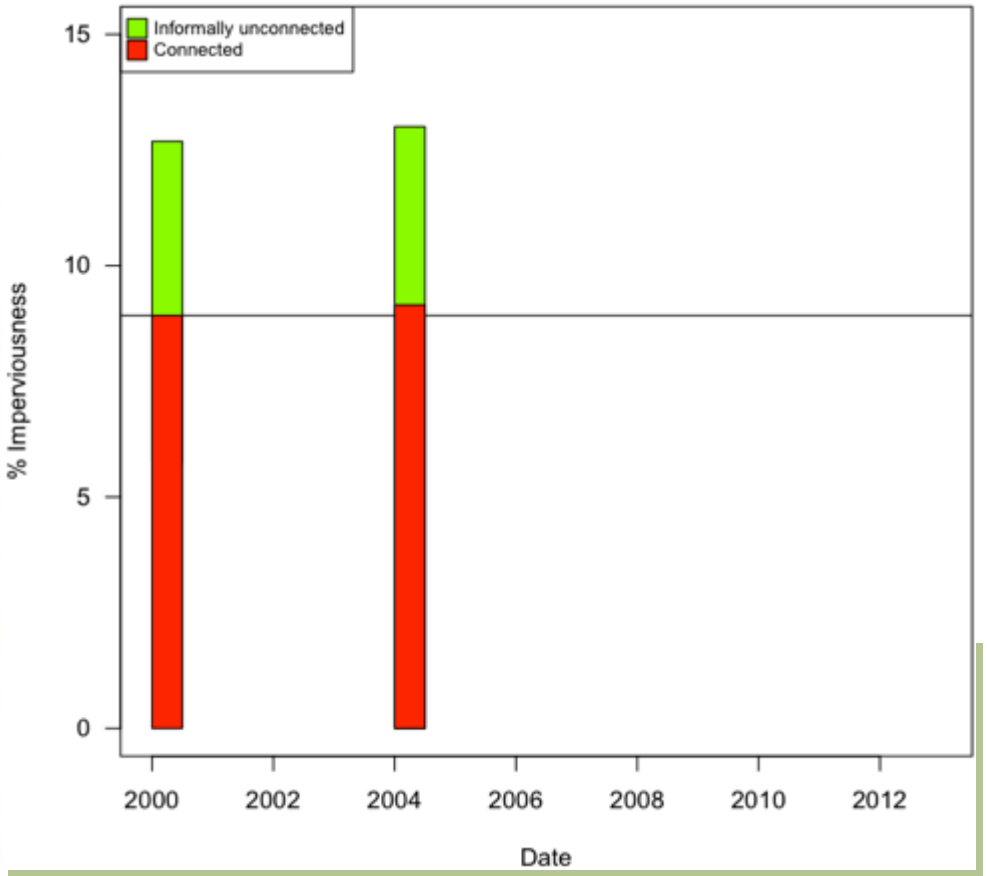
- Trial alternative approaches to community engagement
- Re-evaluate costs and benefits of stormwater retention and harvesting at different scales
- Test alternative economic instruments for funding stormwater management
- Develop new measures and objectives for the environmental benefit of stormwater retention
- Develop, new simple, cheap and safe approaches to stormwater retention
- Develop policy approaches for long-term protection

Restore the ecological structure and function of Little Stringybark Creek

Little Stringybark Creek

# Meanwhile in the catchment…

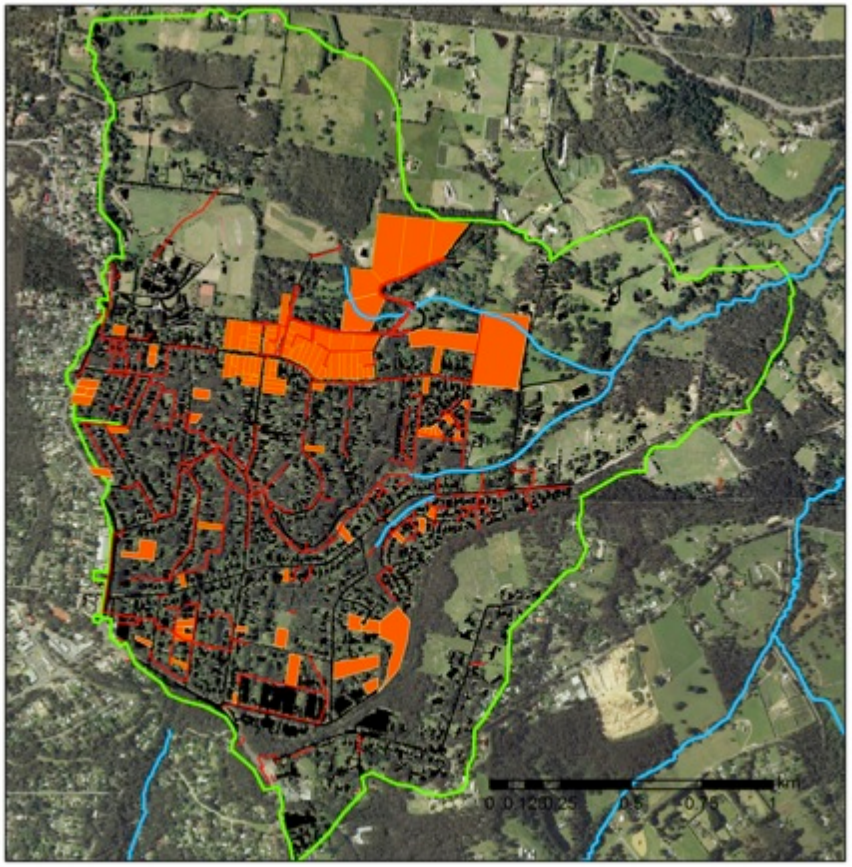
Little Stringybark Creek catchment
New buildings 2000-2004

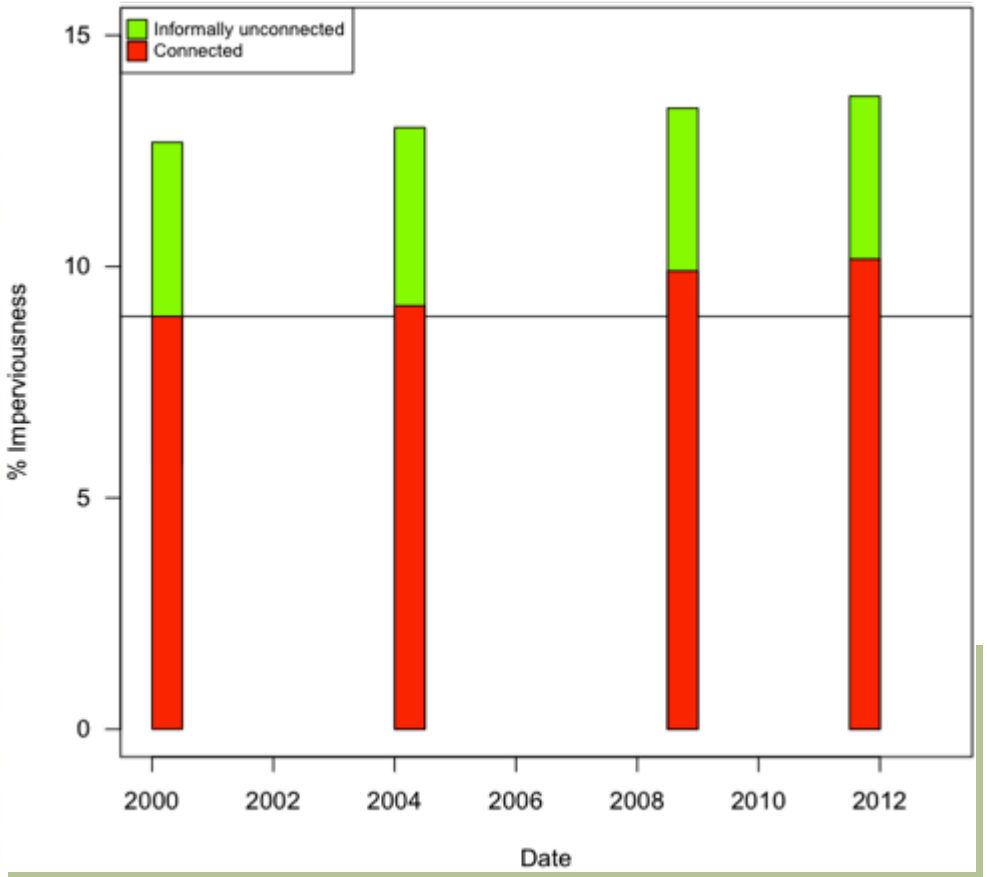



Little Stringybark Creek

# Meanwhile in the catchment…

Little Stringybark Creek catchment
New buildings and roads 2000-2008

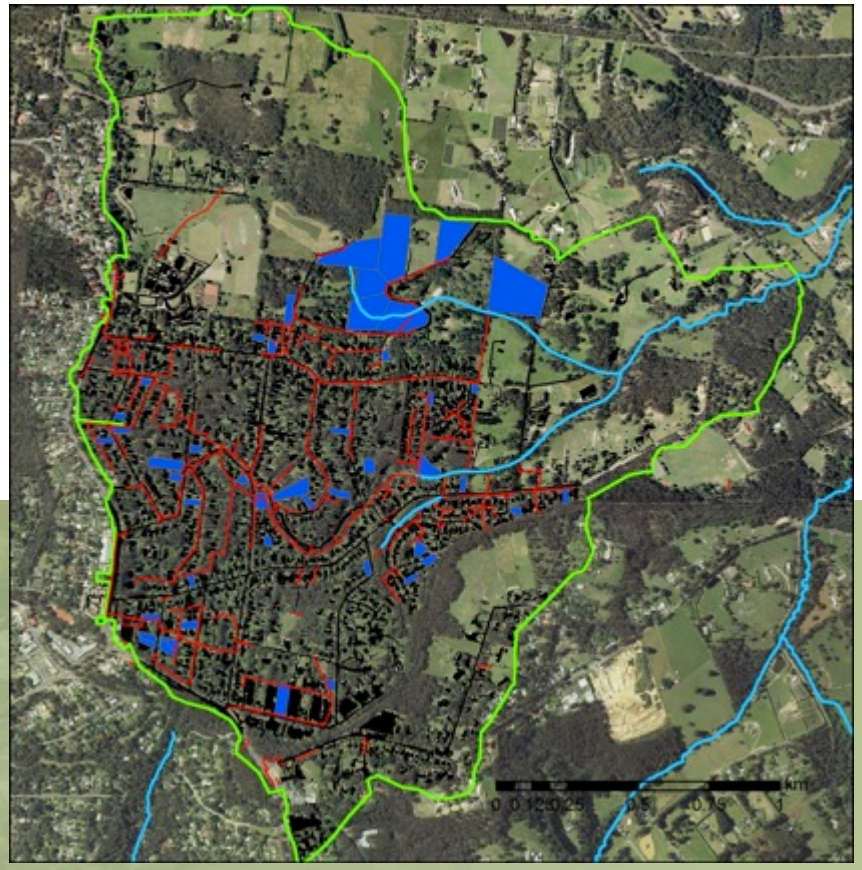


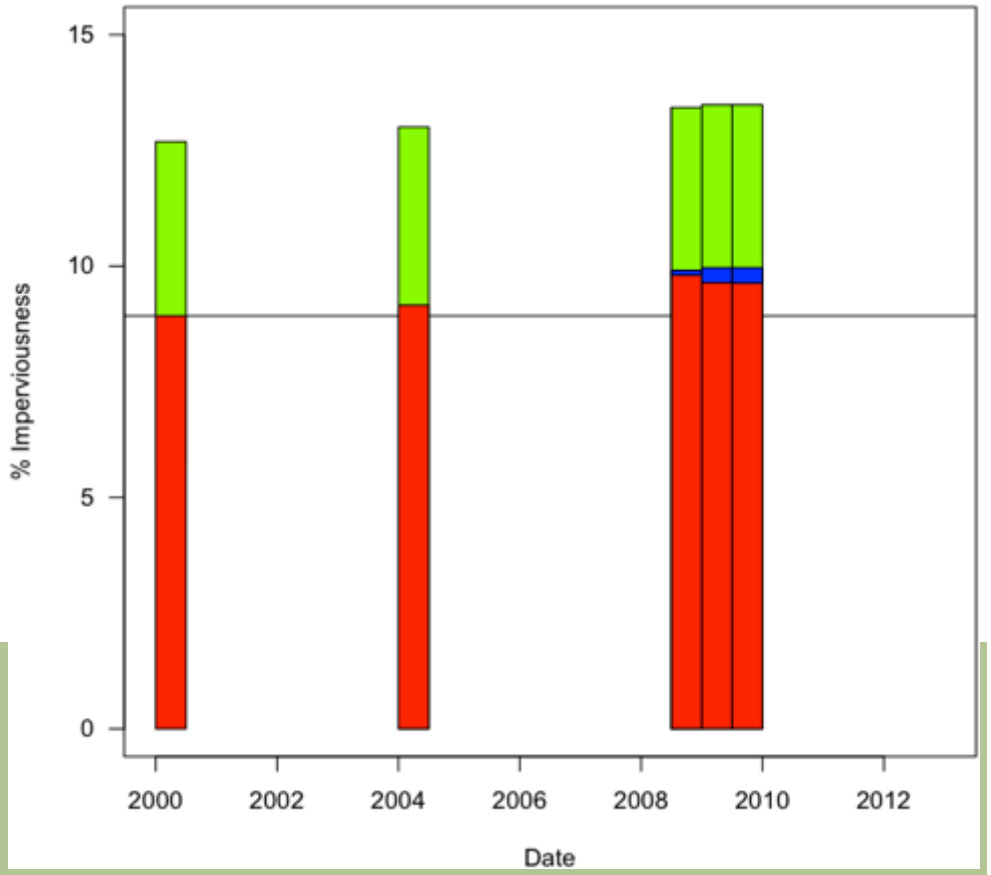



Little Stringybark Creek

# Meanwhile in the catchment…

Little Stringybark Creek catchment
Stormwater Tender treatments to 2009

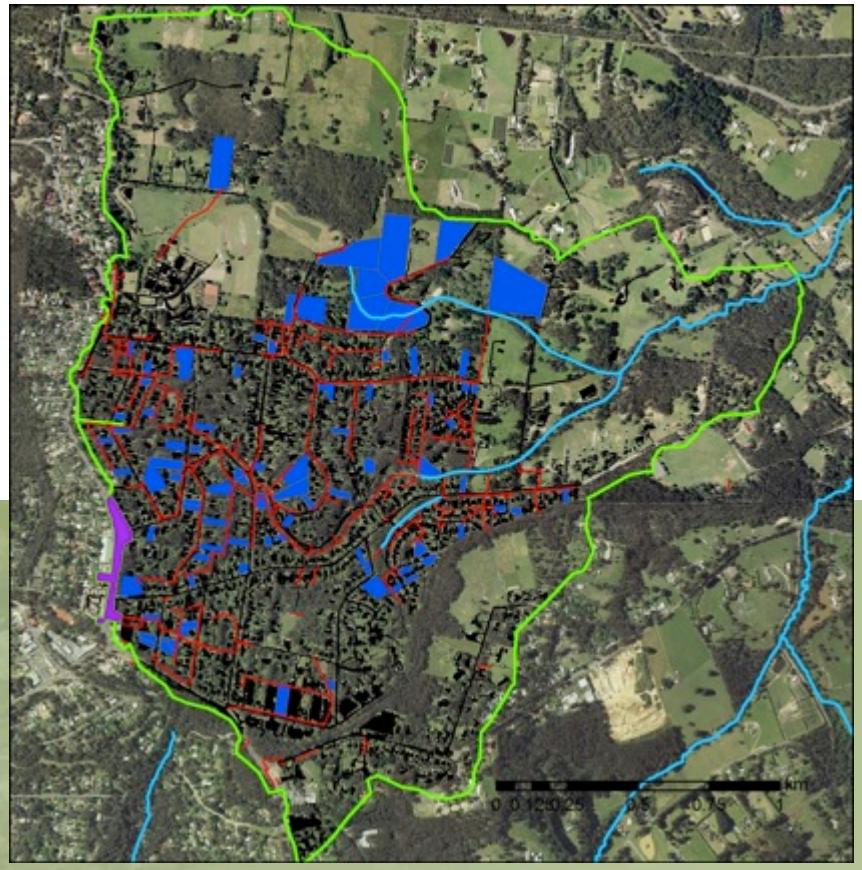


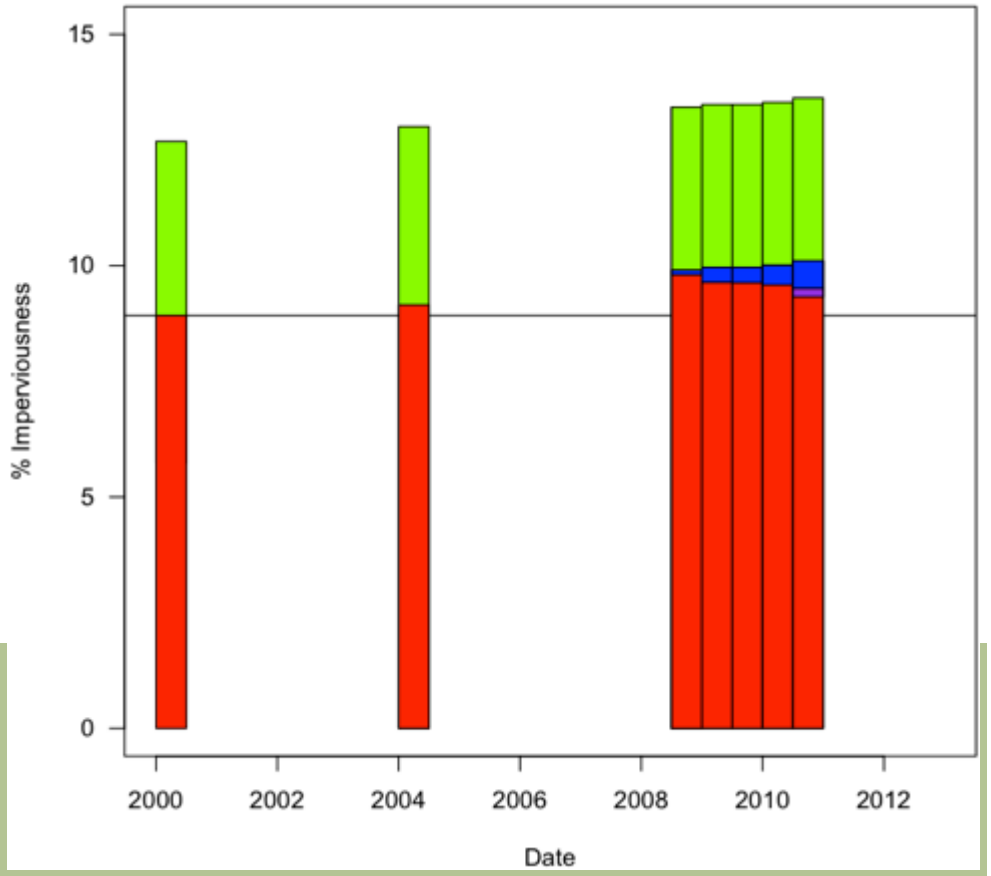



Little Stringybark Creek

# Meanwhile in the catchment…

Little Stringybark Creek catchment
Treatments to 2010

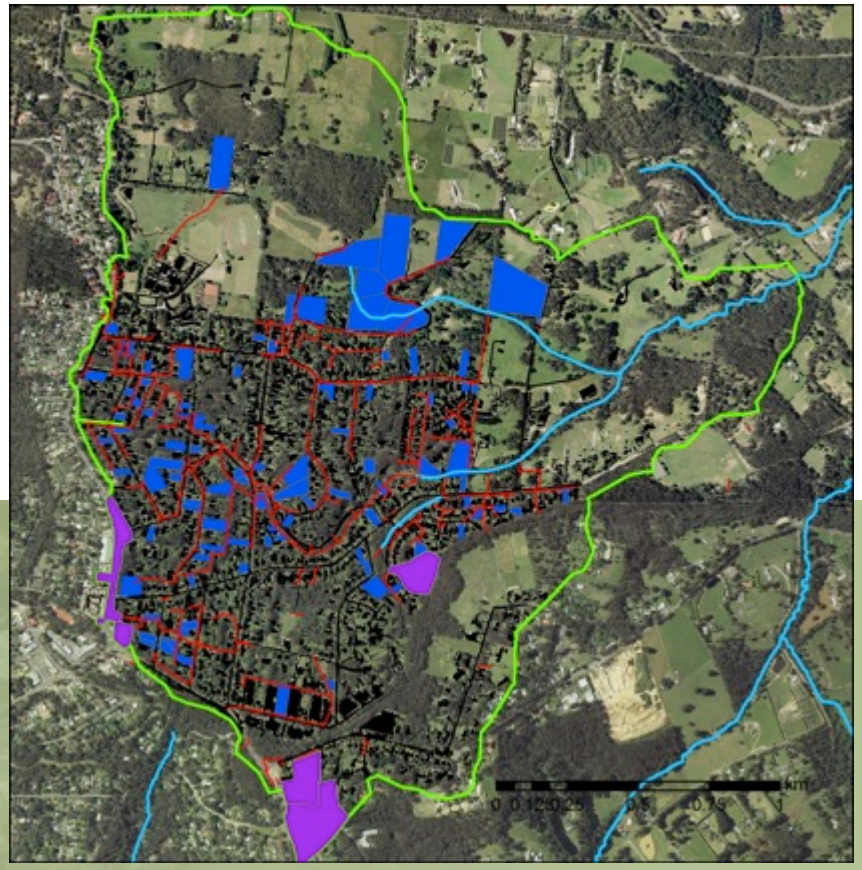


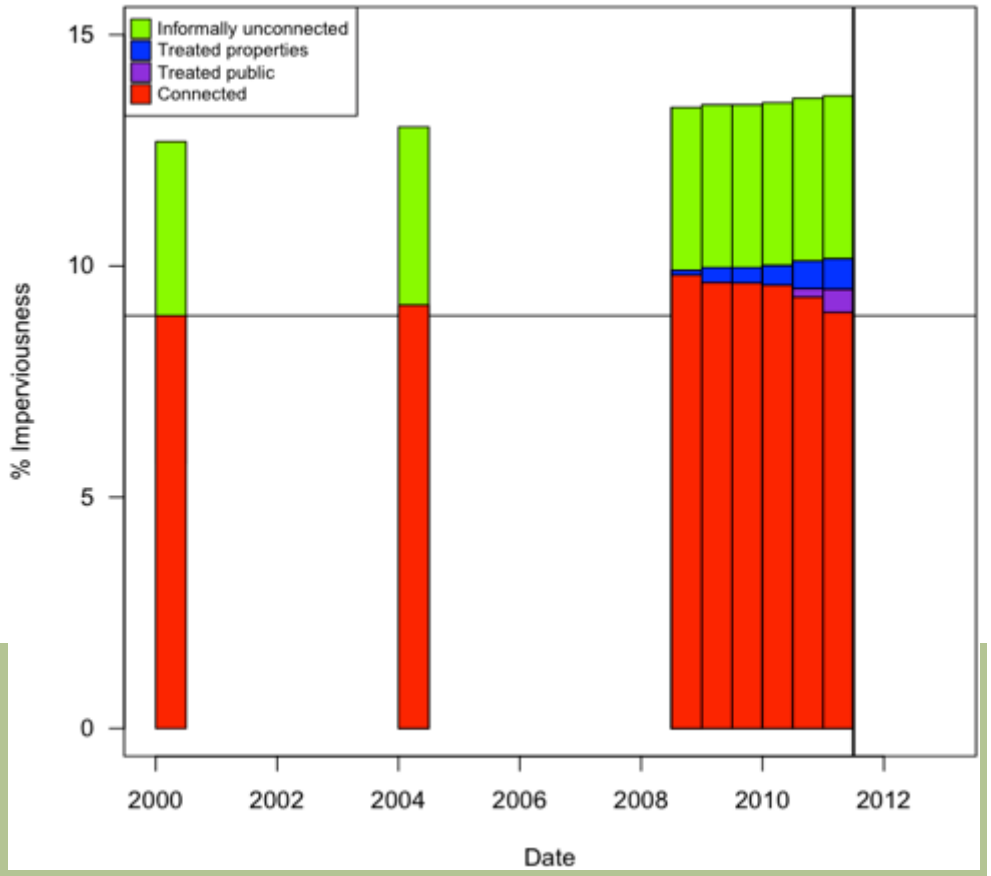



Little Stringybark Creek

# At last, back to the “before” state

Little Stringybark Creek catchment
Treatments to present

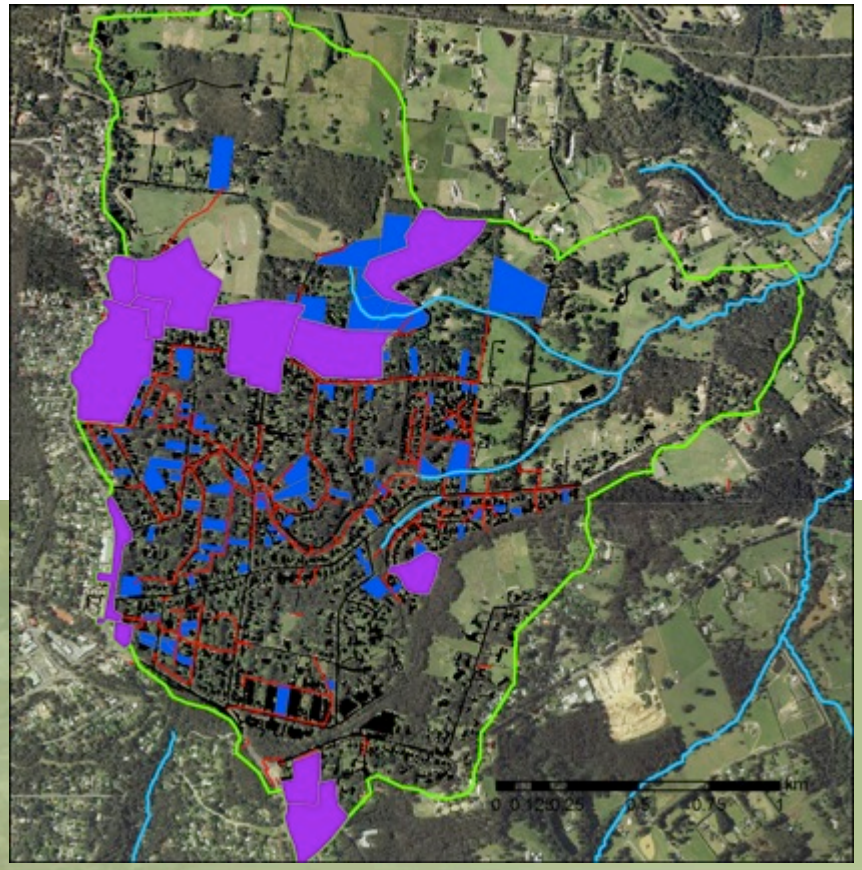


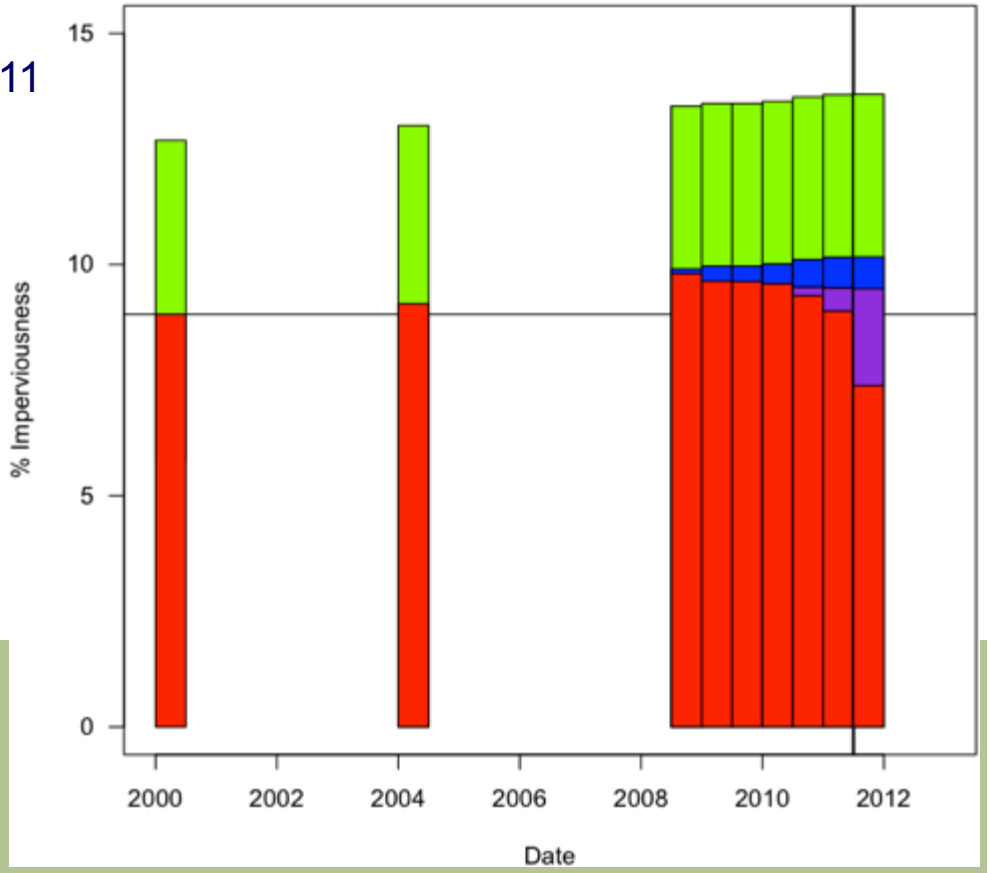



Little Stringybark Creek

# The next 12-18 months..

Little Stringybark Creek catchment
Treatments completed and planned to end 2011

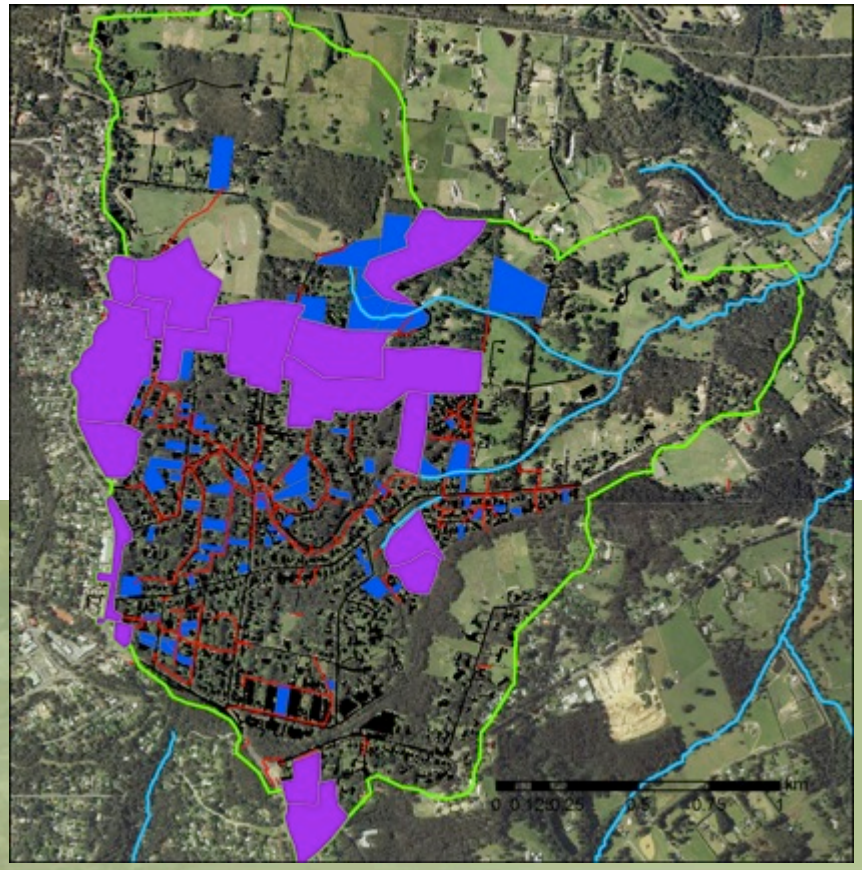


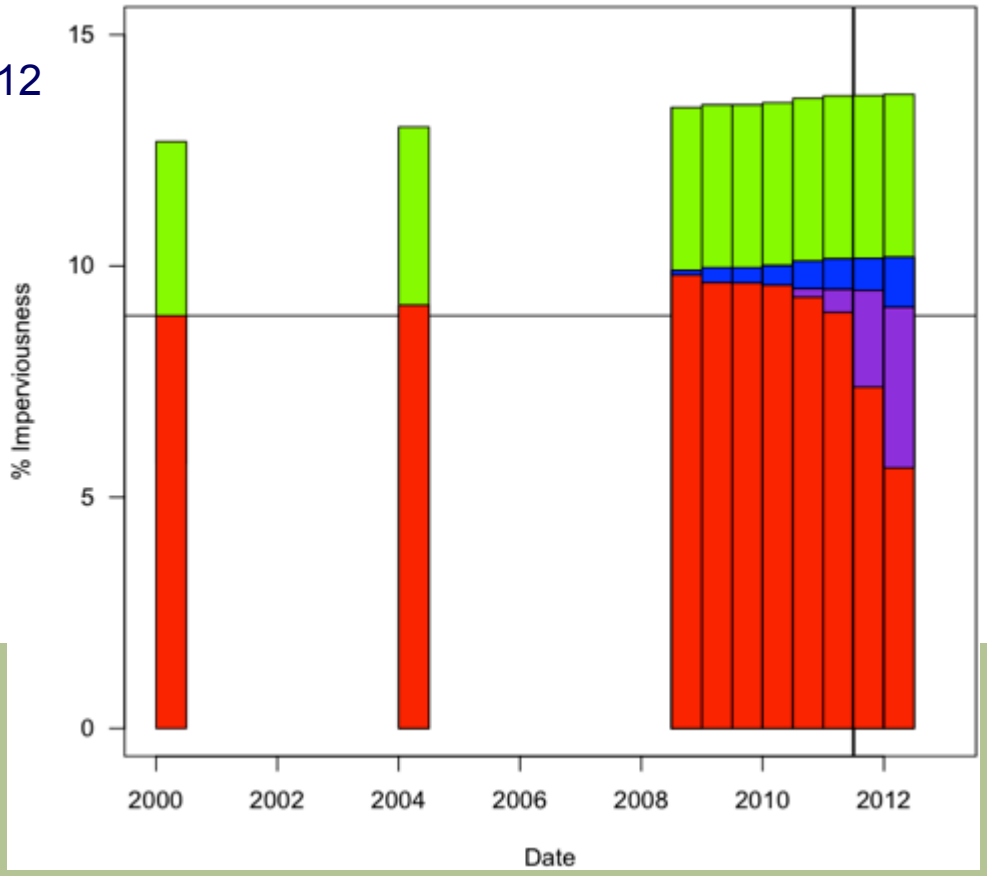



Little Stringybark Creek

# The next 12-18 months..

Little Stringybark Creek catchment
Treatments completed and planned to Jun 2012

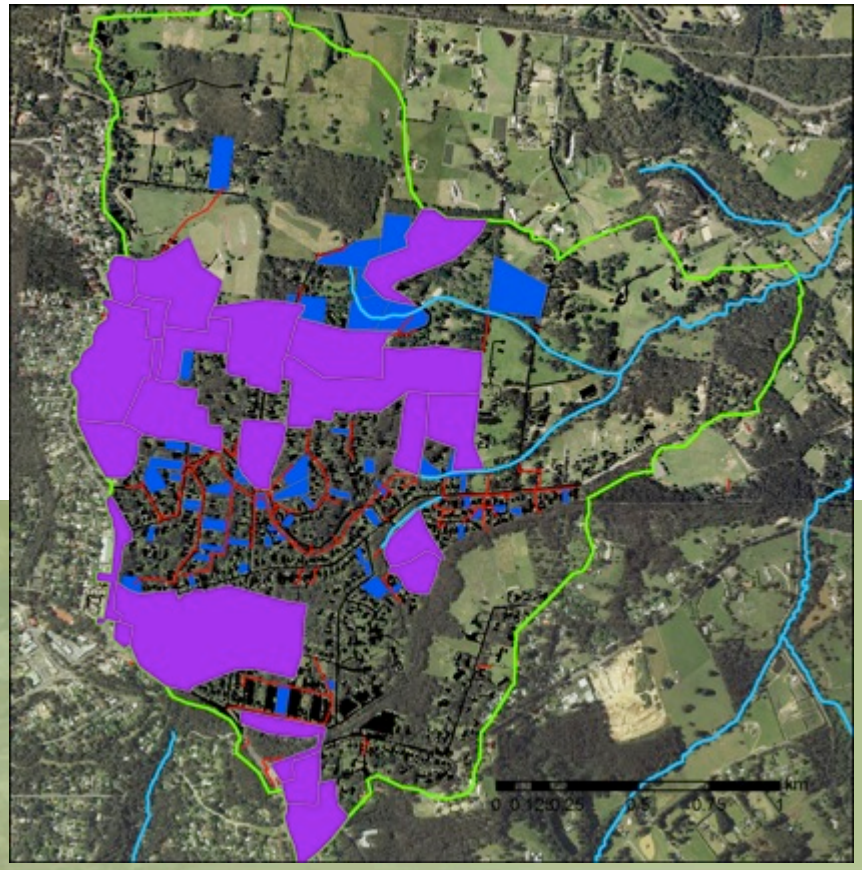


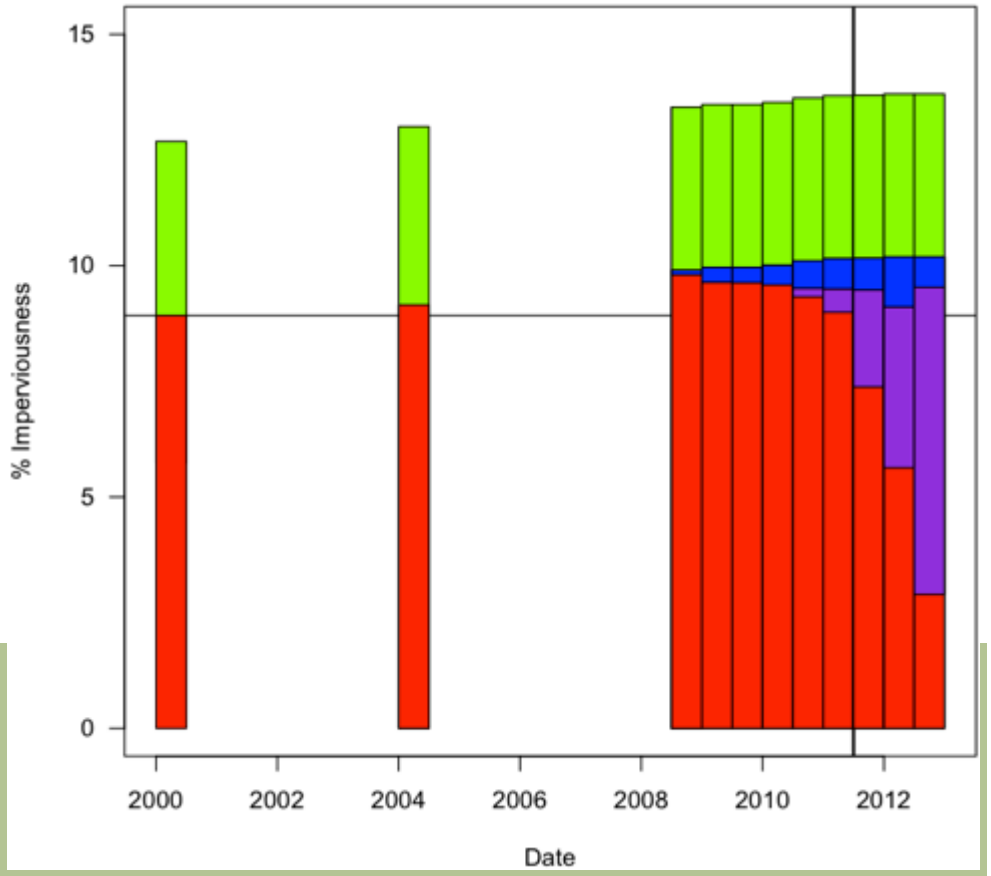



Little Stringybark Creek

# The next 12-18 months..

Little Stringybark Creek catchment
Potential additional treatments






Little Stringybark Creek

# The LSC project

- Restoring the creek has been the driving objective of the project from the start
- The many facets of the project have required an adaptive approach to:
  - fund-raising and distribution
  - community engagement
  - council engagement and capacity development
  - design and implementation of retention works
  - policy development
- After this long game we are now at the point where we should start to make a difference to the creek

Little Stringybark Creek