

**Other work related to endangered species
The 1996 Biological Opinion**

Attachment 5c
TWB H/4/97

The Service rendered an additional biological opinion to address the one-time test of a beach/habitat building flow in 1996. In the resulting opinion, the Service concluded that incidental take limits could be exceeded, and developed reasonable and prudent measures (RPM) to reduce the level of incidental take. RPM number 2 the Service stated that "Before another habitat-building flow, Reclamation will enter into informal consultation with the Service to evaluate test flow studies, the establishment or discovery of a second population of Kanab ambersnail in Arizona, and .."

This second population has not been established or discovered, however several efforts have advanced the goal of establishing such a population a great deal.

Efforts Toward Recovery

1. A Kanab ambersnail working group has been formed, and meets regularly to discuss and recommend actions which will lead to the recovery of the species. Members of the group are the National Park Service, Arizona Game and Fish Department (AGF), Fish and Wildlife Service (Service), Grand Canyon Monitoring and Research Center, CUP Completion Act office (CUPCA), the Phoenix Zoo, Reclamation, and at times the Bureau of Land Management.

2. The habitat at Vaseys Paradise has been evaluated and monitored. Habitat at minus nine mile and Indian Gardens in Grand Canyon, and at Three Lakes near Kanab Utah has also been evaluated. This work, together with information from Spammer allowed for a better understanding of the KAS habitat requirements. The AGF developed habitat criteria, which was then evaluated by the KAS working group. This criteria was used to evaluate over 135 sites, in Grand Canyon, Upper Kanab Canyon, the Hualapai Reservation, and off Mogollon Rim, AZ, to determine if additional populations were present. AGF's 12-step process proceeded if suitable habitat for reintroduction could be identified. Procedures which comply with AGF's 12-step process and permits to be issued by the FWS are being pursued toward the goal of establishing the second population.

3. A separate study is ongoing at Northern Arizona University which is propagating the host plant species and culturing KAS for Research proposals. Ability to propagate the host plant may be useful in enhancing potential introduction sites.

4. Based upon a recognition that a secure area, with a reliable water source, the proper micro climate, and easy access was needed to test information previously collected from a NAU study in an indoor setting prior to reintroducing or introducing a second population, the roof of Glen Canyon Dam was selected as a site for this work. Reclamation has received a request from the GCMRC/NAU for use of the area, and the project is moving forward.

5. The Phoenix Zoo has agreed to house a population of KAS and a suitable location has been selected. The habitat for this population is being prepared and should be ready for occupancy in November, 1997.

6. A contingency protocol has been developed through the KAS working group outlining procedures and chain of communication for salvaging snails from Vaseys Paradise should hydrologic conditions or management actions threaten to take snails.

Note: Funding for these efforts has been provided through FWS Section 6 funds, AGF provided funds to match the Section 6 funds, appropriated Reclamation funds programmed for recovery activities, and the

Southwestern Willow Flycatcher

The SWWF was not listed when consultation on the preferred alternative took place, and was therefore not consulted on. As a result of the 1996 BO, Reclamation agreed to initiate consultation in early 1997. A draft BA has been prepared for this consultation. Reclamation is has not initiated this consultation for several reasons: these include staff priorities being shifted to other Glen Canyon items in light of the results of the data from the 1996 test flow which showed no effect to SWWF or their critical habitat from the 45,000 release; waiting for the results of other studies funded by Reclamation on the SWWF, and a consultation and law suit involving the SWWF and the Lake Mead Delta. The BA on the SWWF is currently scheduled to be completed in December, 1997.

Fish Data Integration Work

There are three individual efforts underway regarding native fishes, all of which contribute to the requirements of the Biological Opinion.

A. A summary of biological information from GCES Phase II. It includes information on all resources and is similar to the 1998 report put out by Reclamation. It will also include information on what studies were conducted during the Beach/Habitat Building flow. The work is being done by a post doctoral student under W.L. Minkley.

B. Dr. Schmidt is preparing a similar report on the physical data.

C. Data Integration - SWCA is preparing an integration report which also examines the data available on what effects can be anticipated from low steady summer flows.