Australian Government
Department of Agriculture, Water and the Environment

sing ecosystem ccounting to measure enefits of water for the nvironment

IA webinar 'Hydrological ecosystem services ounts & SEEA water accounting'

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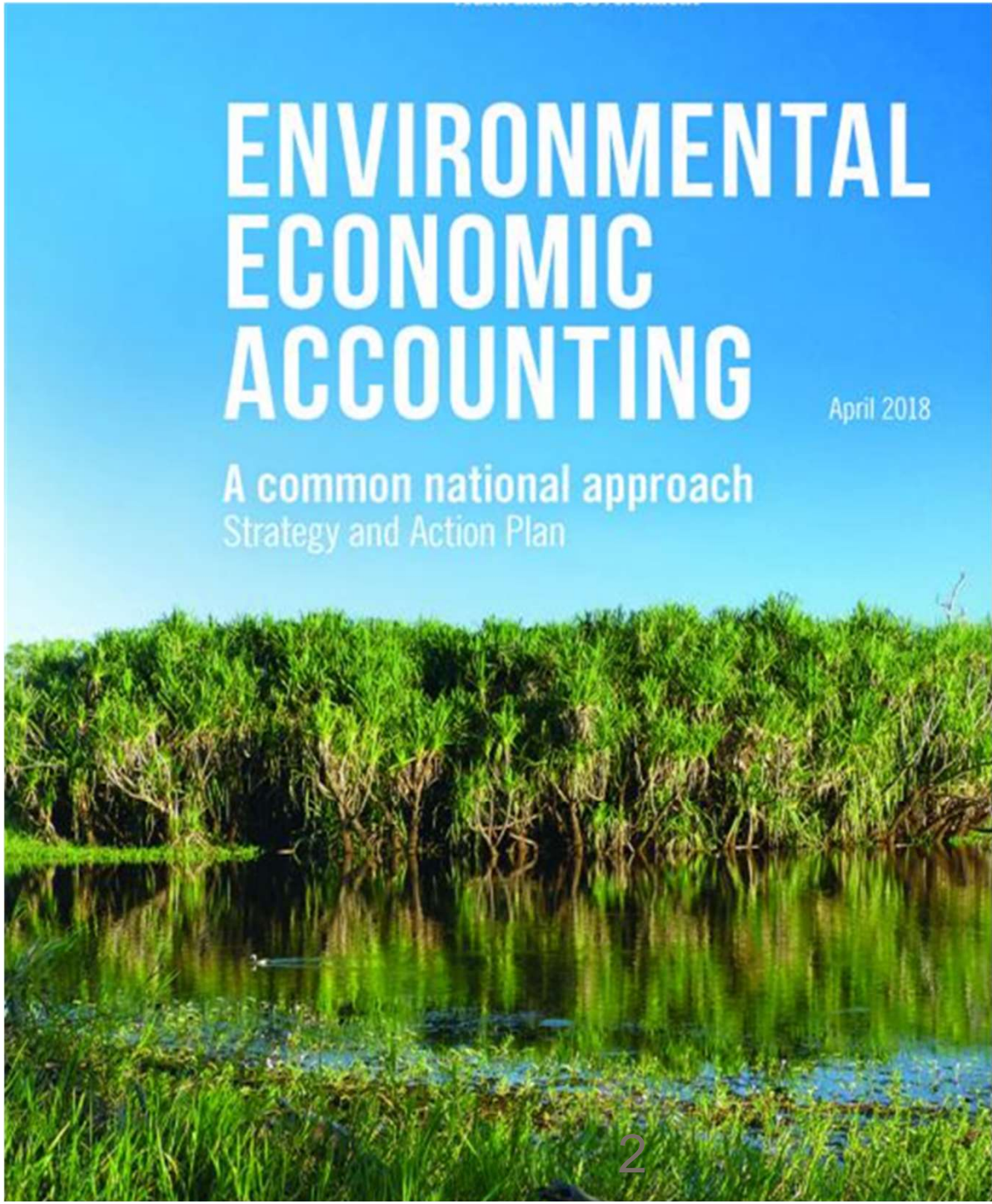
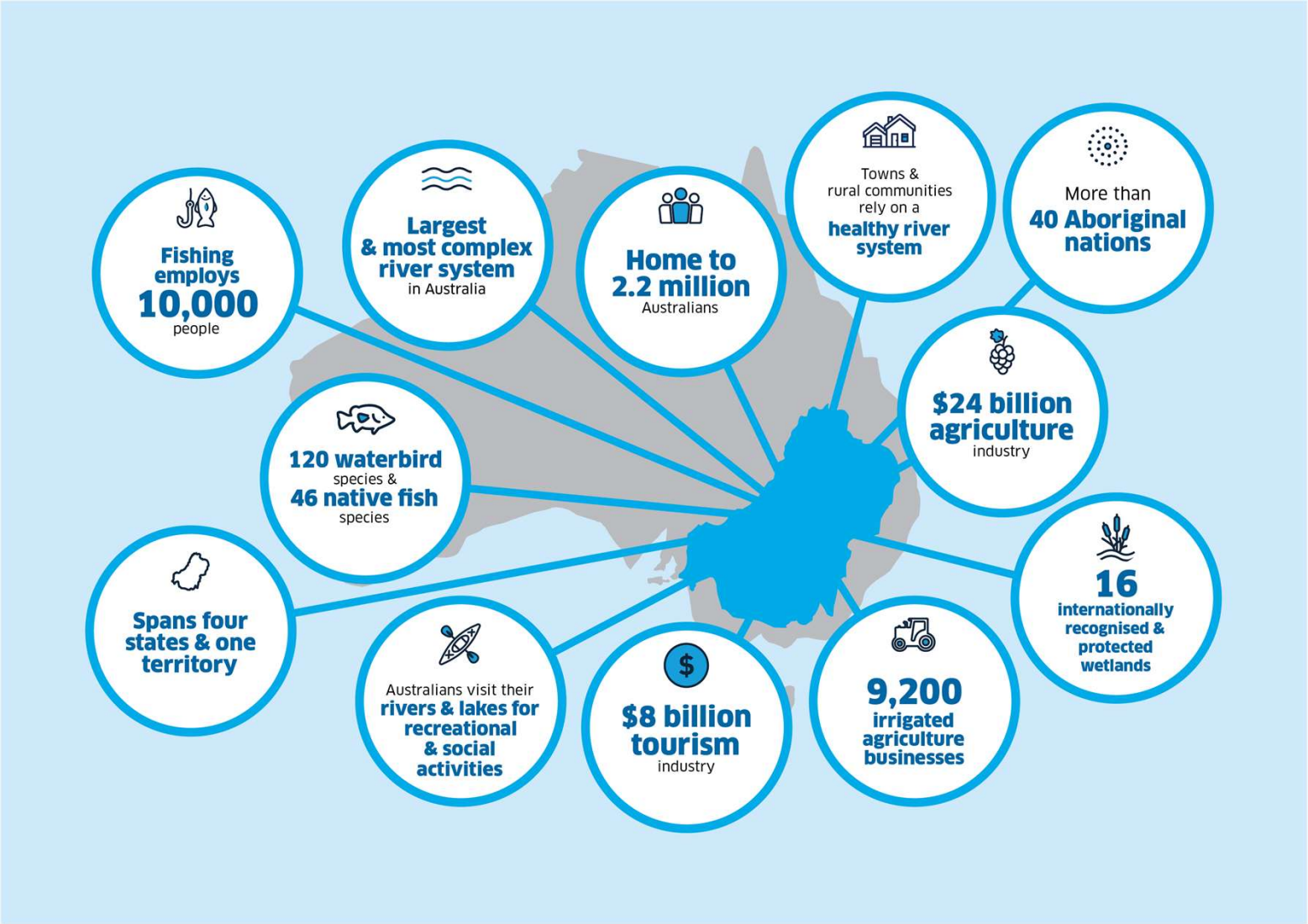
1 – Strategy

Adoption and consistent application of the United Nations System of Environmental Economic Accounts framework (SEEA)
Development of a core set of national accounts
Improved consistency in reporting across Australia
Coordinated effort and efficient use of resources



– Policy Context: The Murray Darling Basin



– Policy Context: Environmental Watering

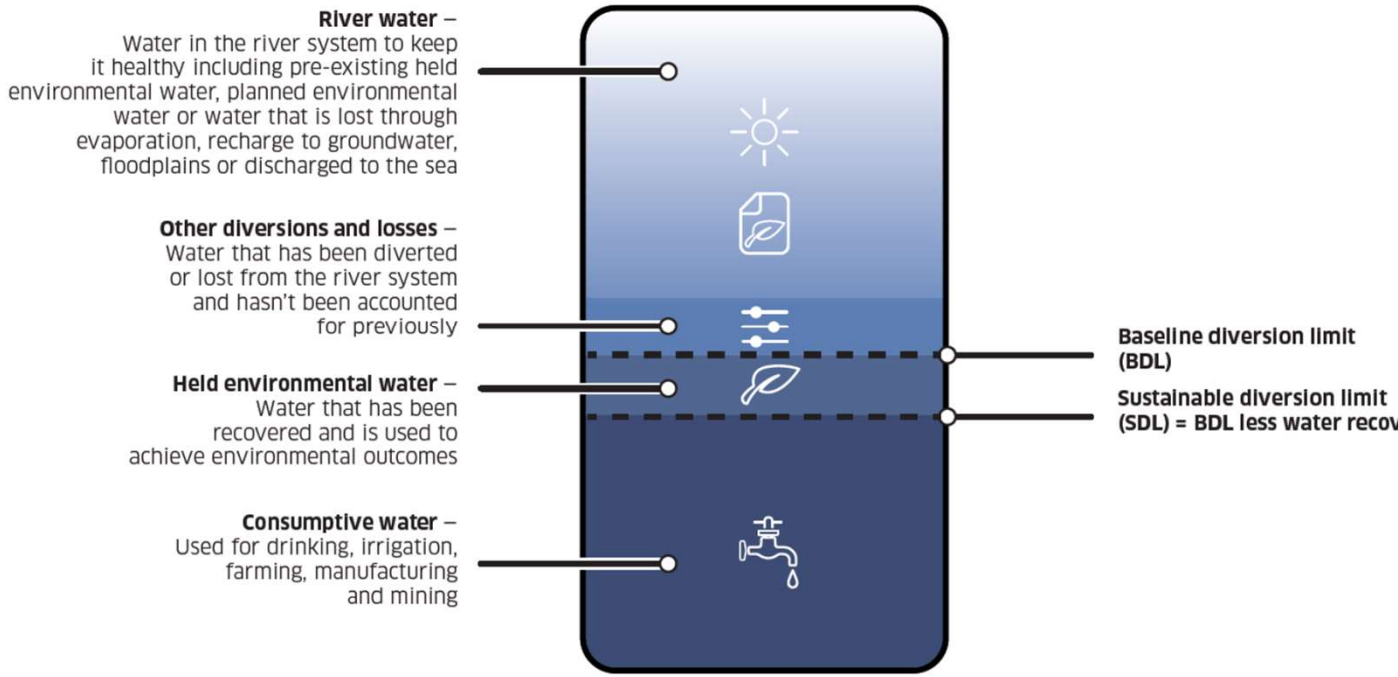
nvironmental Watering in he Murray Darling Basin

‘Water for the environment’ is used to improve the health of our rivers, wetlands and floodplains.

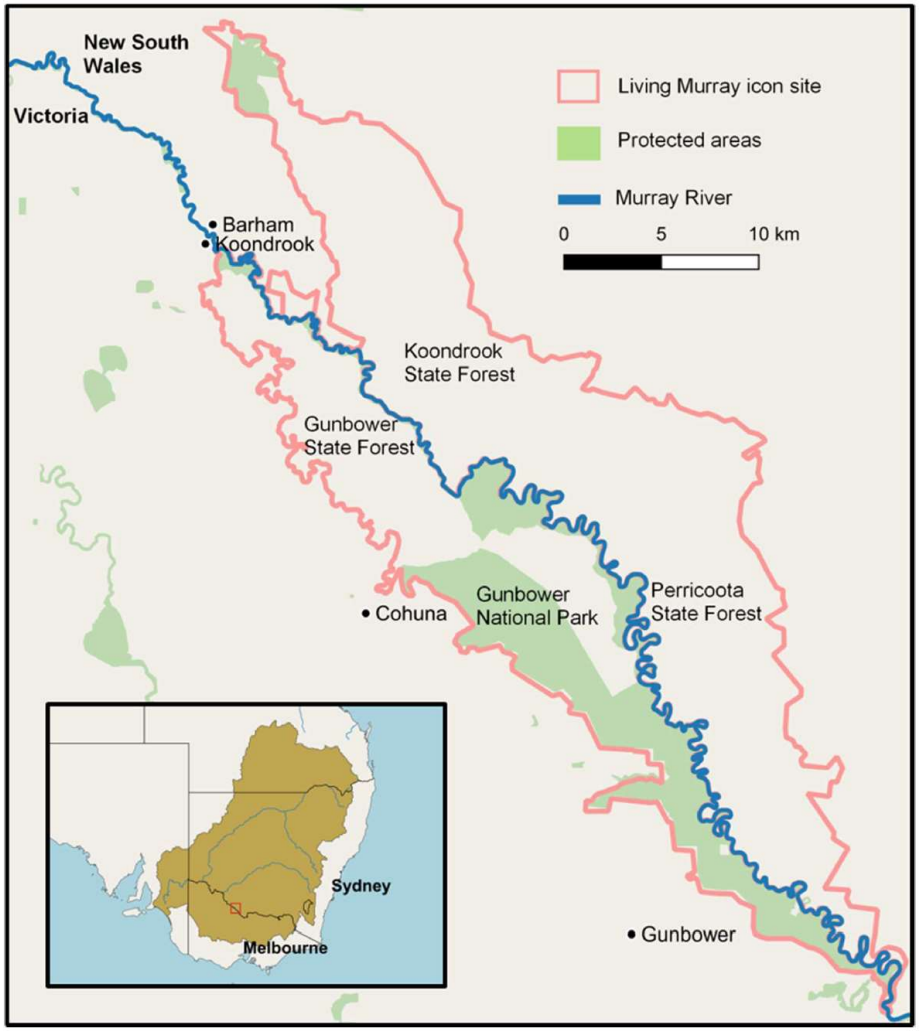
Water is allocated to federal and state environmental water holders across the Basin, who make decisions about when, where and how much water is released for the environment, and with measurable environmental outcomes in mind.

MURRAY–DARLING BASIN AUTHORITY

Different types of surface water in the MDB



– Site Location: Gunbower Koondrook-Perricoota



- Part of the Murray Darling Basin
  - Koondrook-Perricoota: 32,000 ha (state forest)
  - Gunbower forest (19,450 ha (national park & state forest)
  - Both Ramsar sites

Photo credit: Suzanne Prober

– Policy Context: Applications

Photo credit: Dayani Gunawardana

MURRAY–DARLING BASIN AUTHORITY

Applications of an Ecosystem Account

Policy challenges and potential applications

- Social license for water reform - how is environmental water helping people?

Technical challenges:

- In a very noisy system, how can we disentangle the impact of environmental watering from natural variation?
- How do we scale up or replicate site information to basin scale?

Specific uses:

- Informing trade-off analysis e.g. decisions on where to water when
- Policy development and evaluation e.g. Evaluation of Basin Plan

– Partnership on delivery

CSIRO

GHD

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IDEEA Group

' – Approach to ecosystem classification (1)

pplication of CSIRO's state and transition modelling framework (*AusEcoModels*) within ecosystem accounting process:

5 ecosystem types:


Inland floodplain eucalypt forests & woodlands


Fire-intolerant *Callitris* woodlands


Lowland streams


Wetlands


Re-sprouter temperate & subtropical eucalypt woodlands

Further divided into:

- 15 ecosystem states (manifestation of an ecosystem at a given point in time and space)
- 25 expressions (delineating differences in ecosystem characteristics within a state)

Describe **exogenous drivers** of transitions between ecosystem states

Each state is dynamic: Quantify ecosystem attributes of **ecosystem expressions**

State can have **condition**/integrity score & capacity for **ecosystem services**

– Approach to ecosystem classification (2)

Ecosystem states for the ‘Inland floodplain eucalypt woodlands & forests’ ecosystem type

mple characteristics
ribed for each expression
a state)
ood duration &
equency
boveground biomass
anopy cover
xotic sp. abundance
Woodland bird richness

REFERENCE FLOODPLAIN EUCALYPT FORESTS AND WOODLANDS

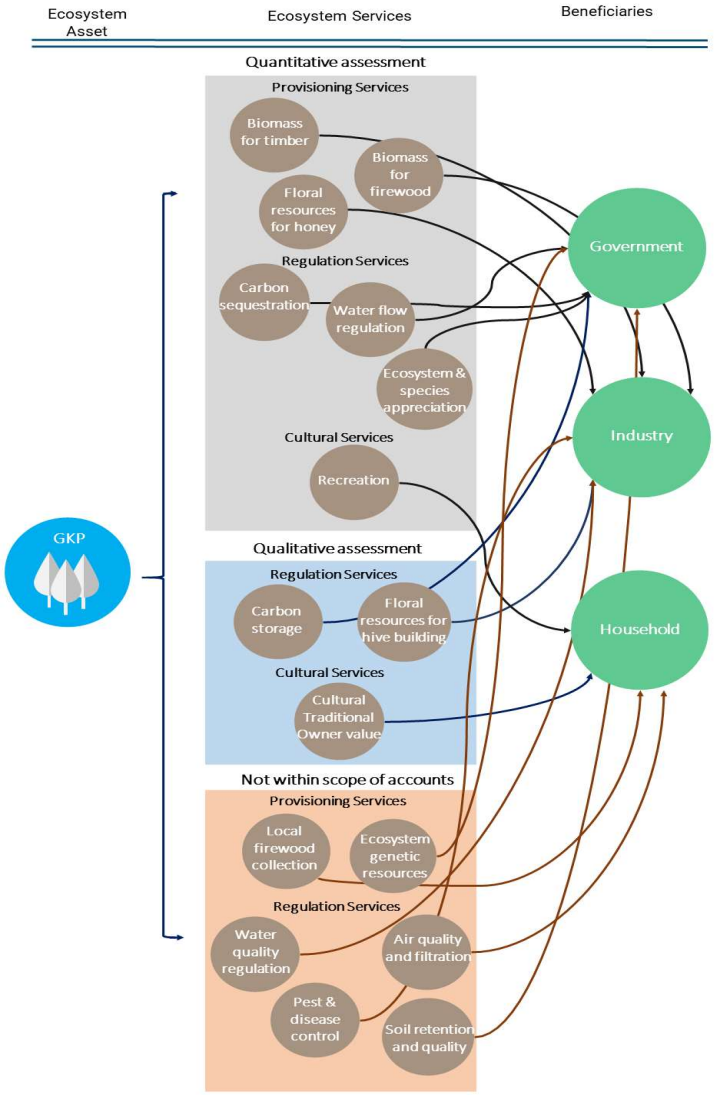
REDUCED TREE CANOPY OVER WET OR DRY INVADED UNDERSTOREY

INVADED MATURE FLOODPLAIN EUCALYPT FORESTS AND WOODLANDS

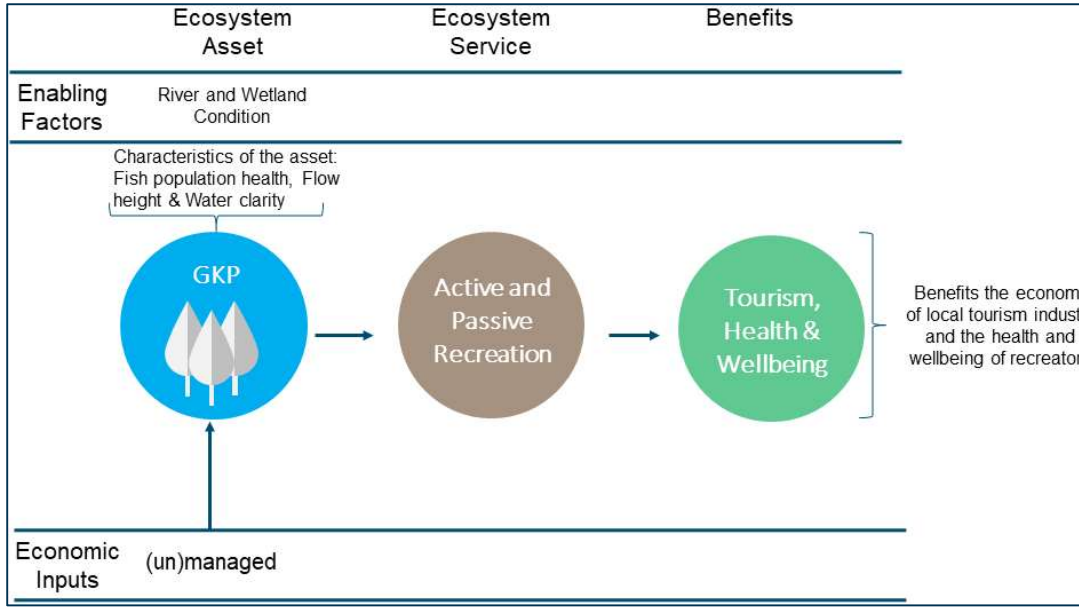
HALOPHYTIC STATE

Photo credits: Suzan
Prober & Megan Goo

– Physical and Monetary Supply and Use



E.g. Recreation Service



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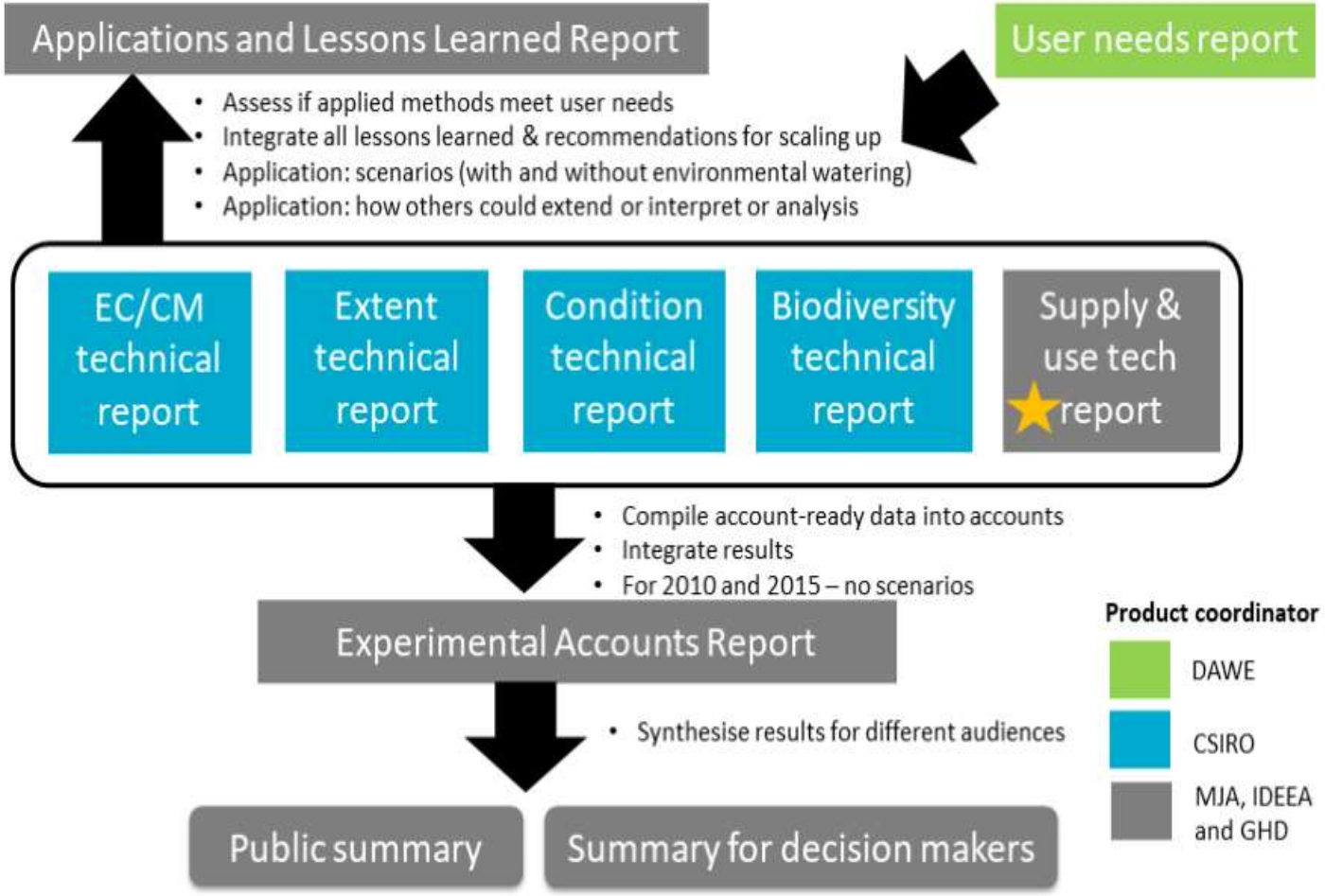
0 – Product Suite



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