#### 'Acknowledgement of Country' by Jonathan Hill

Today we stand in footsteps millennia old. May we acknowledge the traditional owners whose cultures and customs have nurtured, and continue to nurture, this land, since men and women awoke from the great dream. We honour the presence of these ancestors who reside in the imagination of this land and whose irrepressible spirituality flows through all creation.

## Source: Jonathan Hill is an Aboriginal poet living in New South Wales.

Application Systems Evaluation Theory

# Why SYSTEMS THINKING?





New teachers first assignment is in "toughest" school	h teacher turnover		educational standards		not meeting cational andards	
Program Assumptions	Intervention	Inputs	Outputs	Immediate	Intermediate	Long Term
If new teachers are brought along slowly they will be better prepared for tougher challenges, have longer tenure, be better prepared and students will have higher achievement	Teacher mentoring program	Funding Mentor training curriculum	Number of teachers in program	Lower teacher attrition rates	Teacher curriculum aligned with standards	Improved test scores







### Boundaries

- Define system boundaries
  - Define common system goals
  - Define system inputs
  - Validate definitions and goals
- Define subsystems and subsystem
  boundaries



Get patient to definitive care as quickly as possible



## Goal

To improve the Basin's environment, while balancing social and economic needs in a sustainable way.

#### NAME

Influence Management Zone Ipstream Mogil Mogil Weir Pool Management Zone jement Zone Sollarenebri Management Zone Igett Weir Pool Management Zone ent Zone ooma Management Zone

Boorooma to Brewarrina Management Zone Brewarrina to Culgoa River Junction Management Zone Culgoa River Junction to Bourke Management Zone Bourke to Louth Management Zone 12 Louth to Tilpa Management Zone

13 Tilpa to Wilcannia Management Zone

08

09

10

11

14 Wilcannia to Upstream Lake Wetherell Management Zone

#### Q U E E N S L A N D









## Perspectives

- Capture, critically deliberate on, work to understand, represent, and appropriately address diverse perspectives
- Seek dissent as well as consensus



## Feedback Loops

- System feedback mechanism
  - How well is it functioning?
  - Within systems
  - Between systems
- Closed?
- Frequency, timeliness, credibility, specificity, and relevance.







## Cascading failure

- A problem is passed from one subsystem to a downstream subsystem creating a domino effect
- Undermines system efficiency and effectiveness





## 2019 Menindee fish kills

Insufficient oxygen – created by blue green algae
 Not enough water to avoid catastrophic outcomes
 (excess water extraction upstream – each water sharing plan, intermingled with water trading, contributed to this failure)

## NSW minister altered Barwon-Darling water-sharing plan to favour irrigators

.... the combined impact of the changes was that diversions of water for irrigation grew by 32% or 51.4 GL

https://www.theguardian.com/australia-news/2018/feb/08/nsw-minister-altered-barwon-darling-water-sharing-plan-to-favour-irrigators



 The ability of a system, in certain circumstances, to cut out unnecessary steps











