

Improving regional environmental assessments and designing effective mitigation

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Professional Reliance:

- ▶ First duty to public interest
- ▶ Build your network/
Practice in your area of
expertise
- ▶ Demonstrate your
competence; Show your
work and rationalize your
findings



Environmental Assessments and how they are addressing Critical Habitat:



- ▶ Identify Mapping:
 - ▶ Layers missed
 - ▶ Uncertain: Ask for expert help
- ▶ Identify Attributes:
 - ▶ Risky approaches
 - ▶ Clarity is lacking
 - ▶ ~~Consider Development rights~~
- ▶ Prevent destruction of CH:
 - ▶ Minimize/acceptable impacts ≠ preventing destruction
 - ▶ Weak measures

Avoidance and Mitigation Strategies



Recovery Strategies tell us where, and what Critical Habitat is, but do not tell us in detail how to prevent its destruction.



Avoidance and Mitigation: current examples

- ▶ **Walk through:**
e.g. no sign of individuals of species
- ▶ **Protect occupied habitat** *e.g. occupied cavity trees*
- ▶ **Timing restrictions:** *e.g. Development to occur with amphibians not in burrows*
- ▶ **Prevent Invasives:** *e.g. clean equipment; hand pulling; reseeding requirements*

Avoidance and Mitigation: more examples

- ▶ **Statement of landowner intentions:**
e.g. no plans to impact/remove
- ▶ **Protect the people from the critters**
e.g. close in stairs so snakes can't get under the stairs
- ▶ **Salvage measures:** *e.g. Environmental Monitor to salvage amphibians if found during development*
- ▶ **Development in disturbed areas:** *e.g. development to occur in areas that are already disturbed by vegetation clearing, or cattle grazing or ??*
[development without a permit?]



Avoidance and Mitigation: design improvements

What to do (generic direction for writing measures)

- ▶ Objective: Prevent destruction of attributes; prevent activities likely to destroy.
- ▶ Desired outcome: Retain ongoing supply of attributes
- ▶ Performance Standard:
 - ▶ [timeframe],
 - ▶ [attribute description]
 - ▶ [species or habitat indicator]
 - ▶ [action]
 - ▶ [quantity/measurable]
 - ▶ [location].

How to do it (tools)

- ▶ Avoidance/mitigation statements in environmental assessment
- ▶ Restrictive covenants registered on title/park dedication;
- ▶ Landowner education/training
- ▶ Signs/fencing
- ▶ Prescribed, specific monitoring
- ▶ Partnership/support from stewardship?

**e.g. Tiger Salamander Recovery Plan
assume CH mapping overlaps site**

**Biophysical attributes of
Critical Habitat**



Burrows, cover objects, friable soils (burrows) & other substrate types (including human-modified) overland.

**Activities Likely to Result
in Destruction of CH**



Land conversion for residential development; development/ modification of roads; pest or invasive control not consistent with BMPs; inappropriate livestock use

**Descriptions of
Threats/Threats Table**



Where [residential] development occurs, the severity of impacts is predicted to be serious; Adult tiger salamanders burrow/survive in agricultural settings absent of thatch-forming grass;

e.g. Improved Avoidance and Mitigation for Tiger Salamander

Avoidance strategies e.g.

- ▶ Retain areas of suitable soil in covenant area with explicit direction about what is not permitted to occur;
- ▶ Restrict development to lowest suitability areas
- ▶ Wetland setbacks
- ▶ Prohibition against lawns, or prescribe native plant ground cover that does not create thatch
- ▶ Refuse to support rezoning for more intensive development

Mitigation strategies

- ▶ Environmental Monitor
- ▶ Timing windows for construction/risky activities
- ▶ Limits to paved surfaces/soil compaction



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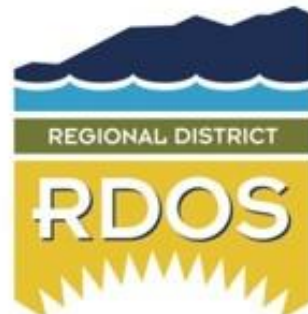


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