BRLMG Annual Gathering Saturday 2nd December 10.30am-1.30pm. Clive's thoughts

Human impact on the world's natural systems is enormous, the extent is starkly illustrated by looking at the biomass of people and livestock in comparison with wild land mammals.

Unsurprisingly, this means that the vast majority of global ecosystems have been heavily influenced by, or depend on, human activity. Few ecosystems are now sufficiently intact that they can operate independently of modern human activity/intervention.

Protecting what remains is paramount but, increasingly, restoration is really the only way to reverse the loss. Both will require active intervention and management; fragmentation and size reduction mean that many ecosystem processes cannot operate as they once did.

Can have a large total area of an ecosystem/species BUT if present only as many small isolated areas resilience is low and many species will lack long-term viability. Isolated islands in a sea of cleared land. Protect what we have, increase patch size and linkages through restoration, and intervene to improve the genetics of declining species. Genetic conservation is crucial (genetic diversity of Eastern Barred Bandicoots declined 30-40% from ~1980-2010). It can be very successful (Mt Buller Mountain Pygmy Possum) but requires expert input/guidance/coordination.

For many ecosystems and species size matters – conservation/ecosystem regeneration are a great endeavour at individual property level BUT impact, efficiency and success can be dramatically increased by coordination over large areas. Many habitats aren't defined by property boundaries.

- Powerful Owls need 350 ha (high end habitat) – 1,500 ha (low end habitat).
- We restored ~30 ha of wetland on our property but an additional 15 ha is now inundated in the Grampians National Park.
- At an individual property level fox and rabbit control are a Sisyphean task, the best you can do is make your property and sink, rather than source. Ditto for many weed species.

Black Range

Pros Defined relatively small area – feasible to engage land owners. Core of empathetic owners. Geologically defined/unique. Reasonable area of remnant vegetation.

Cons Fragile – erodible granitic soils, low whc, vulnerable to climate change (drying) and loss of surface vegetation. Low NPP – things don't grow quickly, so reveg will take time. Ownership turnover, Unconscious Incompetence

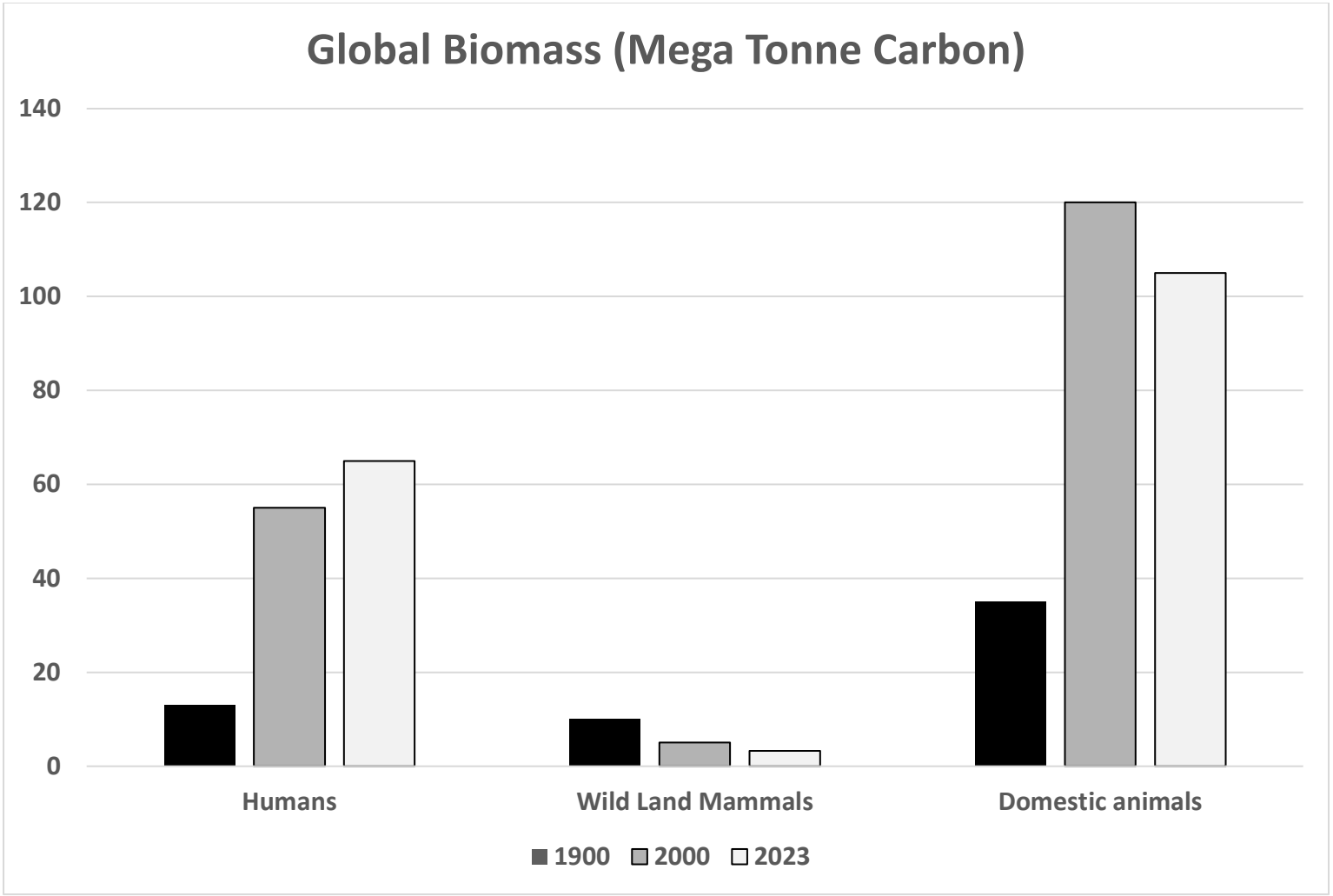
Don't reinvent wheels Myriad of groups doing good stuff all over the place over a long time. Huge collective amounts of capability and experience, but can be hard to tap into.

TFN, AWC, BH, NGT, AABR, WRT, ALCA, BA, LCV……PP

Land Covenantors Victoria- Supporting members who have protected private land habitat forever and are actively managing it for the benefit of biodiversity and future generations.

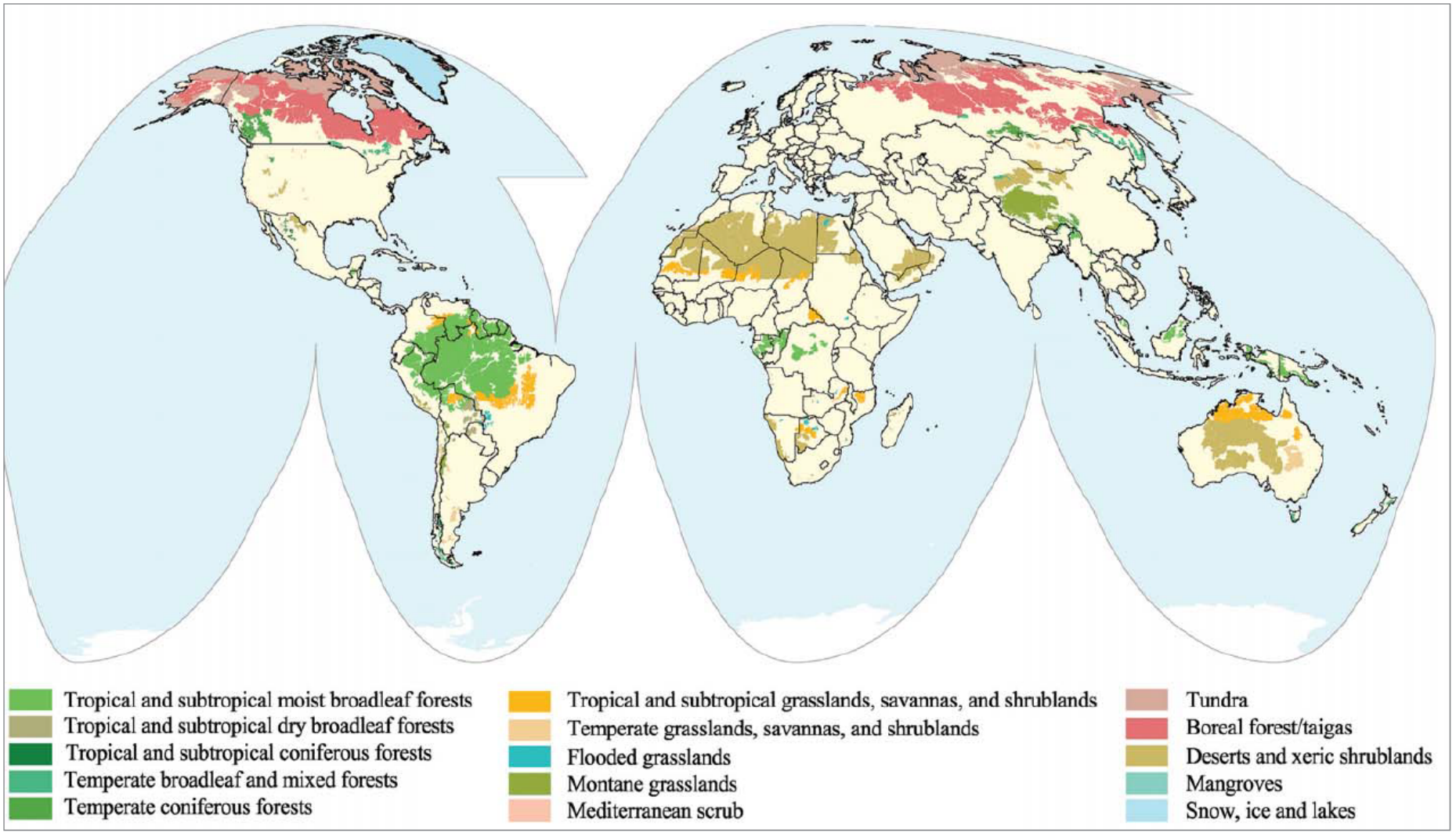
- Represent, support and connect landholders in Victoria who have a conservation covenant on their land to protect biodiversity.
- Bring current and future covenantors together to share knowledge and experience.
- Advocate for members and campaign for the removal of barriers to adopting a conservation covenant.
- Encourage more Victorians to protect land for biodiversity and ecosystem services.

If you have a TFN covenant please join LCV!!!!



Vaclav Smil (2011) Harvesting the Biosphere: The Human Impact. *Population and Development Review* 37(4): 613–636

Greenspoon, L, et al (2023) The global biomass of wild animals. Ecology 120 No.10

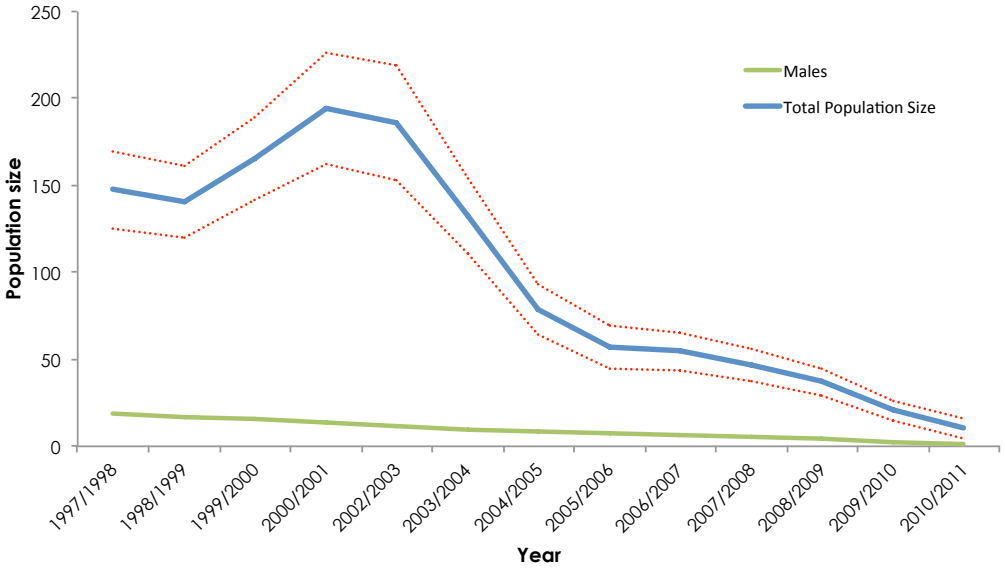


This map shows the wild areas in the world, that is areas where the natural ecology prevails independent of human activity. In all of the creamy areas the existing ecosystems are influenced by or dependent on modern human activity

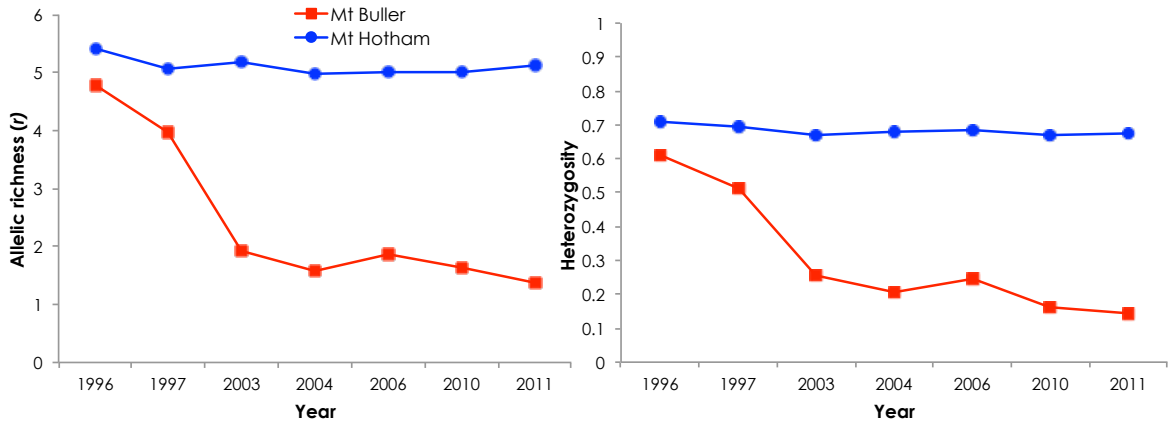
Sanderson et al. (2002) The Human Footprint and the last of the wild. *Bioscience* 52(10): 891–904

Genetic intervention for the Mt Buller Mountain Pygmy Possum

On the way out



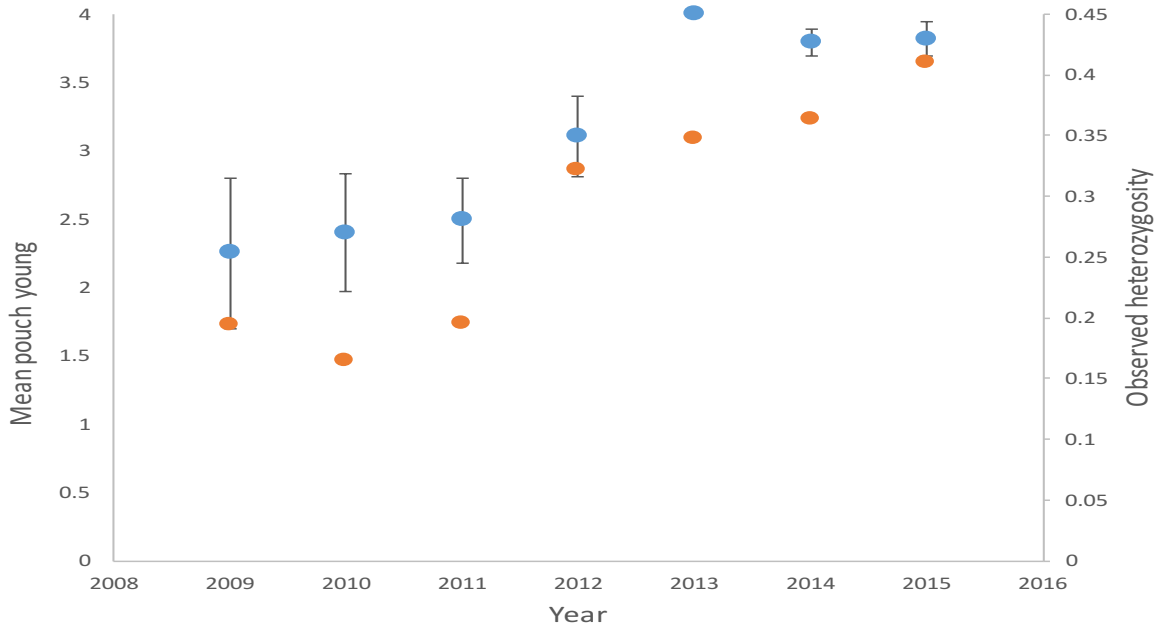
Inbred, narrow and declining genetic base



Gene Pool Widening

- Translocated 6 males from Mt Hotham in Oct 2011
  - 50% juveniles hybrids
  - F1 hybrids more fit, bigger
- F2 females all 4 pouched young (first time)
- By 2015 87% pop had some Mt Hotham genes

Improved genetics and reproduction



Reversed population decline