

Imperiled Butterfly Conservation & Management

Recovery Plan Components



Recovery Plans

Purpose: to delineate reasonable actions needed to restore and protect at-risk species

- Framework
- Evaluation
- Transparency

Recovery Plans

Basics:

- A. Current Status: extent of range, listing status
- B. Habitat Requirements
- C. Limiting Factors
- D. Recovery Objectives
- E. Recovery Criteria
- F. Actions Needed
- G. Total Estimated Cost of Recovery (also economic impacts)
- H. Date of Recovery

Recovery Plans

A. Introduction

B. Taxonomy and Description

- Current Taxonomic Classification
- Morphology
- Genetic
- Distinction from similar species

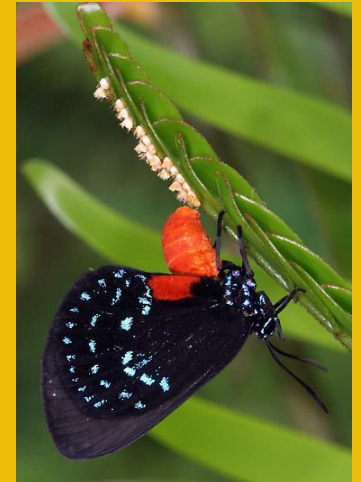
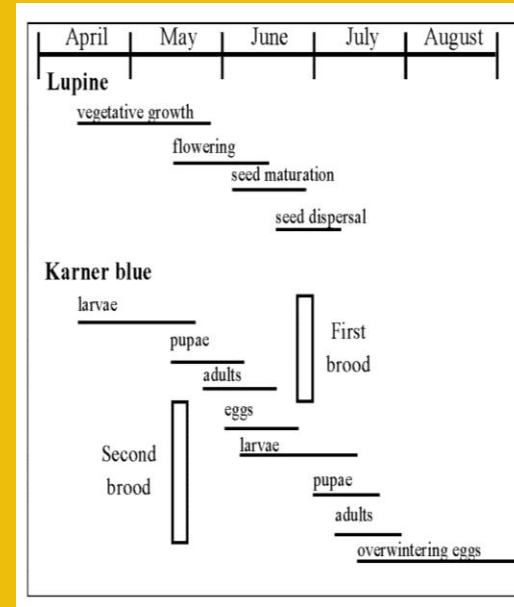
C. Distribution

- Historic distribution
- Range-wide distribution (if multiple states)
- State-wide distribution (current population numbers – if known)

Recovery Plans

D. Life history and ecology

- Description of life history stages
- Phenology
- Behavior
- Larval host resources
 - Larval host abundance & distribution
- Nectar resources
- Other requirements (i.e. associated ants)



Recovery Plans

E. Habitat

- Structure (physical features)
- Distribution (past and current)
- Maintenance (quality, management)
- Associated species
- Within habitat movement
- Between site dispersal
- Corridors

Recovery Plans

F. Threats to survival

- Reason for listing
- Population reduction (trends)
- Current threats
 - Habitat loss and degradation
 - Habitat fragmentation and group isolation
 - Climate change
 - Types of incompatible management (pesticide, mowing, etc.)
 - Invasive species
 - Direct mortality (disease or predation)
 - Inadequate regulation mechanism
 - Other natural or anthropogenic factors affecting continued existence

Recovery Plans

G. Current conservation measures

- Federal or state regulatory action
 - Permits (incidental take)
- Habitat acquisition, restoration and management
- Captive rearing
- Translocation and reintroduction
- Private lands initiatives
- Education and outreach activities

Recovery Plans

H. Recovery strategy

Goal: The goal of this recovery plan is to perpetuate viable metapopulations of the XXX butterfly in the major ecological regions throughout its geographic range.

This will be accomplished by maintaining extant populations throughout the range, and improving and stabilizing populations where the butterfly is imperiled.

Goal: The conservation goal is to secure multiple viable self-sustaining wild metapopulations of XXX throughout all or parts of its historic range so that it no longer requires listing.

Recovery Plans

H. Recovery strategy

Objectives:

- 1) Maintain the two known existing metapopulations at XXX
- 2) Establish a network of at least three additional viable self-sustaining metapopulations, with at least 50 adults each, in XX counties, allowing adequate connectivity for natural gene exchange, within 10 years
- 3) Establish at least 10 additional viable self-sustaining metapopulations, with at least 50 adults each, in the remainder of the historic range within 15 years, for a total of at least 15 metapopulations.

Recovery Plans

- I. Recommended conservation actions (recovery tasks)
 - strategies or actions to achieve recovery objectives

- A. Priority 1 recovery activities are those necessary to prevent the extinction or irreversible decline

- B. Priority 2 recovery activities are those necessary to prevent a significant decline in the butterfly population or the quality of its habitat

- C. Priority 3 tasks provide the essential support to guarantee the persistence of viable populations

Recovery Plans

J. Reclassification criteria

K. Delisting criteria

- A management and monitoring plan, that is approved and implemented
- A sufficient number of individuals in an appropriate metapopulation structure, maintained for at least XX consecutive years. The number of individuals shall be at least XX for a defined period of time
- Connectivity between subpopulations so that the average nearest-neighbor distance between subpopulations is no more than XX

Recovery Plans

Recovery Task 1. Protect and manage the XXX butterfly and its habitat to perpetuate viable metapopulations

A. Monitor population trends, habitat and distribution in RUs and search for new populations/occupied habitats in unsurveyed areas.

B. Continue/start management activities for all metapopulations in RUs

C. Protect existing XX butterfly populations

D. Develop recovery implementation strategies to promote recovery

Recovery Plans

Recovery Task 2: Evaluate and implement translocation where appropriate

Recovery Task 3: Initiate a captive breeding program

Recovery Task 4: Develop range-wide and regional management guidelines

Recovery Task 5: Develop and implement a public education program

Recovery Task 6: Collect important ecological data on XX butterfly and its associated habitats (research, modeling)

Recovery Task 7: Review and track recovery progress (working group)