

AESO/SE

2-21-00-F-145

September 1, 2000

Memorandum

To: Regional Director (ARD:ES; Attn: Leslie Dierauf)

From: Field Supervisor

Subject: Findings and Recommendation on Application by Arizona Department of Transportation for Incidental Take Permit for the Gila Topminnow and Desert Pupfish

I. DESCRIPTION OF PROPOSAL

The Arizona Department of Transportation (Applicant) has applied to the Service for a permit to incidentally take the endangered Gila topminnow and endangered desert pupfish under authority of Section 10(a)(1)(A) of the Endangered Species Act of 1973, as amended. The Applicant proposes to reestablish Gila topminnow and desert pupfish on suitable sites owned or managed by them. One site in Tempe, Arizona is presently proposed for release of Gila topminnow and desert pupfish. Other sites owned by the Arizona Department of Transportation (ADOT) within the natural ranges of the species may be used as refugia for either species in the future. Sites will be determined mutually by the Service and the Arizona Department of Transportation. The Safe Harbor Agreement is designed to provide a net conservation benefit to the Gila topminnow and desert pupfish and to enhance survival and recovery in the wild. The Safe Harbor Agreement has stipulations for monitoring of species populations and habitats and functioning of the Safe Harbor Agreement. The Safe Harbor Agreement also provides for funding the mitigation measures and monitoring. The Applicant's SHA, a statutory element of the incidental take permit application, includes adequate mitigation for the project's effects on the Gila topminnow and desert pupfish. The SHA will provide a conservation benefit to the Plan Species and implement parts of each species' Recovery Plan.

II. SECTION 10(a)(1)(A) SHA CRITERIA - ANALYSIS AND FINDINGS

1. The impact likely to result from such taking.

The SHA adequately describes the project and the taking expected to result from the operation, maintenance, and use of water structures on ADOT lands. All anticipated take will occur on these lands. Sufficient information was provided in the SHA for the Service to conduct an independent examination of the impacts of the taking. The Service's examination of these impacts is in the biological opinion. Individuals and the population at each Safe Harbor site may be lost, but the sites will provide at least temporary refugia populations as well as a source of individuals for other releases. These actions will enhance the survival of the species and promote recovery in the wild by implementing some of the recovery tasks identified in the species' recovery plans. The SHA and Biological Opinion adequately describes the anticipated taking.

2. The steps taken to minimize and mitigate such impacts, and the funding that will be available to implement such steps.

Management actions will be scheduled in advance, and notification of such activities provided to the Natural Resources Section of ADOT. Activities which are expected to result in major siltation or contamination of the channel will be delayed until the fish can be safely removed from the channel and temporarily housed. If activities are going to require long-term removal of fish, arrangements will be made to move them to another location. Students, volunteers, and staff working in or around the channel will be supervised at all times by an ADOT employee, and instruction on proper safeguards will be provided to them before work is done in or around occupied habitat. The SHA describes the mitigation, monitoring, and other responsibilities for which the Applicant is responsible.

3. Other measures the Secretary may require as necessary or appropriate to the plan.

The Applicant has modified the SHA because of pre-application consultations with the Service and others. Those modifications included measures that the Service determined necessary and practicable to minimize take.

III. ENVIRONMENTAL ACTION STATEMENT/CATEGORICAL EXCLUSION AND PUBLIC COMMENT - ANALYSIS AND FINDINGS

The Service completed an environmental action statement/categorical exclusion. A Notice of Availability was published in the Federal Register notifying the public of the availability of the SHA for a 30-day public comment period.

The only comments received were from Environmental Defense (Michael J. Bean) on June 29, 2000. Environmental Defense supported issuance of the Permit if the terms and conditions they suggested were incorporated.

ISSUE IDENTIFICATION

There were five substantive comments which covered a wide array of topics. There were comments on the application of recovery plan guidance, implementation, Service oversight, minimization of take, and renovation.

1. RECOVERY PLAN GUIDANCE

Issue: *The requisite tier 2 populations (for pupfish) have not yet been established, and it may be premature to establish tier 3 populations.*

Response: It is true that the desert pupfish recovery plan states that tier 2 populations should be established before tier 3 populations. The pace of recovery for these two native species has moved very slowly for at least the last 10 years. The need to move forward is urgent. The immediate goal for both species, after survival, is to reintroduce them into wild sites or refugia. The SHA helps achieve this goal, and it is supported by The Desert Fishes Recovery Team. The SHA provides sources of level 3 populations for use in genetic exchanges between tier 2 or tier 3 populations and therefore helps maintain tier 2 populations.

2. SOURCE OF TOPMINNOW AND PUPFISH FOR STOCKING

Issue: *The source of fish to be reintroduced into the Kyrene or other retention basins is not identified.*

Response: The source of fish to be used for reintroducing pupfish and topminnow into the basins was not identified for several reasons.

1) If the stocking source were to be specified in the terms of the Agreement, and a different stocking source was to be used, the SHA may need to be amended. This is not desirable for several reasons, including the time and resources required. Not identifying the source allows for greater flexibility in the recovery of the species.

2) Recent information on the genetics of the desert pupfish will preclude release of this species in Arizona for some time. Research by A. A. Echelle, recently published in *Copeia*, shows the sources of pupfish that would be used for release have genetic traits from more than one population. The desert pupfish recovery plan directs that natural populations or genetic stocks are replicated. There are pure stocks of the California populations, but reestablishment of those populations should be in California. The pupfish stocks to be used for Arizona reestablishments are the ones from Mexico, and no genetically pure populations are available in the U.S. Efforts will soon be initiated to gather individuals from as many of the pupfish stocks in Mexico as possible. Permits from Mexico will be required and that will take time. In addition, permits may be granted for only certain populations.

3) Because the date when actual stocking will occur is not definite, especially for sites other than the Kyrene basin, delineating source stocks is problematic. Guidance in the recovery plans will be followed as closely as possible. The decision on which stock to use hinges on which stocks are already present in the subwatershed, which stock has the greatest management need to be replicated, and the availability of stocks. All pupfish stocks from Mexico need replication. The Gila topminnow metapopulations in the greatest need of replication are Redrock Canyon, lower Sonoita Creek/Fresno Canyon/Coalmine Canyon, and upper Sonoita Creek/Cottonwood Spring. Coalmine Canyon topminnow will be used for a release planned for August. If the reestablishment into the Kyrene Basin occurs at the same time, topminnow from Coalmine Canyon could be used.

3. SERVICE OVERSIGHT

Issue: *The application is unclear as to how decisions regarding reestablishment of fish retention basins other than Kyrene basin are to be made.*

Response: We agree with this statement and have made the appropriate change to the Agreement.

4. MINIMIZATION OF INCIDENTAL TAKE

Issue: *Incidental take caused by operation of the pump should be minimized with screening.*

Response: The Service will suggest that the pump be screened or some other method to minimize the loss of fish at the pump be used. The chance for any Gila topminnow or desert pupfish to be lost from operation of the pump is not very likely. The pump only operates when the basin is close to capacity and has operated once in 18 years. If the basin fills to that level, there is plenty of fish habitat still available and take will be minimal.

Issue: *If a permit is issued, reasonable advance notice of actions requiring removal of fish should be given.*

Response: We agree with this statement and have made the appropriate change to the Agreement.

5. PRESENCE OF MOSQUITOFISH

Issue: *We suggest that the permit be conditioned to require removal of mosquitofish before reestablishment of topminnow and pupfish.*

Response: We agree that mosquitofish need to be removed from any waters before Gila topminnow and desert pupfish are reintroduced. It was always the intent of ADOT, the Service, and the Arizona Game and Fish Department to remove mosquitofish from the Kyrene basin before pupfish or topminnow were reintroduced. This change has been made in the Agreement. The presence of other nonnative aquatic species will need to be evaluated case-by-case.

IV. SECTION 10(a)(1)(A) PERMIT ISSUANCE CRITERIA - ANALYSIS AND FINDINGS

1. The take will be incidental.

The Service finds that the take will be incidental to the otherwise lawful activity of highway and roadway maintenance and operation.

2. The Applicant will, to the maximum extent practicable, minimize and mitigate the impacts of the take.

The Arizona Department of Transportation has included all actions that could minimize take. In addition, ADOT is allowing and participating in actions that provide a net conservation benefit to the species and implement part of each species' recovery plan. They expect topminnow and pupfish from these areas to be used in other refugia or reestablishment sites. If management actions require long-term removal of fish, arrangements will be made to move them to another location. Accordingly, the Applicant has minimized and mitigated to the maximum extent practicable.

3. The Applicant will insure that adequate funding for the SHA and procedures to deal with unforeseen circumstances will be provided.

The SHA and Applicant have ensured that funding necessary to accomplish the SHA will be provided. The SHA has satisfactorily addressed a procedure for dealing with unforeseen circumstances.

4. The take will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

The issuance of this permit has been reviewed by the Service in accordance with Section 7 of the Act. In the biological opinion (incorporated by reference), the Service has concluded that the issuance of the incidental take permit is not likely to

jeopardize the continued existence of the desert pupfish and Gila topminnow. Implementation of the SHA should contribute to the conservation and recovery of the species, as the SHA is designed to provide a conservation benefit to these species.

5. Other measures the Secretary may require as necessary or appropriate for the plan have been met.

The Service finds that no other measures are required in the SHA to implement its intent and purpose.

V. GENERAL CRITERIA AND DISQUALIFYING CRITERIA

The Service has no evidence that the permit application should be denied based on 50 CFR 13.21(A)-(c).

VI. RECOMMENDATIONS ON ISSUANCE OF THE PERMIT

Based on our findings about the incidental take permit application, SHA, and biological opinion, the issuance of the 10(a)(1)(A) incidental take permit to the Arizona Department of Transportation is recommended. This SHA will be the first one in Arizona. It will serve as a model and example to other landowners that use of the land and endangered species can be compatible, and actions to recover those species can also be compatible with uses of non-federal lands.

Bryan Arroyo, ARD:ES

Date

Concur:

Nancy Kaufmann, Regional Director

Date