LCC Course – Marxan papers

Authors: Game, et al.
Year: 2008
Journal: *Ecological Applications*
Location: Great Barrier Reef
Version: 1.8.2
Planning units: Reef
Cost: Area, lost fishing revenue
Conservation targets: Reef bioregions
Conservation goals: 20% of each bioregion
Themes: Consideration of catastrophic events (esp. climate change related) as part of the reserve design process

Authors: Langford, et al.
Year: 2009
Journal: *Ecological Informatics*
Location: Victoria, Australia
Version: ?
Planning units: 16 ha square
Cost: Equal
Conservation targets: 7 species
Conservation goals: Varied representation for each species
Themes: Quantifying the effects of uncertainty on reserve selection results. Implications are a "need for standard practice to include evaluating the effects of multiple real-world complications on the behavior of any conservation planning method. Includes Zonation.

Authors: Watts, et al.
Year: 2009
Journal: *Environmental Modelling & Software*
Location: Multiple
Version: Marxan with Zones
Planning units:
Cost:
Conservation targets:
Conservation goals:
Themes: Introducing Marxan with Zones.

Authors: Underwood, et al.
Year: 2010
Journal: *Conservation Biology*
Location: Arizona
Version: 2.0.2
Planning units: 25 km² square
Cost: Equal
Conservation targets: 71 mammal species

Conservation goals: Representation of each species at least once, 10% of occurrences of each
Themes: Impact of different distribution data sets on reserve selection.

Authors: Huber et al.
Year: 2010
Journal: *Landscape Ecology*
Location: Central Valley, California
Version: 1.8.2
Planning units: 13.3 ha hex
Cost: Area
Conservation targets: 8 species habitat suitability
Conservation goals: 30% of potential habitat for each species
Themes: Scale of analysis has important effects on resulting reserve network.

Authors: Klein, et al.
Year: 2010
Journal: *Frontiers in Ecology and the Environment*
Location: California coast
Version: Marxan with Zones
Planning units: ~0.5 km² square
Cost: Sum of value for all fisheries not allowed to fish in a zone
Conservation targets: Habitats, regions, depth zones
Conservation goals: 10-30% of each conservation feature
Themes: Comparison of MWZ to Marxan. MWZ performs better in that impacts to fishing are reduced and loss is spread across fisheries.

Authors: Guerrero, et al.
Year: 2010
Journal: *Conservation Letters*
Location: Eastern Cape Province, South Africa
Version: ?
Planning units: Parcels
Cost: Purchase cost, willingness-to-sell
Conservation targets: 19 vegetation types
Conservation goals: 10%, 30%
Themes: Included a willingness-to-sell component in the model.

Authors: Lagabrielle, et al.
Year: 2010
Journal: *Environmental Modelling & Software*
Location: Réunion Island
Version: 1.8.2
Planning units: 4 ha squares
Cost: Implementation, invasive plants control, restoration, conversion pressure
Conservation targets: Habitats, processes, species
Conservation goals: 30% (pre-human colonization)
Themes: Participatory development of land use simulation models should be promoted.

Authors: Esselman, Allan
Year: 2011
Journal: *Freshwater Biology*
Location: Yucatan
Version: ?
Planning units: Local catchments
Cost: Risk of environmental degradation
Conservation targets: Fish species ranges
Conservation goals: 15% of the range of each species
Themes: Integrating Maxent and Marxan.

Authors: Stralberg, et al.
Year: 2011
Journal: *Biodiversity & Conservation*
Location: California
Version: ?
Planning units: 1,000 ha hex
Cost: Housing density
Conservation targets: Shorebirds and waterfowl populations
Conservation goals: 50%, 75% total mean count of each species in each ecoregion or basin
Themes: Linked estimated bird density models to Marxan.

Authors: Lourival, et al.
Year: 2011
Journal: *Diversity and Distributions*
Location: Pantanal wetlands, South America
Version: ?
Planning units: 10,000 ha square
Cost: ?
Conservation targets: 5 plant communities
Conservation goals: 20%
Themes: Using Marxan for planning in dynamic landscapes.

Authors: Januchowski-Hartley, et al.
Year: 2011
Journal: *Biological Invasions*
Location: Queensland, Australia
Version: ?
Planning units: Wetlands, stream reaches
Cost: Management cost (most appropriate for planning unit)
Conservation targets: Reduction of infestation
Conservation goals: Specified level
Themes: First use of Marxan to address the spatial allocation of management actions and funds for invasive species management at a local scale. Used Maxent to model invasive species distribution.

Authors: Schneider, et al.
Year: 2011

Journal: *PLoS One*
Location: Alberta, Canada
Version: ?
Planning units: Townships (~9,500 ha)
Cost: Net present value of resources, linear features (intactness)
Conservation targets: Subregions, forest types, riparian corridors
Conservation goals: 15-40%, increments of 5%, all or none
Themes: Incorporation of economic costs into planning process.

Authors: Chan, et al.
Year: 2011
Journal: *PLoS One*
Location: British Columbia, Canada
Version: 2.0.2
Planning units: 500 ha hex
Cost: Timber production
Conservation targets: ecosystem services (biodiversity, angling, carbon storage)
Conservation goals: 50%
Themes: Inclusion of ecosystem services in systematic conservation planning.

Authors: Game, et al.
Year: 2011
Journal: *Global Change Biology*
Ecosystem: Papua New Guinea
Version: ?
Planning units: 5,000 ha hex
Cost: Human population
Conservation targets: Vegetation types by ecoregion, restricted range endemic species (reptiles, amphibians, mammals), land systems (slope, substrate, elevation)
Conservation goals: 10% (more for rare or endangered types), 50% of species distribution, 10% of land system types
Themes: Incorporating climate change adaption into conservation assessments using geophysical variables.

Authors: Segan, et al.
Year: 2011
Journal: *Environmental Modelling & Software*
Ecosystem: n/a
Version: Zonae Cogito
Planning units: n/a
Cost: n/a
Conservation targets: n/a
Conservation goals: n/a
Themes: ZC combines Marxan with MapWindow GIS interface, other features

Authors: Carvalho, et al.
Year: 2010
Journal: *Biological Conservation*

Ecosystem: Iberian Peninsula
Version: 1.8.10
Planning units: 100 km² square
Cost: Equal, random
Conservation targets: 66 amphibian and reptile species
Conservation goals: 10% of occurrences, 5%, 1%, variable (conservation status, biological status, range).
Themes: Using different species distribution data as inputs in Marxan. Results are sensitive to choice, which should be made by evaluating the scenario circumstances.

Authors: Hermoso and Kennard
Year: 2012
Journal: *Biological Conservation*
Ecosystem: Daly River basin, Australia
Version: ?
Planning units: Sub-catchments
Cost: Equal
Conservation targets: Fish species
Conservation goals: 6% of planning units
Themes: Effect of grain size of species distribution data vs. size of planning units on conservation planning outputs.