

Welcome to

Session 12:

Valuing and accounting for community wellbeing benefits of parks





IUCN WORLD PARKS CONGRESS
STREAM 3, SESSION 12: IMPROVING HEALTH AND WELLBEING



INCREASING RELEVANCE THROUGH RESEARCH

Bradley Fauteux, Chair
Dawn Carr, Executive Director
Canadian Parks Council

CONNECTING
Canadians with Nature



Canadian Parks Council

Federal, provincial and territorial parks agencies working together since 1962 to:

- *Advance park and protected areas values*
- *Promote excellence in park planning and management*
- *Facilitate cooperation among and provide support to member agencies*



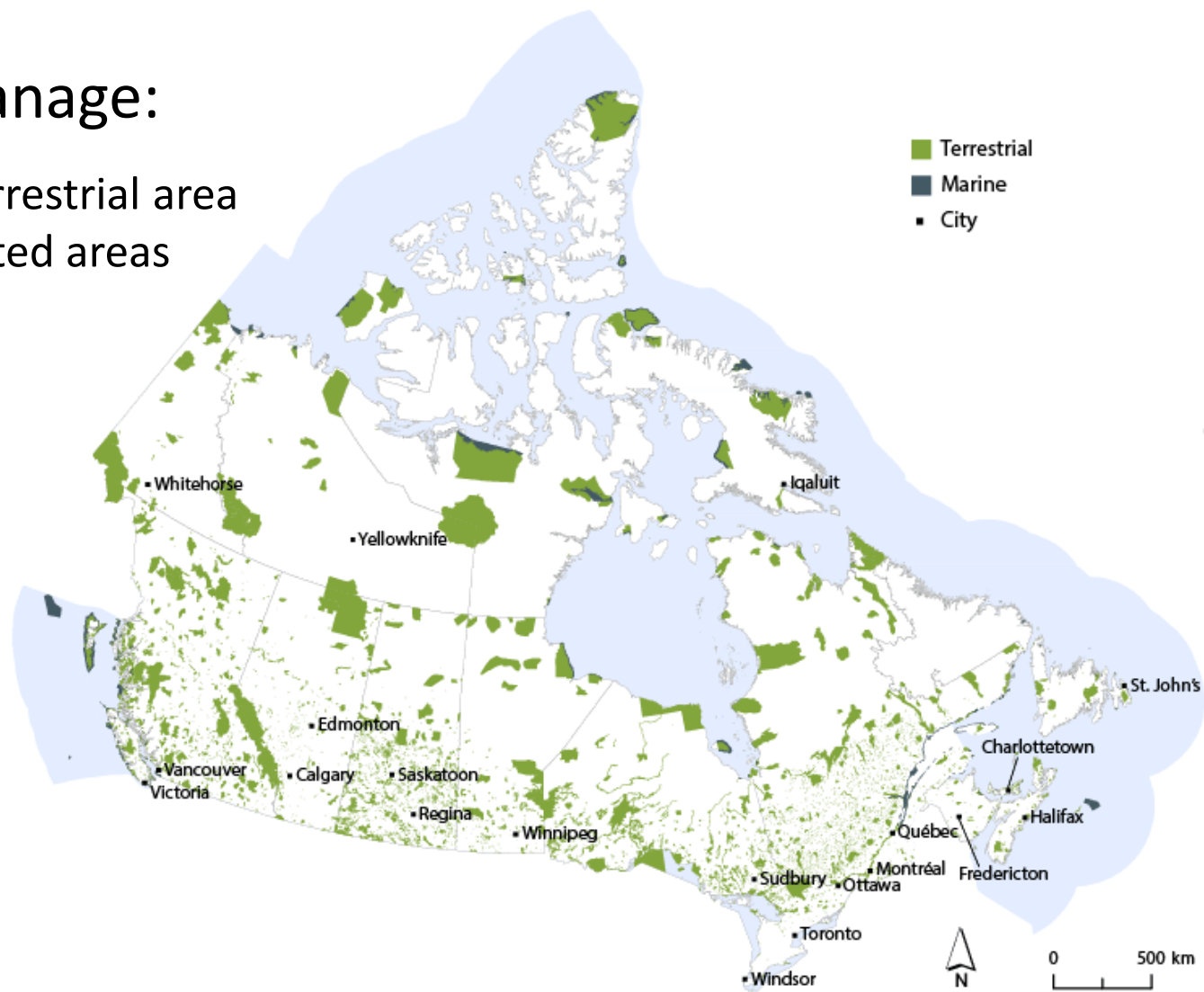
CONNECTING

Canadians with Nature

AN INVESTMENT IN THE WELLBEING OF OUR CITIZENS

CPC members manage:

- 10.4% of Canada's terrestrial area
- 2,602 parks & protected areas



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In 2012:

- Canada's parks deputy ministers met to discuss current issues and possibilities for future collaboration
- Conclusion: ↓ public relevance = ↓ park system sustainability
- CCN initiative was born
- Step 1: An evidence-based *Case for Change*



Relevance

Framework for Inquiry

- To be written from a social science perspective
- Purpose is to describe the current situation and the role of parks in improving health and wellbeing outcomes

Research Disciplines

Ecology | Biology | Natural Resources | Environmental Studies

Architecture | Urban Planning

Medicine | Public Health | Cognitive Science | Psychology | Psychiatry

Political Science | Education | Business

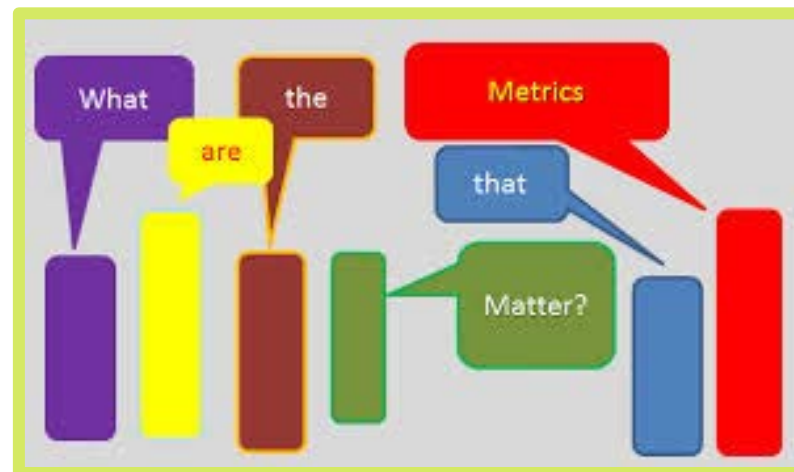
Recreation | Tourism

Sociology | Social Work | Religion

Sources:

1. Scientific Literature
2. Summative reports and/or books on existing literature
3. Reports from credible public organizations

Metrics:



The current situation

28% vs 58%

Proportion of today's students that walk to school, compared to their parents.²⁰

1.1 million

Number of Canadians who have a Vitamin D deficiency.⁵

1 in 3

Proportion of Canadian workers by the 2030s that will be born in another country.²²



90%

The amount of time it is estimated we spend indoors.¹⁷

90%

Decline in the radius of play for a 9-yr-old since the 1970s.¹⁸

1 in 4 vs 1 in 2

Proportion of Canadians considered obese today, compared to the projected rate in 20 years.⁴

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Benefits:

For Our Economy

For Our Health

For Our Spirit and Identity

For Our Personal Development

For Our Communities

For Our Environment

Vitamin 'N' (Nature) – Very good for Canadians

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Economy



“Visitors to Canada’s parks support more than 64,000 full-time jobs, generate \$2.9 billion in labour income, and \$337 million in tax revenue for governments.”³⁴

“Proximity to natural environments is the best predictor of people’s physical activity, more so than proximity to community centres or indoor gyms.”^{57,58,62-70}

Health



“In the spring, at the end of the day, you should smell like dirt.”

~ Margaret Atwood

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“Even if we try to ignore it, humans have the inherent desire to connect to living things.”⁸⁸

“...playing in natural environments is essential to our children’s development of core skills, including observation, problem solving and reasoning, categorization, creativity, imagination, risk-identification, along with emotional and intellectual development.”^{815,74,107-112}



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Communities

“Buildings surrounded by trees and grass have half as many crimes, including property and violent crime.”^{124,125}

“Contact with nature is essential for the development of positive environmental attitudes and values and a lifelong relationship with nature.”^{107,112,116,136-143}



Environment

“No one will protect what they don’t care about. And no one will care about what they have never experienced” ~ David Attenborough



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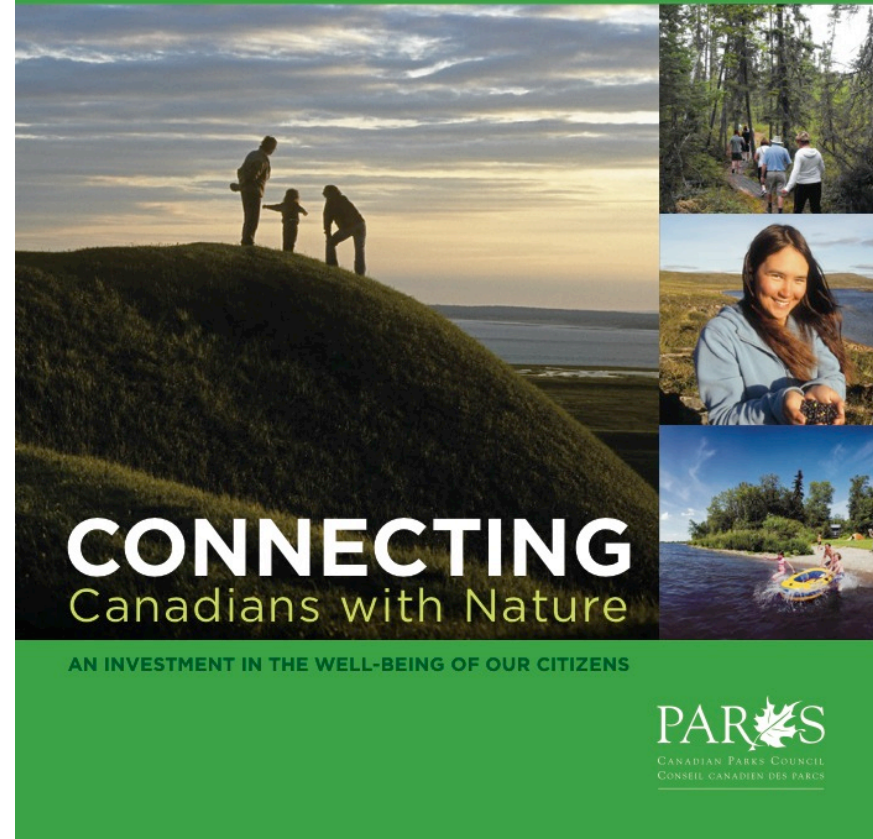
PARCS

CANADIAN PARKS COUNCIL
CONSEIL CANADIEN DES PARCS

Commitments:

- Sharing a vision
- Speaking with a unified voice
- Strengthening the bond between people and their natural world
- Innovating, diversifying and adapting park offerings to meet the needs of Canadians
- Working across government and with Aboriginal leaders
- Collaborating across sectors

A Statement by Canada's Parks
Ministers on the Occasion of
Their 2014 Meeting



The power of ideas and the ideas of power: From research, to policy, to action

- Increasing the relevance of nature through parks is a process
- Good evidence with a good story is a great start





www.parks-parcs.ca

What happened to enjoying our protected areas? Do we care enough to evaluate enjoyment?

Penny Davidson

Allan Curtis


Joan Phillips

research for a sustainable future

Review of performance against establishment purposes

- Most parks and protected areas have some version of enjoyment as an objective
- Establishment objectives of Victoria's Marine Protected Areas (MPAs): 'provide for the use, enjoyment and understanding of marine national parks and marine sanctuaries by the public'

What is being measured?

Measure	Explanation of measure	Insight into visitor enjoyment? 
Recreational opportunities	Descriptive field for types of visitor opportunities/character of facilities and services	
Visitor satisfaction	Extent of visitor satisfaction/meeting of expectations etc. (even if no explicit objectives in this document)	Yes
Visitor cognitive outcomes	Attitudes/perceptions of visitors to park/conservation/natural or cultural values or new knowledge gained in response to visiting park/interpretation programs	No – although learning can be an enjoyable activity
Visitor safety	Visitor safety/incident levels (even if no explicit objectives in this document)	No
Conservation values condition	Extent to which conservation values impacted by visitors have been maintained	No
Economic impacts	Economic impacts of park-related visitation on community	No
Social impacts	Social impacts (attitudes, perceptions, objective measures) of park-related visitation on community, including health	No
Benefits of park visitation (related to social impacts)	Three types of benefits: 1. An improved condition such as cardiovascular fitness, family cohesiveness, community stability, preserved cultural heritage, stress release, and so on 2. Prevention of a worse condition, such as lost friendships, and prevention of social problems, such as crime. 3. Realisation of psychological experiences (which accrue only to individuals) such as challenge adventure, skill development, and solitude (McCool et al 2007) (and enjoyment)	Yes
Operator use	Tourism operator numbers, distribution, characteristics	No
Visitor numbers and profile / market segment	Number of visitors, place of residence, means of travel, key purpose / psychological profile	Yes
Visitor enjoyment	A direct assessment of visitor enjoyment eg Parks Canada – single item question	Yes

Where are we now? Enjoyment measures

How enjoyable was your overall visit to Lyrebird National Park today?

	Not at all enjoyable	Mostly not enjoyable	Partly enjoyable	Enjoyable	Very enjoyable
Overall enjoyment				X	

How satisfied were you with your overall visit to Lyrebird National Park today?

	Very dissatisfied	Dissatisfied	Neither dissatisfied nor satisfied	Satisfied	Very satisfied
Overall satisfaction				X	

How satisfied were you with the following aspects of your visit to Lyrebird National Park today?

	Very dissatisfied	Dissatisfied	Neither dissatisfied nor satisfied	Satisfied	Very satisfied
Access to toilet facilities				X	
Able to enjoy nature					X

- (1) Previsit information about the Park was easy to obtain
 - (2) Useful directional road signs in the Park
 - (3) Access to friendly, responsive Park staff
 - (4) Access to toilet facilities
 - (5) Clean, well-presented toilet facilities
 - (6) Clean, well-presented picnic/BBQ facilities
 - (7) Well-designed & maintained roads
 - (8) Well-designed & maintained walking tracks/trails
 - (9) Able to enjoy nature in this Park
 - (10) Sightings of native wildlife/birds
 - (11) Access to water (e.g. lake, river, ocean)
 - (12) Healthy water condition (e.g. lake, river, ocean)
 - (13) A broad range of activities available (e.g. walking, picnicking, bird watching)
 - (14) Interesting guided walks/talks by rangers/others
 - (15) Interesting information on culture (e.g. Aboriginal, non-Aboriginal, heritage)
 - (16) Useful visitor guides/maps in the Park
 - (17) Useful information on plants & animals in the Park
 - (18) Clear information about visitor safety
 - (19) Feeling safe in the Park
 - (20) Not too many other visitors present
 - (21) Other visitors generally well-behaved
- Grand means

30%

(A) Visitor expectations and preferences

To better understand the needs and expectations of park visitors, Parks Victoria undertook a study which classified visitors into seven groups (Figure 7.1) (Market Solutions, 2005). These were:

1. Nature Admirers with a preference for scenery and nature and a lesser need for developed facilities.
2. Urban Socials with a preference for large social gatherings such as family picnics. This group is strongly urban based and has a strong need for quality developed facilities.
3. Trail Users with a preference for a variety of tracks and trails for walking, jogging, skiing etc.
4. Passive and Other Users with a preference for quiet settings to relax and unwind. Common activities for this group include painting and photography.
5. Activity Centric with a preference for specific features with in a park such as snow, surf, water for fishing, yachting and geological features for rock climbing.
6. Access Made Easy with a preference for easy driving access for sightseeing.
7. Country Vacationers with a preference for staying in parks on weekends or holidays in regional Victoria through activities such as camping.

Types of park users

Figure 7.1 Visitor expectations and preferences

Current approaches to 'enjoyment'

- Measuring enjoyment as a single item
- Equating enjoyment with satisfaction, or a subset of satisfaction
- Measuring enjoyment linked with a particular attribute e.g. enjoy nature
- Assessing the psychological experience through visitor market segments
- Ignoring enjoyment



Distinctions of fun,
enjoyment and leisure
1991

Participation in community
sports centres: Motives
and The relationships of
reciprocity to

Funology: Designing
enjoyment. 2002

enjoyment and

Pervasive game flow:
understanding player
enjoyment in pervasive
gaming. 2007

Selling music with sex:
The content and effects of
sex in music videos on
viewer enjoyment. 2007

children with and without
physical disabilities. 2009

The influence of various
aspects of enjoyment on
participation in leisure
time physical activity.
2010

Evaluating enjoyment
within alternate reality
games. 2011

of well-being and
enjoyment level of
leisure activities. 2012

Brands as product
coordinators: Matching
brands make joint
consumption
experiences more
enjoyable. 2012

being: A diary study
among working couples
2013

Understanding enjoyment

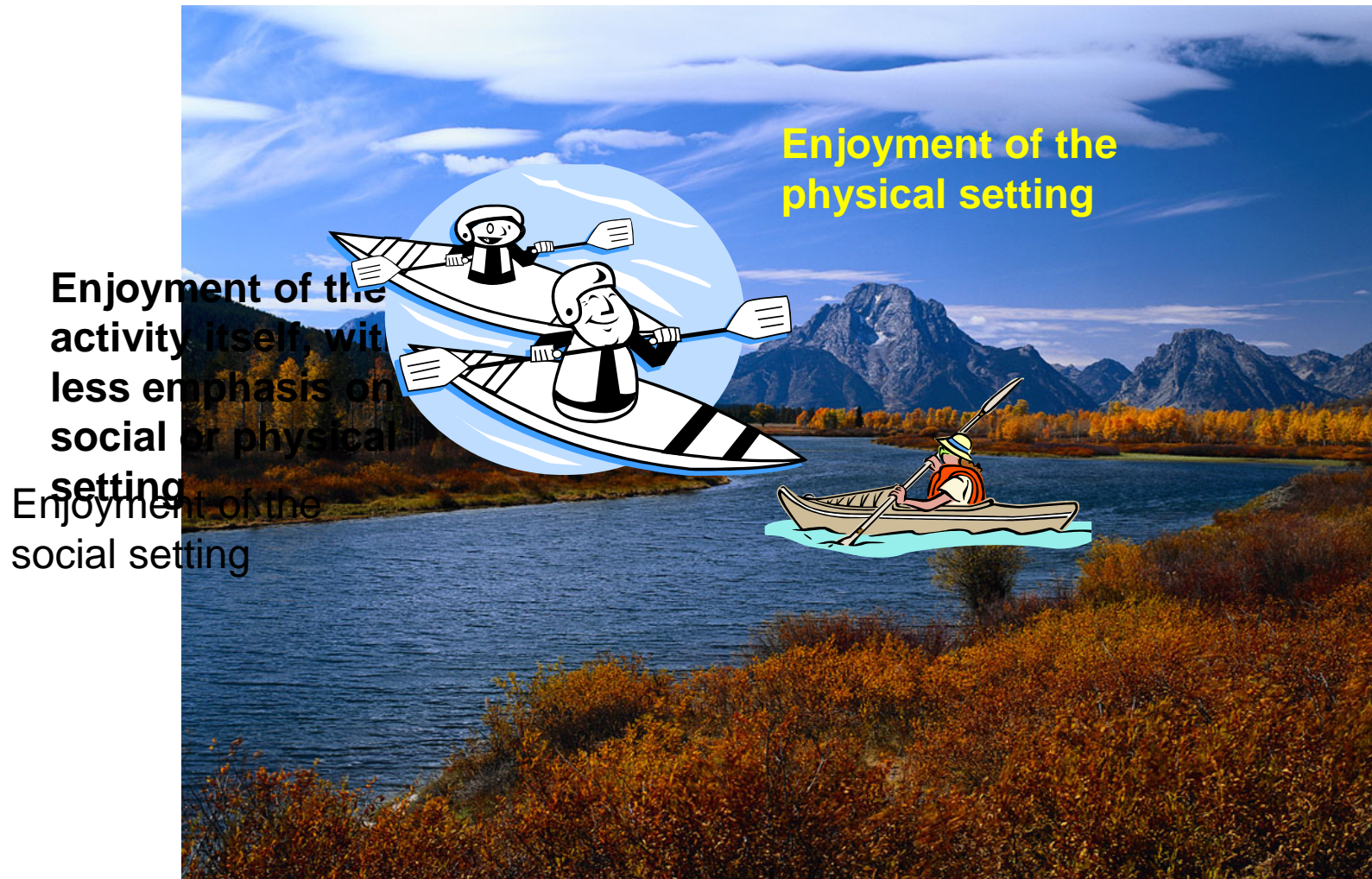


Table 1. Categories of experiences for zoo enjoyment.

Category	Examples
Aesthetic	Animal beauty, beauty of
Cognitive	Learning, discovery, connection
Connection	Recognition of animal-human connection
Emotional stimulation	Awe, special privilege, being transported
Entertainment by animals	Shows, demonstrations, animals doing funny things
Relaxation/peace	Escape, exploration, being outdoors, peace
Sensory experience	Sensory stimulation, getting involved, interaction
Social experience	Bonding (family, friends), (group), alone
Zoo structure	Variety of animals, exhibits

Family social
experience,
particularly
with children

Family social
experience,
enjoy
learning and
tranquillity

Enjoyed
seeing
animals,
social
experience
can detract

Social
experience
with friends,
exploration

Deeper analysis of Enjoyment ...

Enjoyment has three dimensions:

- Engagement: the attention given to an activity, which is associated with enjoyment.
- Positive affect: a feeling of pleasure, happiness, or contentment.
- Fulfilment: of a need or desire, either conscious or unconscious (Lin et al. 2008).

**Enjoyment: a
feeling of pleasure
caused by
experiencing or
doing something
you like**

In Summary

- Enjoyment goals are currently not being measured in most cases, but it is possible to attain a greater understanding of enjoyment
- Measuring satisfaction is not the same as understanding what makes the visit 'enjoyable'
- Other industries are working at understanding enjoyment

Thank you

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<http://www.facebook.com/ILWS.CSU>

Our Aim:

To undertake internationally recognised and integrated research in social and environmental sustainability to enhance the livelihoods and lifestyles of people in rural and regional areas.

What experiences or activities did you do at Kangaroo Park today?

- a) Walk on the Kangaroo trail ☐
- b) Barbecue ☐
- c) Bird watch ☐
- d) Play a game with companions ☐
- e) Other ☐

_Other: _____

Which activity did you spend most time at?

Which activity did you enjoy the most?

(Then for each of the above ask them to rate their engagement, pleasure, and satisfaction)

Thinking about this experience how engaged or focused were you on this activity / experience? Please mark with a cross on the following scale:

Quite distracted,	Able to notice other things that were happening	Very Focused	Was not aware of anything else
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Thinking about this experience how did it make you feel?
Please mark with a cross on the following scale:

Not at all happy or content	Very Happy and content
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Thinking about this experience to what extent did it satisfy your

Quotes from computer gaming:

- We must take more account of "fulfilling, engaging, and fun design elements."
- the notion that fun can sell even serious products
- Their issues:
 - the question of measuring or grasping enjoyable experiences;
 - the importance of setting and contextuality;
 - the lack of a vocabulary for talking about user experiences;
 - The differences between short and long term enjoyment

Study and measurement of enjoyment

Preferentially undertake detailed analysis of what people are enjoying, examine enjoyment as multi-dimensional – develop an ‘enjoyment index’

- Market segments include what visitors are enjoying
- Q-sort analysis
- Lin’s model

Include visitor enjoyment in monitoring

- Include global enjoyment question
- Include specific items, based on prior research

Measuring and Shifting Public Perceptions of the Benefits of Park Visits

Professor Betty Weiler, Dr Brent Moyle,
Professor Sue Moore, Dr Isabelle Wolf & Dr Kelly Hunt-DeBie

World Parks Congress
Sydney, Australia 2014

Promoting and Managing National Parks into the 21st Century (Commonwealth ARC funded project)

- **4 university partners**
 - Murdoch, Southern Cross, Curtin and Deakin
- **3 Australian parks agencies**
 - Parks Victoria (PV)
 - WA Department of Environment and Conservation (DEC)
 - Now known as DPAW
 - NSW Office of Environment and Heritage (OEH) (NPWS)
- **2 Concurrent Programs of Research**
 - Program 1: **SHIFTING THE MARKET POSITION OCCUPIED BY PARKS AGENCIES**



Department of
Environment and Conservation



Office of
Environment
& Heritage

Why market position?

- Competition for funding with other govt. departments
 - Health, justice and education
- Spending on parks often perceived as discretionary
 - Budget cut in times of economic austerity
- Parks must establish and defend a market position
 - Build and sustain relevance
 - Rapidly changing 21st century society



What is market position?



- Market positioning has come late to public sector organisations
 - Parks have received little attention
- Positioning refers to the image of an organisation held in the minds of key stakeholders
 - In relation to core competitors
- Poor market positioning
 - Gap between desired/perceived image

Why focus on perceived benefits?

- Repositioning presents an opportunity to close the gap between desired/perceived image
 - Key to societal and political support for parks
- Benefits shape the perceived image occupied by parks agencies
 - Personal benefits
 - Community/societal benefits



How can we shift public perceptions of benefits?

- Limited research on how to harness benefits to manipulate the image of parks
- Limited research on the efficacy of interventions designed to shift public perceptions of park benefits



Personal and community
wide benefits

Principles of persuasive
communication

Research Aim

Measure and Shift Public Perceptions of Park Benefits

3 Sequential Stages of Research



Stage 1 – Identify the Benefits Parks Agencies Desire to Project to the Public

- Literature Review
 - 147 previous studies on park benefits
- Interviews with 27 senior park managers
- 39 benefits ‘core’ to 3 participating parks agencies

Stage 2 – Congruency Analysis

- Benefits that parks agencies desire to project
 - Survey of 21 executive level managers including CEO (PV, DEC, OEH)
- Benefits perceived by constituent public
 - Survey of 1584 residents of VIC, WA & NSW
 - Gaps between desired/perceived image

Stage 3 – Trial Communication Interventions

- Close gaps between desired/perceived benefits
 - Shift public perceptions of park benefits
- Designed in consultation with PV & OEH
 - Existing marketing collateral

Victorian Residents' Perceptions of the Benefits of Parks managed by Parks Victoria

- Target all benefit items, with a particular focus on health benefits
 - Notable gaps between PV executives and Victorian community
- Promotional video - HPHP congress
 - 3 minutes
 - People doing things in parks
 - Nature scenes
 - Park Rangers and other experts



NSW Residents' Perceptions of the Benefits of Parks managed by OEH



- Target all 39 benefit items, with a particular focus on culture and heritage
 - Notable gaps between OEH directors and NSW community
- Simulated journey through OEH website
 - 6.5 minutes
 - Narration of key text
 - One urban and one “remote” park – focusing on heritage

Research Design

- Pre-Post Intervention Design

- Online via panel provider
- 532 NSW community
- 521 Victorian community



- Online Instrument

- 39 benefit items - 7 point Likert-type scales (Personal experiential; Personal higher order; and Community-wide benefits)

- 12 mental imagery items

- Quantity, modality, vividness and valence
- Persuasiveness of intervention

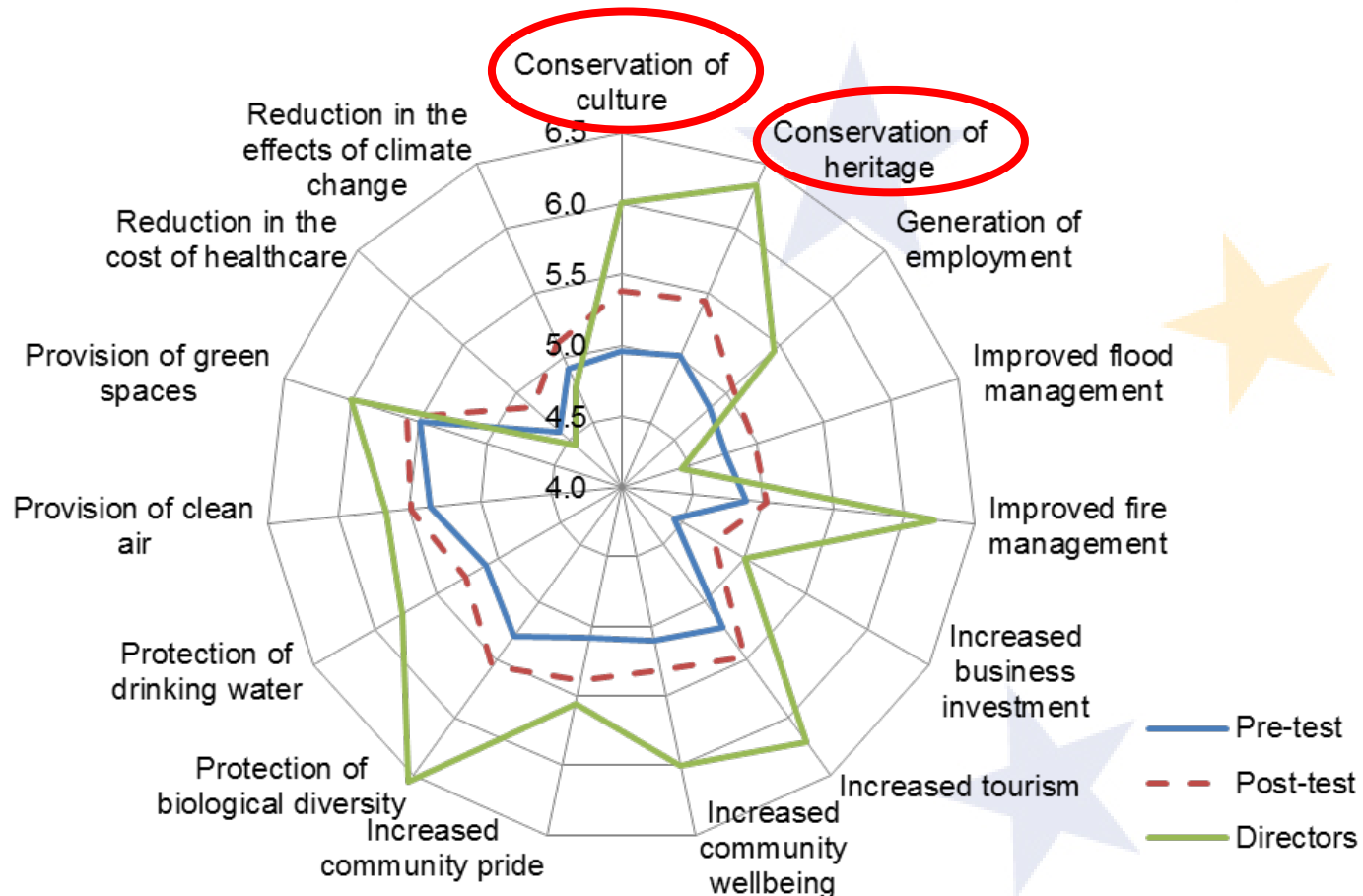


Selected Results – Perceptions of Benefits



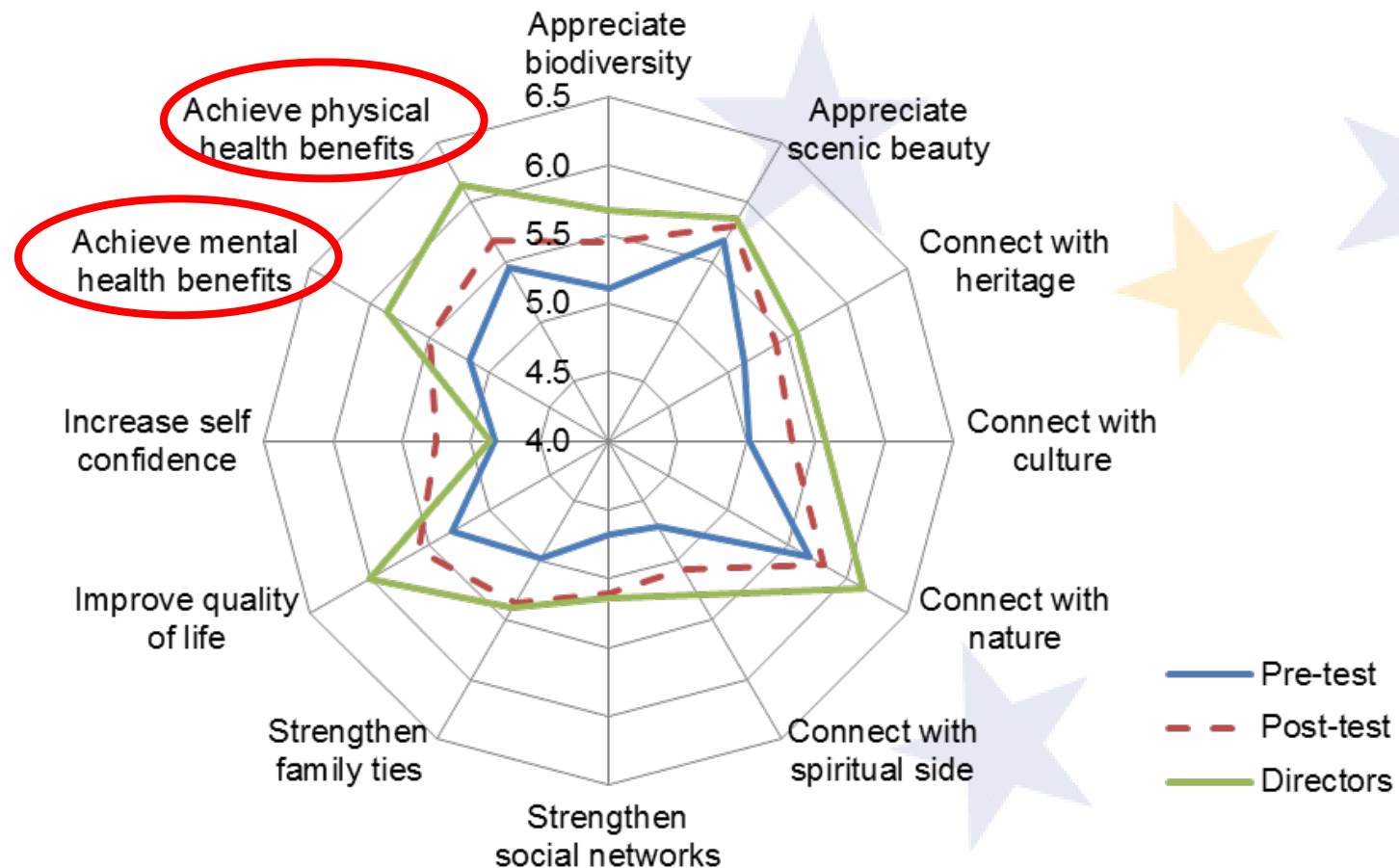
Results - New South Wales

Communication intervention shifted 35 / 39 benefit items



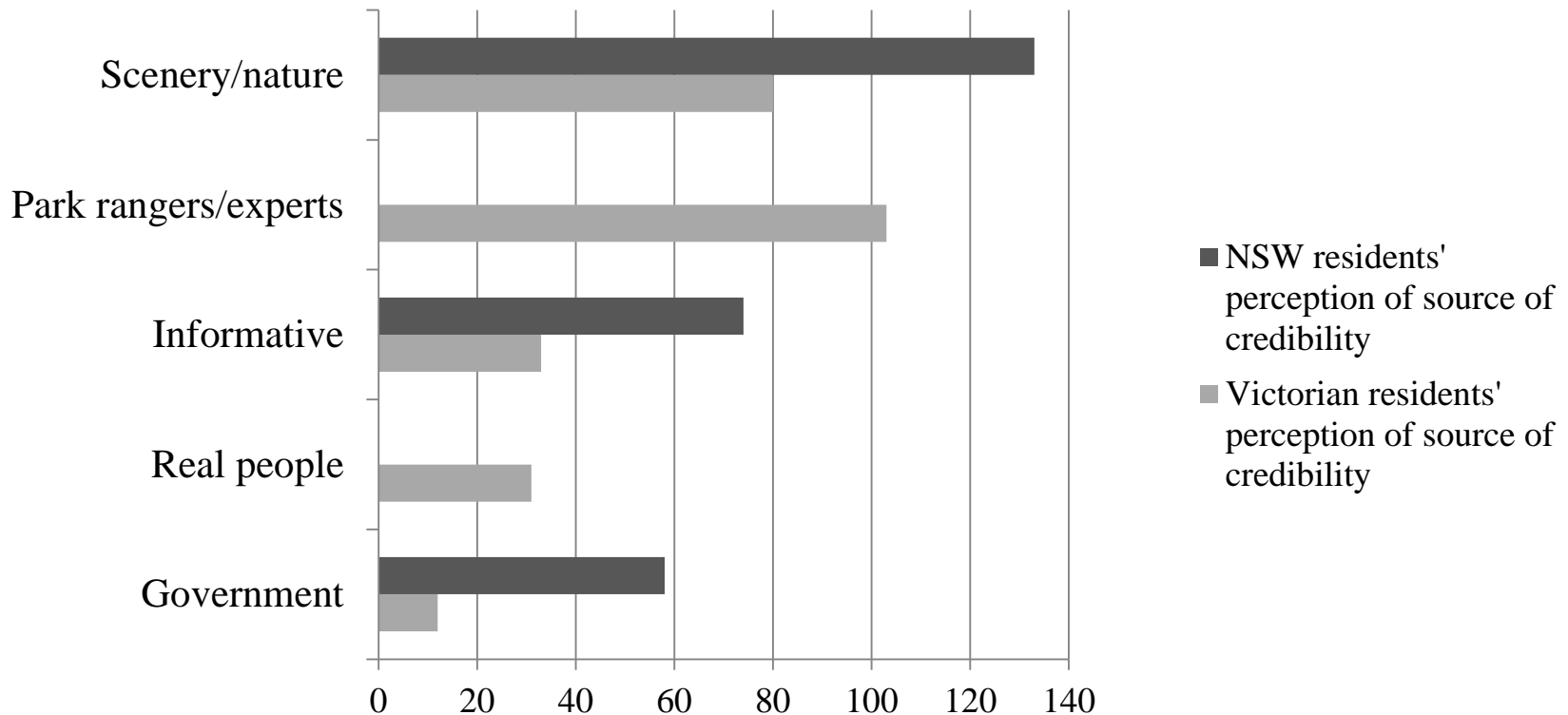
Results - Victoria

Communication intervention shifted 39 / 39 benefit items



Results - Credibility

- *Scenery in parks important for credibility*
- *Park rangers/experts enhanced credibility in Victoria*



Conclusion

- Both interventions were highly successful
- Interventions are an efficient way of shifting public perceptions of park benefits
 - Especially for non-visitors
- Benefit items can be used to monitor perceptions over time



Future Research

- Examine the stability in the shift in public perceptions of benefits
 - 6 or 12 months after initial intervention
- Develop interventions designed to influence specific target segments
 - Gen Y
 - Non-visitors

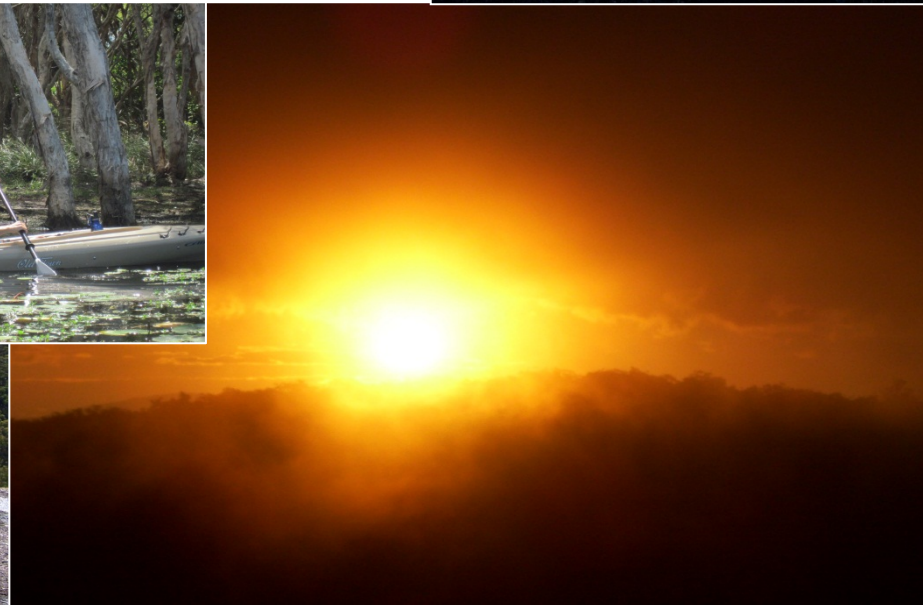




Thank you to:
ARC Linkage Program (grant)
Parks Victoria, DPAW, OEH
and The Parks Forum

Sue Moore
(project leader, Murdoch University)

Other project team members:
Kate Rodger, Ross Taplin, John Hall,
Dino Zanon, Amanda Smith,
Ingrid Sieler, Monica Torland





The SELTMP monitors Healthy Parks and Healthy People

Nadine Marshall, Erin Bohensky, Matt Curnock, Jeremy Goldberg, Margaret Gooch,
Petina Pert, Lea Scherl, Samantha Stone-Jovicich, Renae Tobin

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National Environmental
Research Program



Australian Government
Great Barrier Reef
Marine Park Authority



GREAT BARRIER REEF
foundation





- **SELTMP:** a Social & Economic Long Term Monitoring Program
- Monitoring can ensure “Healthy Parks, Healthy People”
- Our case study: Great Barrier Reef
- 3.5 Years NERP Funded
- We Monitor: ten stakeholder groups for "grand overview"
- Approach: Bottom up and Top down

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National Environmental
Research Program



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Marine Park Authority



GREAT BARRIER REEF
foundation





- We monitor the link between people & the Reef
- 1. How people Use the reef
- 2. How are people dependent on the Reef
- 3. Wellbeing
- 4. Social and economic context

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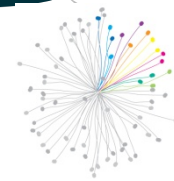
National Environmental
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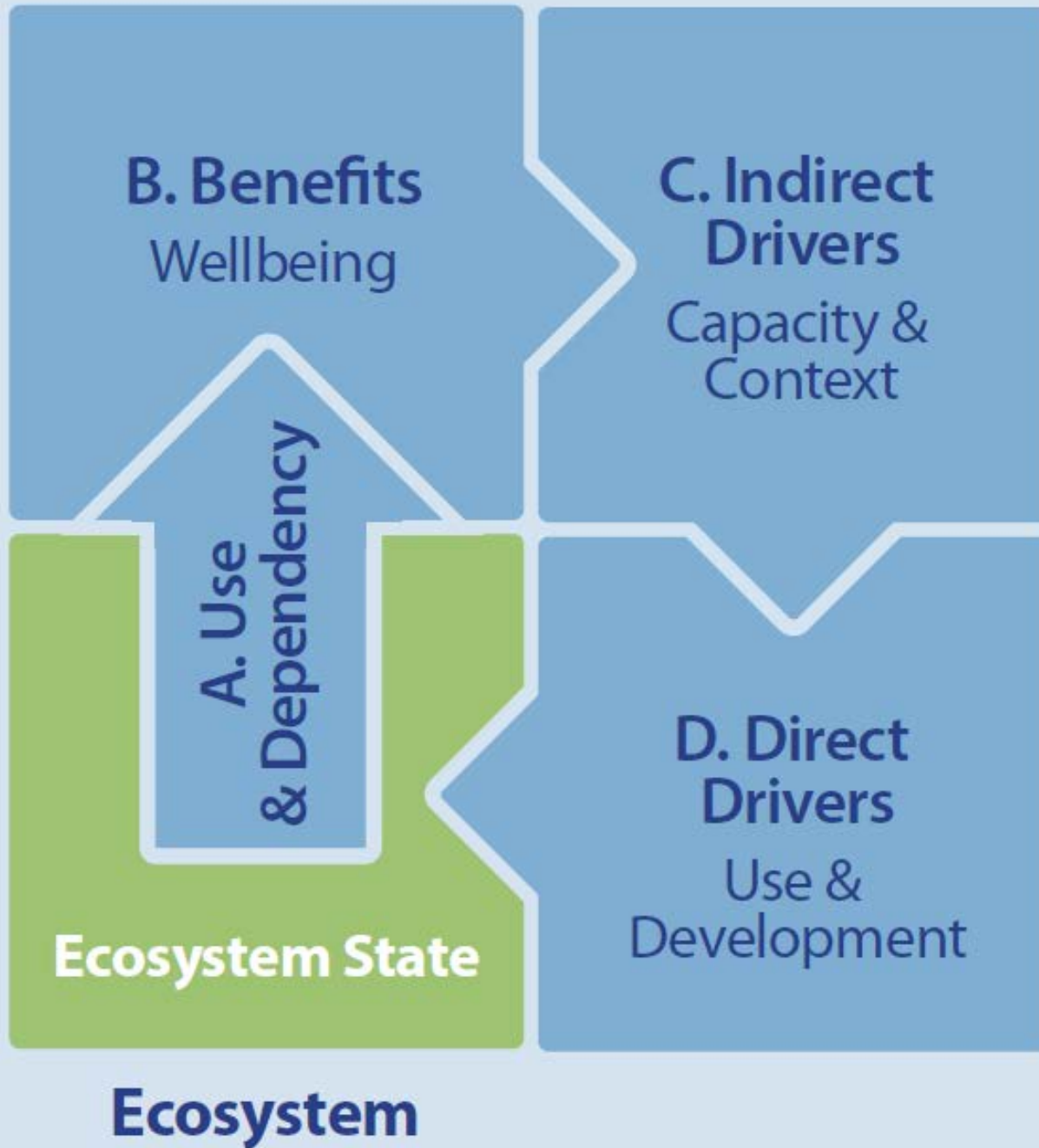


Australian Government
Great Barrier Reef
Marine Park Authority



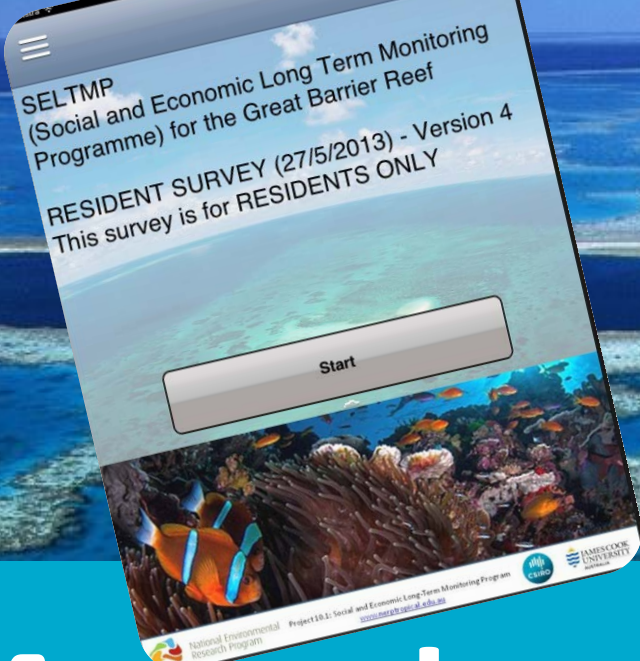
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- Healthy people depend on a healthy reef





Method

- Integrated all existing datasets into framework
- Identified gaps and filled with new data
- Baseline >8,000 surveys

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Research Program



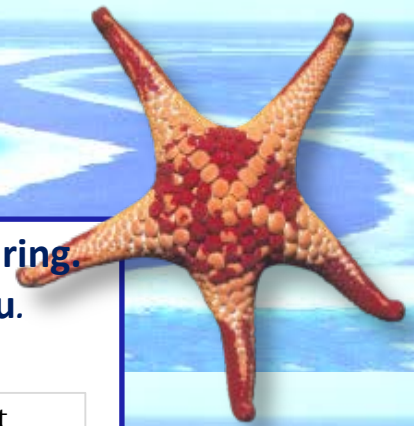
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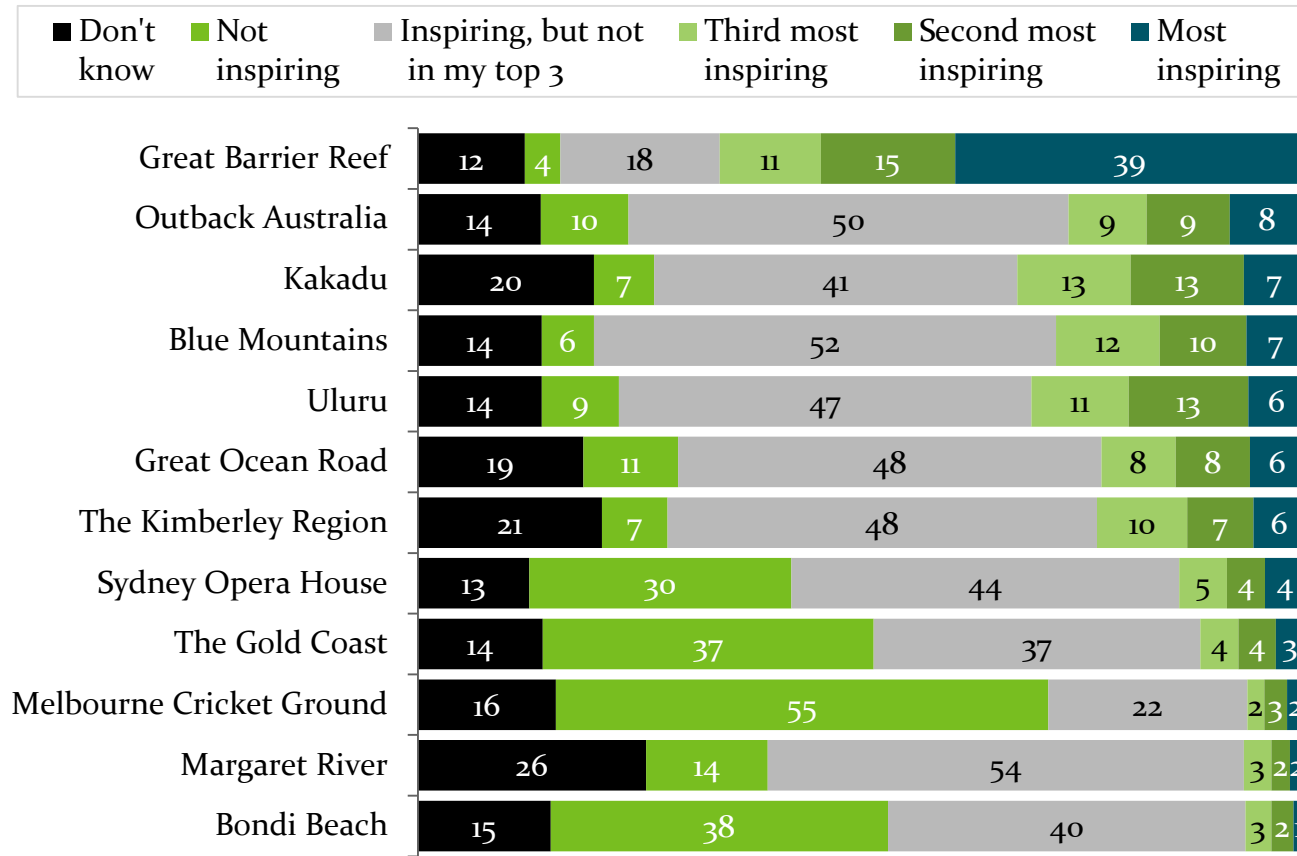
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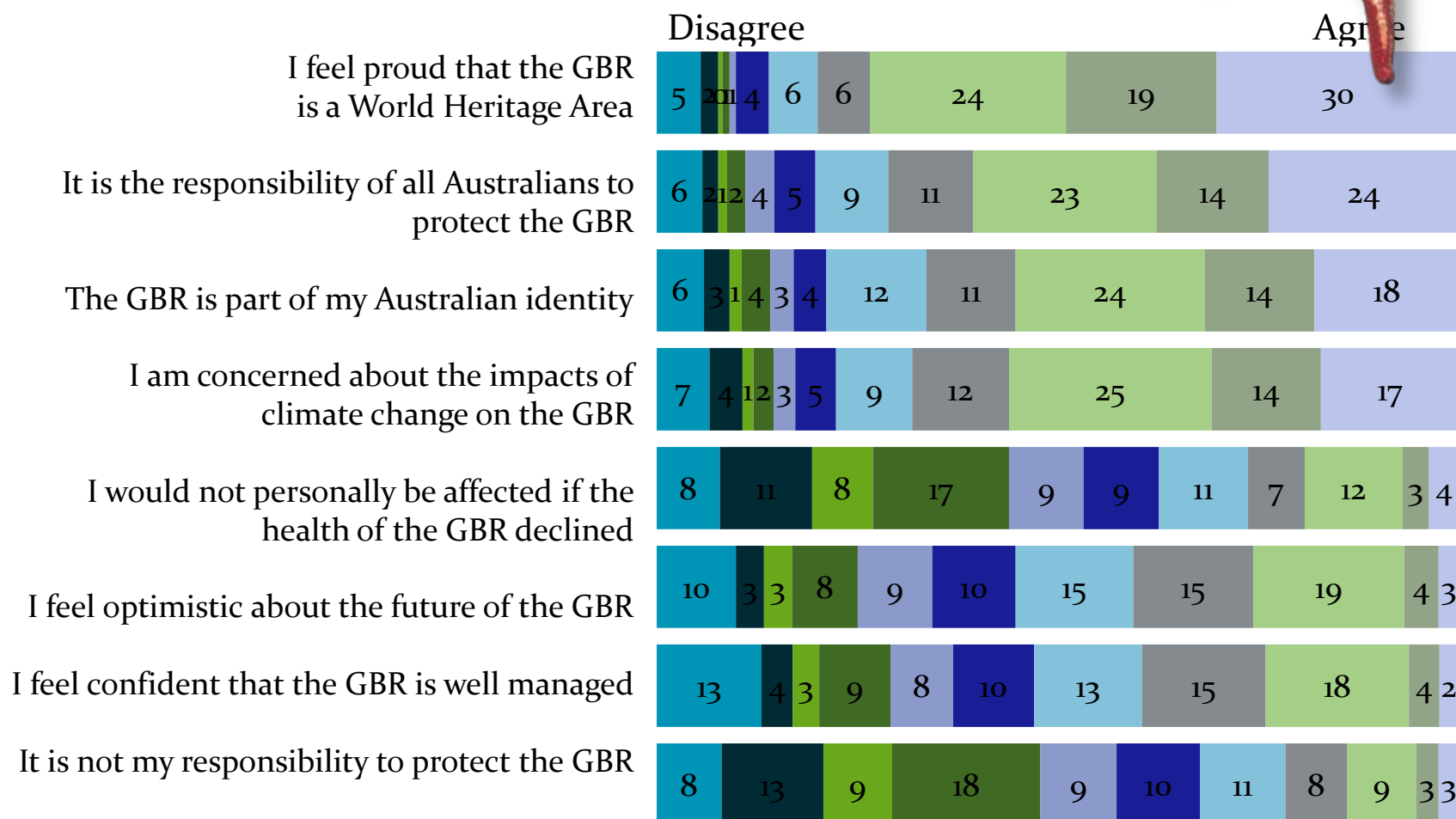
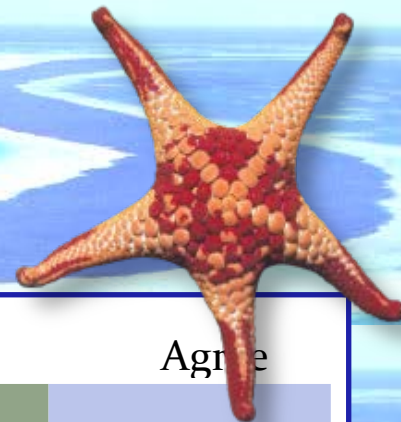
Inspiring...



Q: Below is a list of places in Australia that people have said are inspiring. Please rank the following in terms of how inspiring they are to you.



Australian identity



Local Identity



There are many other places that are better for than the GBR for the recreation activities that I enjoy



I feel proud that the GBR is a World Heritage Area



The GBR is part of my identity



1 Strongly Disagree 2 3 4 5 6 7 8 9 10 Strongly Agree

Tourist Identity



“The aesthetic beauty of the GBR is outstanding”



“The place that I most recently visited in the GBR is NOT in great condition”



“I feel optimistic about the future of the GBR”



1 Very strongly disagree 2 3 4 5 6 7 8 9 10 Very strongly agree

Tourism Operators



“The aesthetic beauty of the GBR is outstanding”



“The areas that my operation uses in the GBR are NOT in great condition”



“I am optimistic about the future of the GBR”

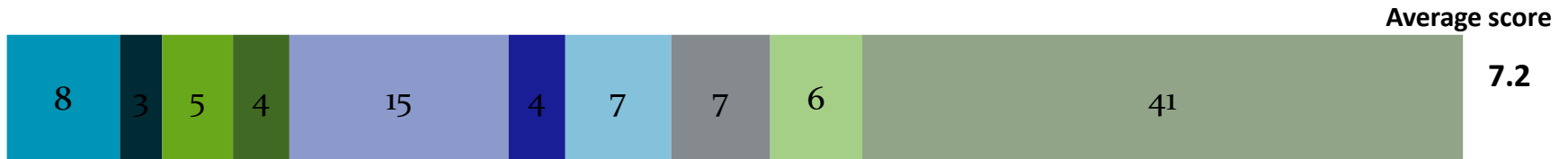


1 Very strongly disagree
 2
 3
 4
 5
 6
 7
 8
 9
 10 Very strongly agree

Commercial fishers



I wouldn't want to be anything other than a commercial fisher



The fishing industry to me is not just a job – it is my lifestyle



I plan to still be a commercial fisher in 5 years time



1 Strongly Disagree 2 3 4 5 6 7 8 9 10 Strongly Agree



- Healthy People depend on a Healthy Reef
- A Healthy Reef depends on Healthy People
- Invest in People for Reef Resilience?
- Monitor People for “better” reef management

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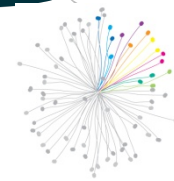
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Thanks

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Valuing Victoria's Parks

Accounting for ecosystems
and valuing their benefits

Tony Varcoe, Manager Science and Management Effectiveness, Parks Victoria

Helen Betts O'Shea, Acting Manager, Environmental Markets and Accounts Policy

Department of Environment and Primary Industries



*Healthy Parks
Healthy People®*



The Victorian Parks network

- Land-based National, State and Wilderness parks
- Marine Protected Areas
- Conservation and historic reserves
- Metropolitan parks
- Local ports, bays and waterway m'ment



18% of Victoria/4 million Ha

How do we measure the value of a park ?



Coastal
protector

Soil
stabiliser

Species
refuge

Living
classroom

Living
laboratory

Tourism
job
provider

Neighbour-
hood
amenity

Cultural
and spritual
Connection

Mental
health
improver

Skill
developer

Place to
unwind

Green
Gym

City
cooler

Water
filter

Carbon
sink

Habitat for
pollinators



In addition to their fundamental intrinsic values, the natural assets of Victoria's parks provide a range of **ecosystem services** that benefit the State's economy and the well-being of Victorians



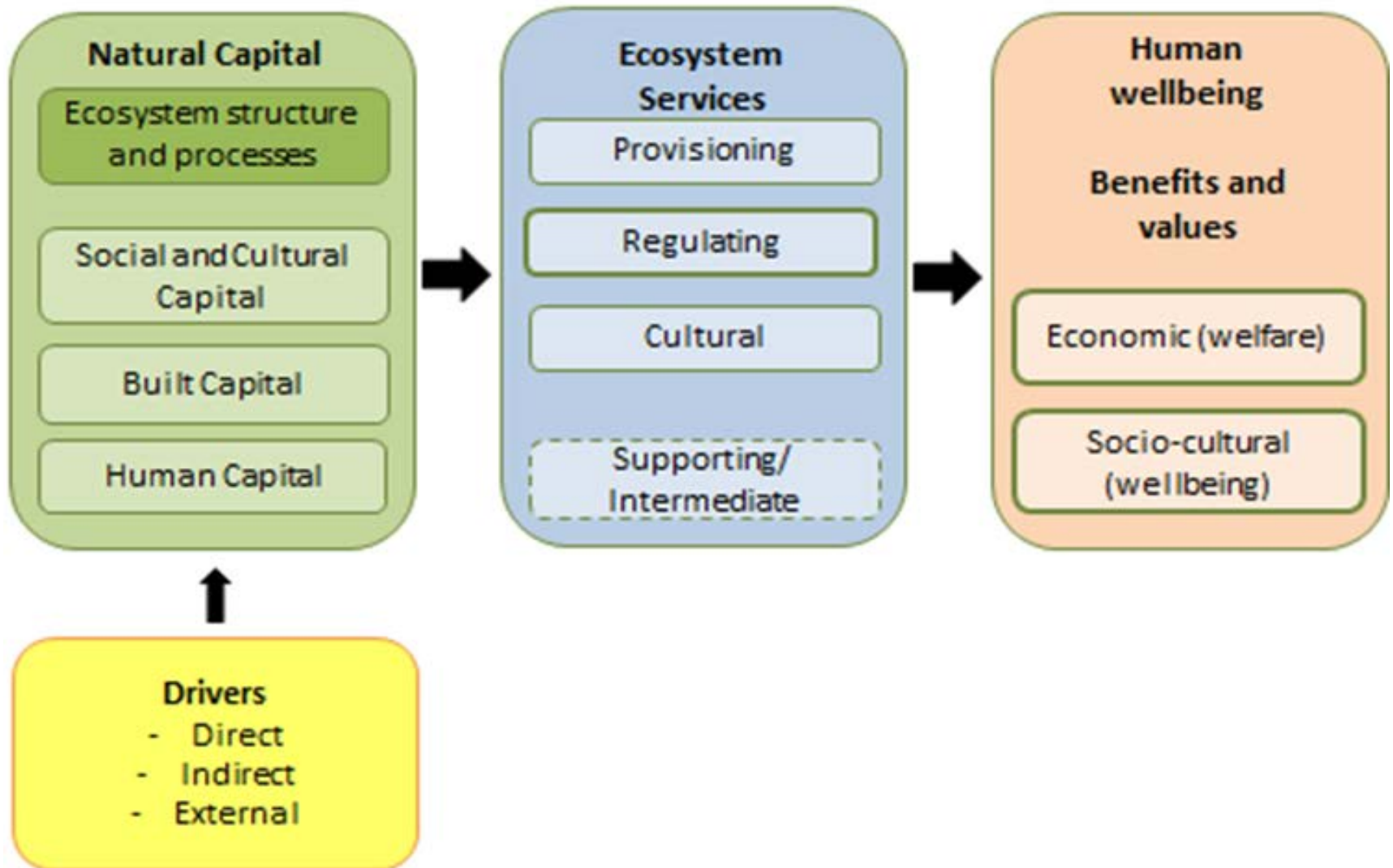
Many of these services and benefits are undervalued in decision making



Valuing Victoria's Parks Project

- What is the contribution of our parks natural assets to the productivity of the Victorian economy and wellbeing of the community?
- What is the natural, cultural and social return on investment from park management?
- How can we improve our ability to assess trade-offs when making policy, planning and investment decisions?

Parks as natural capital



Being more business-like in park management

Inventory of capital assets
(extent/status/significance)



Goals



Management actions



Quantify goods and
services provided



Measure impacts,
benefits and value



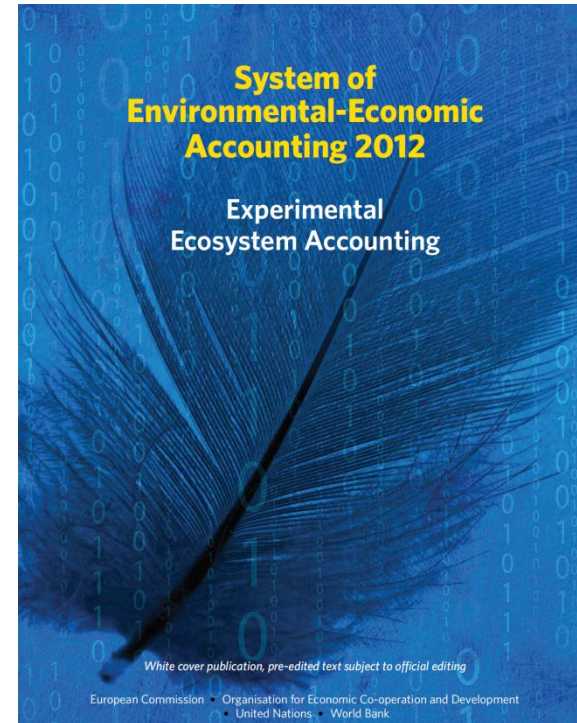
“Closing balance” of
capital assets
(extent/status/value)

**Our primary goal is to
ensure our capital
assets do not
depreciate**

Applying and adapting best practice frameworks



TEEB



SEEA

Applies **The Economics of Ecosystems and Biodiversity (TEEB)** and **System of Environmental-Economics Accounting (SEEA)** frameworks to the Victorian parks network

Ecosystem services in Parks	National and state parks	Marine Nat parks	Cons reserves	Metro parks	Gardens/ cultural places	Bays and waterways
Water filtration (R)	***	*	**	**	n/a	n/a
Climate regulation - Carbon storage and sequestration (R)	***	***	**	*	n/a	n/a
Local climate regulation (cooling/air quality) (R)	**	*	*	***	n/a	*
Coastal protection/flood mitigation (R)	***	***	**	***	n/a	*
Pollination (R)	***	n/a	**	**	*	n/a
Amenity (C)	***	**	**	***	***	***
Recreation (C)	***	**	*	***	**	***
Tourism (C)	***	**	*	*	***	***
Physical and mental health benefits (C)	***	**	*	***	**	**
Cultural connection (C)	***	**	*	**	***	**
Habitat /Nursery services (S)	***	***	***	**	*	*

Steps to ecosystem accounting and valuation

1. Define ecosystem assets
consistent with Ecosystem
Accounting Units

2. Assess stocks of ecosystem
assets: extent, condition and
significance

3. Identify and quantify
flows of ecosystem services

4. Identify purpose for
valuation of ecosystem
services

5. Value benefits of
ecosystem services (\$ or
proxy)

6. Use values for
accounting, economic
analysis, decisions

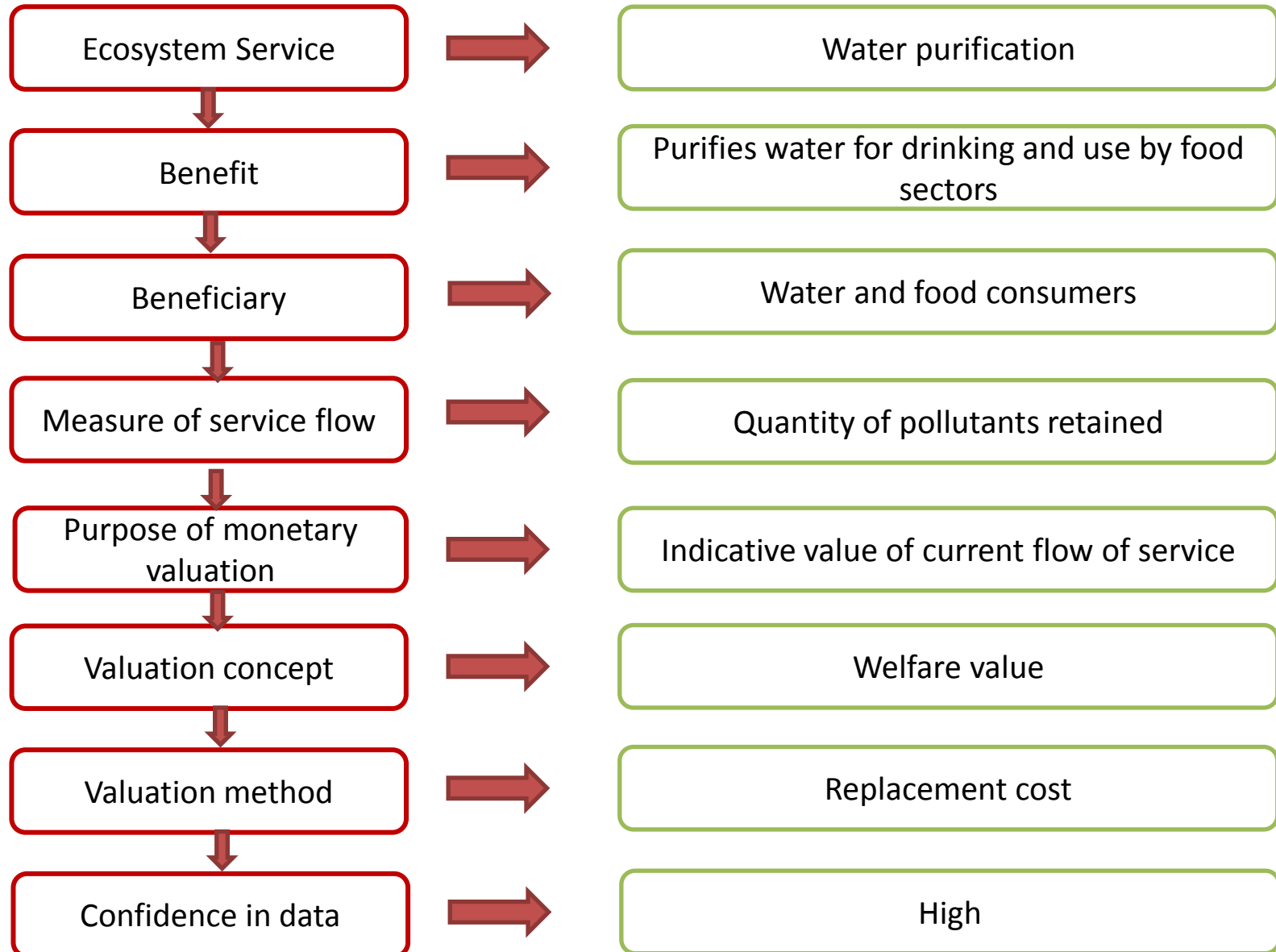
Pilot ecosystem asset account - example

Ecosystem assets in Victorian parks network	Native vegetation (2010)		Wetlands (2014, 2011)		Rivers (2011)		Marine (2014)	
	Extent	Condition	Extent	Condition	Extent	Condition	Extent	Condition
Assets measures	Hectares	Native Vegetation score	Hectares	Index of wetland condition	Hectares with river	Index of stream condition	Hectares	Marine habitat condition
Protected Areas (IUCN PA Categories)								
IA Nature Conservation Reserves	254,255	71	16,009	7	2,911	29	-	-
IB Wilderness Parks	200,094	82	22	1	1,000	41	-	-
II National and State Parks	3,061,274	79	68,681	7	31,874	32	52,809	Very Good
III Natural Features Reserves	63,097	62	1,788	7	4,026	28	231	Fair
IV Bushland Reserves	41,287	61	1,821	6	512	27	-	-
V Protected landscape		62		-			-	-
VI Wildlife Reserves	111,078	63	112,867	6	1,926	25	-	-
Non-protected areas								
Conservation reserve	113,140	62	61,854	6	2,600	29	-	-
Port and coastal asset	1	7	194	10			-	-
Urban, regional and other parks	92,784	63	11,598	7	3,056	25	-	-
Parks total	3,937,010	65	274,834	7	47,905	29	53,040	-
Parks share of total assets in Victoria	38%		42%					

Pilot ecosystem service flow account

Services from Victorian parks network	Quantity	Units	
Regulating services			
Water purification:			
Avoided pollution	182	Tonnes of Nitrogen entering metro waterways pa	●
Avoided sediment output	34,000	Tonnes of solids to regulated national park rivers pa	●
Coastal protection	285	km of coast protecting communities	●
Flood control/protection	40,000	ML reduction stormwater in metro waterways pa	●
	Up to 85%	Reduction in peak flows for 100 year ARI	●
Carbon storage	270,000,000	Total current tonnes of carbon stored	●
Pollination	1,235 – 1,694	Honeybee sites	●
Habitats for threatened species	888 (500)	Threatened species for which selected parks provide at least 50% (80%) of suitable habitat in Victoria	●
Maintenance of genetic diversity	4,431/1,081/333	Species recorded (terrestrial flora/fauna/marine)	●
Maintenance of nursery populations	28,500	Hectares of seagrass, mangrove and reef habitats	●
Cultural services			
Recreation opportunities:			
Enjoyment	53,000,000	Day visits per year	●
Tourism	16,900,000	Tourist nights attributable to parks per year	●
Health	21,000,000	Park visits primarily for physical exercise per year	●
	182,000	Physically active visitors in parks per year	●
Education opportunities	183,000	Participants in education programs per year	●
Scientific research opportunities	215	Research permits granted per year	●
Amenity	12,000	Immediate neighbours	●
Opportunities for cultural connection	648,513	Hectares of joint and co-management with Traditional Owners	●
Social & community cohesion	211,000	Volunteering hours per year	●

Example of monetary valuation



Valuing Victoria's Parks

- Framework to account for Δ assets ✓
- Estimated qty of selected ecosystem services ✓
- \$ valuation selected services ✓
- For further development:
 - Linking asset condition → services → benefits
 - Consistent values for accounting frameworks (for reporting trends & program accountability)
 - Consistent marginal values for economic analysis of mgt decisions



Applications

Communicate

Increase awareness and appreciation
of the contribution of parks

Integrate

Integrate accounting and valuation
into normal business practice

Park planning
and business
cases

Build stronger more transparent
cases for investment- impact of
more or less investment

Reporting/audit

Bring our environmental assets
onto the balance sheet to
demonstrate ROI

Inform policy

Information to support evidence
based business and funding
models

Acknowledgements

Mark Eigenraam, UN Statistics Division,
Project Manager Advancing SEEA
Experimental Ecosystem Accounting

Dr Zaida Contreras, Senior Economic
Analyst, DEPI Victoria

Carl Obst, Consultant Natural Capital
Accounting, Expert advisor to UN on
SEEA

Josh Bishop, WWF

David Cochrane, Partner, Ernst & Young



Stay connected

For more information on the *Healthy Parks Healthy People* approach visit www.hphpcentral.com

Contribute to the Promise of Sydney at
www.worldparkscongress.org/about/promise_of_sydney



Coming up in Stream 3

Hall 3B1 Home Room, 10.30am-12pm

Session 9: Sustaining parks and improving human health 1

Charley Room, 1.30-3pm

Session 13: Inspiring business solutions for *Healthy Parks Healthy People*

Hordern Room, 1.30-3pm

Session 17: The healing power of nature

