



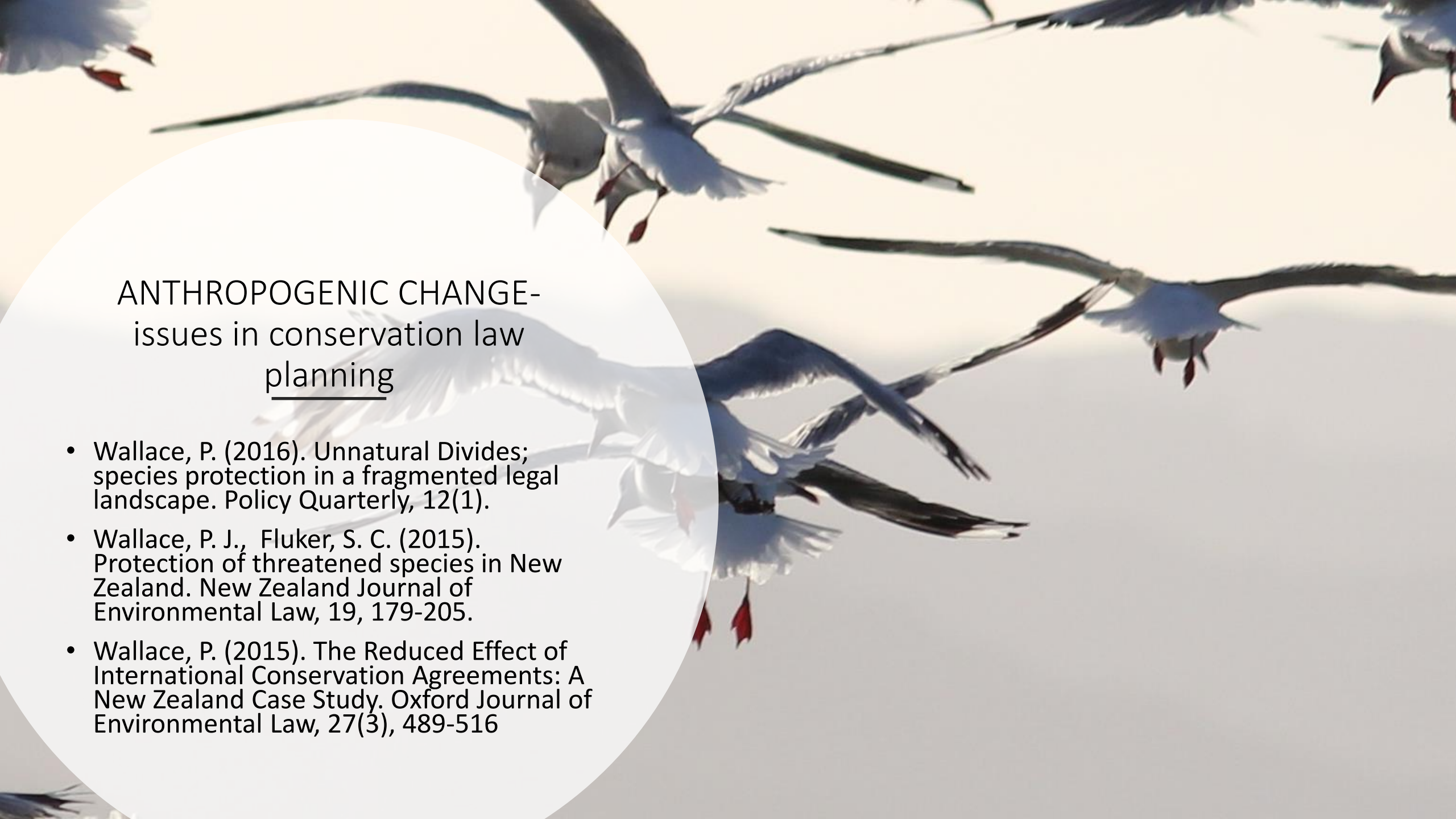
Spatial protection for wildlife – issues in law and planning

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ANTHROPOGENIC CHANGE

- Landscapes, seascapes and airscaes subject to significant modification and pressure by human activity
- Fragmented landscapes fragmented lawscapes





ANTHROPOGENIC CHANGE- issues in conservation law planning

- Wallace, P. (2016). Unnatural Divides; species protection in a fragmented legal landscape. *Policy Quarterly*, 12(1).
- Wallace, P. J., Fluker, S. C. (2015). Protection of threatened species in New Zealand. *New Zealand Journal of Environmental Law*, 19, 179-205.
- Wallace, P. (2015). The Reduced Effect of International Conservation Agreements: A New Zealand Case Study. *Oxford Journal of Environmental Law*, 27(3), 489-516

Protection

- Control of development
- Strategic planning



Strategic spatial planning for wildlife

Institutional silos limit the ability to strategically plan for wildlife habitat and connections across jurisdictional boundaries

The lack of a national spatial plan and the lack of strong national policy for habitat and species compound the problem



Abrupt boundaries

- Clear and significant benefits from protected areas/sanctuaries
- Severe disjoints between protected areas and working lands/general environment
- Opportunities exist to better plan and protect through integrated conservation planning

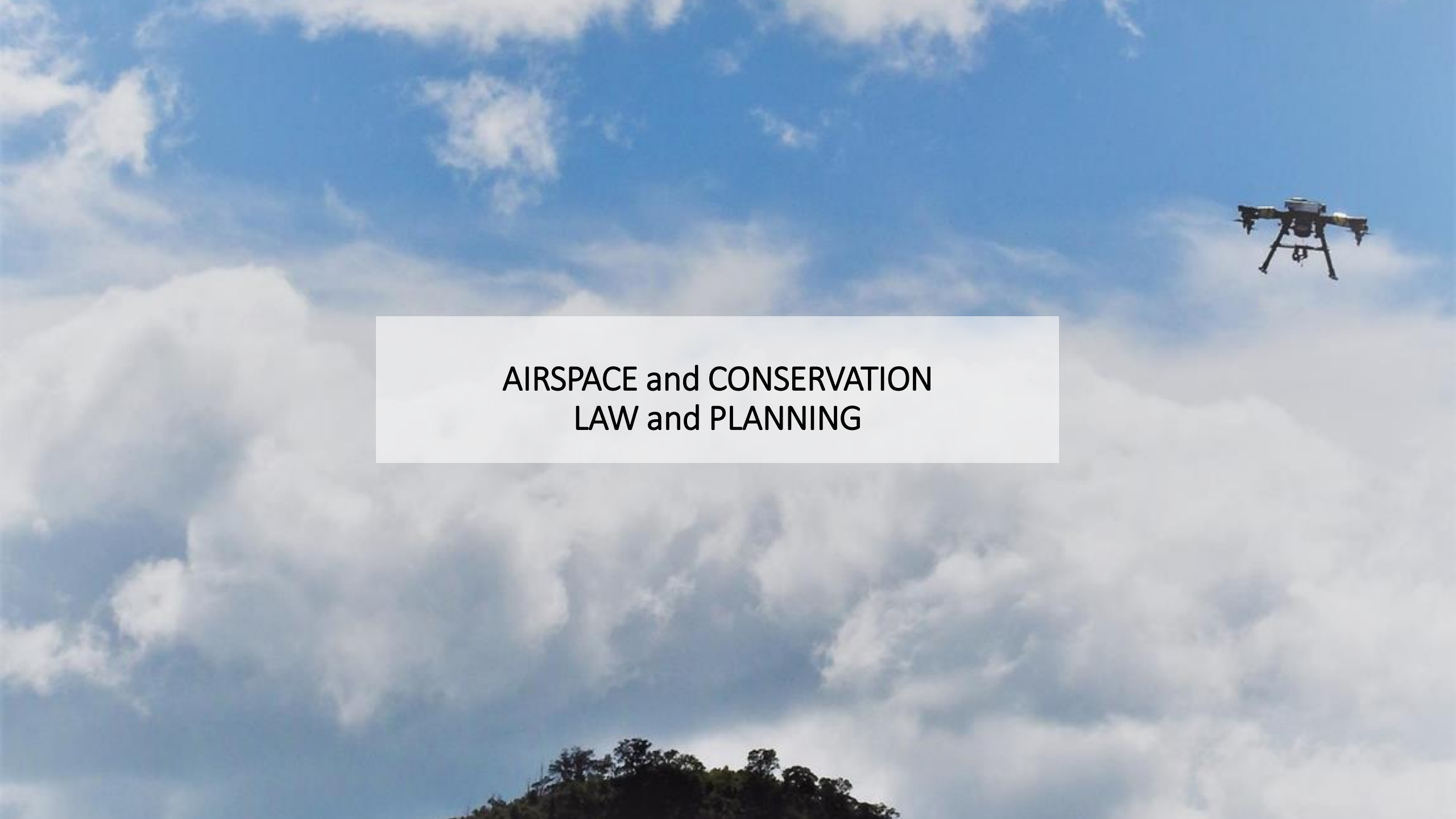




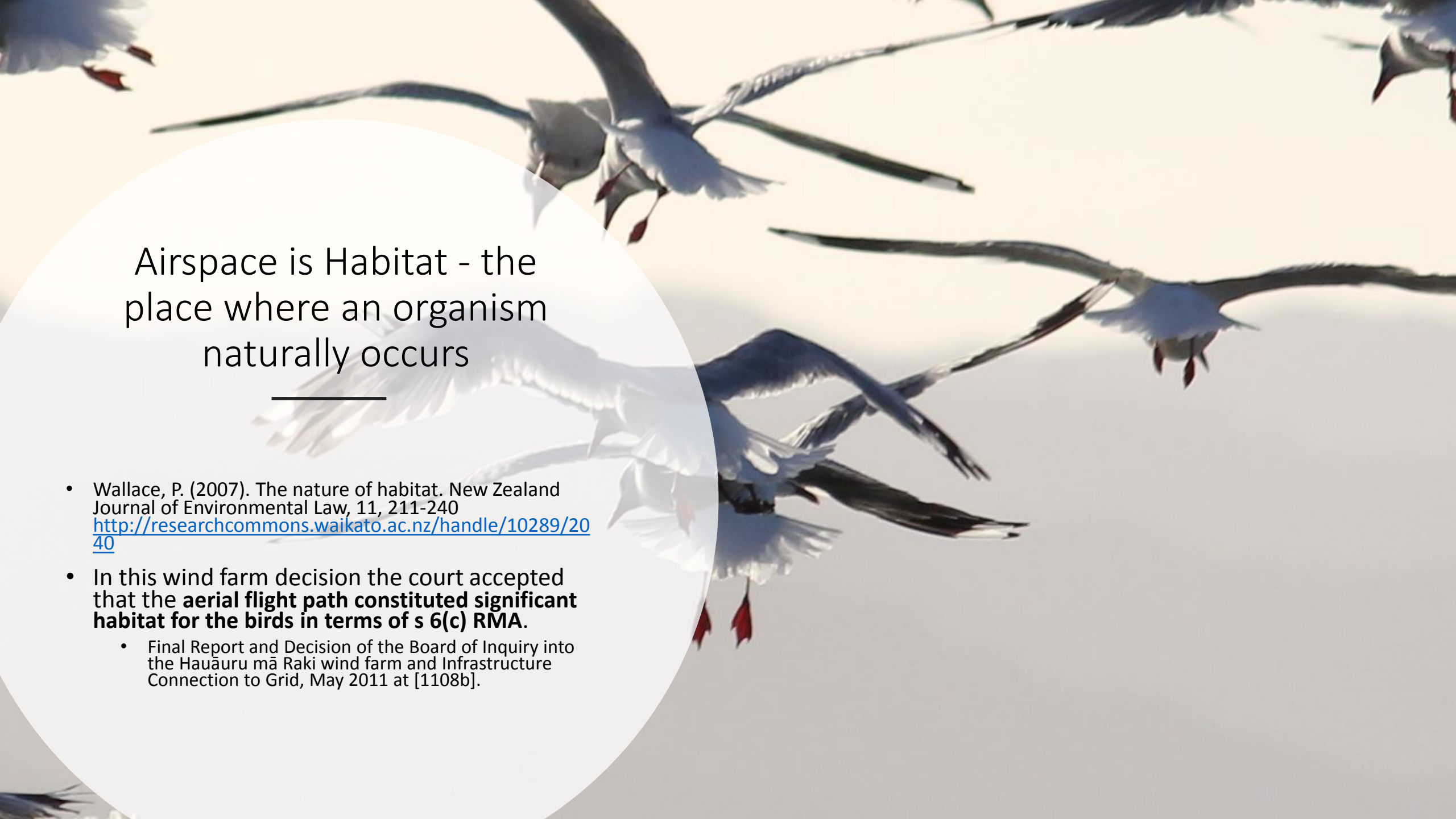
Opportunities

- Habitat mapping – all media, clear standards
- Mitigation hierarchies in landscapes
- Buffer zones (Active, consultation, passive)
- Concentric circles
- Landscapes of precaution
- Disturbance setback distances from species

Wallace, P. (2016). Managing human disturbance of wildlife in coastal areas. *New Zealand Geographer*.

A black and white drone is flying in the upper right quadrant of the frame against a bright blue sky filled with scattered white clouds. In the bottom center, the dark silhouette of a forested hill is visible. A semi-transparent white rectangular box is centered in the middle of the image, containing the title text.

AIRSPACE and CONSERVATION LAW and PLANNING



Airspace is Habitat - the place where an organism naturally occurs

- Wallace, P. (2007). The nature of habitat. New Zealand Journal of Environmental Law, 11, 211-240
<http://researchcommons.waikato.ac.nz/handle/10289/2040>
- In this wind farm decision the court accepted that the **aerial flight path constituted significant habitat for the birds in terms of s 6(c) RMA.**
 - Final Report and Decision of the Board of Inquiry into the Hauāuru mā Raki wind farm and Infrastructure Connection to Grid, May 2011 at [1108b].



Protection of aerial habitat

- Compromised in several important ways

Issues

1. Law is fragmented, siloed and subject to a range of exceptions
2. Little attention to the strategic protection of airspace as habitat - largely limited to protection of terrestrial areas and to development control
3. In predicting development impacts the evidence base is vulnerable to a lack of best practice:

Özkundakci, Deniz, Pip Wallace, Hannah F. E. Jones, Stephen Hunt, and Hilke Giles. 2018. "Building a reliable evidence base: Legal challenges in environmental decision-making call for a more rigorous adoption of best practices in environmental modelling." *Environmental Science & Policy* 88:52-62. doi: <https://doi.org/10.1016/j.envsci.2018.06.018>.



Issues

4. Airspace is subject to intensifying use, and in particular the urban environment is presenting a series of new challenges for wildlife
5. The current mechanisms available require greater articulation and a more comprehensive approach



Issues

5. The arrival of drones whilst bringing some benefits for wildlife management is not well regulated in NZ particularly considering potential impacts from recreational users
6. Exclusion of drones as aircraft from the RMA weakens protection for wildlife habitat

Wallace, P., R. Martin and I. White (2017). "Keeping pace with technology: drones, disturbance and policy deficiency." *Journal of Environmental Planning and Management*: 1-18.

Wallace, P. (2016). Aerial conflicts: Drone regulation and gaps in spatial protection. *Resource Management Journal*, (August), 17-22.





Wildlife and space

- Effective coexistence requires us to rethink how we use space

Countering the flat earth society

- Planning has strong 2 dimensional aspects
- This overlooks airspace, the subterranean and water columns
- My current research investigates how we can better capture the 3rd and 4th dimensions in planning



Countering the flat earth society

- Green infrastructure
- Development standards
- Urban/regional bird standards
- Urban/regional bat standards
- Invertebrate standards and bee highways
- How to best capture impacts generated by the built environment in airspace: obstruction/collision, wind, mist, heat, glare/light intensity, shadow etc.



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