Focal Species

Literally meaning "those species focused on", focal species are animal and plant species that provide an essential ecological function, or are indicative of essential habitat conditions. These species may provide an umbrella function for other species or represent large groups of other species, they may be "ecosystem engineers" in that they are responsible for the shape, form, and function of major ecological processes, and/or they may provide an efficient way to represent a planning goal – such as biodiversity protection.

Focal species may include "indicator species", which can be defined as those that tell something about the conditions in a particular habitat. Selection of indicator species may depend on what the species are needed to indicate – habitat condition, land-use effects, or possibly changes from natural disturbance. The species need to be linked to particular habitats or ecosystem types and changes in those habitats and ecosystems. An ideal indicator species should inform management decision-making that affects the species, other species, and the habitats in which the species lives.

Focal species may be selected based on a number of criteria, which are in turn based upon the conservation planning functions that the species are intended to serve. These criteria could include the list in the table below, as well as criteria such as non-overlap with other focal species and responsiveness to threats and change.

Candidate Criteria for Indicator Species Selection for INRMP Phase I

- Wide ranging •
- Representative of other speciesCritical to function of the ecosystem
- Regulatory concern
- Specific habitat needs

(Lambeck, 1997)

(Lambeck, 1997)

Have large effects on community structure and function
Have effects that are disproportionately large
relative to abundance(Noss, 1997; Power et al., 1996)Perform unique roles
Are dispersal limited(Noss, 1997; Kotliar, 2000)Are area limited(Lambeck, 1997)

Kotliar, N.B. 2000. Application of the new keystone-species concept to prairie dogs: how well does it work? Conservation Biology 14(6):1715-1721.

Lambeck, R. J. 1997. Focal species: A multi-species umbrella for nature conservation. Conservation Biology **11**:849-856.

Noss, R.F., M.A. O'Connell, and D.D. Murphy. 1997. The science of conservation planning. Island Press, Washington, D.C.

Power, M.E., D. Tilman, J.A. Estes, B.A. Menge, W.J. Bond, L.S. Mills, G. Daily, J.C. Castilla, J. Lubchenco, and R.T. Paine. 1996. Challenges in the quest for keystones. BioScience 46:609-620.

Are resource limited

Are process limited