

---

# Front-end considerations for systematic conservation planning

Leif Thomas Olson



# Context

---

The success of conservation plans are contingent on...

- ...the long-term consistency of the data
- ...the appropriateness of planning units
- ...the degree to which species are representative of overall biodiversity
- ...the effectiveness of their implementation.

# Important Caveats ...

---

## Technical:

Solutions are biased by choices and assumptions of time, space, species set and conservation effort.

## Practical:

Planning solutions must be implemented to be effective!

# Where are we now?

---

**Systematic approaches to conservation and land-use planning are increasingly prevalent, but...**

**...the use of these tools is often opportunistic**

**...analyzed using a single temporal frame**

**...under a single spatial classification scheme**

**...for a relatively small number of species**

**...for a single conservation target.**

# Temporal assumptions

---

When defining conservation plans using present day species distributions we assume...

...that areas important for conservation today will remain centers of biodiversity into the future.

...that negative pressures from outside these areas (sinks, edge effects, migratory mortality, etc.) will not degrade the conservation effect.

# Conservation over time

---

It's not about the individuals, it's about the habitat.

What qualities contribute to making an area habitable?

Data may be poor, but something must be done.

Systematic tools produce explicit solutions using the data at hand.

Long term monitoring is required, both before and after selecting areas to conserve.

# The problem with planning units

---

The choice of spatial planning unit influences our perception of spatial conservation priority.

Social and jurisdictional pressure may constrain planning unit choice, but whenever possible, explore your options.

What does your data tell you? Multivariate analysis may suggest an appropriate spatial classification.

# Practical issues

---

Earlier approaches to conservation planning explicitly were focussed on public involvement (such as CPlan).

Modern approaches typically take too long to do on the fly, requiring iterative consultation.

Analyses over a range of targets should be conducted.



# Implementation is key

---

**Plans must be designed for implementation!**

**This means involvement from the ground up to include and inform stakeholders in the planning process.**

**Unless the problem is well defined at the beginning, much time is wasted ensuring everyone understands and agrees with the solutions.**

# The advantage of openness

---

Transparency and accountability are the chief benefits of systematic conservation planning.

Unlike black box land-use models and arcane expert opinion, systematic designs are the result of explicit weightings and targets.

Unless the stakeholders feel they agree with the initial targets and weightings, they will not see solutions as their own.

# Consultation and collaboration

---

How much do you want, and how much do you want it?

Democratic approaches to targets and weightings will ensure stakeholder participation and acceptance

Votes must be informed by good data; but weightings can be used to downplay coarse data

Targets must be informed by good theory (or resort to the species-area relationship)

**My thanks for your time...**

---

**[leif.olson@o2design.com](mailto:leif.olson@o2design.com)**