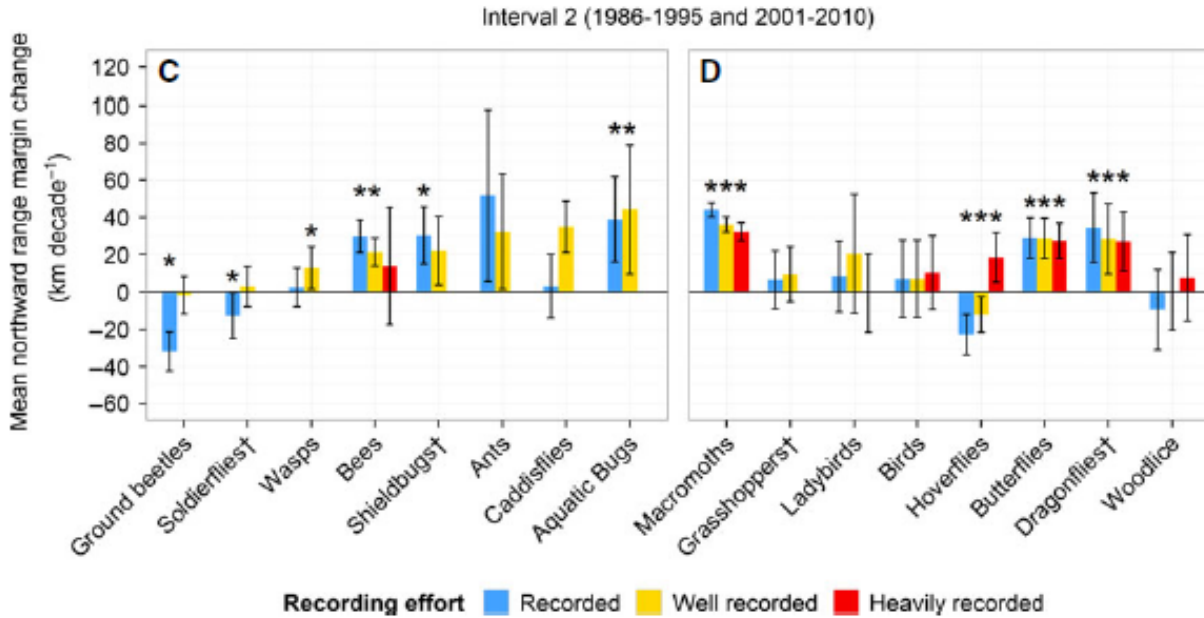




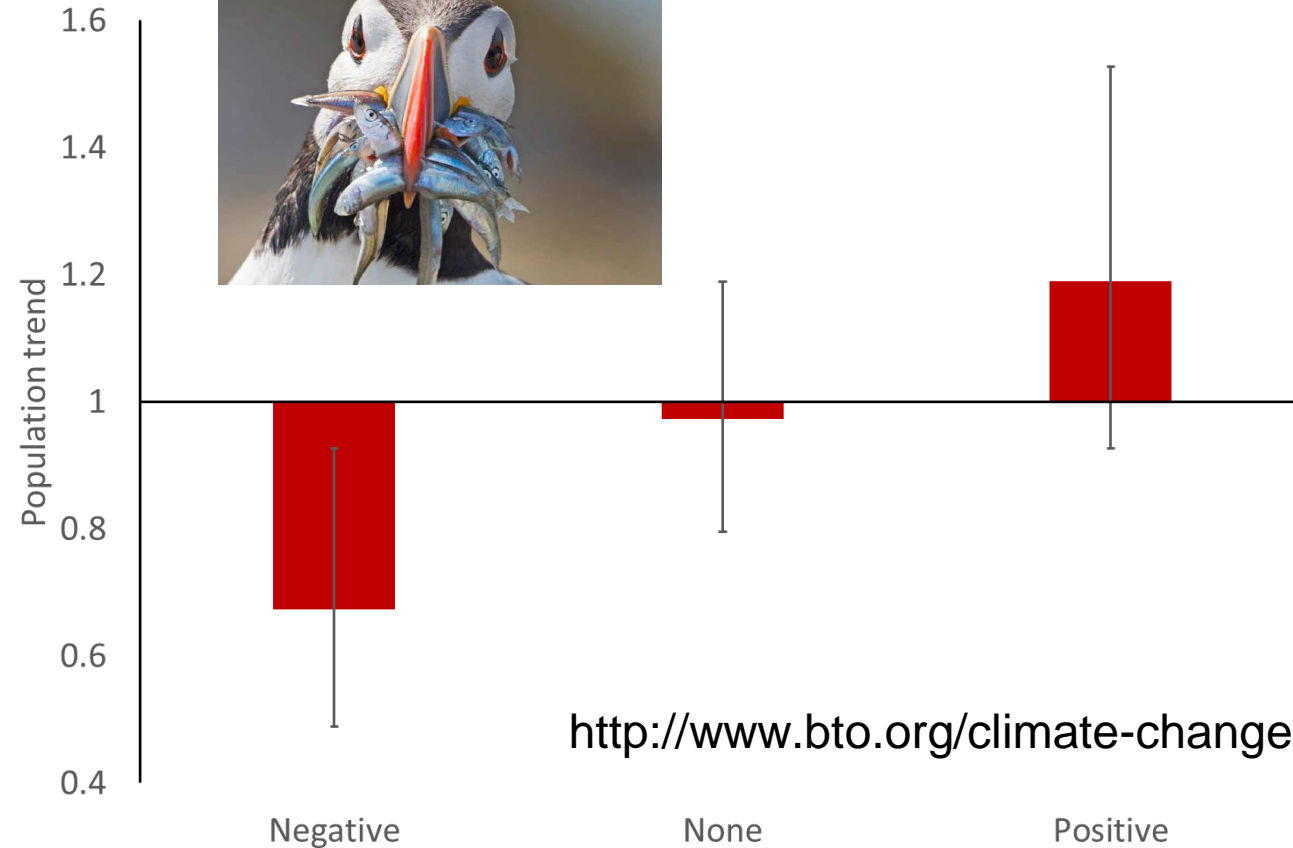
Implications of the IPCC report for the UK

James Pearce-Higgins
Director of Science

SPM.B.1 Human-induced climate change...has caused widespread adverse impacts and...damages to nature

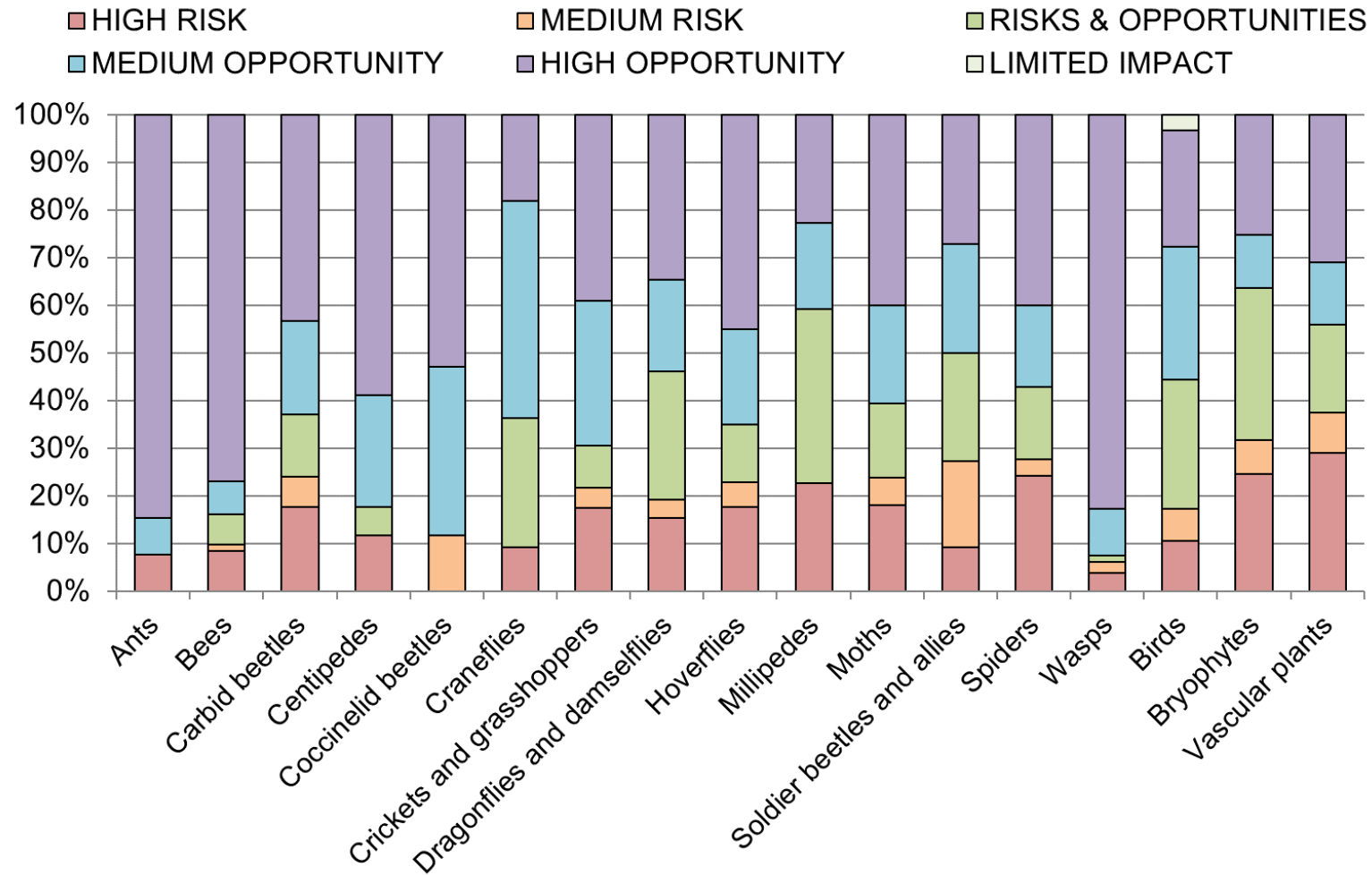


Mason et al. (2015) *Biol J Linn Soc* 115: 586-597



<http://www.bto.org/climate-change>

SPM.B.2 Vulnerability of ecosystems...to climate change differs substantially among and within regions

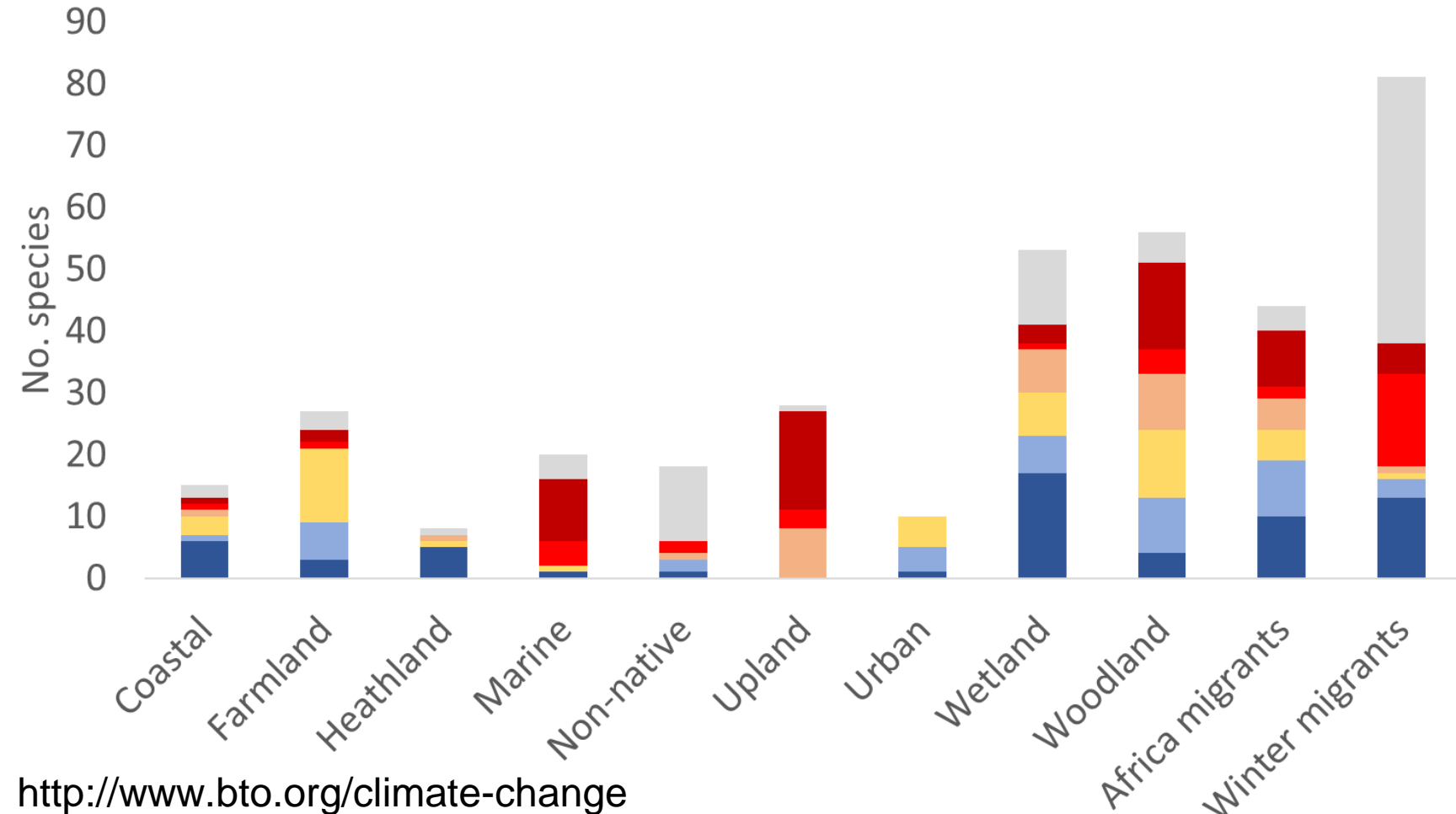


Pearce-Higgins et al. (2017) *Biological Conservation* 213: 124-134

SPM.B.3 Global warming, reaching 1.5°C in the near-term, would present multiple risks to ecosystems



■ HIGH BENEFIT ■ MEDIUM BENEFIT ■ LIMITED IMPACT ■ RISK & BENEFIT
■ MEDIUM RISK ■ HIGH RISK ■ NA



ATLANTIC PUFFIN

Population trend: **UNCERTAIN (DECLINING)**
 Response to climate change: **NEGATIVE**
 Vulnerability to climate change: **HIGH RISK**
 Sensitivity to climate change mitigation: **LOW**

ATLANTIC PUFFIN

Fratercula arctica

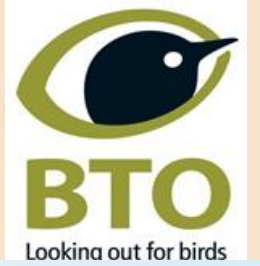
Puffin populations are not sufficiently monitored across the UK to produce annual population trends, but the ongoing Seabirds Count census will provide a 20-year update on their populations. BTO atlas provides evidence for a long-term range contraction (Baker *et al.* 2015). As with many seabirds, Puffin breeding success is strongly linked to the availability of small fish such as sandeels, whose abundance is reduced by warming (Wilmson *et al.* 2022). Warming may also reduce Puffin survival rates, particularly at southern colonies (Cordune *et al.* 2020).

As a result, Puffin is regarded as highly vulnerable to the effects of warming, with a **mean 89% reduction in Puffin populations across Britain and Ireland projected by 2050 under a high climate change scenario** (Davies *et al.* 2022). Given the UK supports 10% of the world Puffin population, this is of international relevance (INCC 2021). Habitat management at colonies to maintain open swards for nesting, and the control of non-native mammalian predators may help compensate for negative impacts of climate change (Pearce-Higgins *et al.* 2021).

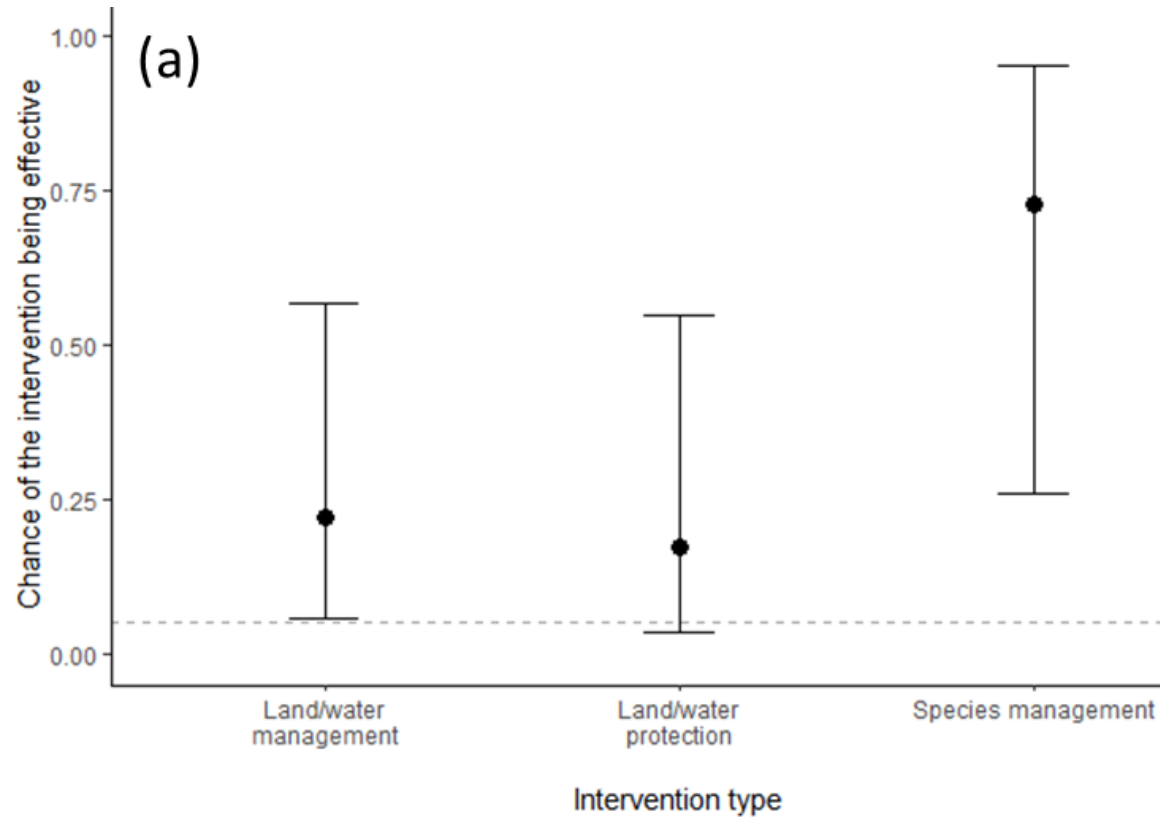
SPM.B.4 ...depending on the level of global warming, climate change will lead to numerous risks



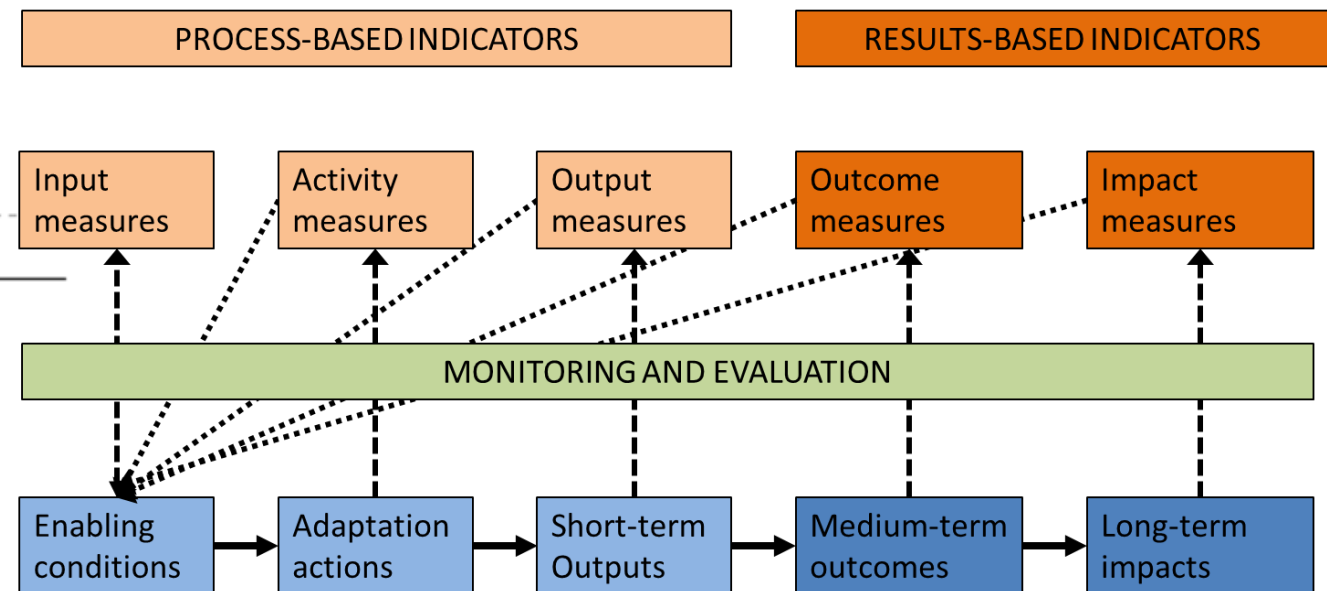
SPM.C.1 Progress in adaptation...implementation has been observed across sectors...generating multiple benefits



SPM.C.2 There are feasible and effective adaptation options which can reduce risks to people and nature.



Bowgen et al. (subm.) *Biological Conservation*



Pearce-Higgins et al. (2022) *Ecological Indicators* 136: 108690