

Habitat makes fish happen!

Luke Pearce Fisheries Manager Greater Murray



Industry &
Investment



Recreational
Fishing Trusts

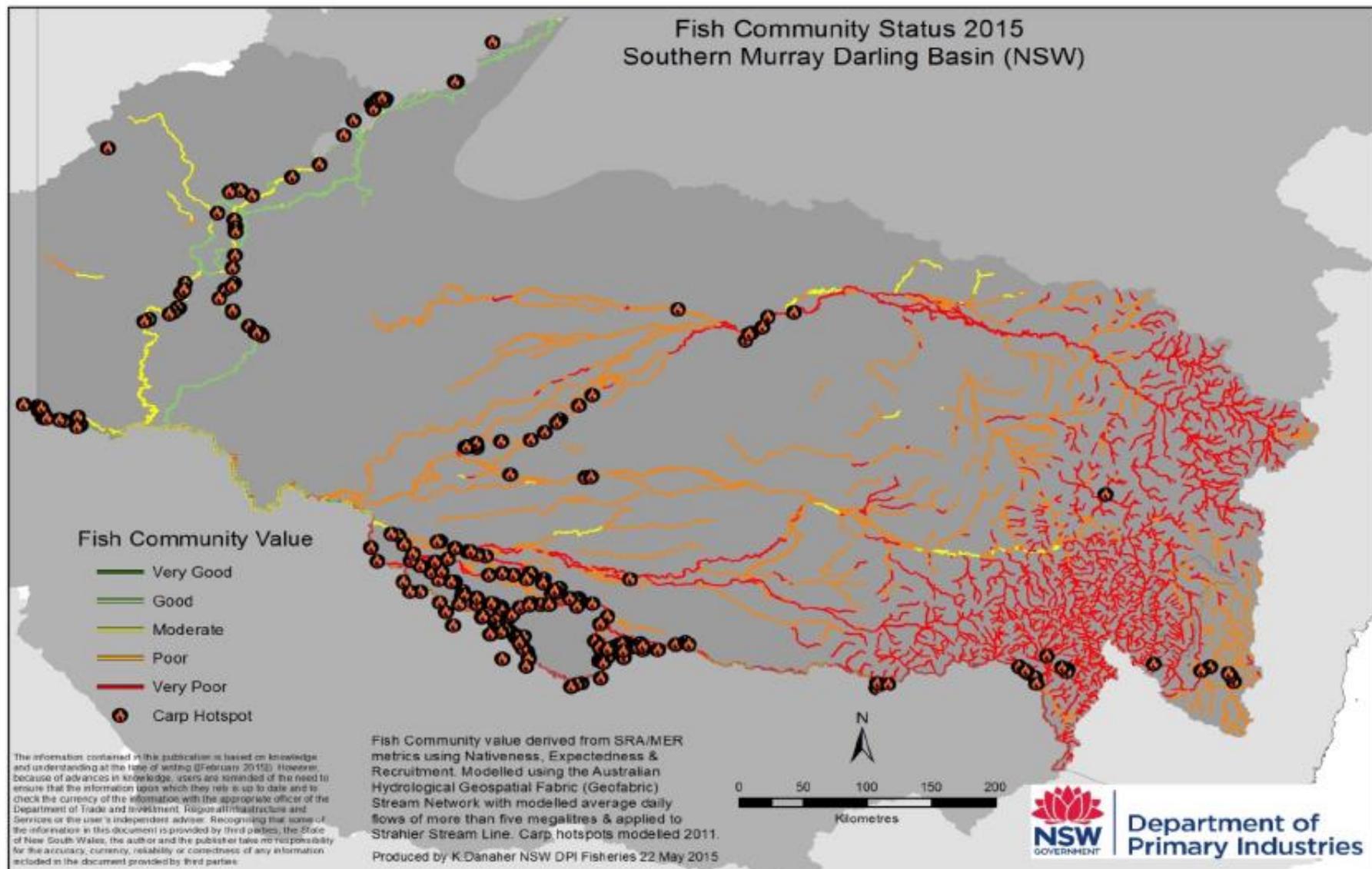
Who Lives Here????



Outline

- Status of Native Fish in the Murray Darling Basin
- Status of Native Fish in the Lachlan
- What was here and what's here now
- Shinning lights from the Lachlan

Native Fish Status Murray



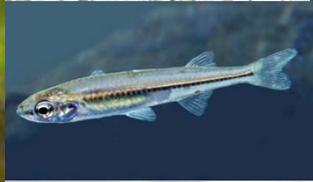
Native Fish Status Lachlan River

- Fish community in the Southern Basin is severely degraded.
- 9 of the 18 native species which previously existed in the catchment are either locally extinct or survive in very low abundances.
- Over 80% of the total biomass is made up of alien species at some locations.
- Without substantial intervention, the status of fish species and communities in the Southern Basin will not improve.

Wanchan River what was here

What's all over to you

- 4 Species



What's Missing

- **4 species are now locally extinct from the Lachlan**

- **Murray hardy-head**
- **Flat-headed galaxias**
- **Purple spotted gudgeon**
- **Trout cod**



- **These species can not return on their own!!!!**

Reasons for Decline

- Habitat modification
 - Erosion and Sedimentation
 - De-snaging
 - Degradation of the riparian vegetation
 - Loss of aquatic plants
- Modification of natural river flows
 - Dams, weirs, road crossings
 - Reduced floodplain and wetland inundation
 - Thermal Pollution
 - Water extraction
 - Water quality decline
- Non Habitat related
 - Predation, competition and disease from introduced species
 - Fishing pressure commercial and recreational

Why should we care?

- **Each species has an intrinsic value in its own right**
- **They are important components of the ecosystem**
- **Big fish eat little fish so do water birds**
- **Their absence is an indication of poor condition of the environment that previously inhabited, they can be likened to the canary in the coal mine of our waterways**

More Habitat=More Fish



Migration – barriers





De-snaging



Erosion and Sedimentation



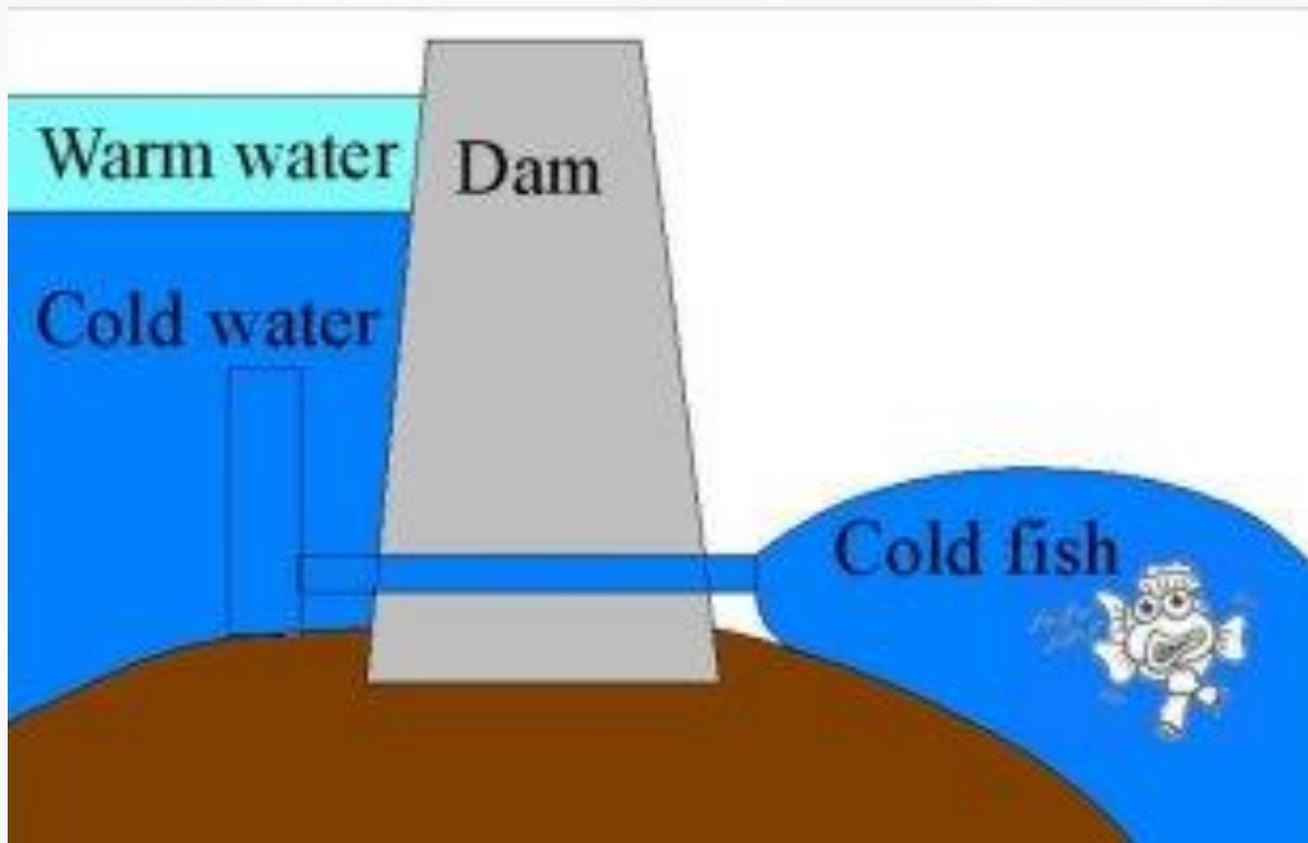
Degradation of Riparian Vegetation



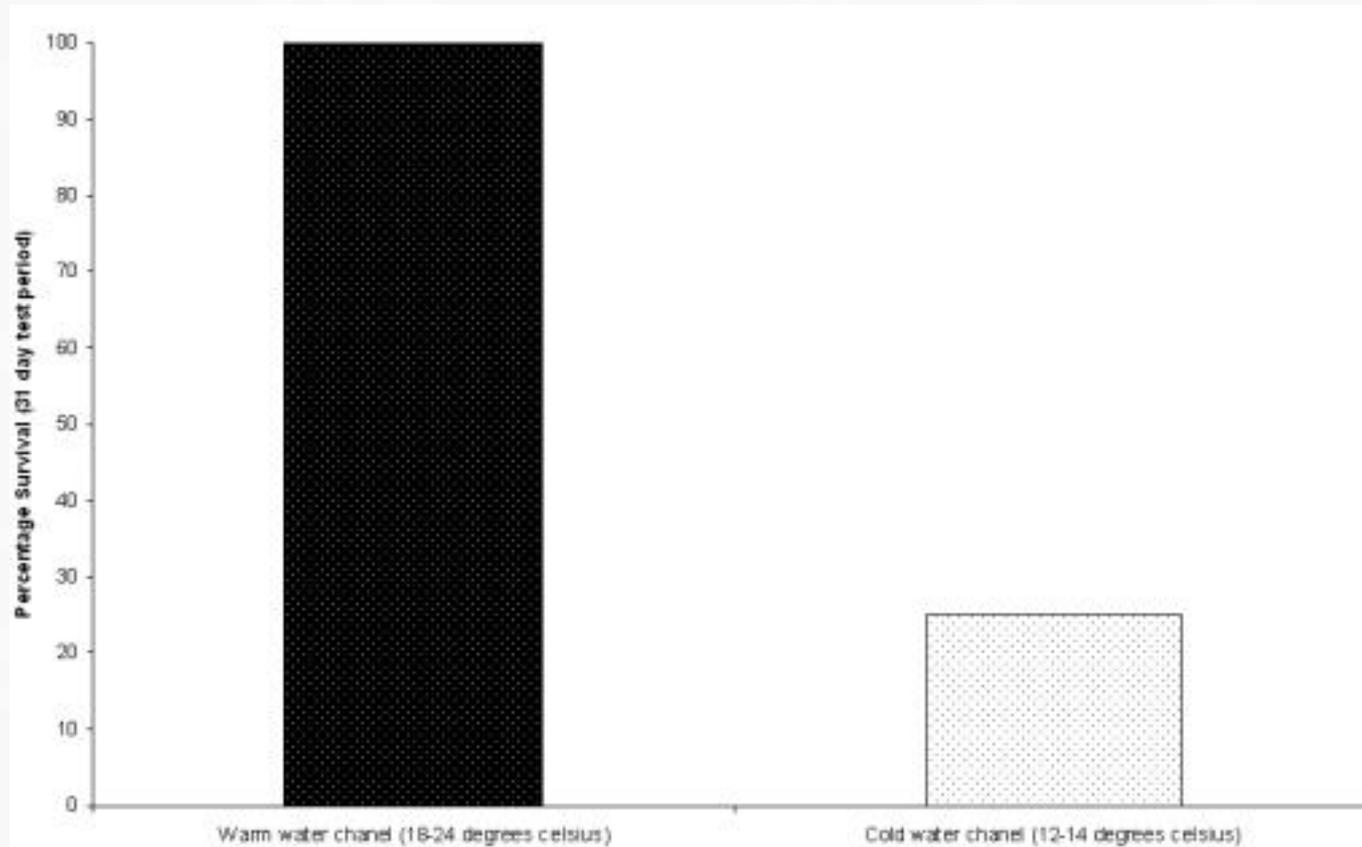
Loss of Aquatic Plants



Cold Water Pollution

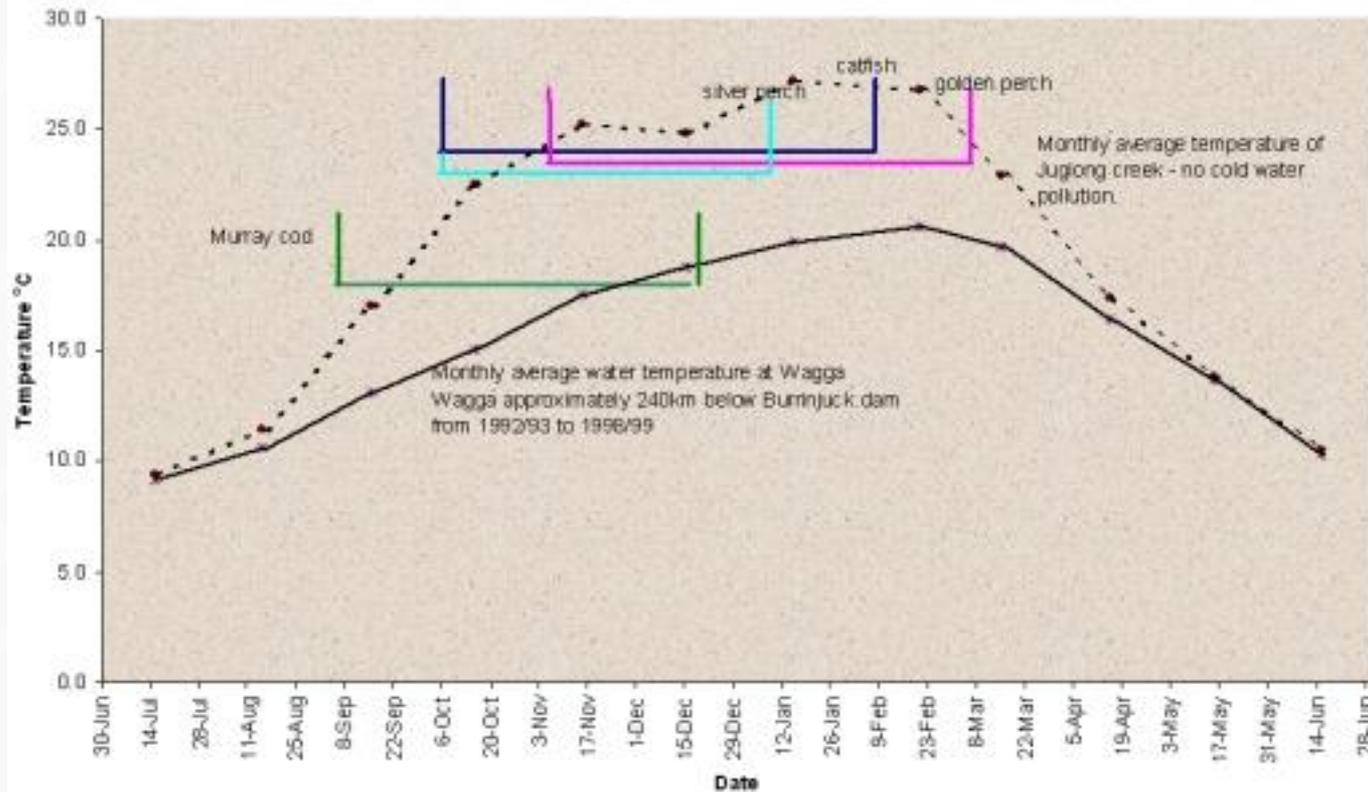


Survival and Growth



Spawning

Figure 4: Observed water temperature of the Murrumbidgee river at Wagga Wagga and Jugiong Creek at Jugiong in comparison to fish spawning envelopes.



The Greatest Fight in History

Battle for the Abercombie

Australian middle
weight championship
fight for the Upper
Lachlan Catchment



Redfin

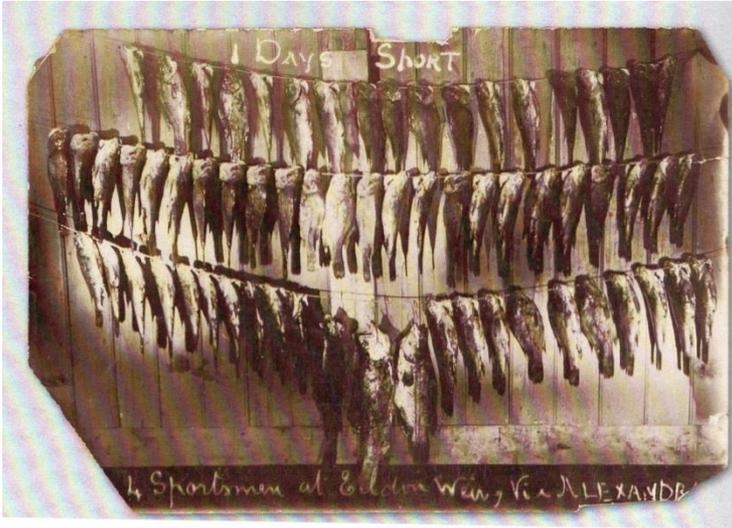
VS



Maccas

★ ★ Riverside the Abercombie River is where its at right now!!!! ★ ★

Historical Abundance



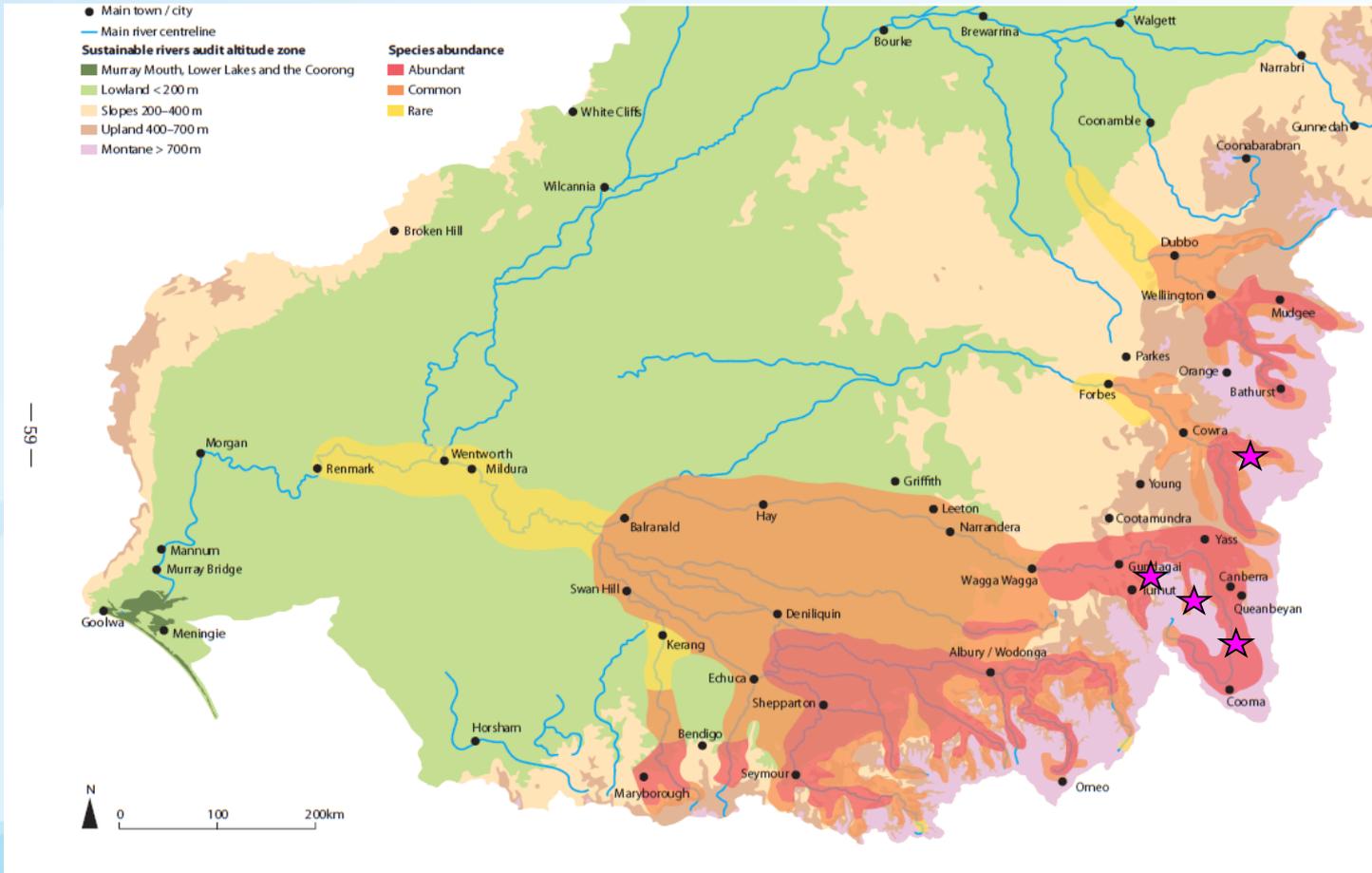
Catch from 10am -3:30pm 61 Mac perch, 2 trout and one Murray Cod, Eildon Weir 1930.



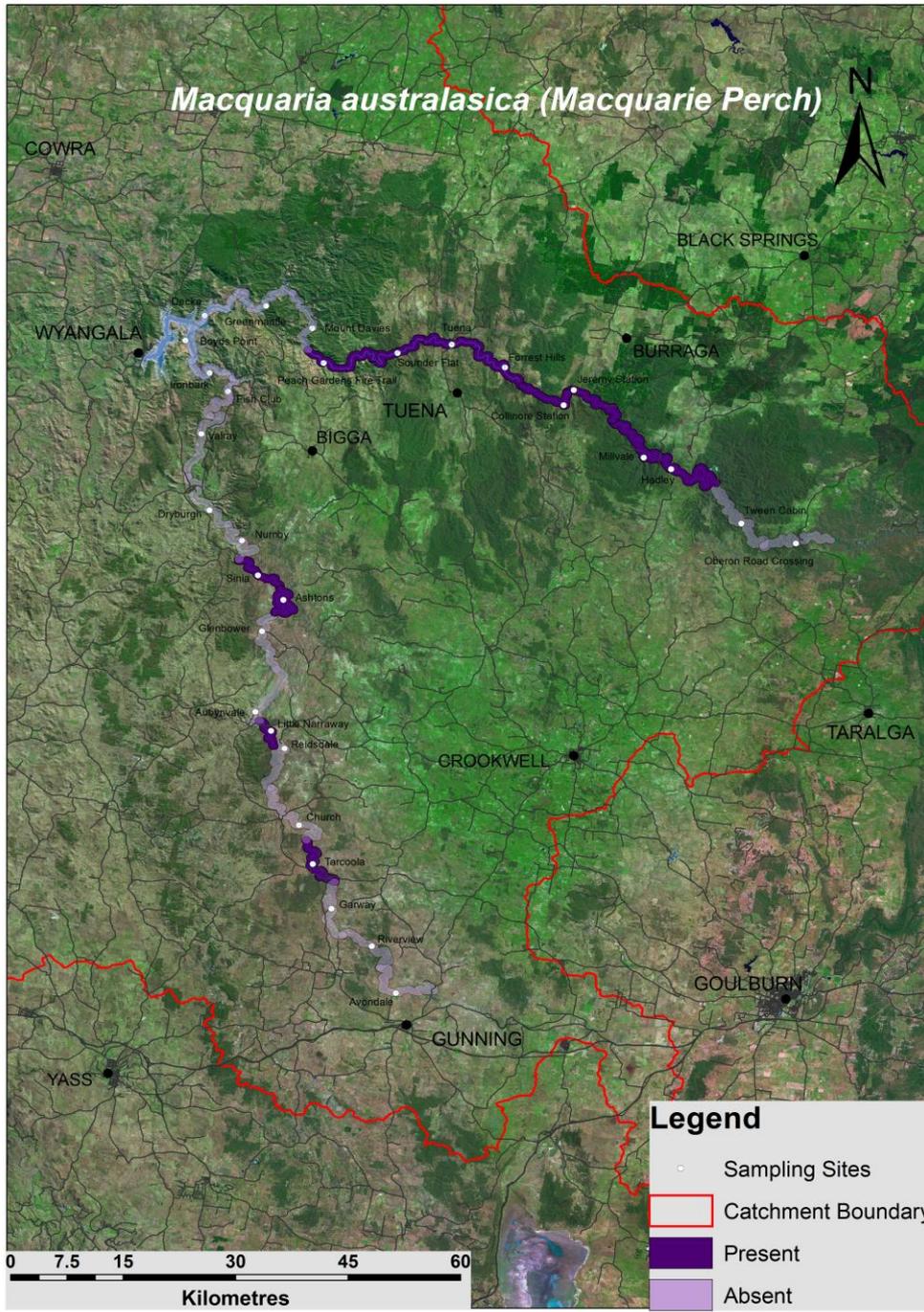
1924 Mac perch taken from Goulburn River Alexandra.

- Macquarie perch were highly regarded as an angling, considered to provide excellent sport and considered to be possibly the best freshwater table fish in Australia.
- Attracted intense angling activity
- Three quarters of a tonne of fish taken in a single day from a single pool below the Goulburn weir
- Large captures of migrating Mac perch from Lake Eildon were legendary, and resulted in phenomenal harvests measured in tonnes per week.

Historical Distribution



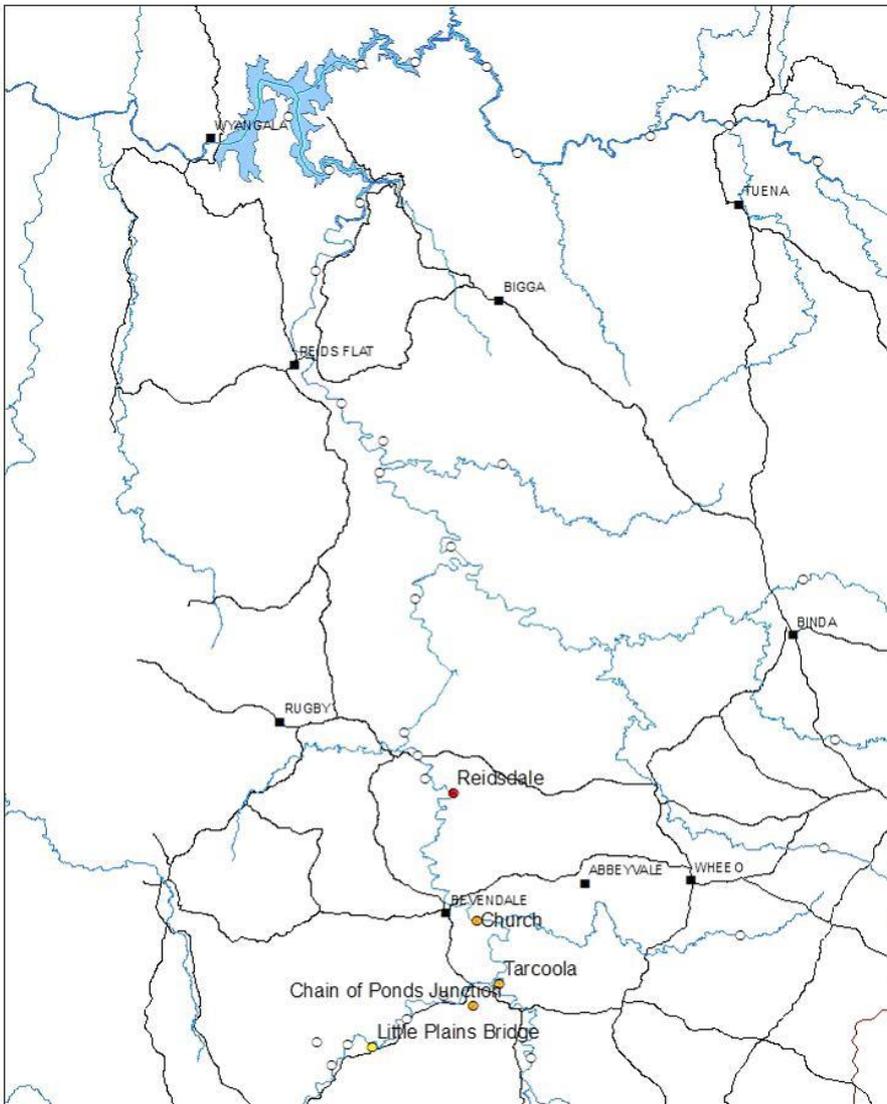
Macquaria australasica (Macquarie Perch)



Macquarie perch Upper Lachlan Distribution 2008

Redfin Invasion





Legend

- November 05
- April/May 2006
- December 2006
- No redfin sampled

- 1 Nov 2005
- 3 April/May 2006
- 254 Dec 2006
- Most dominant fish species present
- Sample at virtually ever site

0 2.5 5 10 15 20 Kilometers



Macquarie Perch now locally extinct from the Upper Lachlan River



What have we done

- 2008 collected 114 broodstock from the Abercrombie
- Established a purpose build pond at Narrandera to house them
- Identified refuge site in Retreat River
- 2010 first successful captive breeding
- 2011 first release into the refuge site 136 fish
- 2012 7500 fish released into refuge site
- 2014 11700 fish released into refuge site
- 2014 remaining 33 brood fish released into Bolong River
- 217 YOY retained at Narrandera

Refuge Site: Retreat River

- Safe haven due to barrier to Redfin movement
- 19336 Macquarie perch stocked to date
- 70 Macquarie perch recaptures from the 3 different stocking events
- Original stocking event should have reached sexual maturity



Department of
Primary Industries

Refuge Site: Retreat River





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Refuge Site: Retreat River

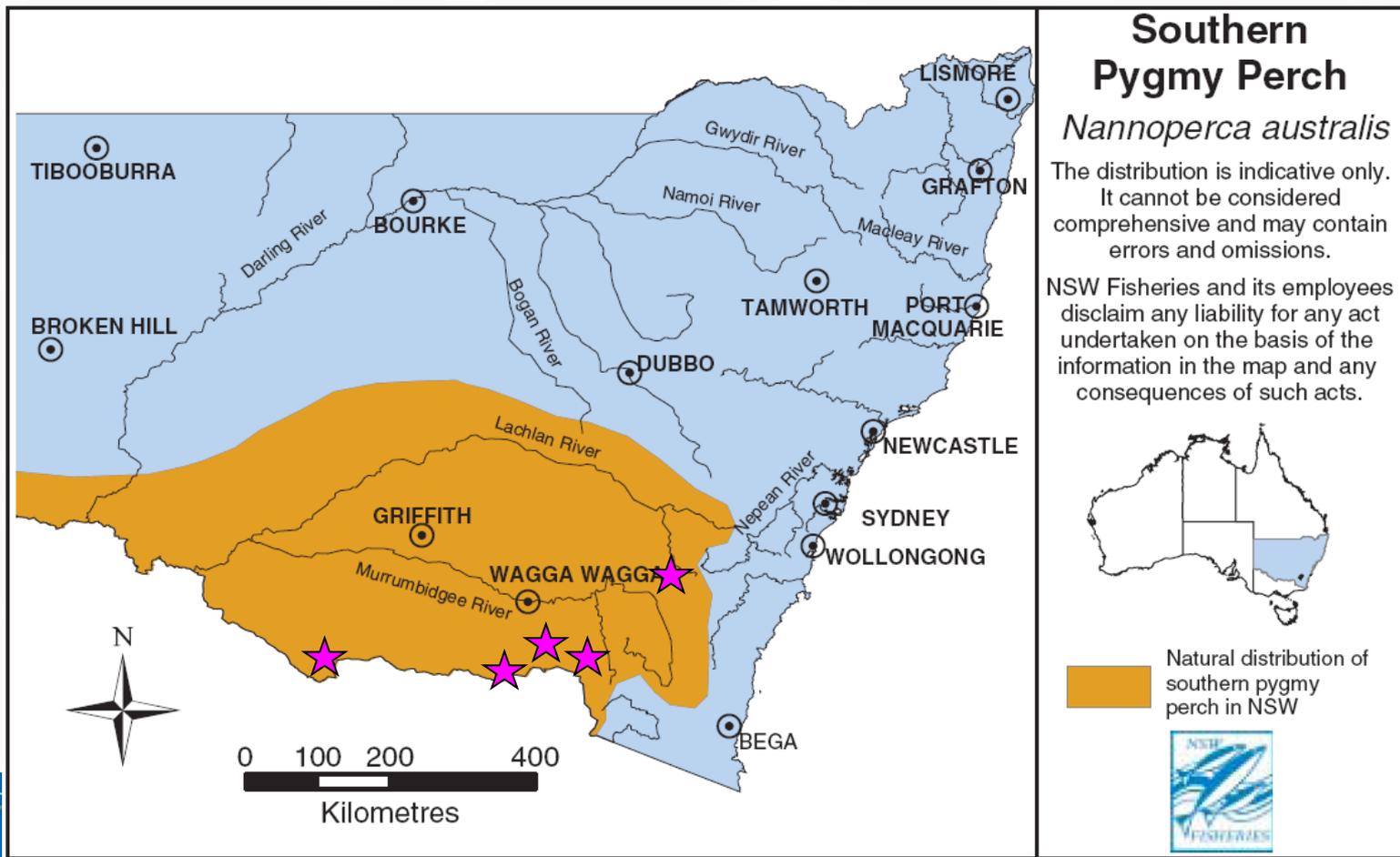




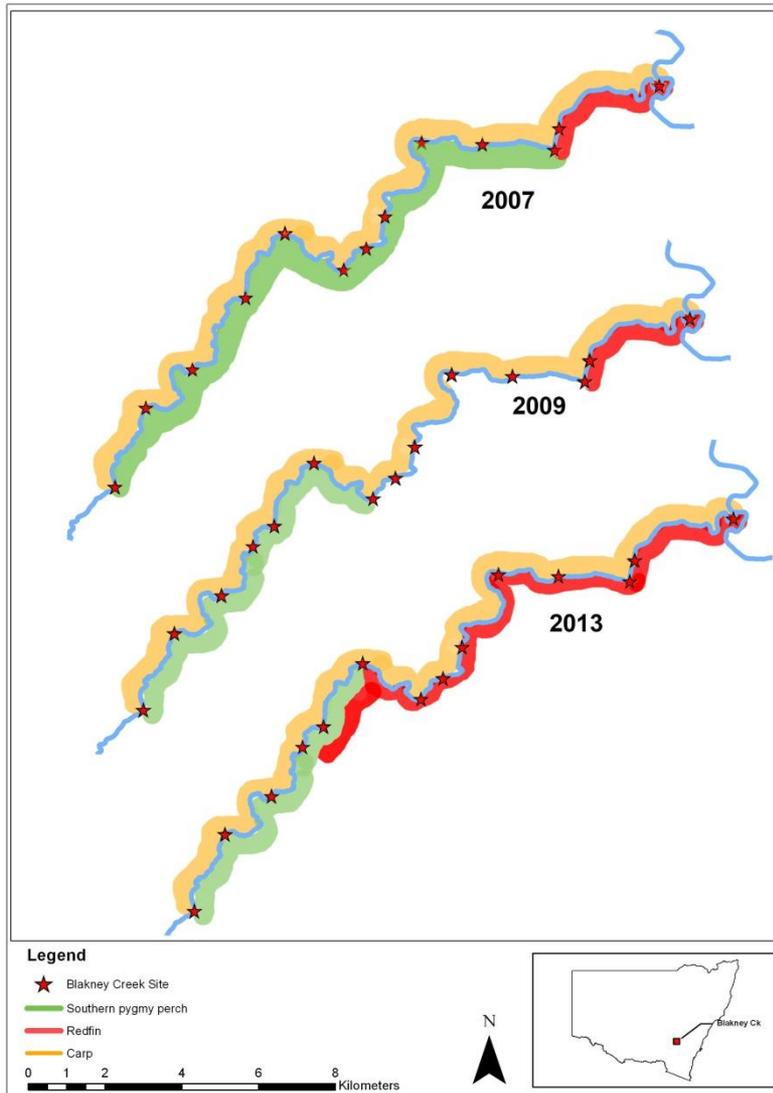
Upper Lachlan Southern Pygmy Perch



Past Distribution

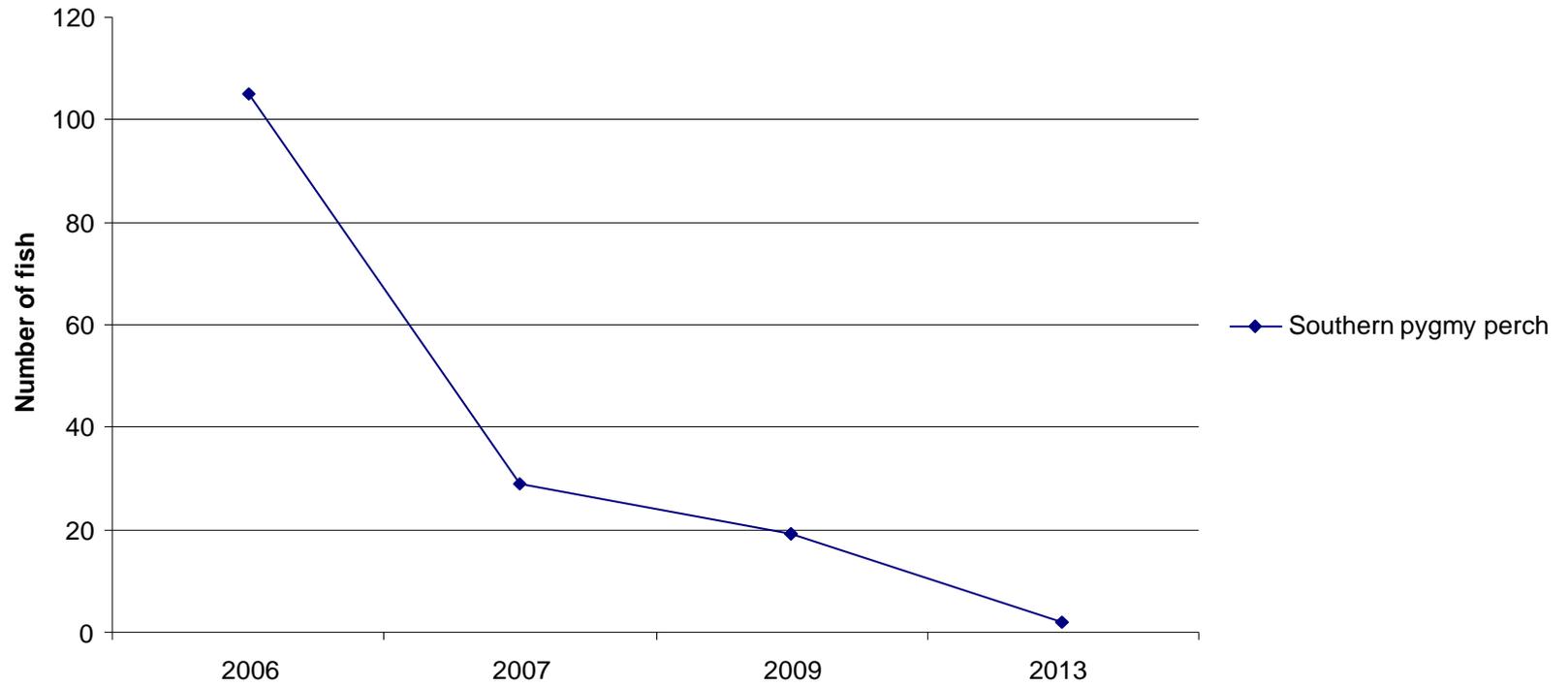


Blakney Creek



Species	Distribution		
	2007	2009	2013
Southern Pygmy Perch	25.46km	15.5km	12.5km
Carp	30.72km	30.72km	30.72km
Redfin	5.26km	5.26km	21.75km

Pudman Lane



Redfin predation



Current Management Actions

- Habitat protection and enhancement
- The maintenance and construction of barriers to pest fish
- Establishment of refuge populations (Pudman Creek & Farm dams)
- Identification of pest fish free habitats
- Removal of pest fish from former habitats
- Community engagement



Who Lives Here? (*Engaeus cymus*)



Questions

