

- Aerts, R. and Honnay, O. (2011) *Seeds of change for restoration ecology* Science **333** p156
- Awoyemi et al (2012) *Mobilising religion & conservation in Asia* Science **338** p1537 - water, religion & conservation
- Andelman, S. (2011) *Conservation science outside the comfort zone* Nature **475** p290
- Angelo (2012) *Growth of ethanol fuel stalls in Brazil* Nature **491** p646 - a variety of reasons, biological and economic have left the use of sugar cane derived fuel falling
- Bakker (2012) *Water security: research challenges & opportunities* Science **337** p914 - 80% of the world's population face a high-level water security or water-related biodiversity risk
- Barnosky et al (2012) *Approaching a state shift in Earth's Biosphere* Nature **486** p52 - a big paper that looks at how the world's biology & natural systems are being changed and whether there is tipping point at which it all goes pear-shaped
- Bebber, D.P. et al. (2010) *Herbaria are a major frontier for species discovery* PNAS **107** (51) - 50,000 species of plants have been collected already and are in herbaria already waiting to be described and named
- BELLARD ET AL (2012) *Impacts of climate change on the future of biodiversity* Ecology Letters 2012
- Bennett et al (2011) - Multiple mechanisms enable invasive species to suppress native species
- Bertrand, R. et al. (2011) *Changes in plant community composition lag behind climate warming in lowland forests* Nature **479** p517
- Brooks, T.M. et al. (2006) *Global biodiversity conservation priorities* Science **313** p58
- Burrows, M.T. et al (2011) *The pace of shifting climate in marine and terrestrial ecosystems* Science **334** p652 - see Hulme 2012 Science **335** p537 for a retort
- Butchart, S.H.M. et al (2010) *Global biodiversity: indicators of recent declines* Science **328** p1164
- Butterbach-Bahl & Kiese (2013) *Biofuel production on the margins* Nature **483** p483 & news & views doi:10.1038/nature11853 - fuel made from wild herbaceous vegetation currently grown on land unsuitable for cultivating field crops could contribute substantially to the US targets for biofuel production but no consideration has been made of the effects on biodiversity and water quality!
- Campos et al (2013) *Ecosystem resilience despite large-scale altered hydroclimatic conditions* Nature doi:10.1038/nature11836 - at a biome scale there is resilience to hotter drier conditions
- Cardinale et al (2012) Biodiversity loss and its impacts on humanity** Nature **486** p59 - a big review paper for Rio +20 with some very big conclusions - READ THIS ONE
- Carpenter, J. (2011) *Loosing the louse on Europe's largest invasive pest* Science **332** p781
- Chazdon, R.L. et al. (2008) *Beyond deforestation: restoring forests and ecosystem services on degraded lands* Science **320** p 1458
- Costello et al (2012) *Predicting total global species richness using rates of species description & estimates of taxonomic effort* Syst Biol **61**(5) p871-883 - another attempt to calculate how many species there are and what it would take to find and name them all - 1.8-2.0 million spp
- Costello et al (2013) *Can we name Earth's species before they go extinct?* Science **339** p413 - yet another paper guestimating the number of species - this month  $5 \pm 3$  million! Bob May is one of the authors so it must be true. Some very sensible suggestions - a big review paper & this week!
- Crampton, J (2011) *What drives biodiversity changes?* Science **334** p1073
- Davies, M. et al. (2011) *Don't judge species on their origins* Nature **474** p153
- Dawson, T.P. et al. (2011) *Beyond predictions: biodiversity conservation in a changing climate* Science **332** p53
- Dixon, K.W. (2009) *Pollination and restoration* Science **325** p571
- Ezard, T.H.G. (2011) *Interplay between changing climate and species' ecology drives macroevolutionary dynamics* Science **332** p349
- Fagundez (2012) *Heathlands confronting global change: drivers of biodiversity loss from past to future scenarios* Annals of Botany doi:10.1093/aob/mcs257 using historical records to predict the future and plan strategy
- Finkel & Normile (2012) *River basin management plan secures water for the environment* Science **338** p1273 - a balance between the needs of conservation & farming in Australia
- Fordjour et al (2012) *Effects of human disturbance on liana community diversity and structure in a tropical forest* Journal of Plant Ecology **5** (4) p391 - woody climbers are particularly badly affected by human disturbance in Malaysia woodland
- Fraser (2012) *Goodbye Glaciers* Nature **491** p180 - how will human water supply be changed by the melting of glaciers in Chile? It will lead to greater variation between the wet & dry seasons

- Friedman-Rudovsky (2012) *Taking the measure of Madidi* Science **337** p285 - a long term experiment measuring changes in a large woodland in Bolivia
- Fridley (2012) *Extended leaf phenology and the autumn niche in deciduous forest invasions* Nature doi:10.1083/nature11056 - the late leaf drop of non-native species can reduce herbaceous species diversity
- Gewin, V. (2011) *Climate change will hit genetic diversity* Science Published online 21 August 2011 | Nature | doi: 10.1038/news.2011.490
- Gleeson et al. (2012) *Water balance of global aquifers revealed by ground water footprint* Nature **488** p197 - almost 25% of the world's population (1.7 billion) lives in regions where ground water is being used up faster than it can be replenished
- Groot et al (2012) *Seed storage at elevated partial pressure of oxygen , a fast method for analysing seed ageing under dry conditions* Annals of Botany **110** p1149 - a technique for testing longevity of seed storage without waiting!
- Gilbert (2012) *Palm Oil boom raises conservation concerns* Nature **487** p14 - raw stats
- Grumbine & Pandit (2013) *Threats from India's Himalayan Dams* Science **339** p36 - water wars between China & India and the need for hydroelectric power
- Harris, J. (2009) *Soil microbial communities and restoration ecology: facilitators or followers?* Science **325** p573
- Haw, K et al. (2009) *Lundy - Britain's kingdom of heaven* British Wildlife **August 2009** p413
- He, F. and Hubbell, S.P. (2011) *Species-area relationships always overestimate extinction rates from habitat loss* Nature **473** p368
- Hegerl, G.C. et al. (2011) *Using the past to predict the future* Science **334** p1360
- Herring & Ingold (2012) *Water resources management: what should be integrated?* Science **336** p1234 - 20% of the world's population lives under conditions of water scarcity
- Higgins & Scheiter (2012) *Atmospheric CO2 forces abrupt vegetation shifts locally but not globally* Nature **488** p209 - an interesting paper with some detailed proposals for changes in C4-C3 ratio and woodland cover in Africa under climate changes proposed at present
- Holland (2013) *A history of give & take* Nature **493** p206 - environmental change correlates with extinctions but not with speciation
- Hooper et al (2012) *A global synthesis reveals biodiversity loss as a major driver of ecosystem change* Nature **486** p105 - the ecosystem consequences of local species loss as a quantitatively significant as the direct effects of several climate change stressors that have mobilised major international concern & remediation efforts
- Hvistendahl (2013) *Making a selfish generation* Science **339** p131 - has the Chinese one-child policy led to a population of difficult children & thus citizens?
- Kerr, R.A. (2011) *Vital details of global warming are eluding forecasters* Science **334** p173
- Kerr, R.A. (2011) *Time to adapt to a warming world, but where's the science?* Science **334** p1052
- Jones, N. (2011) *Gene pool offers way to save Mexican oasis* Nature **476** p19
- Jackson, S.T. et al. (2009) *Ecological restoration in the light of ecological history* Science **325** p567
- Joshi & Tielborger (2012) *Response to enemies in the invasive plant *Lythrum salicaria* is genetically determined* Annals of Botany **110** p1403 - invasive individuals in USA of this species are genetically distinct from native populations in UK
- Kettle, C.J. et al. (2010) *Mass fruiting in Borneo: a missed opportunity* Science **330** p584
- Kerr (2013) *Soot is warming the world even more than thought* Science **339** p382 - so stop thinking?
- Kintisch (2013) *Climate study highlights wedge issue* Science **339** p128 - the number of major schemes required to stabilise CO2 levels is increasing
- Kumar (2012) *Extinction need not be for ever* Nature **492** p9 - "Jurassic Park" for real?
- Laurance et al (2012) *Averting biodiversity collapse in tropical forest protected areas* Nature **489** p290 - an important call to arms with a good summary of the state of tropical forest reserves
- Liu & Yang (2012) *Water sustainability for China and beyond* Science **337** p649 - more on IWRM (integrated water resource management)
- Mable (2013) *Polyploids & hybrids in changing environments: winners or losers in the struggle for adaptation* Heredity **110** p95-6 - are polyploidy & hybridisation destructive or creative in evolution - the genetics of change & invasions
- Mann, C.C. (2009) *Addicted to rubber* Science **325** p564
- Maddick, A, (editor) (2008) *UK biodiversity action plan priority habitat descriptions: lowland meadows* <http://www.jncc.gov.uk/page-5155>

## Species Conservation - 3rd year option REFERENCE LIST LECTURE 8/16

- Marx, E. (2010) *The fight for Yasuni* Science **330** p1170
- Mayer, A.L. *et al.* (2011) *Grass trumps trees with fire* Science **334** p188
- Merritt, D.J. and Dixon, K.W. (2011) *Restoration seed banks- a matter of scale* Science **332** p424 See also [www.sciencemag.org/cgi/content/full/332/6028/424/DC1](http://www.sciencemag.org/cgi/content/full/332/6028/424/DC1)
- Midgley, G.F. (2012) *Biodiversity and ecosystem function* Science **335** p174
- Mills (2012) *The greening of insurance* Science **228** p1424 - using the economic markets to support or impose climate change mitigation
- Nature News - 17 Sep 2012 *Giant nature reserve to be built with earth dug up from under London - the RSPB are creating a 670-hectare nature reserve in the Thames Estuary to be completed by 2020. The soil is coming from the Cross Rail project*
- Nogues-Bravo *et al.* (2011) *Communities under climate change* Science **334** p1070
- Norton, D.A. (2009) *Species invasions and the limits to restoration: learning from the New Zealand experience* Science **325** p569
- Ohlemuller, R. (2011) *Running out of climate space* Science **334** p613
- Orru *et al.* (2012) *Thermal thresholds as predictors of seed dormancy release and germination* Annals of Botany **110** - showing that lowland populations of *Vitis vinifera ssp sylvestris* are more at risk from climate change than the populations at higher altitudes which were more tolerant
- Pauli *et al.* (2012) *Recent plant diversity changes on Europe's mountain summits* Science **336** p353 - some interesting figures comparing the changes from 2001 to 2008, on boreal temperate mountains (+3.9spp) & Mediterranean mountains (-1.9spp)
- Pennisi, E. (2011) *Banking seeds for future evolutionary scientists* Science **333** p1693
- Perkins, S. (2011) *Climate change ignites wildfire fears for Yellowstone* Nature Published online 25 July 2011 | Nature | doi:10.1038/news.2011.440
- Peter *et al.* (2012) *Train local people to help conserve forests* Nature **481** p443
- Petitpierre *et al.* (2012) *Climatic niche shifts are rare among terrestrial plant invaders* Science **335** p1344 - contrary to assumption only 15% of invasive spp have more than 10% of their distribution outside their native climatic niche.
- Purves *et al.* (2013) *Time to model all life on Earth* Nature **493** p295 - climate change models need models of entire ecosystems not just a few indicator species
- Rands, M.R.W. (2010) *Biodiversity conservation: challenges beyond 2010* Science **329** p1298
- Reich *et al.* (2012) *Impacts of biodiversity loss escalate through time as redundancy fades* Science **336** p589 - a report of a long term project (>13yrs) showed that as time passes following a reduction in diversity, the productivity starts to fall and go on falling
- Rogelj *et al.* (2013) *Probabilistic cost estimates for climate change mitigation* Nature **493** p79 - an attempt to predict the cost of climate changes and the technology required to mitigate the damage. This shows how complex the matter is and how much money is involved - a very great deal
- Romm, J. (2011) *The next dust bowl* Nature **478** p450
- Rutishauser & Stockli (2012) *Flowering in the greenhouse* Nature **485** p448 - experiments on affects of increased global temperatures do not predict the changes observed in the field; the changes in the field are greater than the models predict -- bother!
- Sandel, B. *et al.* (2011) *The influence of late quaternary climate-change velocity on species endemism* Science **334** p660
- Schiermeier, Q. (2011) *Three-quarters of climate change is man-made* Nature Published online 04 December 2011 doi: 10.1038/nature.2011.9538
- Schooler, S.S. *et al.* (2011) *Alternative stable states explain unpredictable biological control of *Salvinia molesta* in Kakadu* Nature **470** p86
- Short *et al.* (2011) *Extinction risk assessment of the world's seagrass species* Biological conservation **144** pp1961-1971 - an interesting example of the process of assessing the conservation status of a specific bunch of plants
- Service, R.F. (2011) *Algae's second try* Science **333** p1238
- Skalova *et al.* (2012) *Seedling traits, plasticity & local differentiation as strategies of invasive species of *Impatiens* in central Europe* Annals of Botany **110** - the invasive behaviour of *I glandulifera* is due to it being highly plastic, much more so than closely related species

*Species Conservation - 3rd year option* **REFERENCE LIST LECTURE 8/16**

- Sol et al (2012) *Unravelling the life history of successful invaders* Science **337** p580 - invading birds succeed because they behave to improve future reproduction not present - i.e. they are difficult to kill!
- Spracklen et al (2012) *Observations of increased tropical rainfall preceded by air passage over forests* Nature doi: **10.1083/nature11390** - an investigation of naturally occurring water recycling in rain forests finally marries the results of global climate models with observations. Alarmingly, it suggests that deforestation can greatly reduce tropical rainfall
- Stokstad, E. (2011) *Open-source ecology takes root across the World* Science **334** p308
- Stone, R. (2010) *Home, home outside the range* Science **329** p1592
- Sun et al (2012) *Lethally hot temperatures during the early triassic greenhouse* Science **338** p366 - very clear evidence for how global warming can be disastrous for biodiversity
- Svancara, L.K. (2005) *Policy-driven versus evidence-based conservation: a review of political targets and biological needs* BioScience **55(1)** p989
- Thomas, C. (2009) *Plant bar code soon to become reality* Science **325** p526
- Tollefson (2012) *Heat waves blamed on global warming* Nature **488** p143 - between June & August 2010 extremely high temperatures hit about 13% of Earth's surface, an area roughly ten times greater than at any time between 1951 & 1980
- Vince, G. (2011) *Embracing invasives* Science **331** p1383
- Walker & Pinches (2011) *Reduced grazing and the decline of Pulsatilla vulgaris in England* Biological Conservation **144** p3098 - makes the case for grazing in nature reserves
- Wardle, D.A. (2011) *Terrestrial ecosystem responses to species gains and losses* Science **332** p1273
- Watts et al (2012) *The endangered Iris atropurpurea in Israel: honey bees, night sheltering male bees and female solitary bees as pollinators* Annals of Botany doi:10.1093/aob/mcs292 - honey bees behaviour can reduce the reproductive success of this endangered species
- Wu, T. and Petriello, M.A. (2011) *Culture and biodiversity losses linked* Science **331** p30
- Xu, J. (2011) *China's new forests aren't as green as they seem* Nature **477** p371
- Yuan et al (2012) *Enhanced allelopathy and competitive ability of invasive plant Solidago canadensis in its introduced range* J of Plant Ecology - populations in China secrete more allelopathic compounds from their roots than the US populations
- Zeiter & Stampfli (2012) *Positive diversity-invasibility relationship in species-rich semi-natural grassland and the neighbourhood scale* Annals of Botany **110** p1385 - this habitat seems to be prone to invasions, perhaps because of intermediate levels of disturbance?
- Zhao (2012) *Lack of local adaptation of invasive crofton weed (Ageratina adenophora) in different climatic areas of Yunnan Province China* J of Plant Ecology doi:10.1093/jpe/rts036 Phenotypic diversity rather than genetic diversity facilitates invasion success of this weed
- Zhang & Shea (2012) *Integrating multiple disturbance aspects: management of the invasive thistle Carduus nutans* Annals of Botany **110** - an interesting paper looking at the effect of varying intensity, frequency, timing, duration & extent of disturbance on the success of thistles. High intensity late summer was best so control is multi variable
- News Focus (2011) *A global perspective on the anthropocene* Science **334** p34
- Meeting Brief (2011) *Climate outlook looking much the same, or even worse* **334** p1616
- Biofuels (Special edition)* Nature **474** Issue No.7352