Arizona Department of Water Resources
15 South 15th Avenue
Phoenix, Arizona 85007

SPRNCR
111-23-AAA-1
111-24-CCB-11

APR - 1 1991
OPERATIONS DIV.

No. 33-95789

Filed April 1, 1991

APPLICATION FOR PERMIT TO APPROPRIATE PUBLIC WATER OF THE STATE OF ARIZONA

1. Name: U.S. Bureau of Land Management, telephone: (602) 640-5512

   Address: Arizona State Office, P.O. Box 16563, Phoenix, AZ 85011

2. Type of water source and name, if any: San Pedro River

   being a tributary to: Gila River on the San Pedro watershed
   (for office use only)

3. Proposed beneficial use of water:

   A. Domestic: Number of persons _____, number of families _____

   B. Municipal: Describe population served and estimate of future population and water requirements on an attachment.

   C. Irrigation:

      1) Location of the acreage to be irrigated:

      GLO Lot# _____ ,or ____ 1/4 ____ 1/4 of Section _____ , Township _____ N/S, Range _____ E/W

      2) Total number of acres to be irrigated: _____ 3) Type of crop: _____

   D. Stockwatering:

      1) Kind of stock: _____ 2) Number of stock: Max. _____, Min. _____, Avg. _____

   E. Power: Describe on an attachment.

   F. Mining: Describe the kind of mining claim and the method of supplying and using the water on an attachment:

   G. Recreation: Describe: See Attachment A

   H. Wildlife: Describe kind of wildlife and character of area to be served: See Attachment A

   I. Groundwater recharge: Describe on an attachment.

   J. Storage and recovery: Describe on an attachment.

4. Amount of proposed beneficial water use:

Proposed Use	Amount and Measure	Specific Months of Use
Instream flow (flood flow) (AttachmentA)	See(Attachment B)	See (Attachment B)

SRP390

5. Location of proposed point of diversion: County: N/A

GLO Lot# _____ , or _____ 1/4 _____ 1/4 of Section, _____ Township _____ N/S, Range _____ E/W

6. Location of proposed place(s) of use: County: See Attachment C

Assessor Book, Map, and Parcel # : _____

GLO Lot# _____ , or _____ 1/4 _____ 1/4, of Section, _____ Township _____ N/S, Range _____ E/W

7. Describe how the appropriated water is to be developed and put to the stated beneficial use: No development will occur. Beneficial use will be instream, high flow

8. Storage of water: N/A

A. Name of reservoir: _____ B. Dam height at downstream face: _____ feet

C. Maximum storage at spillway crest: _____ acre-feet. D. Capacity for each foot in depth in cubic feet: _____

9. Construction of facility or diversion works: Number of months or years to begin construction after issuance of permit: N/A ; Number of months or years to complete project _____ ; and number of months or years to put the water to the proposed beneficial use: _____.

If the facility or diversion is already in place and the appropriated water has already been put to the stated beneficial use, give the date of first beneficial use: _____ .

10. Owner of land on which the appropriation is located: United States Department of Interior, Bureau of Land Management

A. Indicate land ownership: Private _____ , State _____ , BLM X , National Forest _____ , Other _____

B. Does the applicant have legal access to both the proposed diversion point and place(s) of use?

Yes X No _____ If "No", explain in item 12 below.

C. If the land is held by lease, give the lease or allotment number: N/A . For proposed appropriations located on BLM or Forest Service lands, the applicant must obtain a letter of authorization for the proposed appropriation and submit the letter to the Department with the application.

11. Is the water to be used supplementally with other water(s)? Yes _____ No X

If "yes", identify other waters or water rights, and explain: _____

12. Additional comments or explanations: Applicant seeks to appropriate unappropriated water for wildlife, including fish, and recreational purposes which are beneficial under A.R.S. 45-141(A). This application is for non-consumptive uses that occur within the streambed except for incidental wildlife use.

13. Attach examination fee of $25.00. Also attach a United States Geological Survey topographic quadrangle map, or copy thereof, clearly showing the proposed point of diversion, any conveyance system, and the place(s) of use.

Submit the completed application, with examination fee, to the Arizona Department of Water Resources, Operations Divison, 15 South 15th Avenue, Phoenix, Arizona, 85007.

June 6, 1991
date

Signature of Applicant, or Representative

DWR-33-01-10/90 Rev.

US Bureau of Land Management Application to
Appropriate Public Water

3: Use of Water

G. and H. Recreation and Wildlife, including Fish

The 1985 Huachuca Audubon Society instream flow application and the BLM's 1987 Amendment described in detail the recreational uses of the San Pedro Riparian National Conservation Area. The application also described the variety of wildlife and fish species that inhabit the riparian areas in those parts of the San Pedro River. The beneficial uses of wildlife, including fish, and recreation depend not only on a continuous base flow in the amount claimed in the amended application, but also on the long-term health of the entire watershed and riparian systems. Today's systems are the products of evolutionary processes that must continue for a varied fauna and flora to persist. In fact, our studies show that the stream system is currently in a process of recovery following serious degradation in the early 1900's (Jackson, et al., 1987).

The natural morphological processes that have shaped the San Pedro and other river systems are largely driven by periodic high flows that flush and redistribute sediment and rock. These high flows inundate the floodplain spreading sediment and seed, scour, shape and regrade the channel, and allow development of new riparian vegetation on banks and floodplain. The long-term improvement and maintenance of the San Pedro River environment is absolutely dependent on the recurrence of sufficiently high peak flows. The conception of a riparian conservation area is meaningless if artificial structures eliminate the variability that once created and now maintains the fluvial biome.

Eighty-two percent of Sonoran Desert bird species depend extensively on riparian vegetation, particularly Fremont Cottonwood forests (Ohmart and Anderson, 1982). The establishment and maintenance of cottonwood stands are strongly dependent on periodic flooding. Flooding spreads seed and deposits silt. Alternating deposition and scouring is the essential geomorphic process that allows the development of uneven-aged cottonwood stands and the vegetative diversity with which wildlife species diversity is associated. Once established, riparian vegetation captures more sediment contributing in turn to the bank-building geomorphic process itself. The process encourages formation of meanders, which further enhance wildlife habitat.

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Attachment A

Periodic flooding gives a competitive advantage to the native component of fish populations that include both native and introduced species. Native species are reestablished more quickly after floods by making better use of natural channel features and being generally more adapted to faster moving waters. Modified environments with calmer water and sediment accumulation in the channel seem to favor introduced species. (ter Horst, 1990).

Whitetail deer, Mexican garter snake, summer tanager and scores of other animal populations are correlated with healthy, diverse riparian habitat (ter Horst, 1990). This is the environment that attracts hikers, hunters, bird watchers and other recreationists. Geomorphic and vegetative development and periodic flood flows are inseparably combined with each other and with the beneficial uses upon which this application is based.

References

Jackson, William, et al., Assessment of Water Conditions and Management Opportunities in Support of Riparian Values: BLM San Pedro River Properties, Project Completion Report, U.S. Department of the Interior, 1987, pages 63-94.

Ohmart, R.D. and B.W. Anderson, "North American Desert Riparian Ecosystems," 1982. In Binder, G.L. (ed.) Reference Handbook on the Deserts of North America.

ter Horst, Kate, "Riparian Birds and Fishes," unpublished review prepared for The Nature Conservancy, Wickenburg, Arizona, 1990.

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4: Amount of Use

This application is a request for permit to obtain a minimum peak instream flow on the San Pedro River at the Charleston gaging station (USGS station number 09471000). A 24-hour flow that includes the permitted, minimum peak flow is requested the first time it occurs during the year. Annual peak flows are generally recorded during July or August, but could occur in any month of the year.

Seven cross-sections of the river are presented on pages 65-68 in the Bureau of Land Management's Assessment of Water Conditions . . . (W. Jackson, et al., 1987). The cross-sections show that the water level of the ten year return period will inundate the banks and benches adjacent to the channel. This level will be sufficient to reach depositional surfaces important to development of riparian vegetation in all cross-sections except for portions of Numbers 3 and 7. It will exceed bank-full conditions providing the flow necessary for streambed scouring, fishery improvement and morphological development in all cross-sections. Therefore, the ten-year event was taken as a flood flow sufficient to meet the needs described in number 3 above.

An instantaneous peak flow of 18,200 cubic feet per second and a 24-hour volume of 11,300 acre-feet were calculated using a Log-Pearson III duration-frequency analysis of the 73-year period of record from the Charleston gaging station. Calculations were performed by Dan Muller, of the Bureau of Land Management Service Center, Denver, Colorado, using the DURFREAK Program on the United States Geological Survey Charleston gage data, which is included in the San Pedro assessment of water conditions (W. Jackson, op. cit., pages 78-80). The 24-hour average flow rate for an event with an exceedence probability 0.1 is 5723 cfs or 11,300 acre-feet in the 24-hour period. Consequently, this application is for a peak flow of 18,200 cubic feet per second and an associated 24-hour volume of 11,300 acre-feet the first time it occurs during the year.

Proposals for diversions or impoundments that could obstruct the permitted high flow would be presented to permit holder (Bureau of Land Management) for review.

Reference

Jackson, William, et al., Assessment of Water Conditions and Management Opportunities in Support of Riparian Values: Bureau of Land Management San Pedro River Properties, Project Completion Report, U.S. Department of the Interior, 1987, pages 63-94.

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Attachment B