

# ***Recovery Goals, Objectives, & Criteria***

Shortnose and Lost River Sucker Recover Team  
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# Recovery Goal

**Ultimate Goal = desired outcome**

The goal of the recovery process is to create conditions such that the species is no longer threatened or endangered and can be **DELISTED**.

# Reclassification

**Endangered to Threatened** (downlisting):  
An intermediate goal

- Due to partial recovery
- Information indicates extinction is not imminent

# Realizing and Accomplishing the Goal

**Through clearly stated objectives and criteria** that describe an objective evaluation of whether a species should be delisted or reclassified

- Measures can be used to mark changes in the species' demographic status and/or threats.

# Objectives

*Parameters* which, when taken together, characterize the conditions under which a species may be downlisted or delisted. May include:

- **Demographic** parameters
- **Threat reduction** or elimination parameters
- **Other vulnerabilities** or biological parameters

# Biological Objectives

**Biological objectives** should link to the species' status and trends and incorporate fundamental conservation principles:

- **Representation** - genetic & ecological diversity
- **Resiliency** – sufficient population size
- **Redundancy** – sufficient number of populations

This should add up to to 'X' probability that the species will persist over a specified time period.

# Threat Reduction Objectives

## **Threats-based objectives**

should link directly (via the recovery strategy) to the priority concerns identified through the threats description & assessment in the Background section of the recovery plan.



# Recovery Criteria

Criteria are developed for each downlisting and delisting objectives

*Note: Although thresholds for uplisting may be included in the plan, they should not be called **recovery** criteria.*

# Recovery criteria should be:

Specific  
Measurable  
Achievable  
Realistic  
Time-referenced

# Criteria Defined

Criteria: **Specific values (or measures)** for the parameters, needed to determine that a species has achieved its downlisting or delisting objectives. May include:

- **Demographic** measures
- **Threat** reduction or elimination measures
- Other biological measures

# Scope of Criteria

Criteria pertain to the full range of the listed entity – be it a species, subspecies, or DPS – with the following provisos:

- If Recovery Units have been delineated, criteria must be developed for each unit.
- For multi-species or ecosystem recovery plans, criteria must be developed for each listed entity.

# Viability Criteria

What do criteria for biological objectives (demographic, genetic, trend) look like?

Examples:

- abundance level or  $N_e$  population size
- survival and reproductive/recruitment rates
- measures for heterozygosity, allelic diversity
- stable or increasing trends (terms defined) for x amount of time
- defined distribution pattern

# Threats-Based Criteria I

What does an objective, measurable, threat-based recovery criterion look like?

- Addresses one of the 5 listing factors
  - E.g., threats that led to listing, and any new threats, should no longer affect the species' long-term survival
- Describes what that factor would look like if sufficiently abated, or what needs to be done to achieve such abatement
- Must be explicit and unbiased

# Other Salient Measures

## Information and management criteria

*for instance ...*

- Ensure that management needs of the species are known sufficiently to develop effective management strategies.
- Where appropriate, management plans are developed and implemented for \_\_\_ populations.

# What If

## There's a high degree of uncertainty?

- Some sources of uncertainty, like stochastic uncertainty, are best dealt with by providing measures of population resilience or redundancy.
- If the state of knowledge is what's at issue, uncertainty may need to be built directly into the criteria by identifying confidence limits and indicating a need for future refinement.

# And What If

## Recovery criteria cannot be determined?

**INTERIM CRITERIA** may be used when objective, measurable criteria *cannot* be developed (rarely), in which case:

1. Provide near-term targets that will suffice until better criteria can be developed.
2. Explain in the plan and for the record why criteria cannot be determined at this time.
3. Specify the actions needed to develop objective, measurable criteria, and provide a timeline for completing those actions and revisiting the criteria.

## And This

**Thoughtfully designed criteria** can lead to identification of **effective recovery actions**.

*For instance ...*

Grazing-induced siltation: Do the grazers need to be removed from the landscape, or is some kind of fencing and buffer zone adequate? Would a criterion focused on turbidity and water clarity measures provide more flexibility for how the problem is resolved while ensuring that it is resolved adequately?