THE COLLECTIVE VALUE OF OUR OCEAN POOLS
A cost benefit analysis framework
Nicole Larkin and Patrick Fensham | Bundjalung Country, North Coast, 2022, Tuesday 31st May
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The presenters acknowledges the Bundjalung people who are the original custodians of land on which we meet. More broadly we acknowledge the deep connection our traditional owners have with Sea Country and that their custodianship remains unbroken to the present day.

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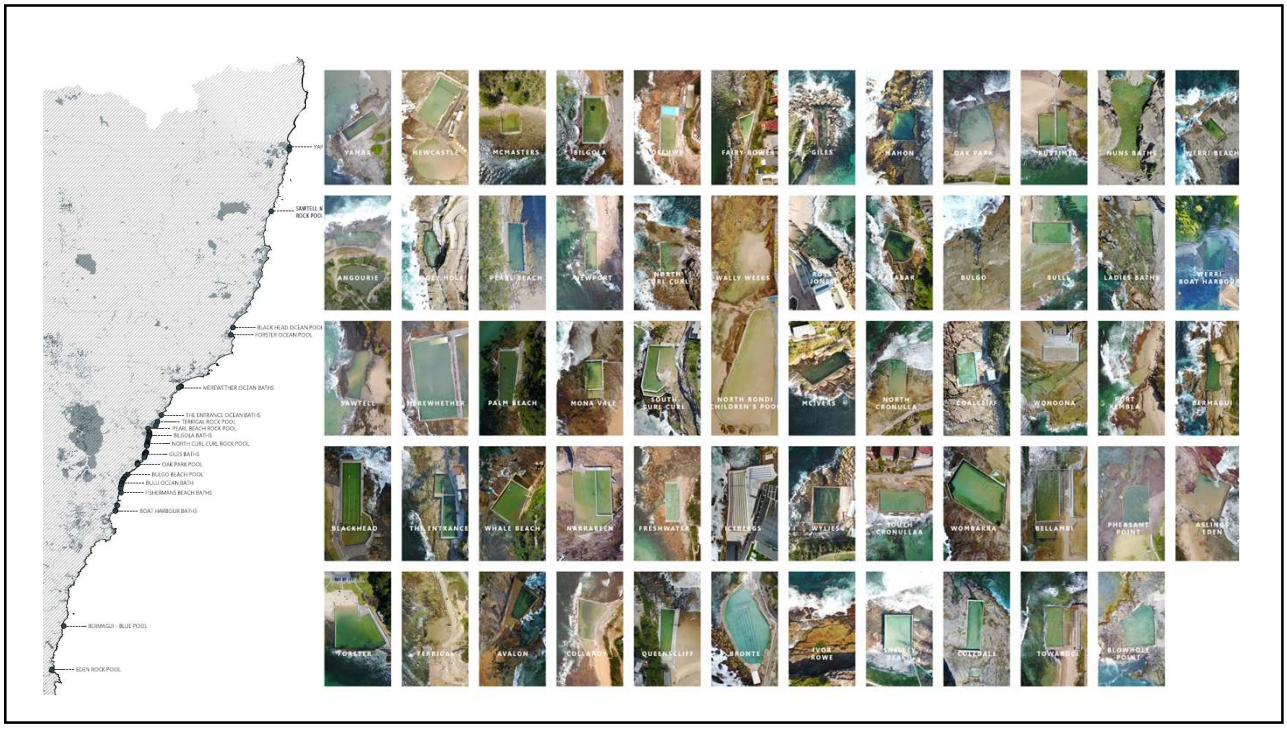

2

1.0 The context of our ocean pools
- Post war and depression era projects generated jobs and stimulated the economy
- Established a legacy of public recreational amenity which is now enjoying a revival, heightened by a focus on access to public infrastructure
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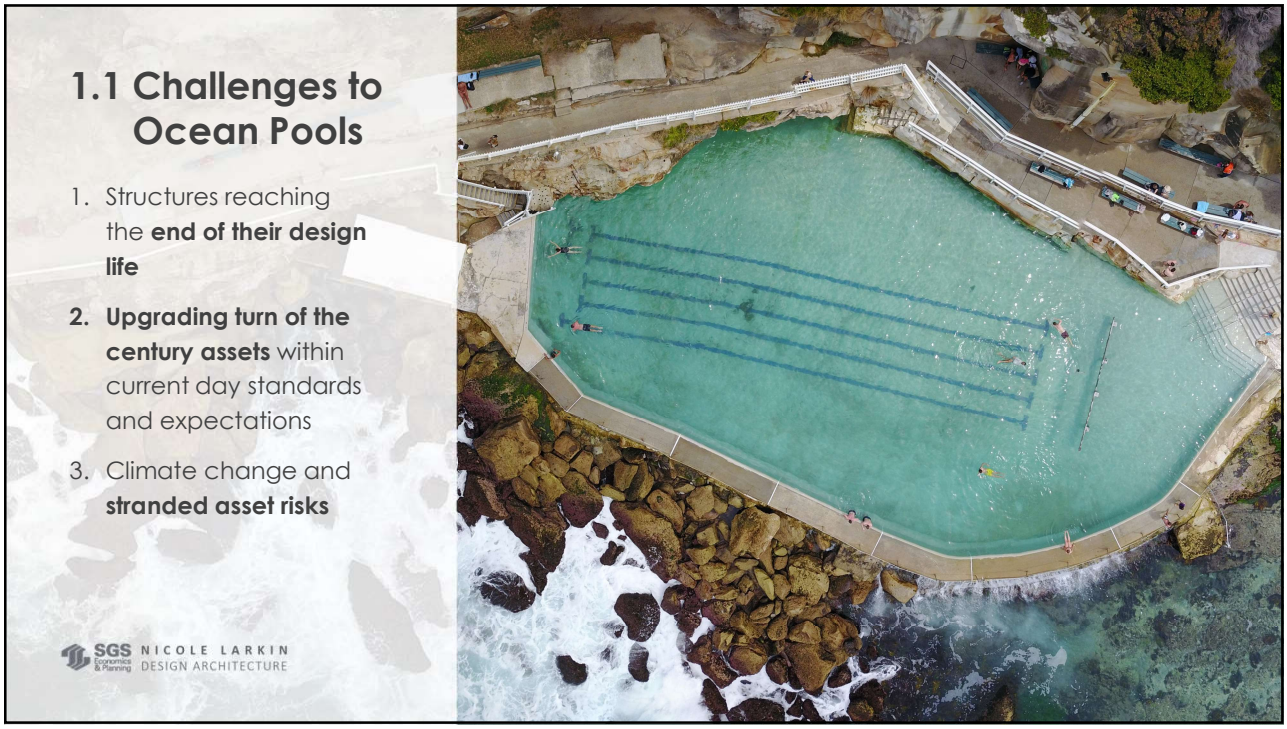
1.1 Challenges to Ocean Pools
1. Structures reaching the end of their design life
2. Upgrading turn of the century assets within current day standards and expectations
3. Climate change and stranded asset risks
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4

1.2 Value of Ocean Pools

1. **Revitalizing and future proofing** likely to require significant investment
2. Framing investment in a **cost benefit framework**
3. Understanding the **impact on individual pools and** the **whole group** as a state-wide coastal asset
4. **Systematic direction** of conservation and upgrades to maximize benefits

5

2.0 Cost Benefit Analysis

Does the **total benefit exceed total costs** to create a social benefit?

- Cost benefit analysis (CBA) ***appraises the net economic impact of a project*** by comparing the economic benefits and costs to all members of society.
- This test case CBA is to ***identify the value of enhanced maintenance and upgrades to ocean pools.***

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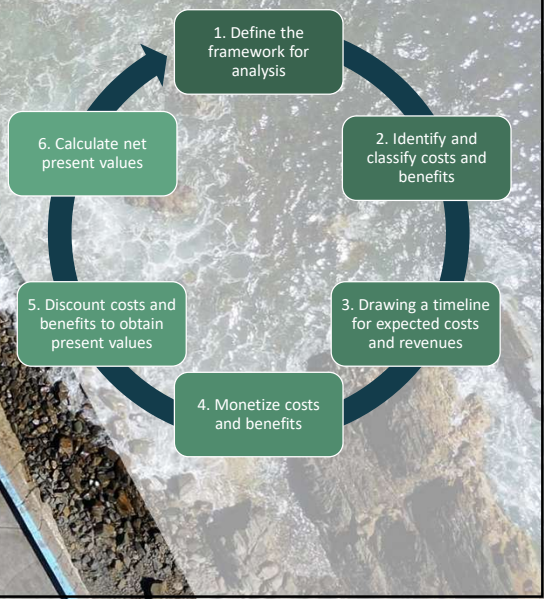
Source: Cost-Benefit Analysis (wallstreetmojo.com)



6

2.1 'Non-traded' values

Most **ocean pools are free** –ie. no 'traded value' to measure their worth

1.	**Recreational**	**pleasure enjoyed** by individuals at the pool
2.	**Environmental**	engineered **habitats** and propagated **ecosystems**
3.	**Wellbeing/health**	**swimming and exercise**, healthier people
4.	**Tourism**	**expenditure** by visitors (to NSW)
5.	**Cultural and heritage**	symbolic and **cultural value** of pools
6.	**'Non-use'**	pleasure / value experienced by non-users
	• existence value	wants the **rest of the community** to have
	• bequest value	leave **for future generations** so they can enjoy it
	• option value	*might* use in **future**

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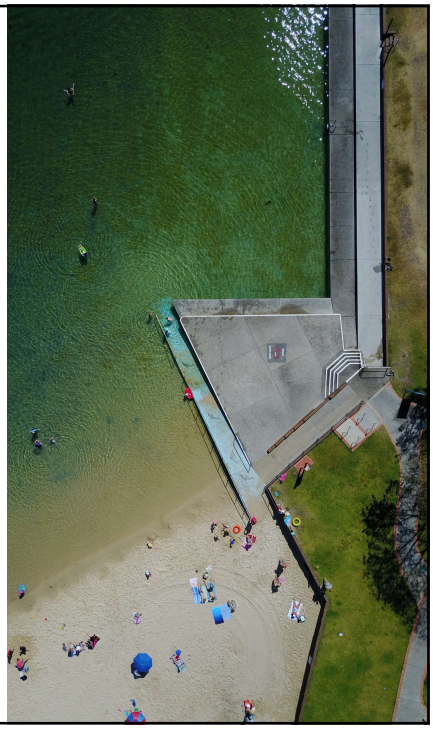

7

2.2 Business case proposition

CASE A
Strategic and systematic management

This is the project case that is, additional resources for operating and a systematic refurbishment program

Current benefits maintained in perpetuity

CASE B
Business as usual

Assume 'run to fail' that is, one pool lost every 5 years

Still get benefits however they taper off.

Net Present Value
CASE A – CASE B

8

2.3 Quantifying net benefits

Benefits	Monetisation techniques	Source
Recreational (User benefit)	Visitors: 150,000 (e.g. Dee Why Pool) Opportunity cost of leisure: $18.40 Duration including travel time: 1 hour $\boldsymbol{Recreational\ benefit: 150,000 \times 1 \times 18.40 = \$2.76\ million}$	https://www.atap.gov.au/parameter-values/road-transport/3-travel-time 'Oceans Pools- Contemporary Coastal Engineering Meets the Steam age' – James Carley UNSW WRL
Environmental	Not measured	
Wellbeing / health	Health benefit per visit to aquatic activity area: $26.39 Visitors: 150,000 $\boldsymbol{Health\ benefit: 150,000 \times 26.39 = \$3.96\ million}$	rlss-economic-benefits-report-2017.pdf (swimaustralia.org.au)
Tourism	Interstate and international visitation – expenditure for the state – accommodation and spending - difficult to isolate - marginal	
Cultural and heritage	Heritage value WTP per person: $51.25 Catchment population: 31,043 $\boldsymbol{Heritage\ benefit: 31043 \times 51.25 = \$1.6\ million}$	https://profile.id.com.au/northern-beaches/about?WebID=250#:~:text=The%202021%20Estimated%20Resident%20Population,7%2C024%20persons%20per%20square%20km.
Non use value	Non-use value represents individual 'willingness to pay' for the assets retention, regardless of personal use. Due to the nature of calculating the heritage value this is incorporated within that benefit. An additional non-use value may lead to double counting of benefits and therefore has been excluded.	
Total Benefits	$\boldsymbol{Research\ results: 2.76 + 3.96 + 1.6 = \$8.32\ million}$	

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9

2.4 Costs

	Assumptions	Frequency	$/per Pool
	Ongoing Maintenance Costs	Yearly	$80,000
A	Allow 25% increase to current maintenance	Yearly	$20,000
	Major refurbishment costs (Ave.)	Every 20 Years	$850,000
B	Sink fund for major refurbishments Ie. 3 pools refurbed every year over 20 years	Annual contribution	$42,500
C	**Additional maintenance and refurb costs per ocean pool (A+B)**	**Annual**	**$62,500**

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10

2.5 Weighting – Pools as a Group

Total Ocean Pools In NSW **59**
Average Visitation (Dee Why) **150,000**

	Ave./Year	Value + 50%	Value -50%
Benefits	$8,320,000	$12,480,000	$4,160,000
Net additional costs (C)	$62,500	$93,750	$31,520

Weighted distribution	**Benefits**	**Costs**
50% perform at ave.	$245,440,000	$1,843,750
25% perform above ave.	$184,080,000	$1,382,813
25% perform below ave.	$61,360,000	$460,938
Annual benefits and costs across 59 Ocean Pools	**$490.8M**	**$3.6M**

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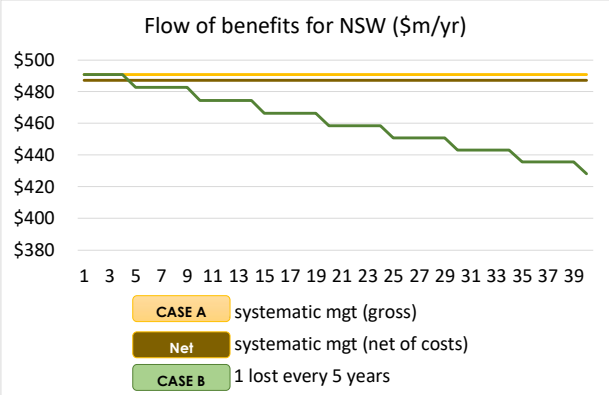
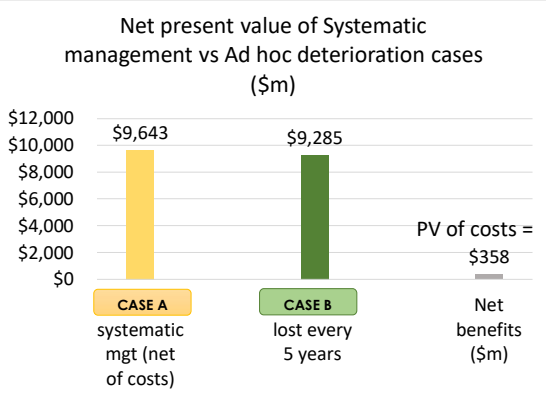
11

2.5 Test case cost benefit analysis





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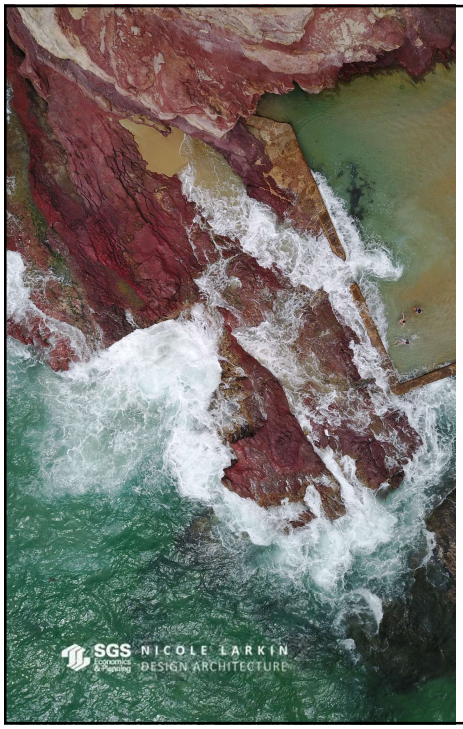
12



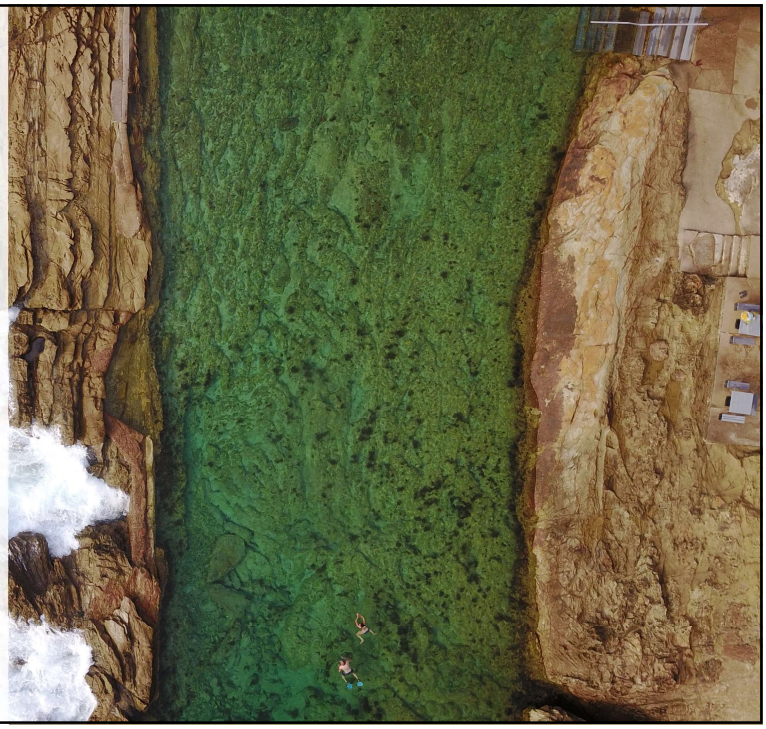
3.0 Systematic direction of resources

1. **Realisation of expanded benefits** through systematic direction of policy and resources (Maximising net value)
2. **Strategic/systematic management** (Nominating which pool is appropriate for what and when) Nuanced upgrades for specific uses

13

3.1 Application

1. Coastal Management Programs
   Manage and protect ocean pools. Inform systematic management of multiple ocean pools in an LGA.
2. Business Cases/Capital Works Funding
   Demonstrate cost benefit analysis to underpin a business case or qualify for funding
3. Strategic Coastal Policy and Planning
   Management and leverage of ocean pools as a state-wide asset-pool. Facilitate staged upgrades and equitable distribution of pool types/facilities



14

OCEAN POOLS | A COST BENEFIT ANALYSIS FRAMEWORK
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15