

Environmental Flows and
Wetlands Restoration
– Legal Approaches
- Case Study of the Peel-Harvey Estuary
[2017-2022]

Alex Gardner, Professor of Law
Jeanette Jensen, PhD candidate in Law
Peel Harvey Catchment Council Strategic Meeting, 2022

1

CRC for Water Sensitive Cities

17/02/2022

1

Sources, questions & arguments

- ⌘ “A Legal Obligation to Restore Wetlands by Environmental Water Allocations” [international legal obligations]
- ⌘ “Legal Duties for Environmental Water Provisions in Western Australia” [State level legal duties]
 - ✂ <https://research-repository.uwa.edu.au/en/persons/alex-gardner/publications/> [2017]
- Questions: how to mandate restoration of environmental flows in a drying climate?
 - how does legal system enforce obligations in international / duties in national law?
- Arguments: international / State (WA)

2

17/02/2022

2

Overview of presentation

- ❖ Conditions, Concepts & Climate change
- ❖ Ramsar Convention obligations
- ❖ Overview: Australian policy & law
- ❖ Case study: Peel-Harvey Estuary & duties
 - ❖ Environmental Protection Act 1986
 - ❖ Rights in Water & Irrigation Act 1914
- ❖ Key points & reflections: WA [& international]



3

17/02/2022

3

Conditions, Concepts & Climate Change

- ⌘ Human use: 'the most pervasive and deleterious factor' in waterway and wetland degradation
- ⌘ Restoration (hydrology) v rehabilitation (ecology)
 - ⌘ Rehabilitation - more suitable in drying climate
 - ⌘ volumetric allocations for ecological objectives
 - ⌘ Determine 'environmental water requirements' (environmental science)
 - ⌘ Decide 'environmental water provisions' (environmental/social/political)
 - ⌘ EWPs: to 'sustain and where necessary *restore* ecological processes and biodiversity of water dependent ecosystems'
- ⌘ Climate Change: exacerbates restoration challenge
- ⌘ Legal obligations (int'l) / duties (domestic):
 - ⌘ make, deliver, monitor & report EWPs

4

17/02/2022

4

Ramsar Convention Obligations

- ↳ Ascertained from Convention & CoP resolutions
- ↳ there is an obligation to restore wetlands, incl. by restoration of environmental flows
 - ☞ Art 3.1: promote conservation of listed wetlands and wise use of all
 - = maintenance of ecological character
 - = restore to listing character or man't plan objects
 - ☞ 2002, CoP 8: provide water to sustain ecosystems
 - ☞ 2015, CoP 12: Strategic Plan 2016-24, target that 'water use respects wetland ecosystem needs'
- ↳ recognise climate change impacts; exceptions –
 - (i) 'possible' , (ii) 'urgent national interests'

5

17/02/2022

5

Australian Policy & Law

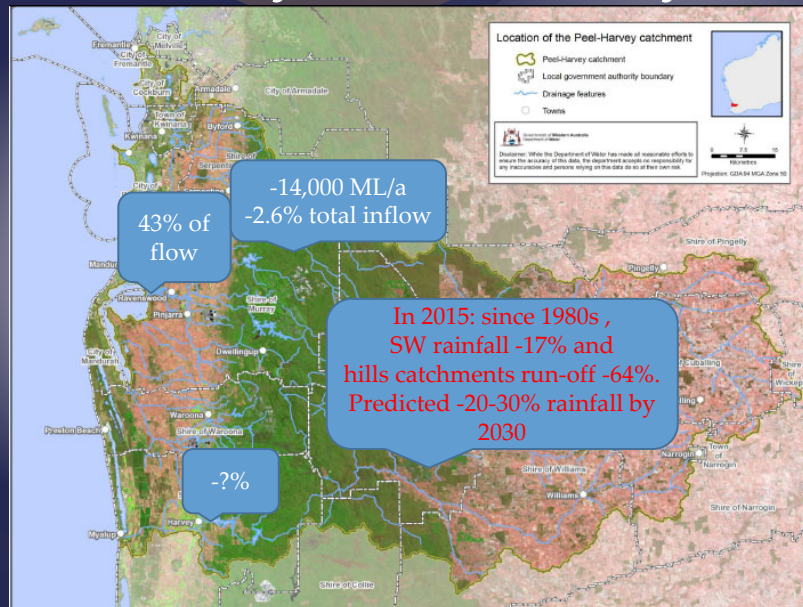
- ↳ Key national policy (2004) goals for environmental water:
 - ☞ statutory provision for environmental and other public benefits,
 - ☞ EWP's - same degree of legal security as Water Access Entitlements; and
 - ☞ Return all over-allocated and overused systems to 'environmentally sustainable levels of extraction'
- ↳ WA policy 2000: goal 'to sustain and where necessary restore processes & biodiversity of water dependent ecosystems'
 - ☞ EWP's may be less than EWRs, but priority over consumptive use
 - ☞ Need effective management & monitoring, and transparency
- ↳ WA law does not conform to national policy: 2006 review & now
 - ☞ general functions & powers of Minister create no duty to rehabilitate
 - ☞ Discretionary powers to plan & licence: *RiWI Act 1914* amended 2001
 - ☞ Environmental impact assessment & EP policies: *Environmental Prot Act 1986*
- ↳ NO LEGAL GUIDANCE ON CLIMATE CHANGE

6

17/02/2022

6

Case Study: Peel-Harvey Est.



7

7

Were EWPs actually made? EIA


- ⌘ 1990s, metro water services statute: Water Authority may take *all* water from sources within reserve/catchment area
 - ⌘ qualifications on that found in EP Act 1986 & RiWI Amendments 2001
- ⌘ Nth D Dam EIA 1990 (4 mths after Ramsar listing) & EMP 1991
 - ⌘ EWRs not determined for river or Estuaries; monitoring duty indefinite
 - ⌘ Summer riparian release regime for landholders: 326 ML (2.3% of annual flow reduction)
 - ⌘ 1991 Water Authority undertaking to compensate 14,000 ML/a reduction in flows to Peel Estuary by diverting 13,000 ML/a from Harvey Diversion Drain to Harvey River [not done]
- ⌘ Harvey Dam 1999 EIA approval; 1998 *proposed* water plan
 - ⌘ aesthetic flow summer releases of 'social' EWP to tourist precinct for 3km below dam
 - ⌘ quarantine a compensation sub-catchment from development [not done]
 - ⌘ Future assessment of EWRs & EWPs for Harvey River below dam [not done]
- ⌘ Objective for Estuaries: maintain salinity and water levels

8

17/02/2022

8

Were EWPs actually made? Licences

- ↳ Licence conditions: comply with WRMOS - specifies releases
- ↳ Nth D Dam: licence and WRMOS term 2012-June '17 – entitlement 22 GL/a
 - ⌘ Riparian summer releases: standard & low rain regimes
- basically 2 ml/d: December till it rains after 1 April = 60 ML/month, 239 ML/yr
 - ⌘ No evidence of approval to amend EIA & EMP regime
 - ⌘ Releases have basically met WRMOS regime 
- ↳ Harvey Dam: licence 2013-18; WRMOS interim till 2014
 - ⌘ 62 L/s social EWP to tourist precinct, to be divided downstream between HR & HDD
 - ⌘ Lack of infrastructure to deliver and measure flows
 - ⌘ From 2010: some flows from irrigation pipeline to Harvey River below HDD
 - ⌘ Releases & diversion data not public; releases = <2% of entitlement of 56 GL/yr
 - ⌘ Harvey Water allocations 62% of 1996 level of entitlement, which has not changed

9

17/02/2022



9

Nth Dandy Dam Releases 2006-2016

Data provided by Department of Water, Nov 2015

Year	Monthly total												Total	Percentage of inflow (%)
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
2006-2007	67.5	28.4	-	14.0	51.9	53.5	89.7	84.3	91.5	89.8	94.2	83.6	784.4	11.5
2007-2008	71.5	20.4	-	-	21.4	69.4	59.8	68.3	72.9	64.7	9.9	-	458.3	3.6
2008-2009	-	-	2.6	22.1	51.0	52.7	79.2	90.6	81.8	75.0	82.8	84.1	621.9	7.4
2009-2010	87.8	3.3	-	16.9	32.8	50.6	87.1	77.2	84.8	84.2	87.4	55.1	667.2	3.9
2010-2011	48.5	39.1	37.6	36.1	36.2	48.7	63.2	53.3	69.2	60.5	54.8	1.9	549.1	126.4
2011-2012	-	-	-	-	16.5	42.9	70.4	86.3	77.6	74.8	10.3	-	378.8	3.6
2012-2013	-	-	-	-	12.2	22.6	64.3	41.3	51.2	45.9	24.1	-	261.6	3.5
2013-2014	-	-	-	-	35.1	75.1	80.7	67.5	78.4	70.3	57.6	-	464.7	5.5
2014-2015	-	-	-	-	12.6	50.1	78.1	84.2	85.0	74.5	27.5	-	412.0	2.9
2015-2016	-	-	-	25.0	39.5	51.5	70.5	61.5	62	58	37.5	-	405.5	43.7*
Average	27.5	9.1	4.0	11.4	30.9	51.7	74.3	71.5	75.4	69.8	48.6	22.5	500.4	21.2

10

17/02/2022

10

Key points & reflections: WA

- ✂ Department of Water: The current release regime balances what is practical in a drying climate given declining inflows and the volume of water that would be required to reach the estuary. The releases support multiple objectives including providing water for Perth's public water supply, some downstream use and ecological value as well as helping to protect the river below the dam from declining groundwater inputs across the coastal plain.
- ✂ Harvey Water: Harvey Water is required to release water year round ... We release a base level of water from the ... Harvey Dam which we negotiated with the DoW. These releases used to be topped up by fish breeding flows to permit fish to move upstream and bank overflows to help the fringing vegetation survive. We were successful in having these winter releases made more flexible in the WRMOS due to the exceptionally low inflows to the dams.

11

17/02/2022

11

Key points & reflections

1. No legal duties to make EWPs and / or to rehabilitate waterways and wetlands
2. P-H case study shows: ecological studies recognise need for EWPs, but they have not been provided; there are only limited 'social' releases
3. State legislation needs to implement national goals
 - Need innovative solutions for alternative water sources
 - effective regulatory framework for EWPs, incl. Minister's duties to make binding plans with EWRs, EWPs, implementation time frame
 - set default EWPs that will apply under statute within a specified time
4. Transparency reforms: licence conditions should be public and releases publicly accounted
5. EIA process should include assessment of proposed plans, reviews of existing approvals & revocations

12

17/02/2022

12