U.S. FISH AND WILDLIFE SERVICE - SPOTLIGHT SPECIES ACTION PLAN

Common Name: Page springsnail

Scientific Name: *Pyrgulopsis morrisoni*

Lead Region: Region 2

Lead Field Office: Arizona Ecological Services

Species Information:

Status: Candidate

Recovery Priority Number or Listing Priority Number: LPN 2

Recovery Plan or Candidate Assessment Form: Candidate Form, March 2008

Most Recent 5-year Review: NA

Other: Draft Candidate Conservation Agreement with Assurances (CCAA), March 2009, between the U.S. Fish and Wildlife Service and the Arizona Game and Fish Department (AGFD)

Threats: Several springs where the Page springsnail occurs have been subjected to habitat destruction, modification, or curtailment to meet domestic, agricultural, ranching, fish hatchery, and recreational needs. In some instances, impoundments have resulted in water ponding, or inundation, over springheads. Presence of nonnative species, removal of aquatic vegetation, and application of chemicals also threaten the species and its habitats. Although not an imminent threat, groundwater withdrawal is expected to become a threat in the future.

Target: The 5-year goal is to improve the species' conservation status. The rationale for the goal is based on our ability to alleviate several threats to the species through the CCAA.

Measure: Change LPN by decreasing the magnitude and/or imminence of threats.

Actions: The following actions are consistent with the Draft CCAA for the Page springsnail and are necessary over the next 5 years to meet the species' goal.

1. Finalize the Draft CCAA with AGFD.

This action addresses threat Factor D, the inadequacy of existing regulatory mechanisms. Finalization of the CCAA would provide a program to reassess the current status of the Page springsnail; provide strategies to ameliorate conditions leading to its candidate status; remove biological threats and vulnerability; bolster population numbers; and maintain, enhance, and restore current and historical populations and habitats.

2. Prevent future detrimental habitat modification at known localities.

This action addresses threat Factor A, the present or threatened destruction, modification, or curtailment of its habitat or range. Modifications to springheads may have detrimental effects on Page springsnail populations. Through implementation of the CCAA, springhead habitat on cooperators' properties known to support, or likely to support, Page springsnail habitats will be protected from further degradation, modification, or diversion, unless actions are determined in advance by AGFD and USFWS not to negatively impact the species. Future activities that may affect Page springsnails or their known habitats must be coordinated with AGFD and USFWS. Types of activities that may affect Page springsnails or their habitat include: the use of herbicides or other chemicals, mechanized or manual aquatic vegetation control, introduction of (unmanaged) nonnative organisms, addition of material into the habitat, construction of new impoundments or other water control devices, modification of existing structures, and surface diversion of water. This conservation measure is supported by agency base funding.

3. Implement monitoring programs and document results.

This action addresses all threat factors, as it allows us to evaluate the effectiveness of all conservation actions by implementing a monitoring program for all known populations and habitat types on cooperators' properties. The objective of the Page springsnail monitoring program is to measure the effectiveness of the agreed upon management strategies, and provide baseline information on abundance and population trends. AGFD and USFWS have created a survey and monitoring protocol to document snail presence/absence, population size estimates, and habitat conditions. Landowners are strongly encouraged to monitor populations of Page springsnails (annually) on their property (or provide agency access) and submit the results to AGFD. AGFD will house the data on the Heritage Data Management System, which will serve as a permanent central repository. Annual reports summarizing monitoring results should be compiled and distributed to interested parties; and posted on agency websites, if appropriate. This conservation measure is supported by agency base funding.

A water flow measuring device has been established at Bubbling Springs pond and will be used to measure quantity of water emerging from the site. The flow rates will be monitored and reported in the annual report. Additional water-flow monitoring devices should be considered and established if necessary. These measuring devices will show seasonal fluctuations in water flow and unsustainable aquifer usage due to groundwater pumping.

Identify responsible parties for the actions: The AGFD is the primary signatory to the CCAA. AGFD will implement the conservation actions on the Bubbling Springs and Page Springs Hatcheries, where a significant portion of the species' range occurs. Also, AGFD has the authority to enroll private landowners under Certificates of Inclusion, which would greatly contribute to conservation of the species. Additionally, the National Park Service may be a potential cooperator as they manage lands within the historical range of the species. FWS will be available to provide technical assistance and potentially funding.

Estimated costs of the actions:

Strategy Description	**Funding**
1. Finalize CCAA.	--
2. Prevent detrimental habitat modifications	
a. meet with landowners to discuss habitat protection	$2000
b. utilize landowner relations programs to provide incentives to protect habitat	$3000
c. install protective measures (if necessary)	$15000
3. Implement monitoring programs	
a. fully develop springsnail monitoring programs	$2000
b. conduct springsnail monitoring	$10000
c. implement hydrological monitoring program	$20000
Annual progress reports	$5000
Five year summary and evaluation report	$1000

Role of other agencies: The cooperation of the Arizona Game and Fish Department is critical to implement specific actions, including the issuance of Certificates of Inclusion. Other important cooperators include the National Park Service and private landowners.

Role of other ESA programs: The finalization and implementation of the CCAA is expected to contribute to completing the identified actions and reaching the set target.

Role of other FWS programs: Other FWS programs have yet to identify a role in implementing the species' action plan. However, other FWS programs, such as Partners, could potentially provide technical assistance and funding.

Additional funding analysis: When additional funding is available the conservation effort will be expanded to address research needs, the potential threat from groundwater pumping, the restoration of habitat, and the translocation of springsnails. Each of these actions are discussed in more detail in the Draft CCAA.

1. Research.

This action does not directly address any threat Factor, but would inform decisions affecting other actions. Additional basic natural history and population trend information is needed to support future management decisions and evaluate conservation strategies. Funding and investigator(s) are needed to further clarify population demographics, natural history, distribution, and taxonomy.

Estimated cost: $20000

2. Evaluate and safeguard the aquifer supporting Page springsnail habitat.

Cooperators will gather, compile, review, and prepare a report on hydrological information on the Oak Creek springs complex, Shea Springs, and the regional aquifer, and threats to sustaining

historical flow rates from the springs. If threats to the aquifer are identified, Cooperators will reevaluate the effectiveness of the conservation strategy and determine if the effects of groundwater pumping can be ameliorated through the Conservation Agreement process.

Estimated cost: $15000

3. Survey for new populations, identify source population(s), and translocate Page springsnails.

This action addresses threat Factor A, the present or threatened destruction, modification, or curtailment of its habitat or range. Action will include surveys for additional populations, identification of a source population, and translocation of Page springsnails to suitable sites. Factors that will be considered prior to translocation include: genetic diversity of springsnail populations, presence of nonnative species and the ability to remove them, risk of introducing exotic pathogens or parasites, displacement of other endemic aquatic species, likelihood of survivorship, impact on donor populations, economic and cultural impacts, and wildlife-recreation conflicts.

Estimated cost: $15000

Field Supervisor

8/31/09

Date