



**PREDATOR FREE NZ 2050 AND THE PROVISION OF
ECOSYSTEM SERVICES AND DISSERVICES IN HORTICULTURE:
INSIGHTS FROM NATIVE BIRDS IN ECOSANCTUARIES**



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Background

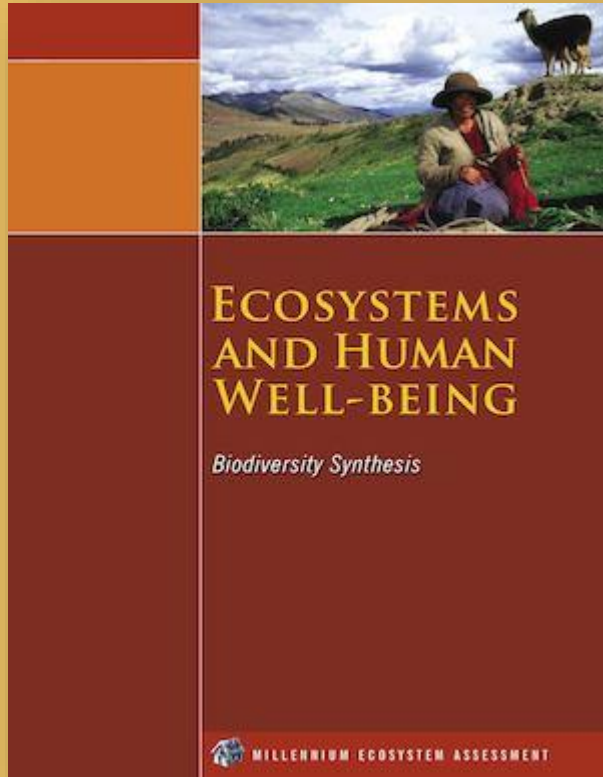


Background

- ecological release of native species with eradication of exotic mammal predators
- expected increase of native species; spillover from ecosanctuaries
- projections for the occupation of human-managed lands: horticultural systems



ecosystem services & disservices



set of ecosystem functions that are useful to humans (Kremen 2005)

ecosystem services

supporting services allow the production of all other services

provisioning services relate to 'products' that can be obtained from ecosystems

regulation services involve the natural processes that help regulate and maintain ecological balance, which in turn benefits human societies

cultural services relate to non-material benefits that can be obtained from ecosystems



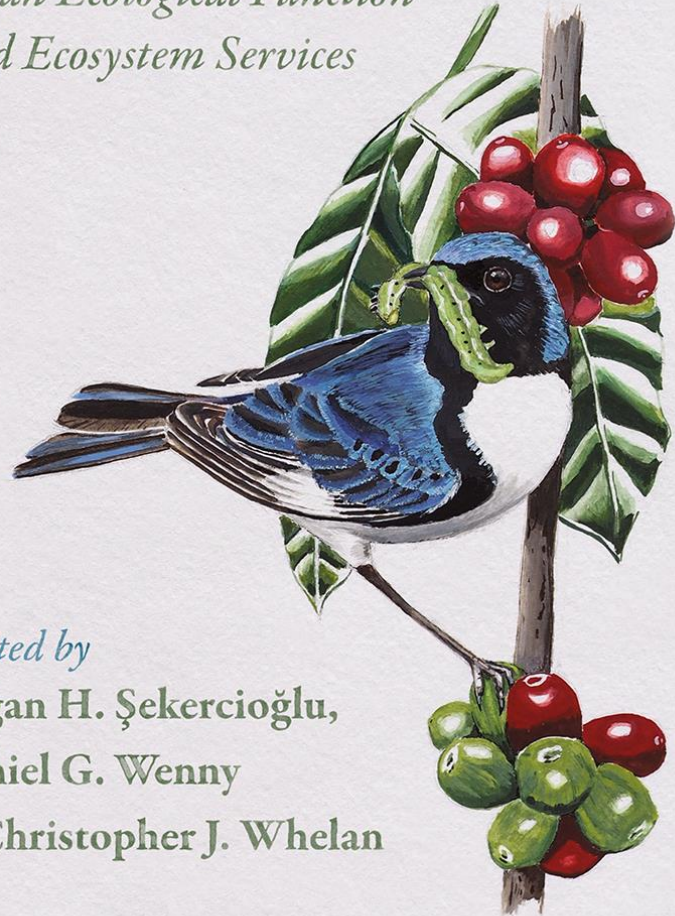
ecosystem disservices

set of ecosystem functions that
can undermine human well-being;
significantly overlooked (Shackleton et
al. 2016)



Why Birds Matter

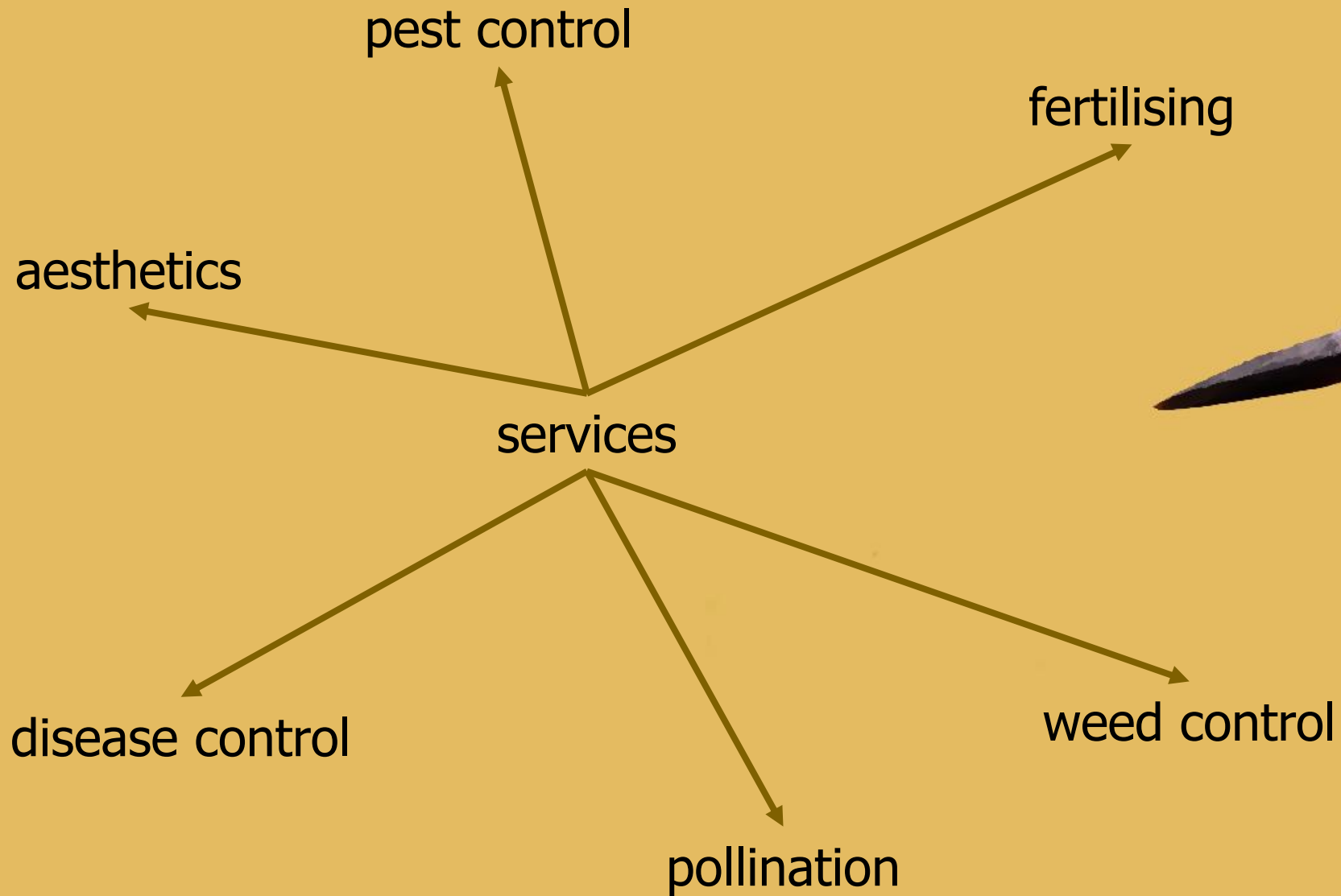
*Avian Ecological Function
and Ecosystem Services*



Edited by
Çağan H. Şekercioglu,
Daniel G. Wenny
& Christopher J. Whelan

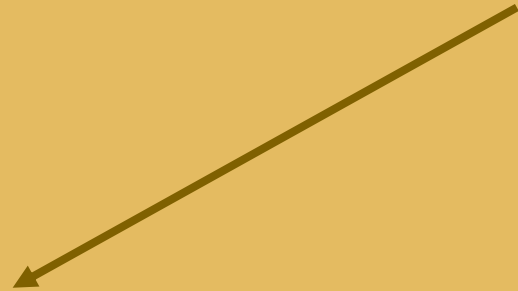
birds as providers
of ES and ED







services



disease control



credits: Sandy Stewart



aesthetics



services



credits: Chad Springer

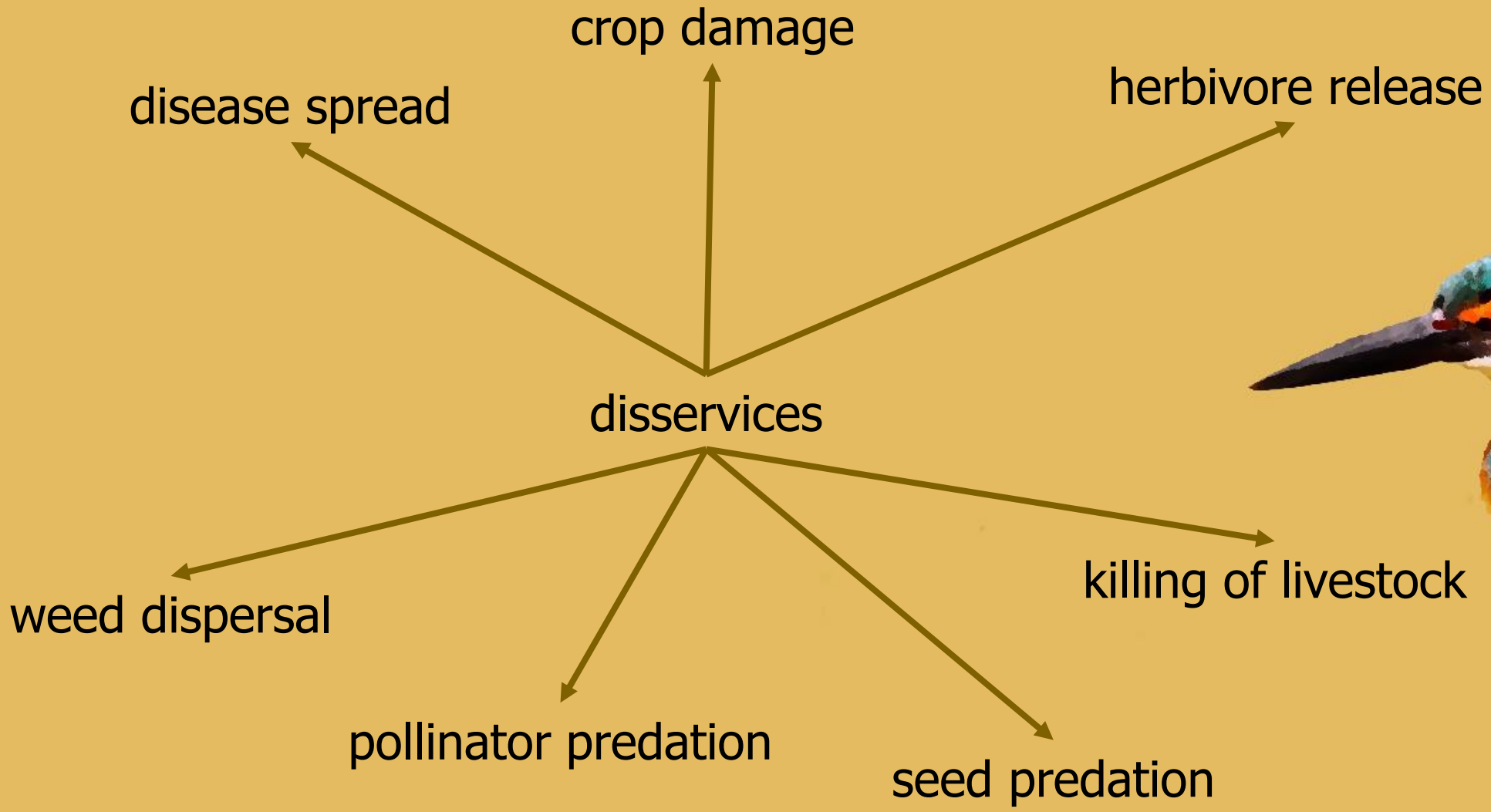
pest control



services



credits: Doug Wechster



crop damage



disservices



credits: PJ photography



disservices



killing of livestock





disservices

weed dispersal

seed predation



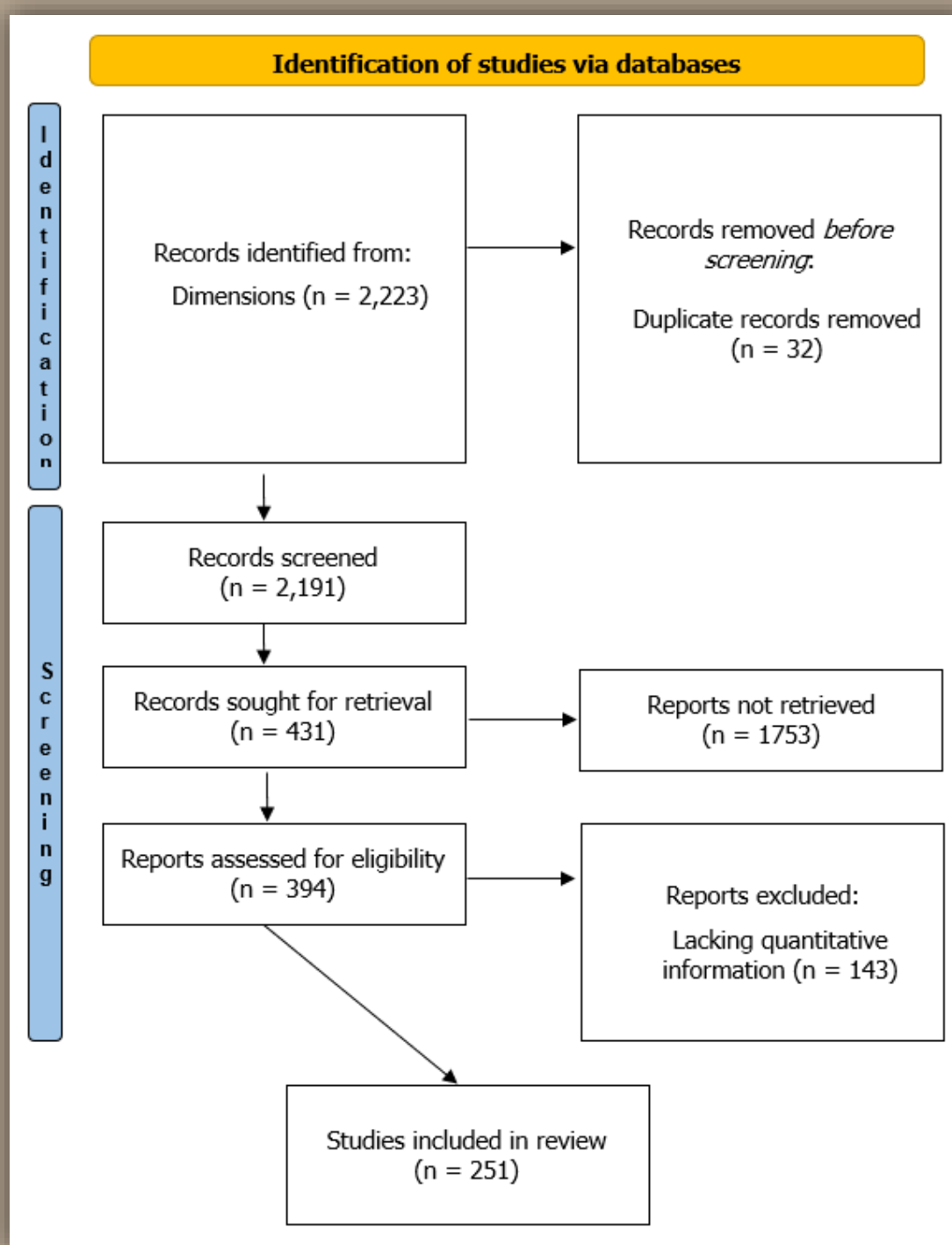
credits: Colin Temple

exploring the situation worldwide

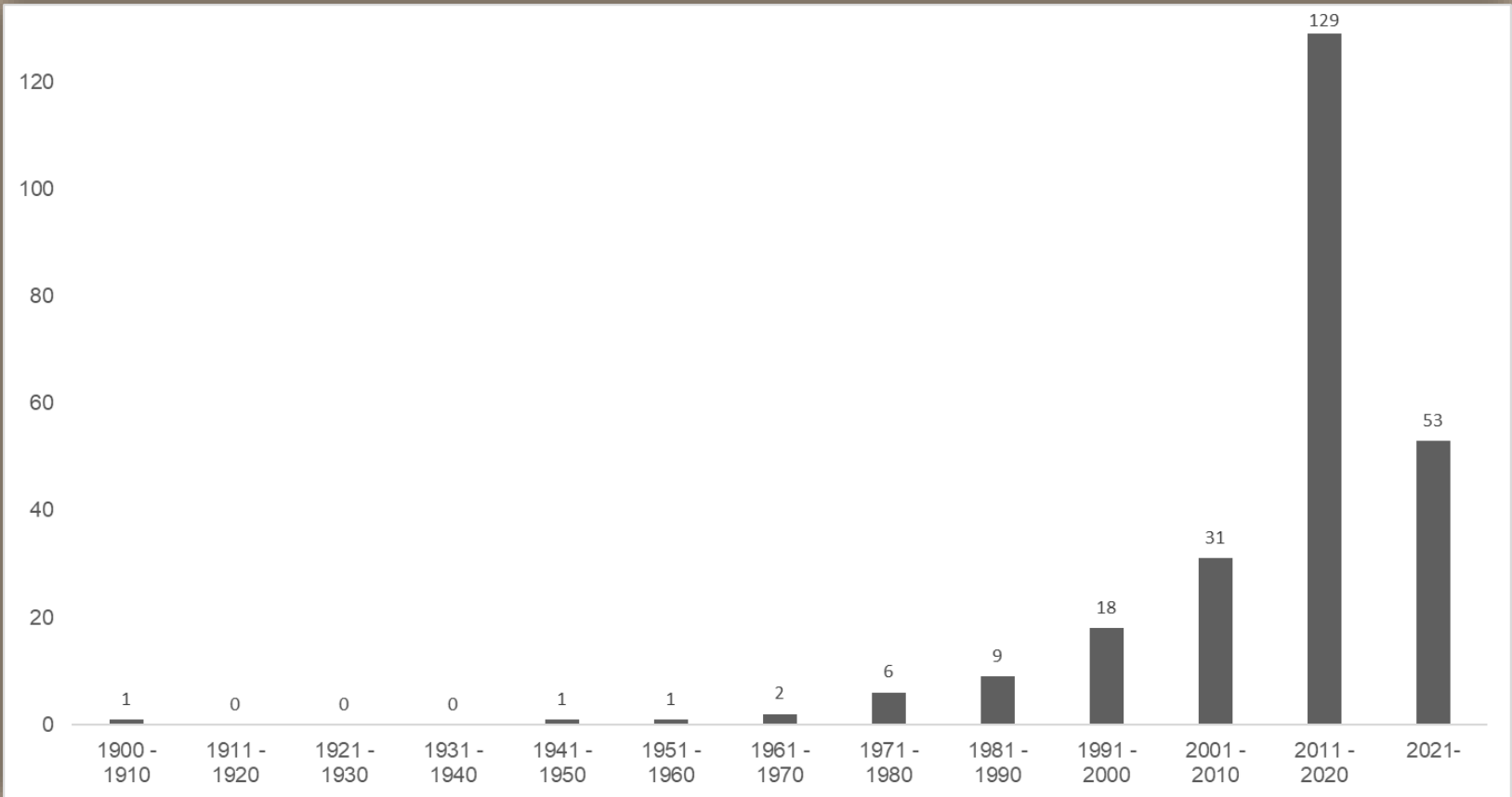
(bird OR avia* OR avifauna* or ornithon*) AND (service* OR
disservice* OR pest* OR control* or pollinat* OR engineer* OR damage*
or scaveng* OR release*) AND (agr* OR hort* OR orchard* OR
vineyard* OR crop* OR plantation* OR coffee OR finca*)*



exploring the situation worldwide



exploring the situation worldwide

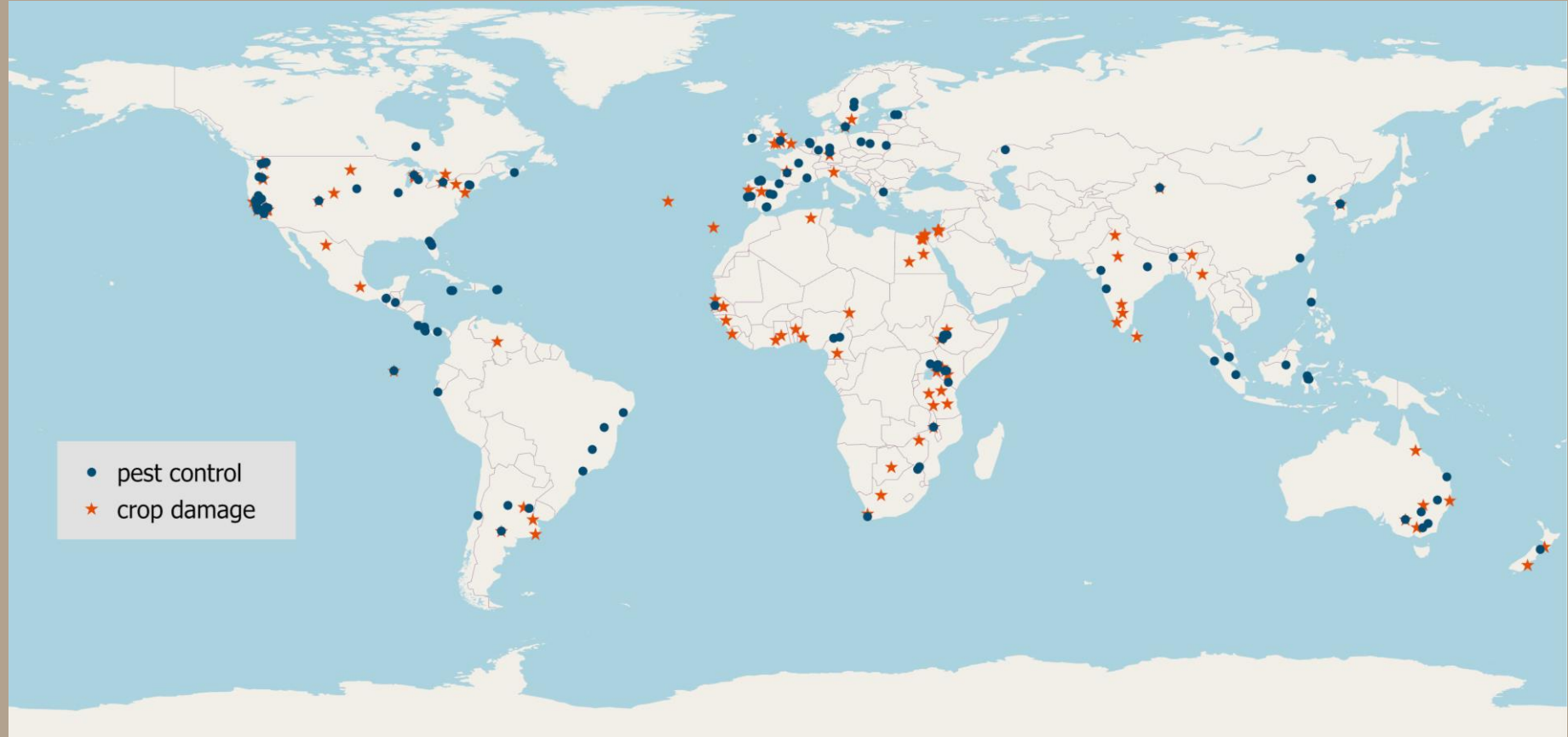


exploring the
situation
worldwide



region	studies
North America	56
Europe	39
Africa	51
Asia	34
Oceania	16
South America	17
Central America	12
Middle East	5
Caribbean	3
Pacific Ocean	1
North Atlantic Ocean	1

exploring the situation worldwide



exploring the situation worldwide



Implications for Aotearoa



New Zealand Journal of Agricultural Research



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Quantifying the economic cost of invertebrate pests to New Zealand's pastoral industry

Colin M. Ferguson, Barbara I. P. Barratt, Nigel Bell, Stephen L. Goldson, Scott Hardwick, Mark Jackson, Trevor A. Jackson, Craig B. Phillips, Alison J. Popay, Grant Rennie, Stephen Sinclair, Richard Townsend & Mike Wilson

To cite this article: Colin M. Ferguson, Barbara I. P. Barratt, Nigel Bell, Stephen L. Goldson, Scott Hardwick, Mark Jackson, Trevor A. Jackson, Craig B. Phillips, Alison J. Popay, Grant Rennie, Stephen Sinclair, Richard Townsend & Mike Wilson (2019) Quantifying the economic cost of invertebrate pests to New Zealand's pastoral industry, *New Zealand Journal of Agricultural Research*, 62:3, 255-315, DOI: [10.1080/00288233.2018.1478860](https://doi.org/10.1080/00288233.2018.1478860)

To link to this article: <https://doi.org/10.1080/00288233.2018.1478860>

\$2.3bi



Implications for Aotearoa

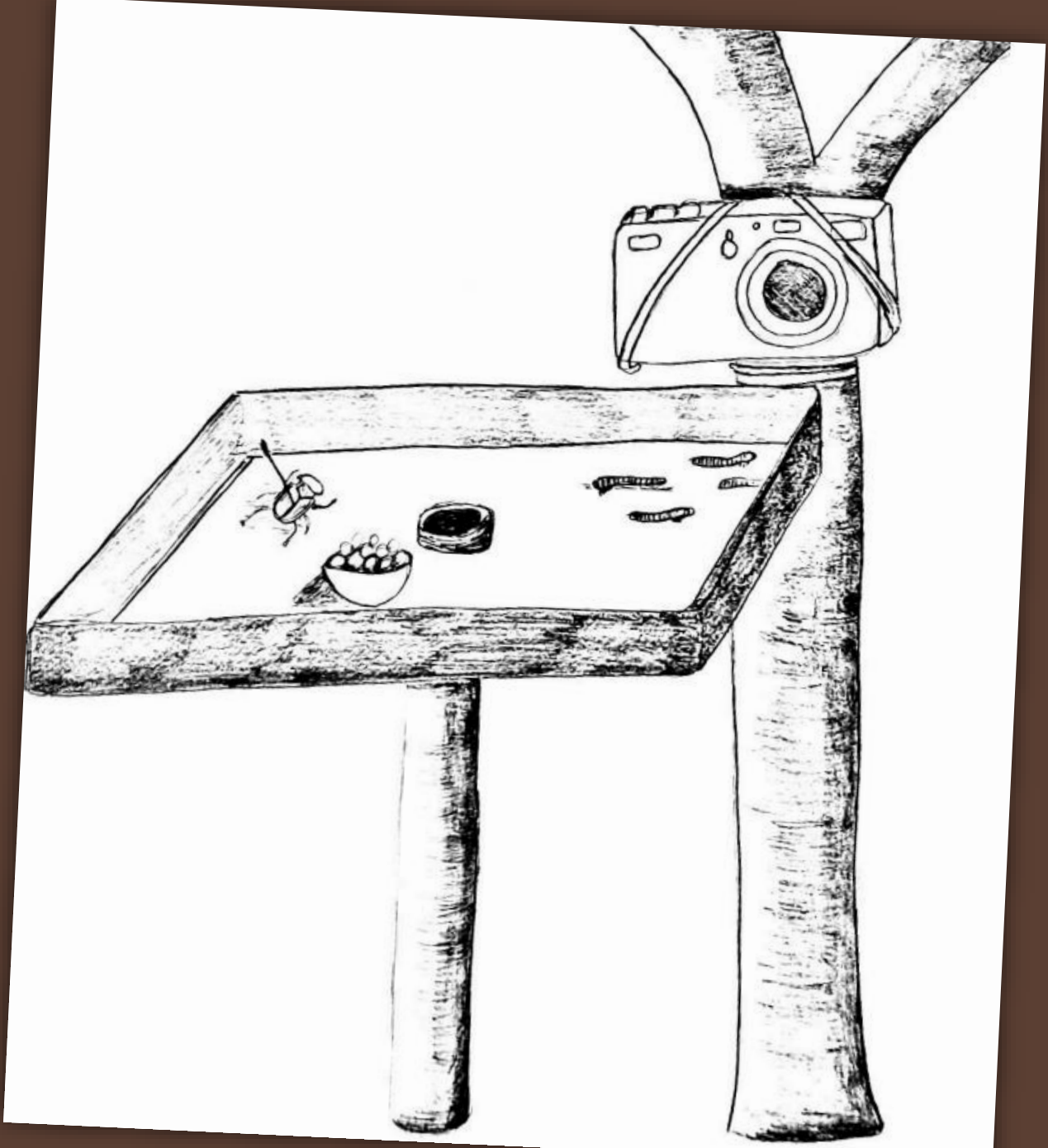
Space invaders: A review of how New Zealand manages weeds that threaten native ecosystems

November 2021



Parliamentary Commissioner for the Environment
Te Kaitiaki Taiao a Te Whare Pāremata

Project Design



Project Design



Why is That Important?

- assessing the ecosystem services for native birds allows for motivating growers to keep / attract these species to their land, increasing the prospects for long-term perseverance
- assessing ecosystem disservices allows understanding the potential negative effects of some native species and investigate countermeasures to avoid human-wildlife conflicts



How Can You Help?

- ecological release of native species with eradication of exotic mammal predators
 - expected increase of native species; spillover from ecosanctuaries
 - projections for the occupation of human-managed lands: horticultural systems



How Can You Help?

- getting access into ecosanctuaries to be able to assess potential ES and ED by endangered species
- e.g. tieke / toutouwai can only be studied within the ecosanctuaries



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