
The role of agency science in obtaining the evidence base for conservation management and policy

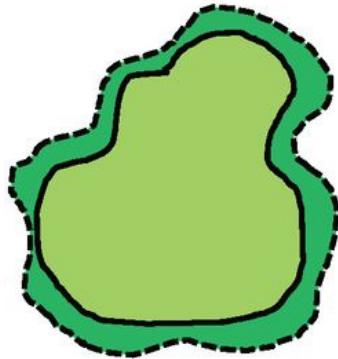
Dirk Roux, Richard Kingsford, Steve McCool, Melodie
McGeoch & Llewellyn Foxcroft

PECS 2015 Conference
3-5 November 2015
Spier Estate, Stellenbosch

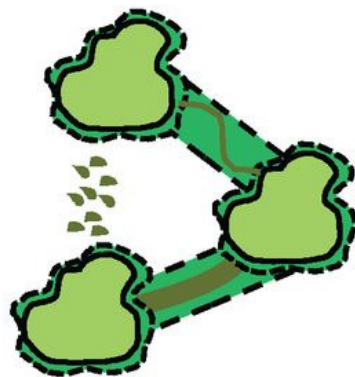


Role of PAs in the Anthropocene

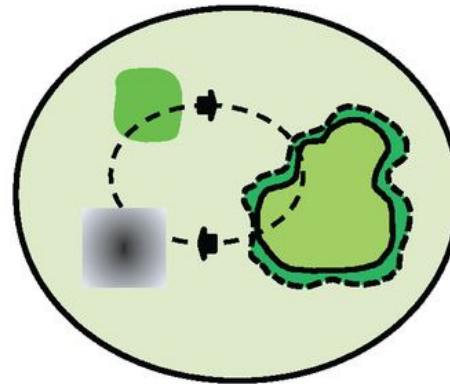
Island approach



Network approach



Landscape approach



Social–ecological approach



Ignacio Palomo et al. *BioScience* 2014;biosci.bit033

- Essential biophysical support systems
- Existence now stems not only from an ecological rationale but also from economic and social rationales
 - Regional resilience: poverty alleviation, economic development, climate change mitigation, ecosystem service provision

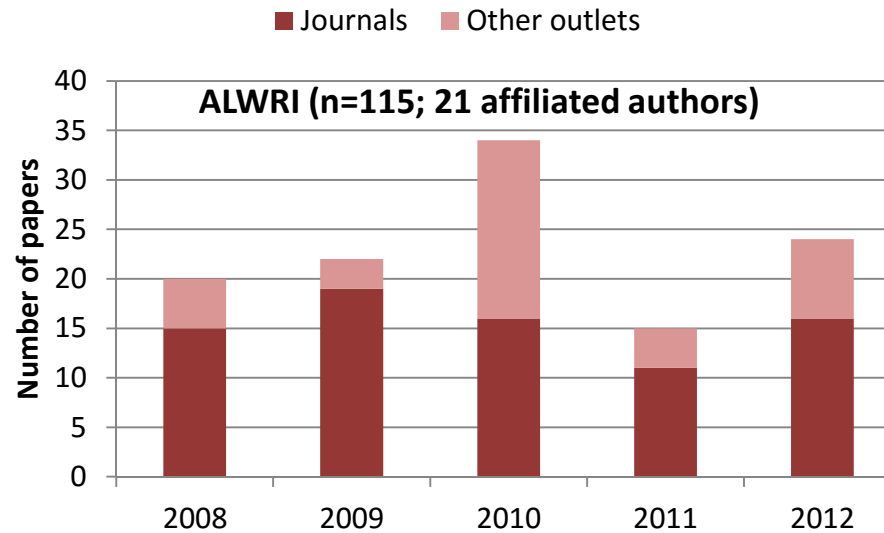
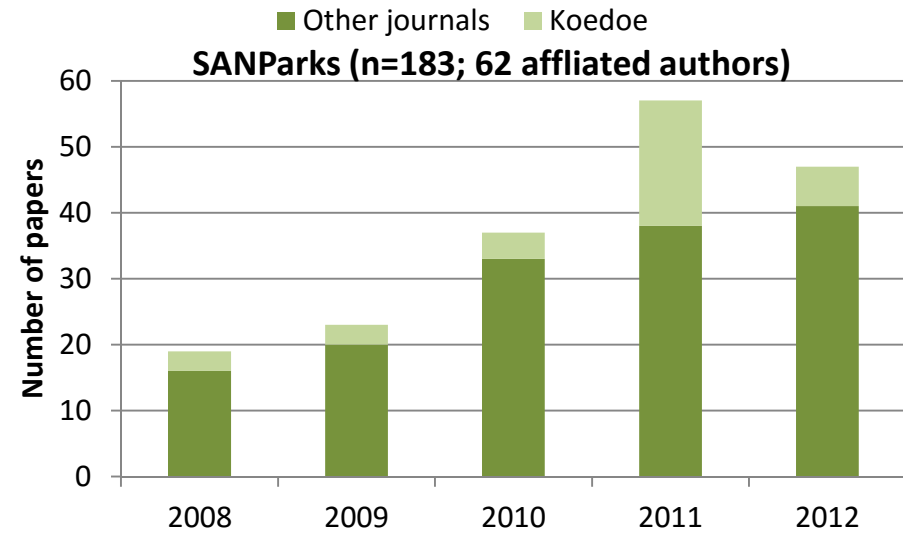
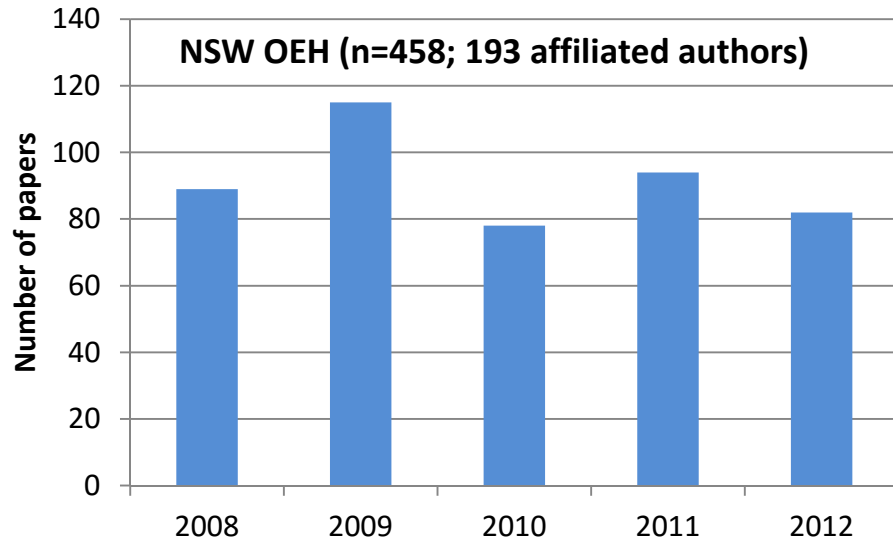
Management of PAs

- PAs an accepted strategy for buffering the planet and humanity against environmental degradation
 - 15% of terrestrial realm and 8% of marine env.
 - Management:
 - shift from command-and-control to adaptive management,
 - imperfect understanding – need for ongoing learning
 - wicked problems and trade-offs
 - Need to be supported by rigorous evidence and purposeful learning
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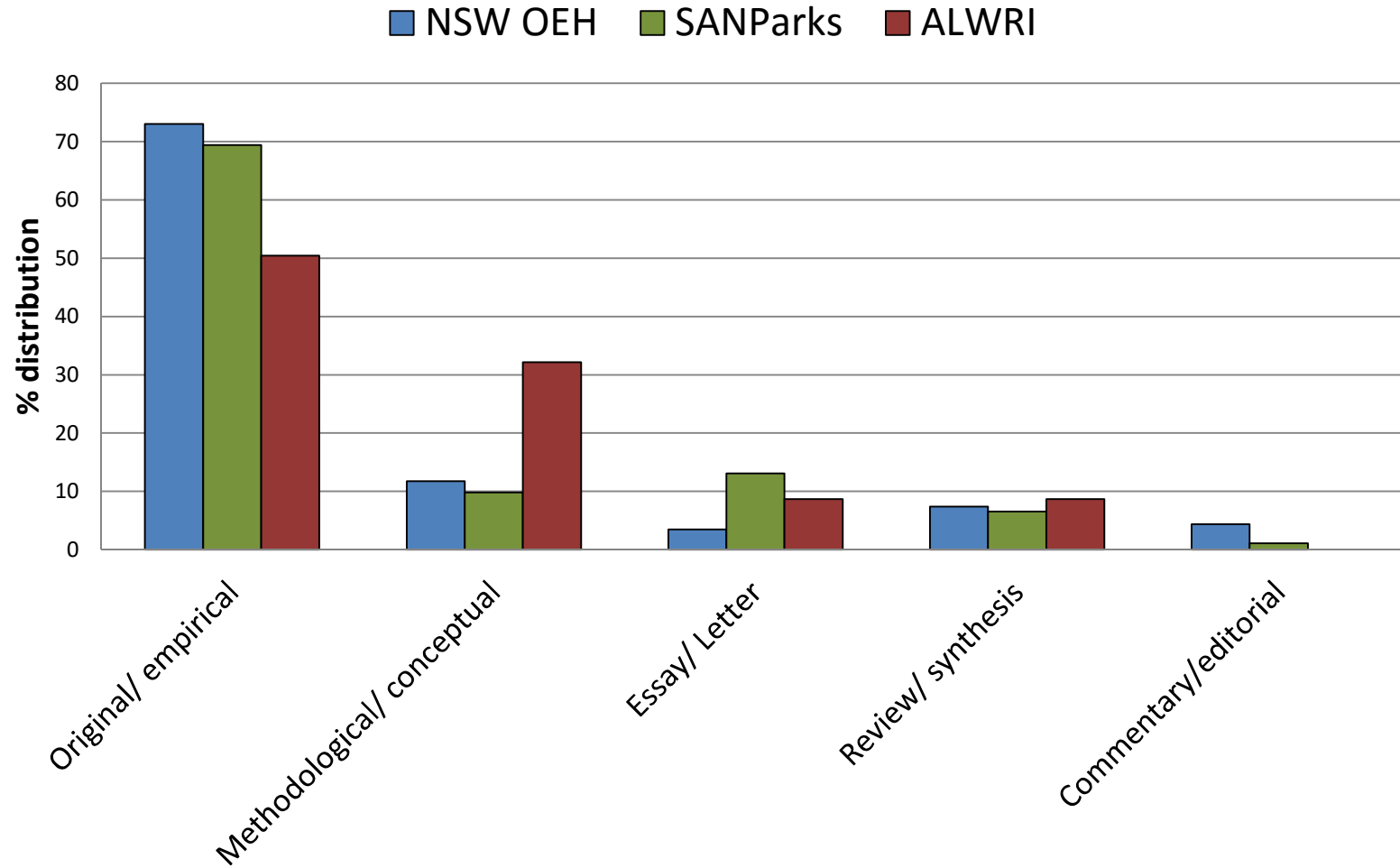
Our study

- What role can in-house agency research play in responding to this need?
- Three case study agencies:
 - New South Wales Office of Environment and Heritage, Australia (**NSW OEH**)
 - South African National Parks (**SANParks**)
 - USFS: Aldo Leopold Wilderness Research Institute (**ALWRI**)
- Explored two dimensions of scientific information:
 - **Reliability**, achieved through peer-reviewed publication
 - **Relevance**, achieved through purposeful stakeholder engagement
- Research output and bibliometrics for period 2008-2012

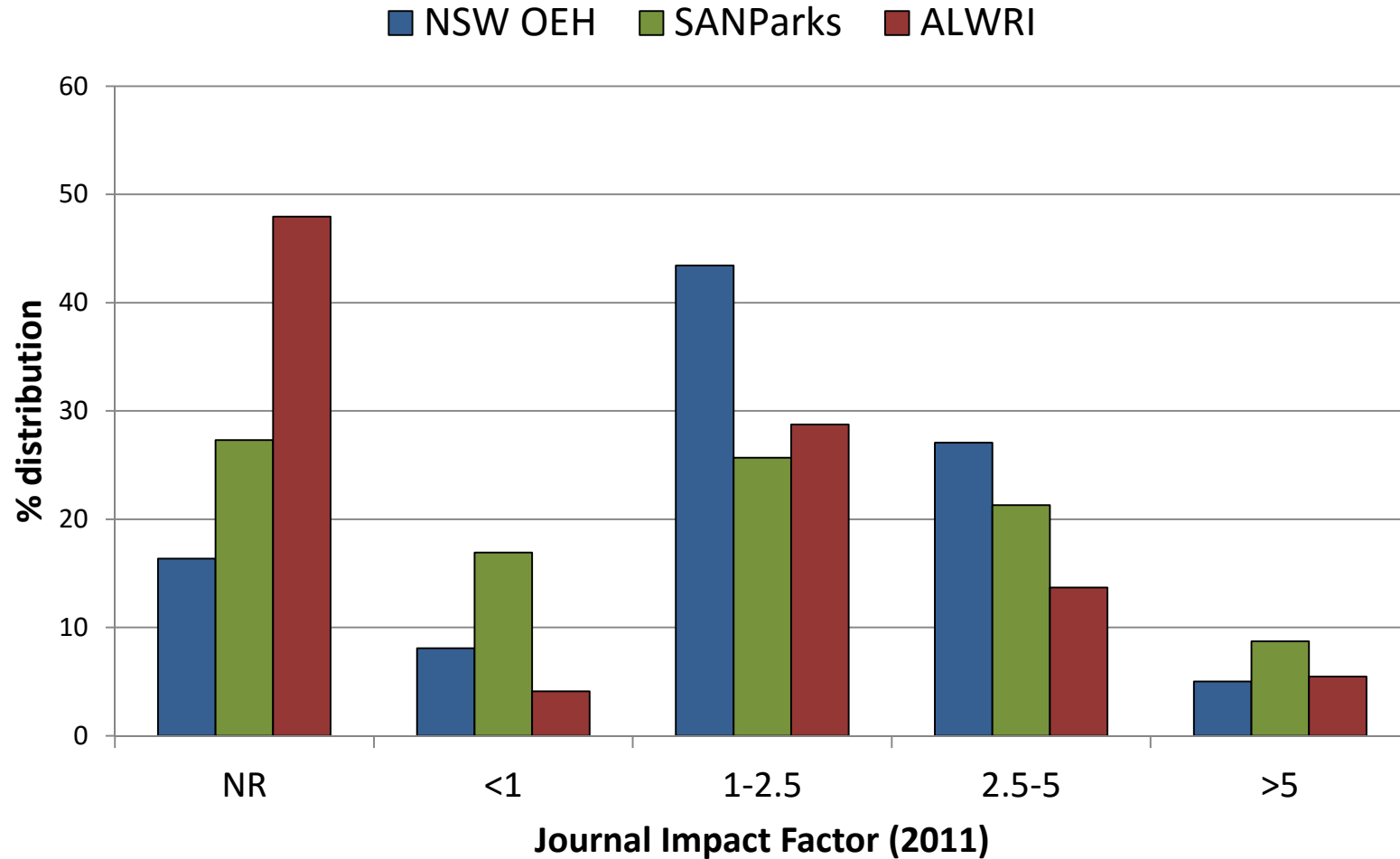
Reliability: peer-reviewed publication



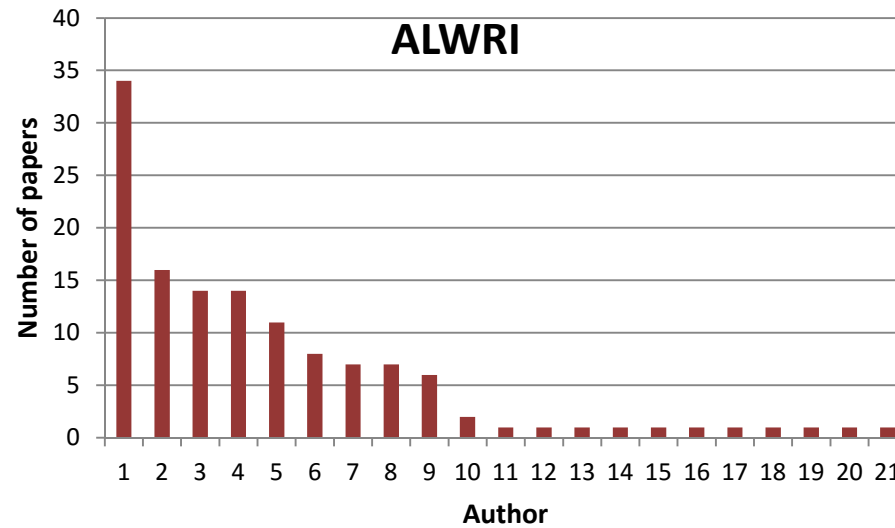
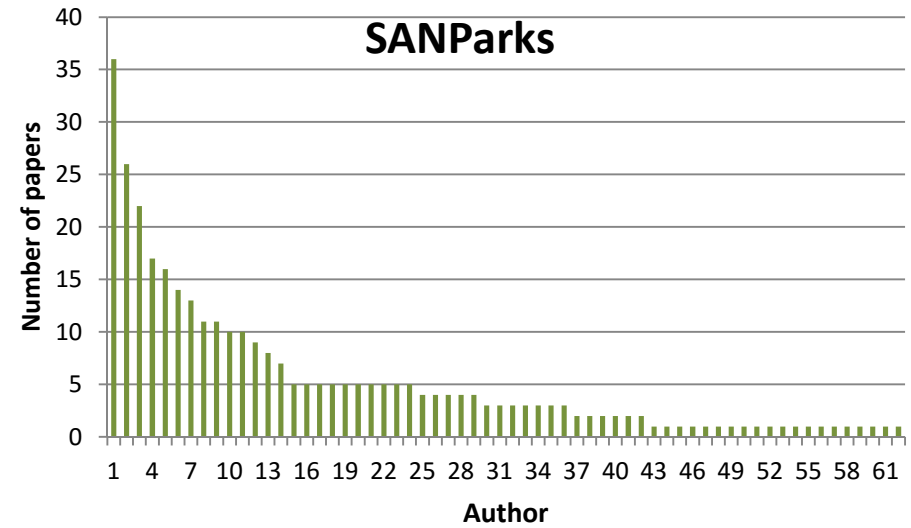
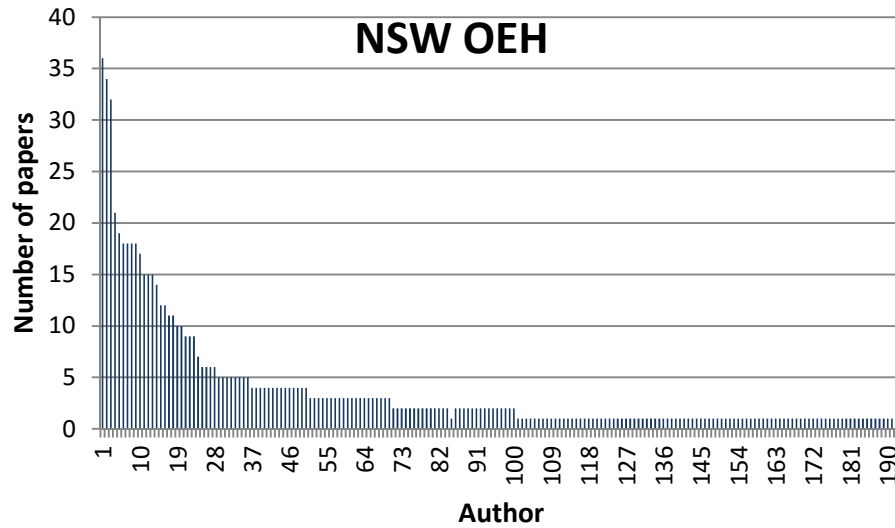
Reliability: manuscript types



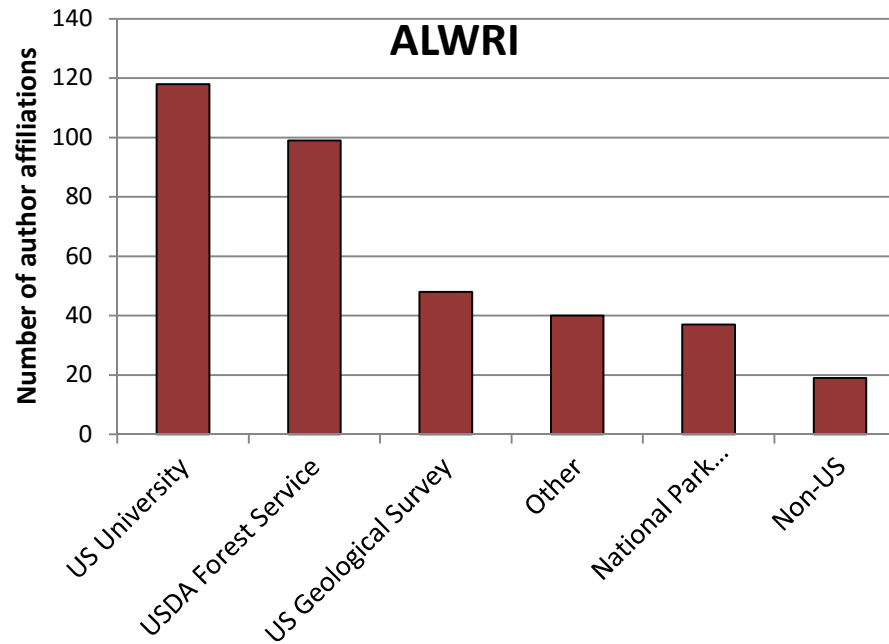
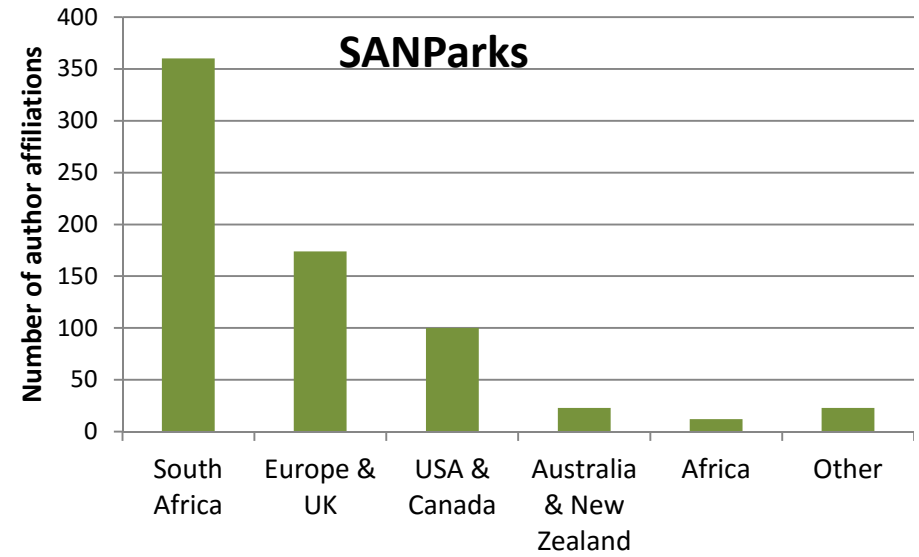
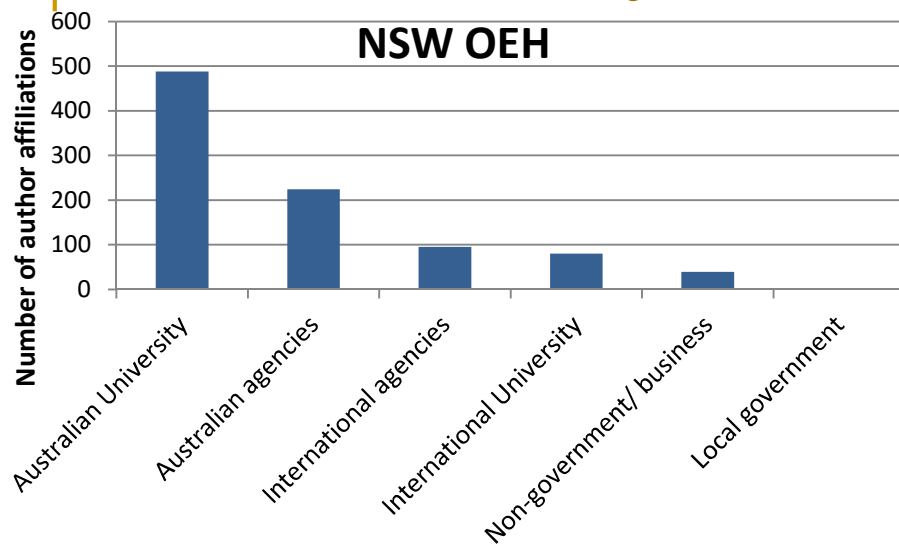
Reliability: journal impact factor



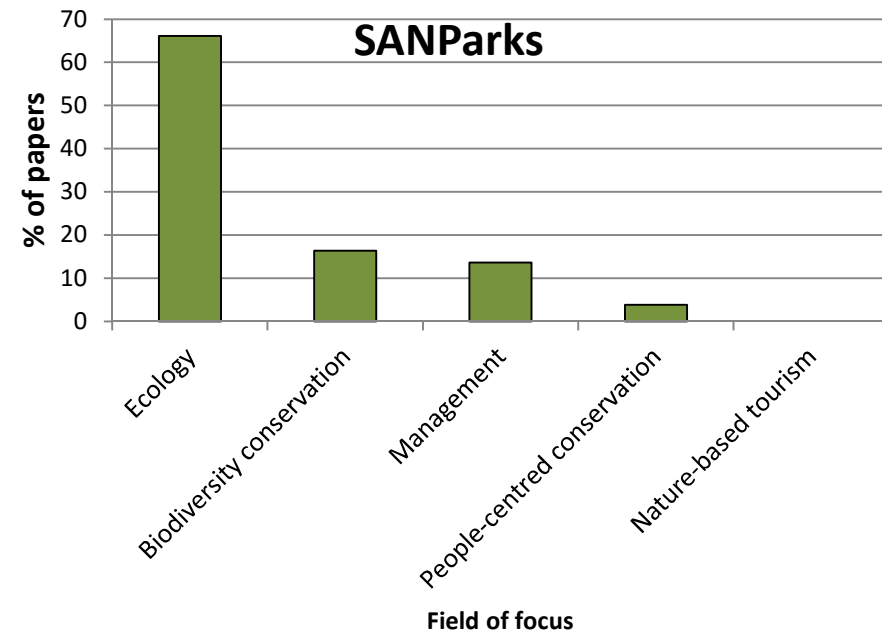
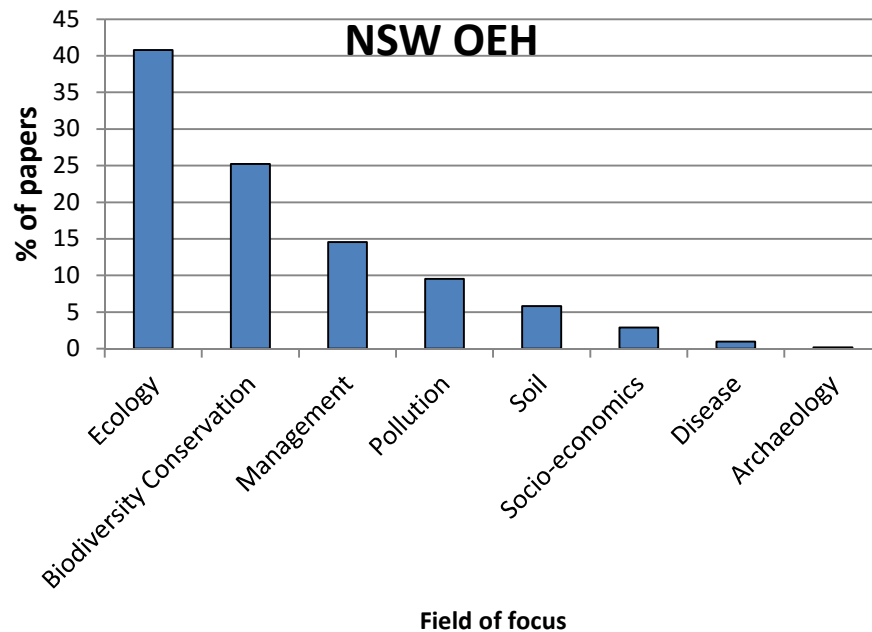
Reliability: leadership in science



Reliability: research collaboration

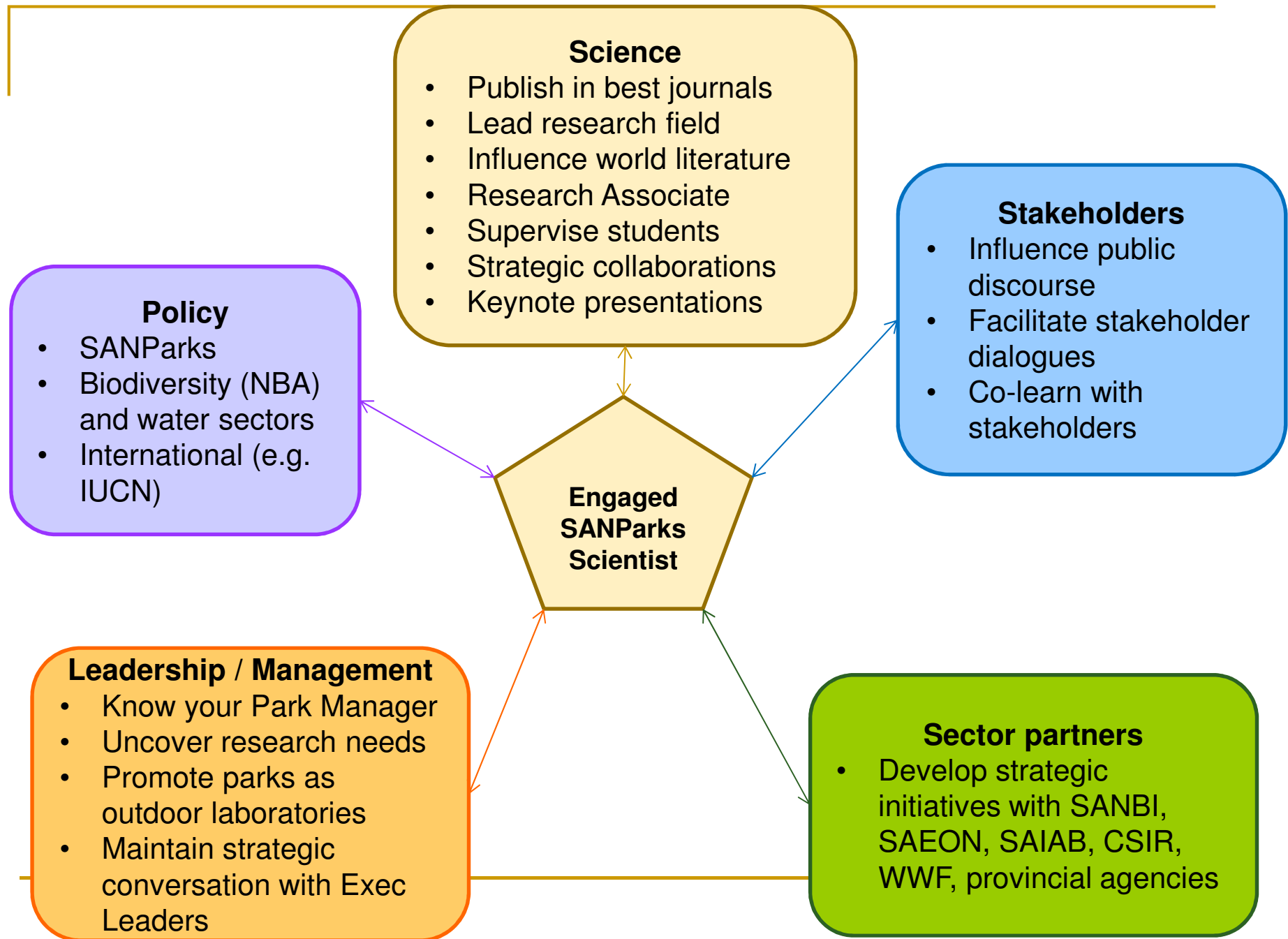


Relevance: alignment with org. objective

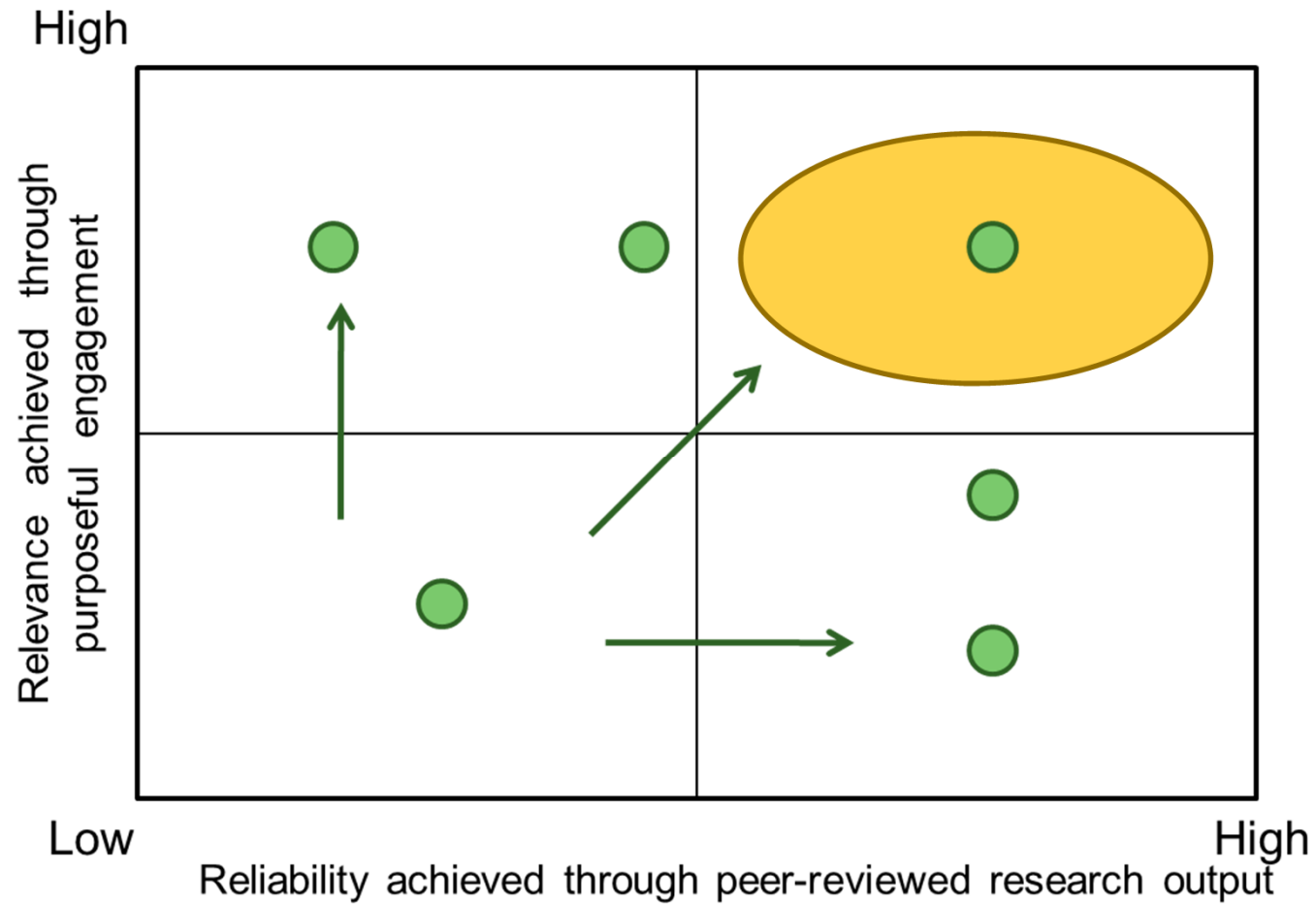


Relevance: outreach / engaged science

The world's [and our] understanding of engagement is shifting, from the traditional “**provide input and advice**” model to one of **collaborative learning** and reflection during which issues are jointly framed and new understanding and decision options are cooperatively created.



Two dimensions of impact



Contemporary agency scientist

- From natural historians to bridging agents
- Multi-disciplinary to inter- and transdisciplinary
- Dual allegiance: science community and agency bureaucracies
- Not same resources as university counterparts

And,

- Science functions >5% of total agency staff
 - Many agencies scaling down on science capacity
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Creating and enabling effective agency science

- Guidelines for institutional arrangements – develop and enable effective agency science
- IUCN Task Force

