

Assessing governance structures for addressing habitat loss and hunting of migratory shorebirds in the EAAF

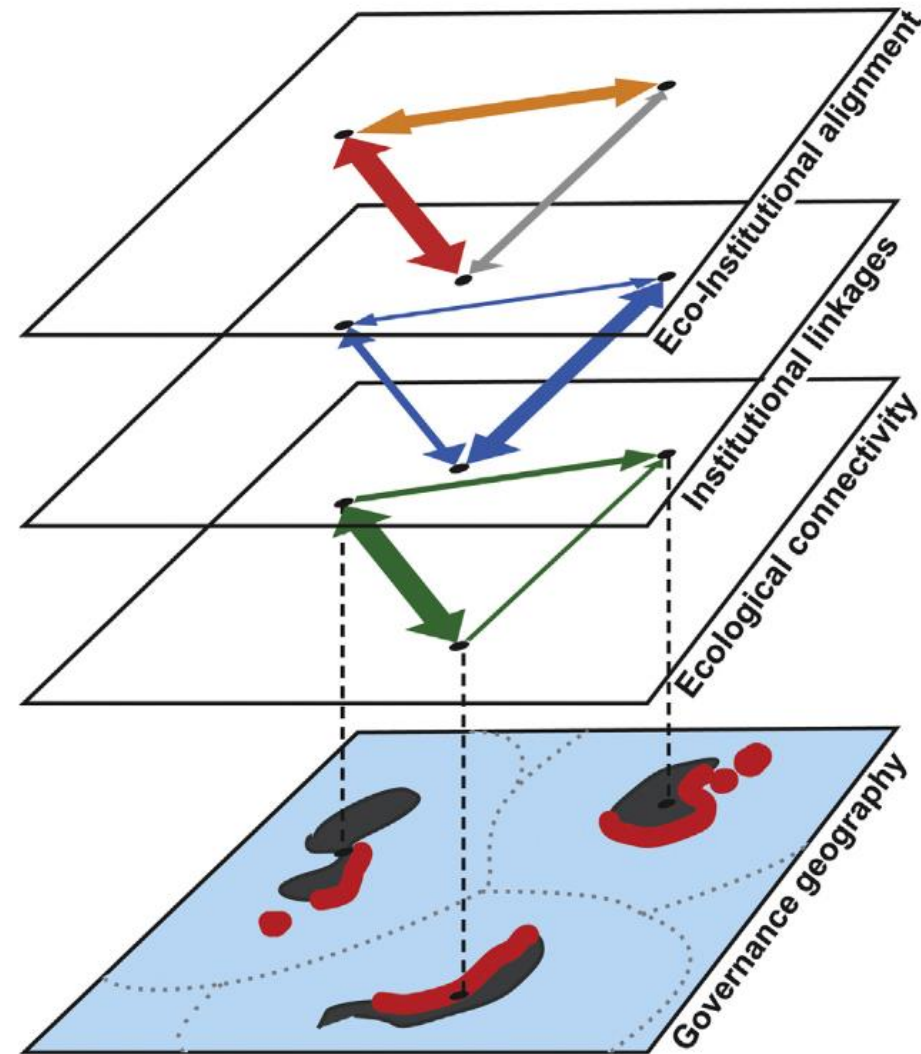
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What is social-ecological fit?



Taken from Tremblay et al. (2015). Global Environmental Change.



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Policy analysis

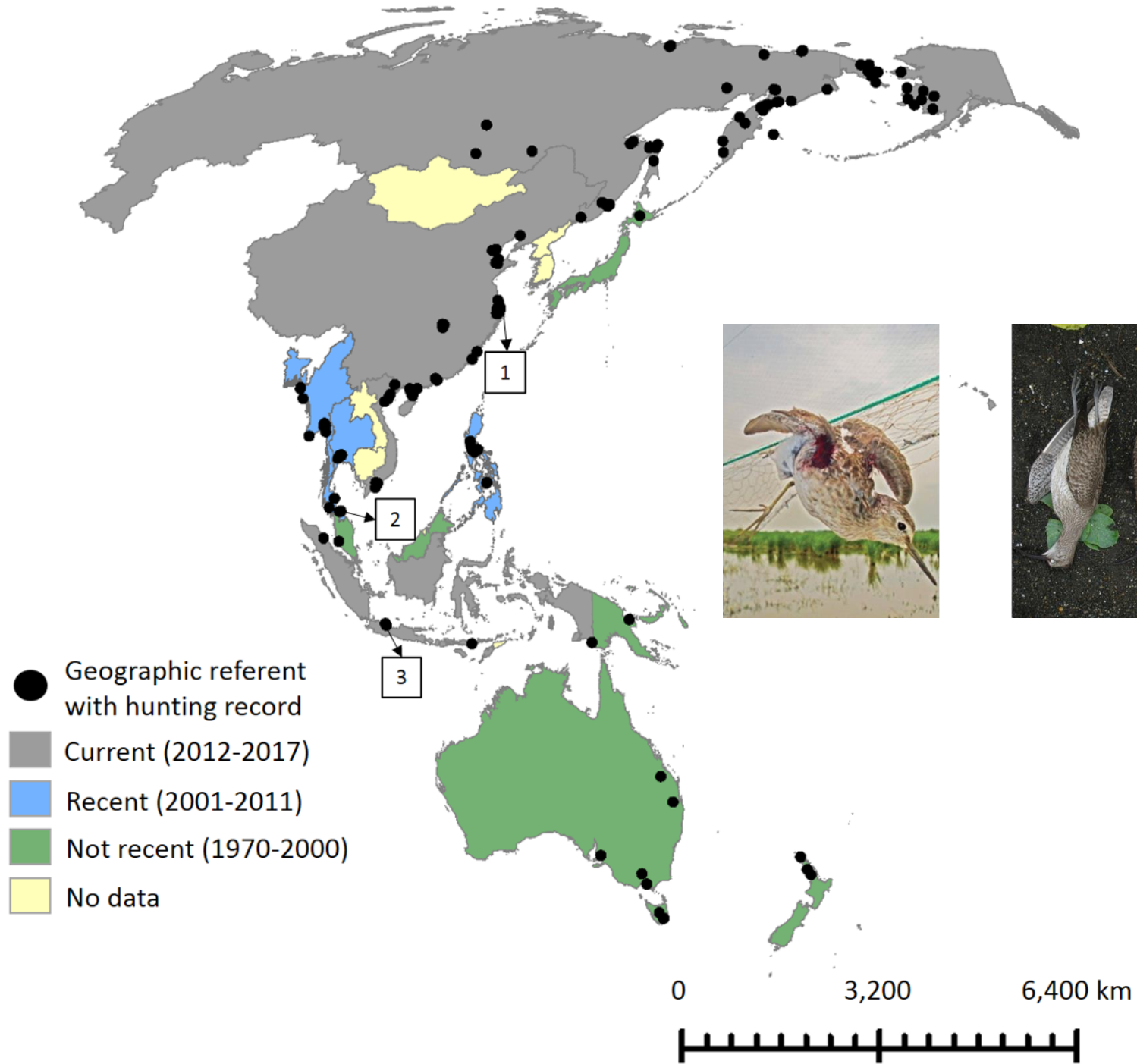
Extent and potential impact of hunting on migratory shorebirds in the Asia-Pacific



Eduardo Gallo-Cajiao^{a,b,*}, Tiffany H. Morrison^{b,c}, Bradley K. Woodworth^a, Alexander C. Lees^{d,e}, Liliana C. Naves^f, Ding Li Yong^g, Chi-Yeung Choi^h, Taej Mundkurⁱ, Jeremy Bird^a, Anuj Jain^g, Konstantin Klovov^j, Evgeny Syroechkovskiy^k, Sayam U. Chowdhury^l, Vivian Wing Kan Fu^m, James E.M. Watson^{b,n}, Richard A. Fuller^a

Question # 1: What is the current state of knowledge of hunting?


Question # 2: Does hunting have the potential to explain population declines?



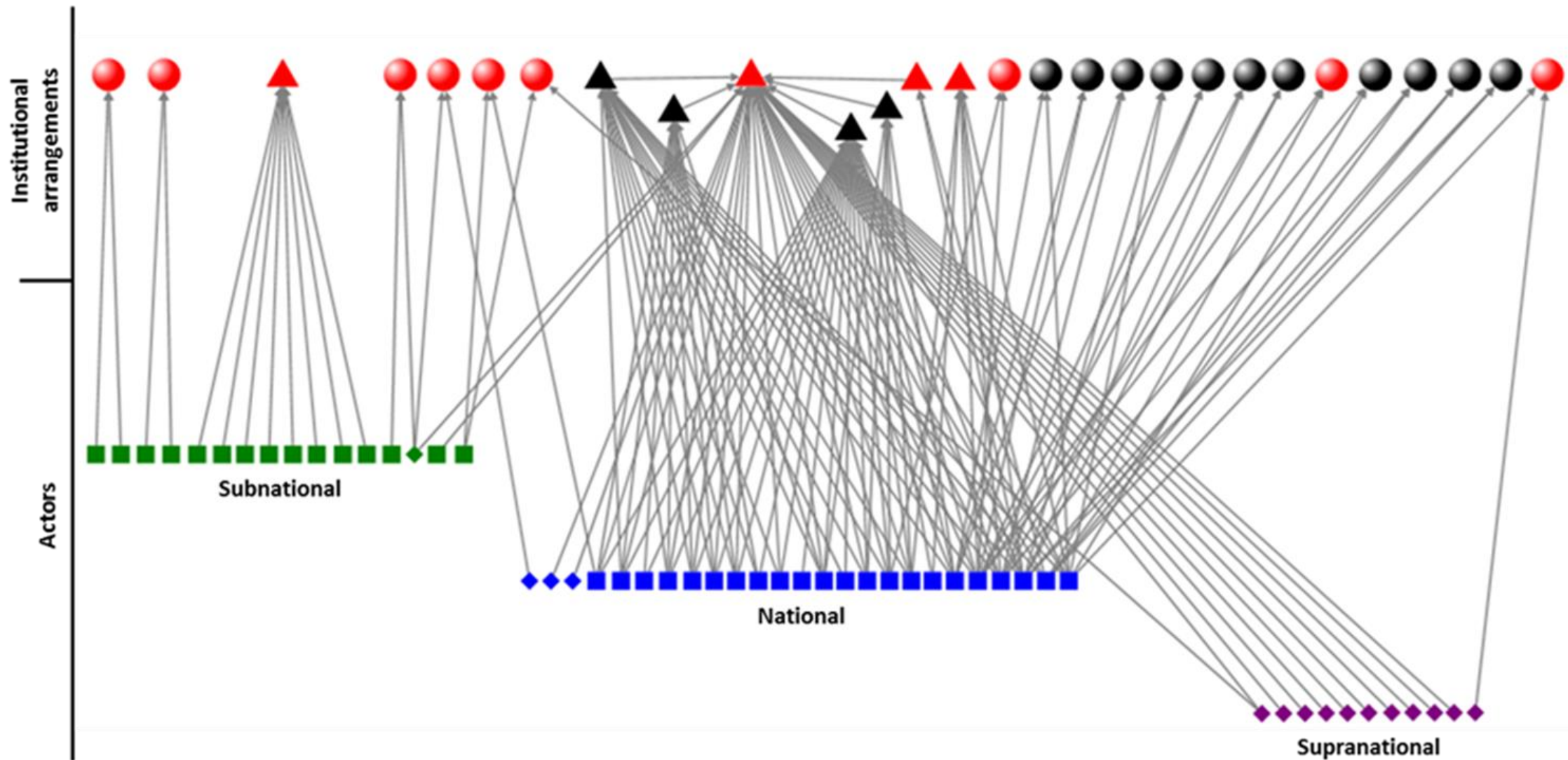


RESEARCH ARTICLE

Agreements for conserving migratory shorebirds in the Asia–Pacific are better fit for addressing habitat loss than hunting

Eduardo Gallo-Cajiao , Tiffany H. Morrison, Richard A. Fuller

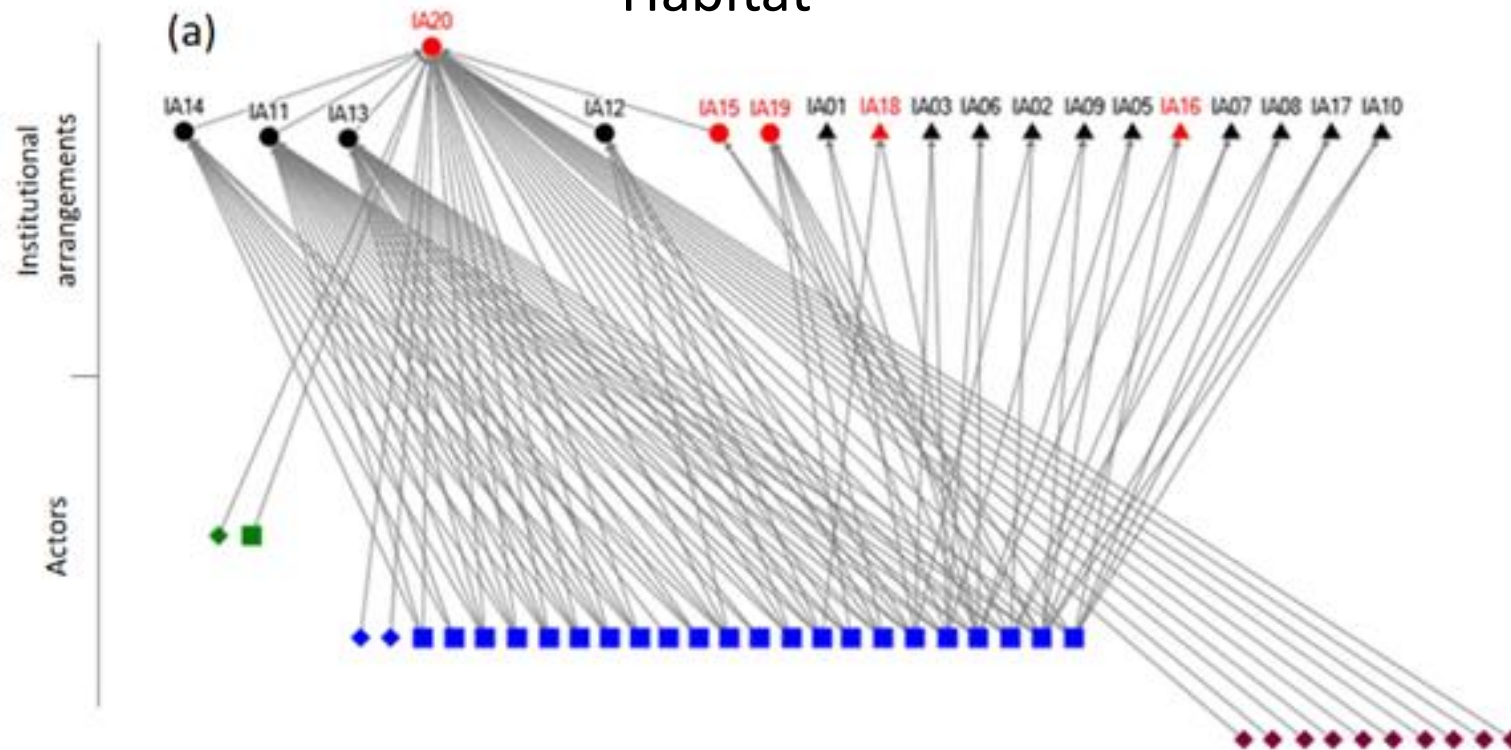
What is the social-ecological fit of the governance framework in relation to habitat conservation and hunting management?



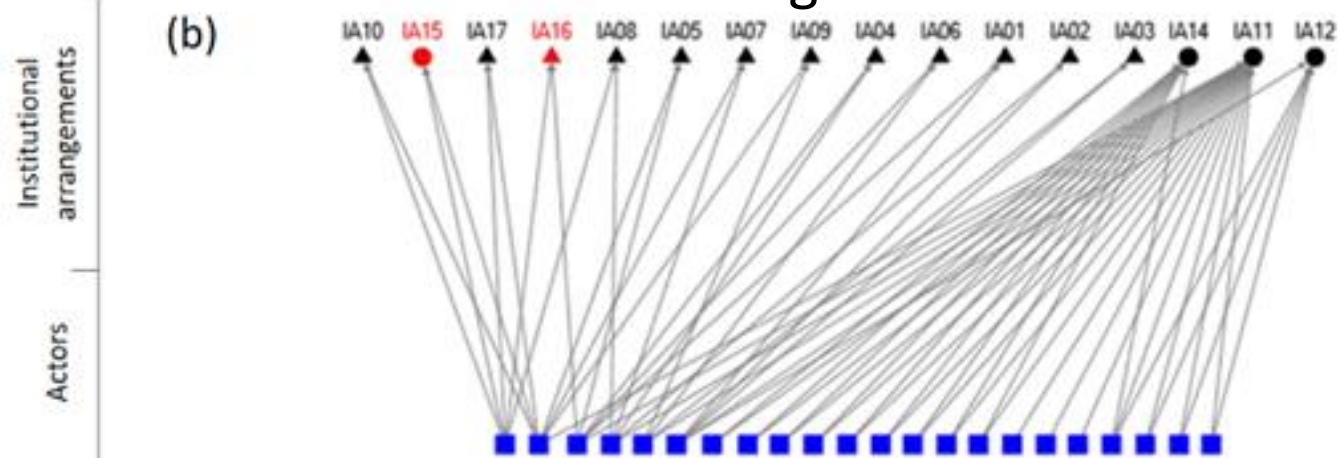
Gallo-Cajiao et al. 2019. Regional Environmental Change.

(1) What are the specific governance architectures for habitat designation and hunting management in terms of actors and institutional arrangements?

Habitat

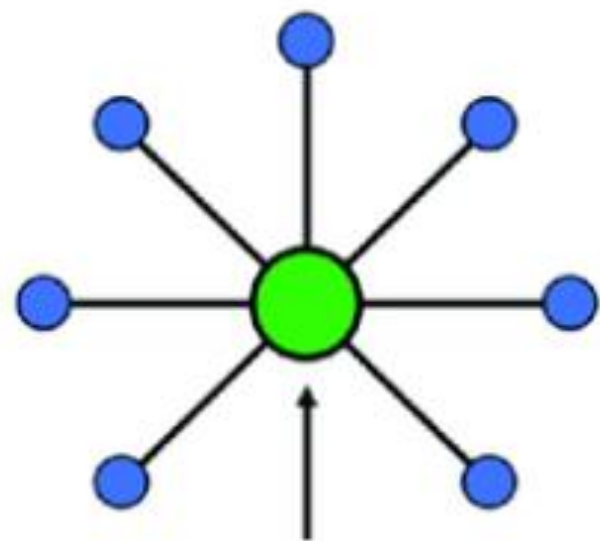


Hunting



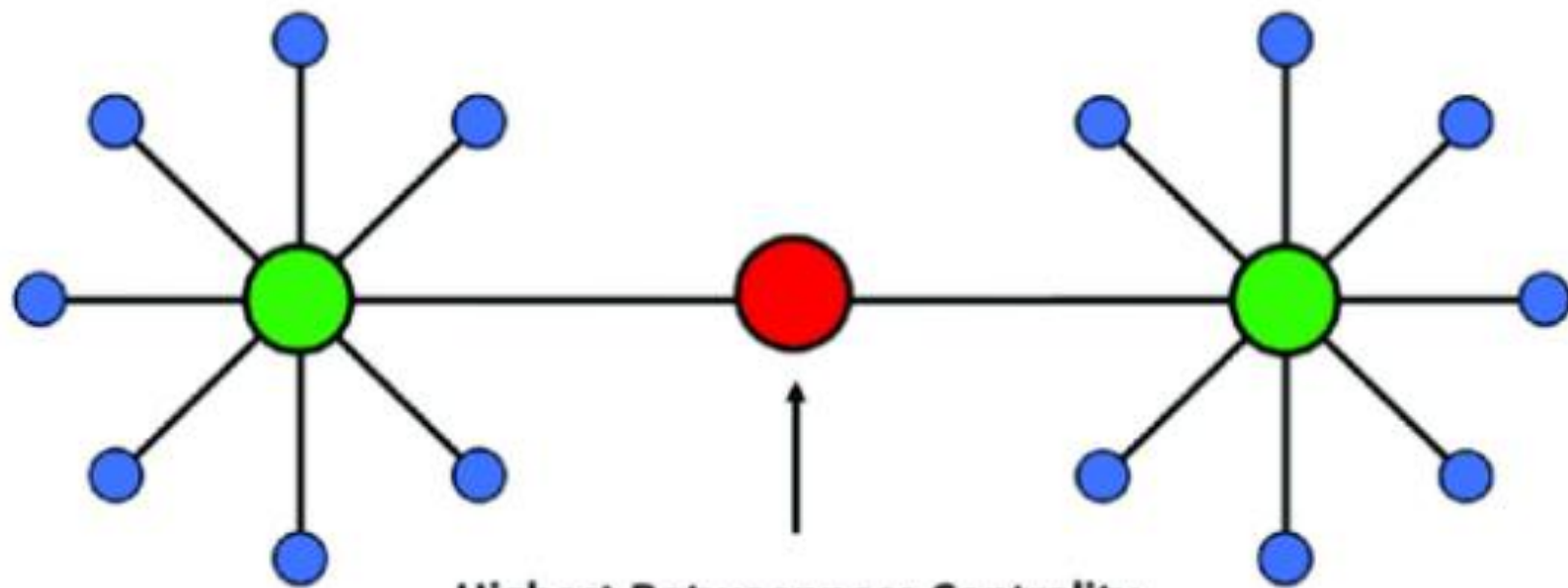
(2) How does the coordinating capacities of the habitat designation and hunting management governance architectures differ?

A Degree Centrality



Highest Degree Centrality

B Betweenness Centrality

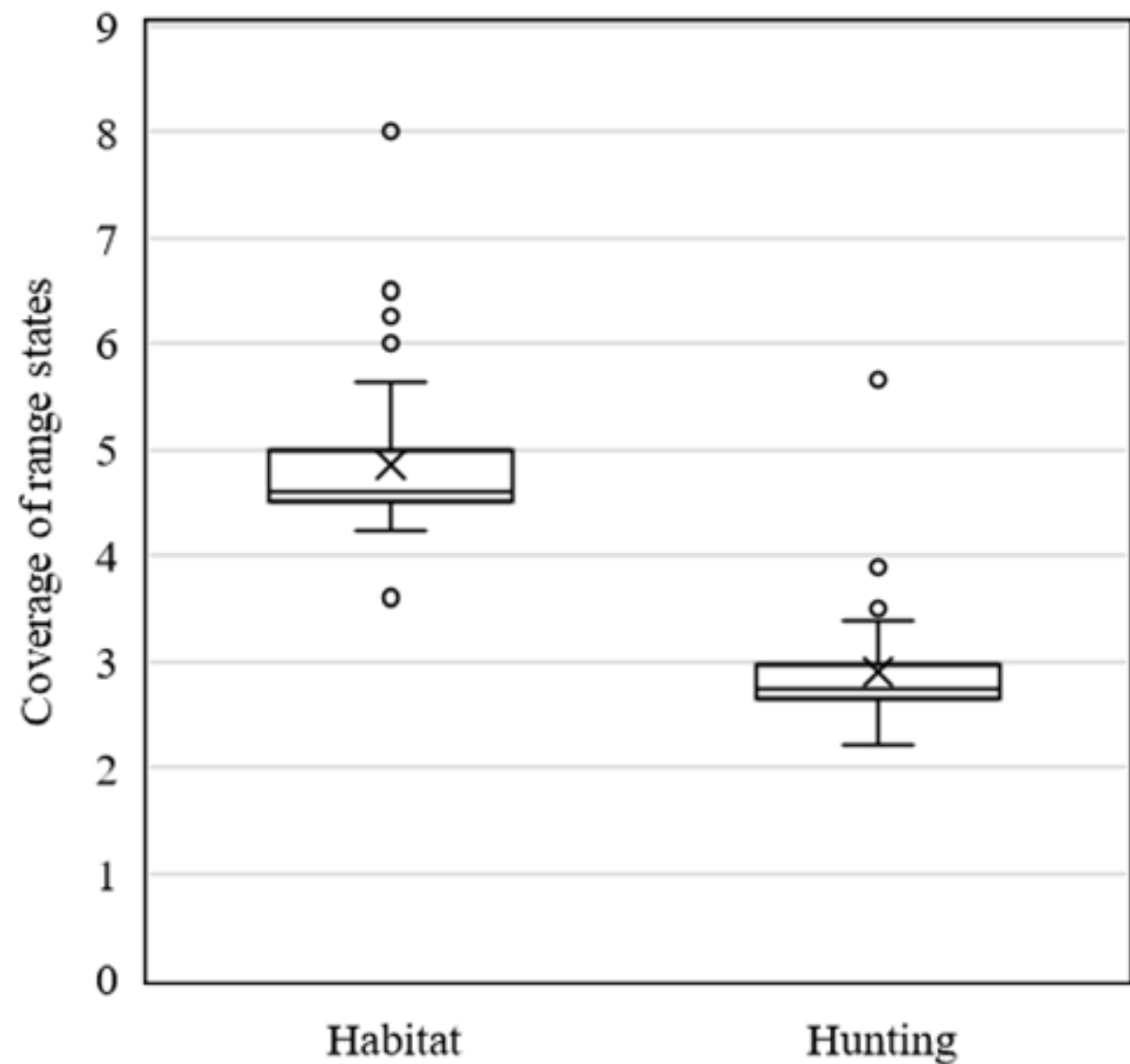
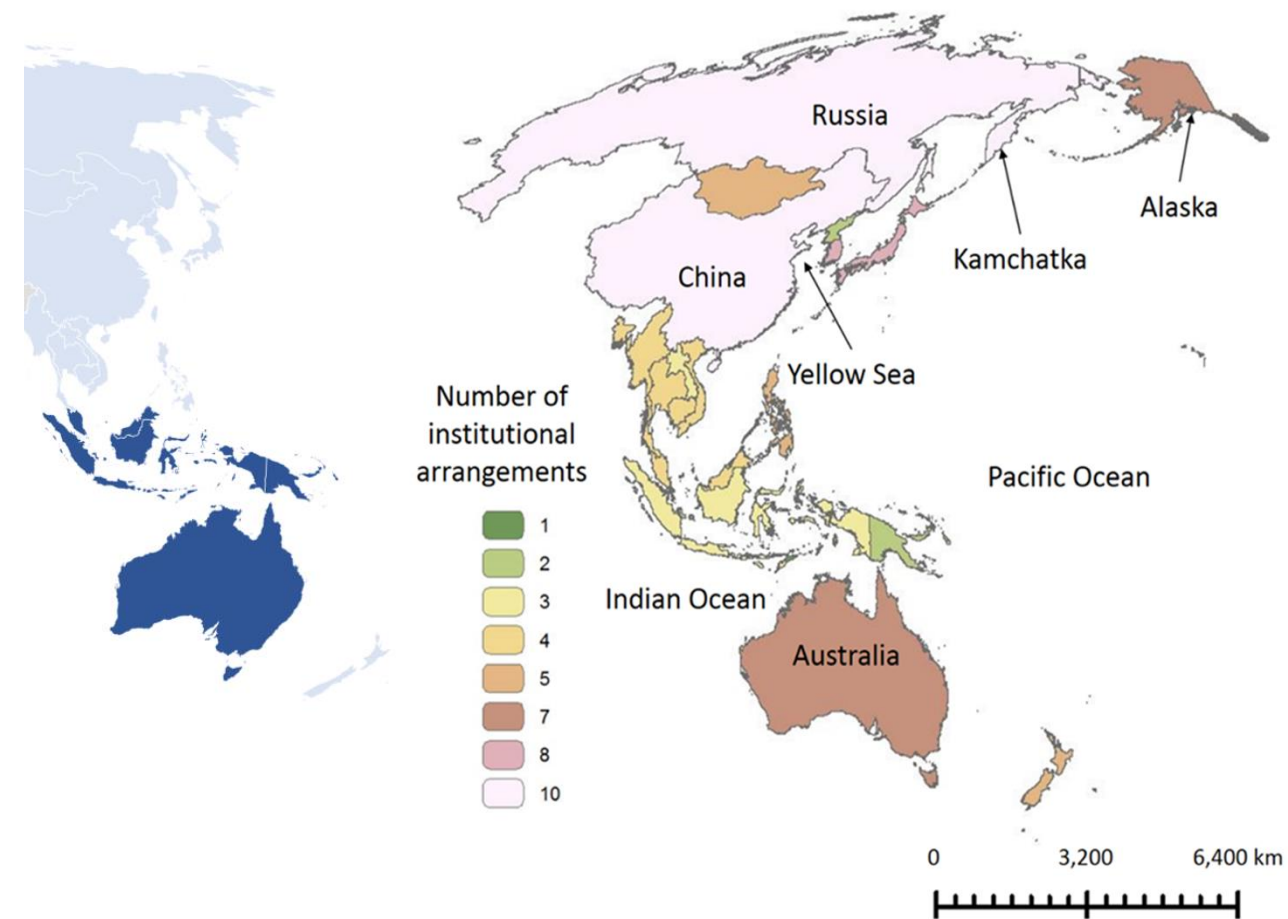


Highest Betweenness Centrality

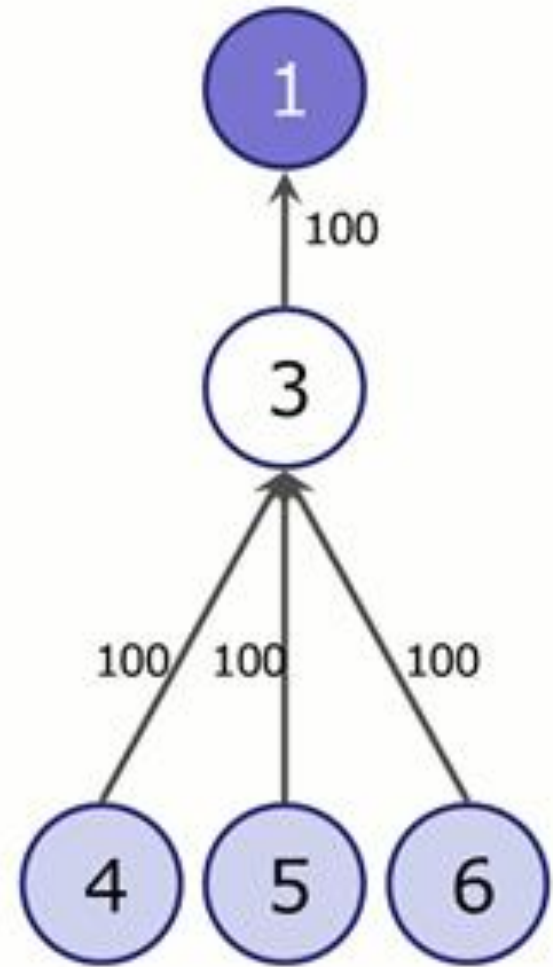
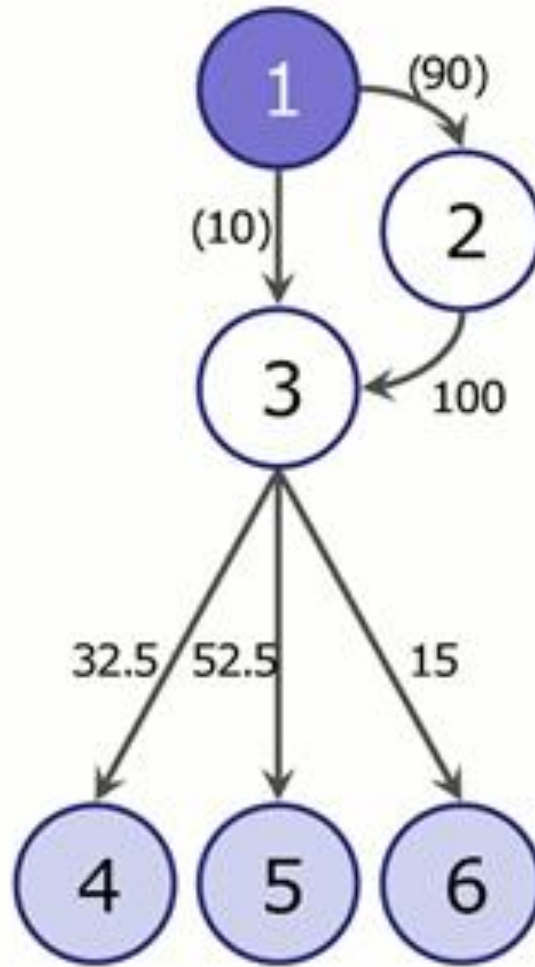
Code/Institutional arrangement	Issue scope	Betweenness centrality	
		Habitat	Hunting
IA01/Australia–China Bilateral Migratory Bird Agreement	S	1.558	4.188
IA02/Australia–Japan Bilateral Migratory Bird Agreement	S	1.140	3.902
IA03/Australia–Republic of Korea Bilateral Migratory Bird Agreement	S	0.983	2.460
IA04/China–Japan Bilateral Migratory Bird Agreement	S	N/A	3.971
IA05/China–Russia Bilateral Migratory Bird Agreement	S	1.976	5.723
IA06/China–Republic of Korea Bilateral Migratory Bird Agreement	S	1.268	3.471
IA07/Japan–Russia Bilateral Migratory Bird Agreement	S	1.297	4.861
IA08/Japan–USA Bilateral Migratory Bird Agreement	S	1.400	10.065
IA09/Russia–Republic of Korea Bilateral Migratory Bird Agreement	S	1.399	5.740
IA10/Russia–USA Bilateral Migratory Bird Agreement	S	1.091	6.464
IA11/Convention on Biological Diversity	G	235.283	489.632
IA12/Convention on Migratory Species	S	5.008	9.506
IA13/Ramsar Convention	S	159.823	N/A
IA14/ASEAN Centre for Biodiversity	G	29.131	24.000
IA15/Conservation of Arctic Flora and Fauna Working Group	G	1.091	6.464
IA16/USA–China Protocol on Field of Conservation of Nature	G	2.247	12.088
IA17/USA–Russia Agreement in the Field of the Environment and Natural Resources	G	1.091	6.464
IA18/China–New Zealand arrangement for migratory shorebird conservation	S	0.877	N/A
IA19/Framework for North-East Asian Cooperation	G	16.159	N/A
IA20/East Asian–Australasian Flyway Partnership	S	855.279	N/A

(3) How does the institutional coverage for each migratory shorebird species across their corresponding range states differ in relation to habitat designation and hunting management?

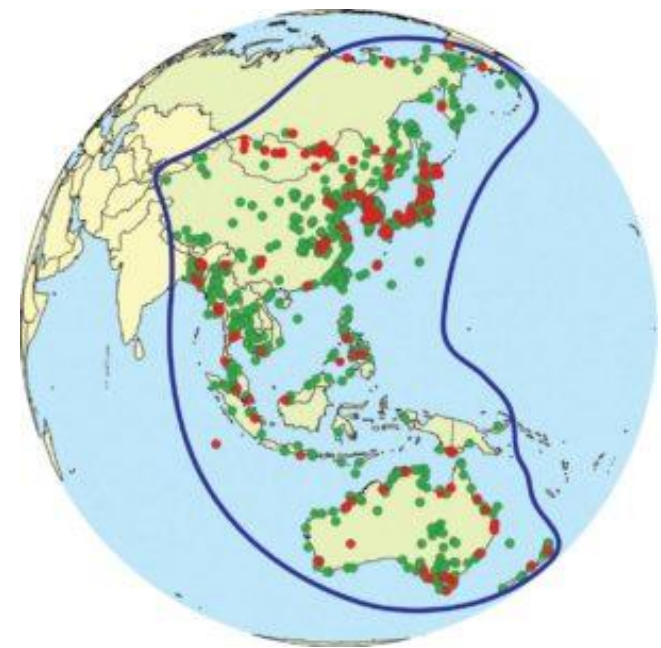
English name	Australia	Bangladesh	Brunei
Asian Dowitcher	7	4	2
Australian Pratincole	7	N/A	N/A
Bar-tailed Godwit	7	4	2
Black-tailed Godwit	7	4	2



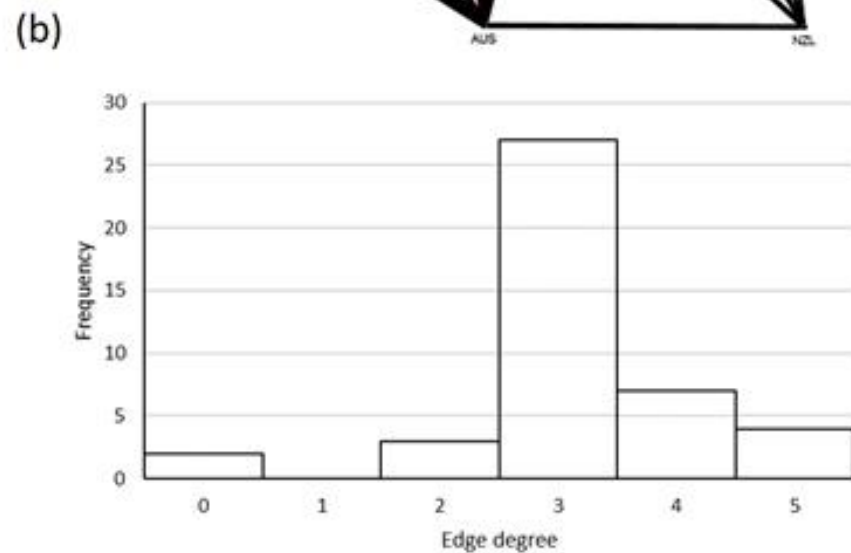
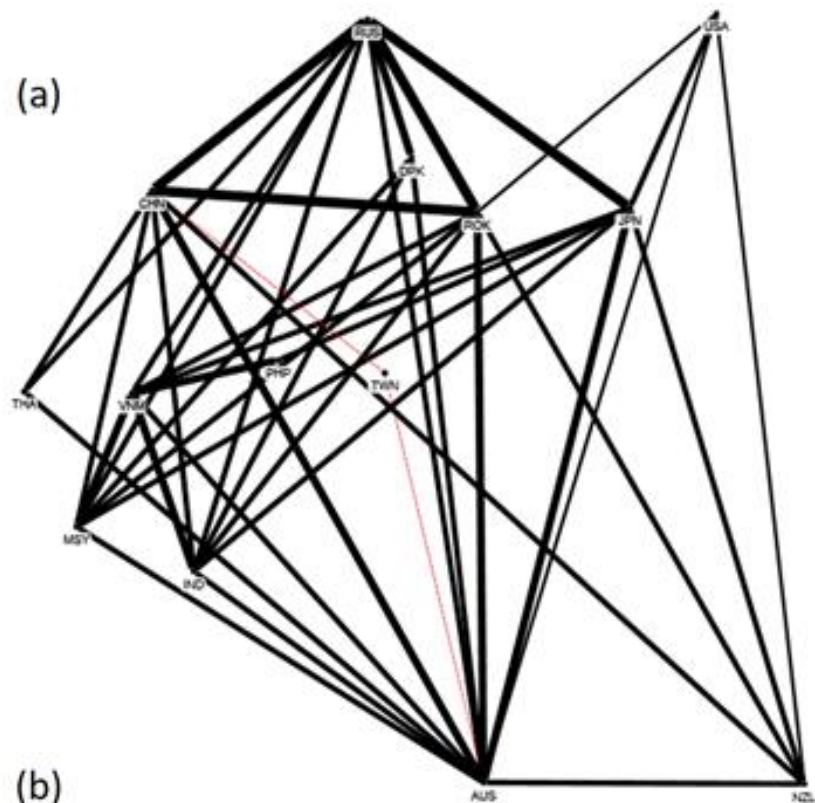
(4) How does the degree of connectivity of the migratory network for select taxa differ in relation to the governance architectures for habitat designation and for hunting management?



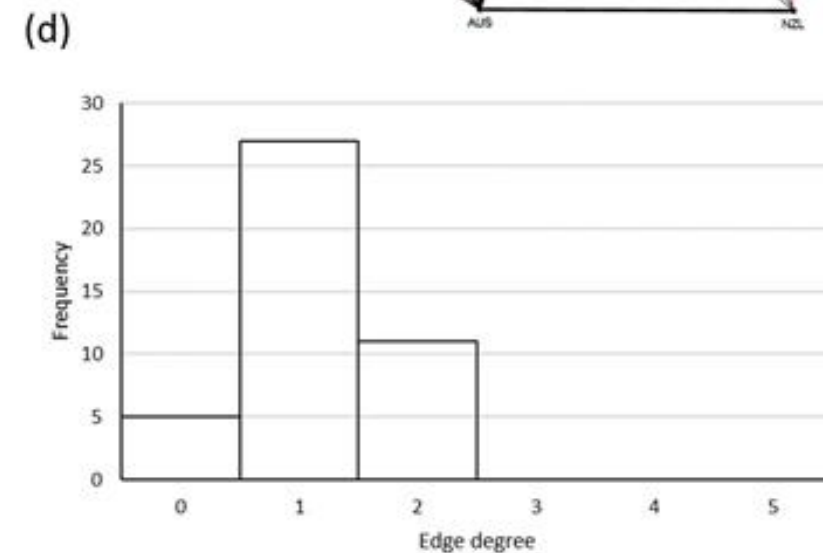
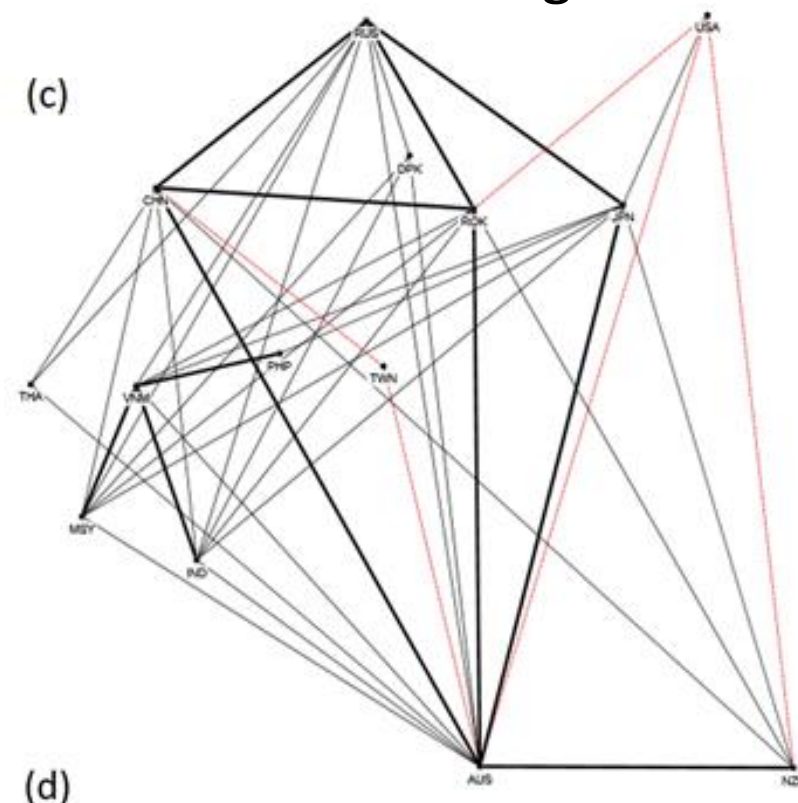
Iwamura et al. (2013). Proc. Royal Soc. B.



Habitat



Hunting



Take home messages

- Habitat conservation is better addressed than hunting management
- Habitat conservation is primarily a matter of implementation, whereas hunting requires attention to institutional design

Acknowledgements

Smith Fellows 



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W UNIVERSITY of
WASHINGTON



CONSERVATION
INTERNATIONAL



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA



ARC Centre of Excellence
Coral Reef Studies



And many, many people!

Questions?