***On the validity and appropriateness of the criticisms raised by Martin et al and of the response of Newbold et al.***

1. The premise is that we would expect congruence between indicators, but is this fair? What are the objectives and underlying assumptions of the indicators that might lead us to expect (or not expect) congruence? Martin et al. should address this, but possibly Newbold as well (though I note they stay clear of discussing other indicators and focus on their own, which is a very reasonable decision).

**Author’s response**

The two indicators we look at in our comment have remarkably similar motivations. The Biodiversity Intactness Index (BII) estimates the average abundance of originally present species relative to abundance in an undisturbed habitat1. Biomass Intactness (BMI) estimates current above- and below-ground biomass of vegetation relative to the same location without human disturbance. Estimates of this are based on a combination of national-level data, forest inventories, remote-sensed data, and previous syntheses of field measurements of biomass.

The present-day biomass values used to calculate BMI are derived from a combination of national level data taken from the FAO Global Forest Resource Assessment (FRA), forest inventories, and remote sensed data. Potential biomass values are derived from a combination of biome-level, IPCC estimations of potential biomass, syntheses of in-field biomass estimates, estimations of the maximum current biomass found in each ecoregion, and a further map from the literature.

1. It is not clear which data are used in the analyse by Martin – from the 2016 Newbold paper (based presumably on 2015 data), or updates on BIP or other websites? Give the almost doubling of data between Newbold’s 2015 and 2016 papers, this may influence patterns.

**Author’s response**

1. I think this will be a useful and interesting exchange – though Martin et al. should probably try to be a little more constructive in their tone and message. They don’t offer many solutions, or suggestions about how these indicators can be used together to give greater inference about change in biodiversity, and what should be done to alter the trajectory. The question with something like the BII is not whether it has flaws (yes, it does), but rather how can the flaws be minimised, how can we fill data/knowledge gaps to make it more useful, and how can we use it to support decisions or inference about change that minimise the impacts of the flaws on decisions.

**Author’s response**

**References**

1. Newbold, T. *et al.* Has land use pushed terrestrial biodiversity beyond the planetary boundary? A global assessment. *Science* **353**, 288–291 (2016).