CRC for Water Sensitive Cities

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**Project C4.2 Socio-technical flood resilience**

Ecosystem trade-offs in areas with shallow groundwater

# Is urbanisation to save wetlands?

## Hydrological change of wetlands due to urbanisation and climate change

## Key outcome

The methodology helps to identify measures to maintain objectives of groundwater flooding and wetland conservation. This includes **costs**, **timing**, **options** and **measures**.

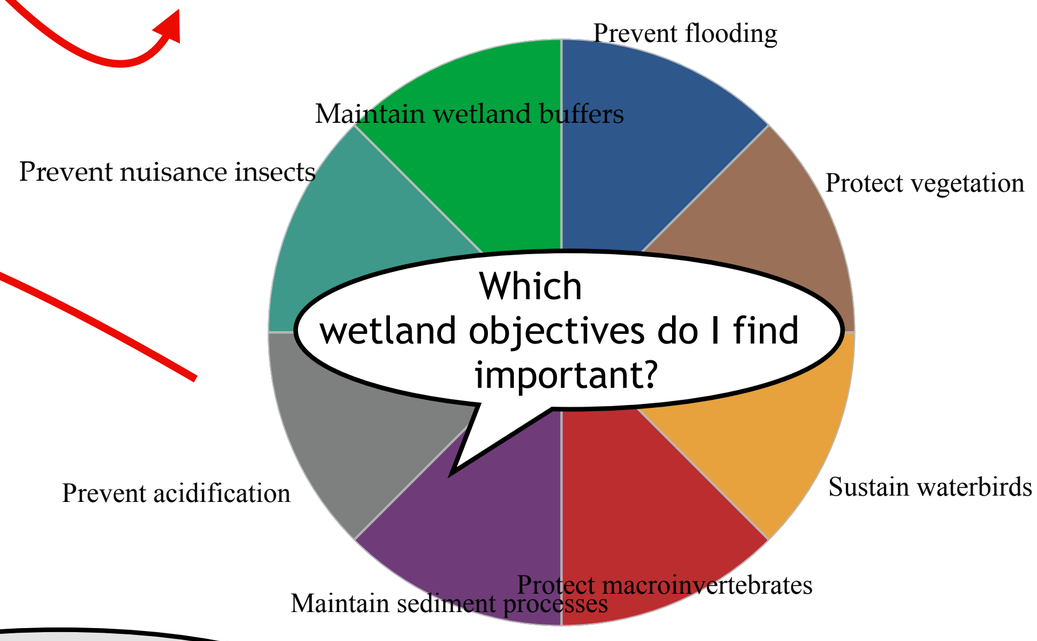
## Background

Since European settlement over 80% of the Swan Coastal Plain wetlands have been lost. This trend continues due to the growth of Perth in areas with shallow groundwater and a drying climate. Hydrological change is the main driver for biodiversity loss, increase of invasive species, and loss of connectivity to other wetlands.

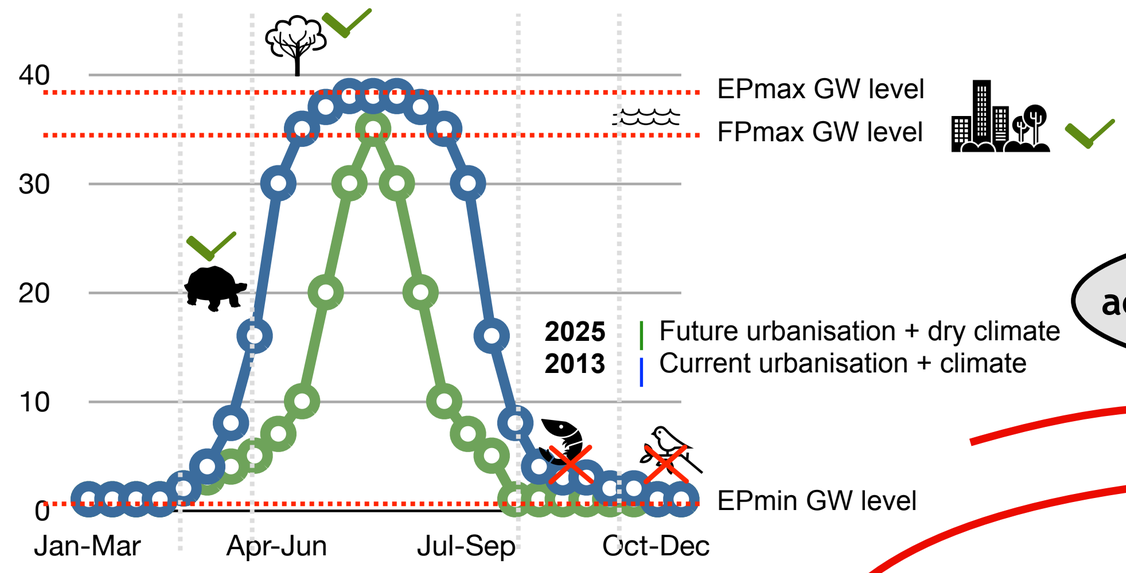
**Aim:** How much hydrological change can the wetlands cope with under **climate** and **land-use change**?

**Step 1: Identify the drivers**

**Step 2: Choose your objectives**




**Step 3: Check which objectives are met under current climate + land-use with groundwater model**



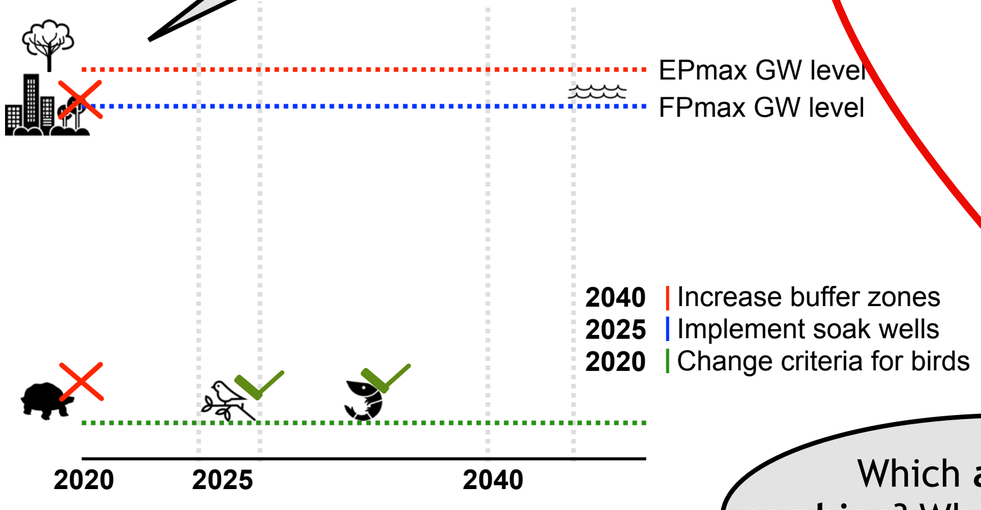

Which **actions** do I take and do they work?

**Step 4: Choose measures + timing + costs + scenarios with groundwater model**

**Measures chosen by stakeholders**

The **benefits** for end-users! **when, what, how much?**

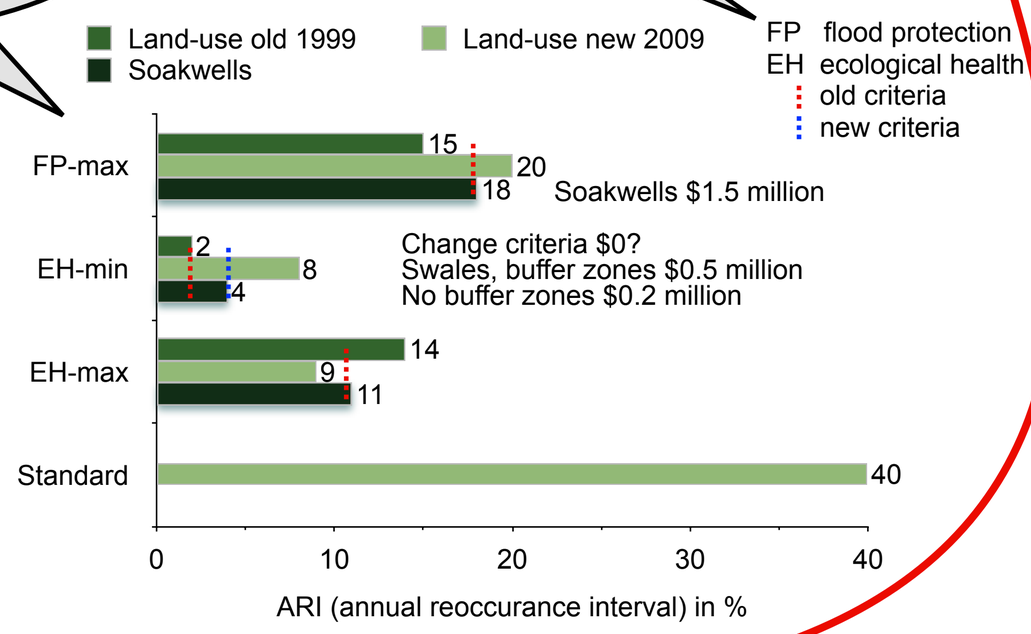
**Scenario 2**: better wildlife protection, less flood protection




**Step 5**

Which **actions** do I **combine**? When do I take them? What are the costs?

**Scenario 2**:better flood protection

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