

# **Decision Notice, with a Finding of No Significant Impact**

## **Proposed Restoration of Native Aquatic Species in the Redrock Canyon Watershed**

**U.S. Department of Agriculture (USDA), Forest Service  
Coronado National Forest  
Sierra Vista Ranger District  
Santa Cruz County, Arizona  
Townships 21 and 22 South, Ranges 16 and 17 East**

**July 2008**

### **Background**

In September 2007, the Coronado National Forest (Coronado) published a legal notice in the *Arizona Daily Star* announcing that a pre-decisional Environmental Assessment (EA) of a proposed species restoration project in the Redrock Canyon watershed was available for a 30-day public review. The Coronado identified its proposed action as a decision whether or not to approve a request by the U.S. Department of the Interior, Bureau of Reclamation (Reclamation), for permission to construct a concrete fish barrier in the Redrock Canyon stream, on National Forest System (NFS) land.

Redrock Canyon is located in the Canelo Hills, east of the town of Patagonia on the Sierra Vista Ranger District (see attached map). The proposed barrier would facilitate future actions proposed by the Arizona Game and Fish Department (AGFD), in cooperation with the U.S. Fish and Wildlife Service (FWS), to mechanically and/or chemically treat the watershed to remove nonnative fishes and bullfrogs that threaten native species, and to transplant and, hopefully, restore native fish and amphibian species.

The purpose of the proposed project is to improve the recovery status of Federally-listed fish and amphibians (Gila chub, Gila topminnow, Chiricahua leopard frog, and Sonora tiger salamander) and maintain a healthy native fishery in Redrock Canyon. The need for the proposed action is based on its role in a larger program being implemented by Reclamation to construct a series of fish barriers within the Gila River basin to prevent the invasion of nonnative fishes into high-priority streams occupied by imperiled native fishes. This program was mandated by two biological opinions (BOs) issued by the FWS regarding the impacts of Reclamation's Central Arizona Project (CAP) water transfers to the Gila River basin (FWS 1994 and 2001). Fish barrier construction is one of several conservation measures required by the BOs to assist with recovery of Federally-listed native fish species.

The Coronado manages NFS land in the Redrock Canyon watershed in accordance with the Coronado National Forest Land and Resource Management Plan (LRMP; 1986, as amended) and other national policy and direction, including the ESA. The LRMP provides direction for the Coronado to allow the construction of fish habitat improvement structures as needed to support populations of threatened and endangered species. It also guides the transplanting of protected species into suitable habitat following guidelines or species recovery plans and memoranda of understanding. The proposed actions are consistent with the Coronado National Forest Plan and ongoing Endangered Species Act (ESA), section 7(a)(2), consultation between Reclamation and the U.S. Fish and Wildlife Service.

This Decision Notice, with a Finding of No Significant Impact (DN/FONSI), and the final EA are filed at the Sierra Vista Ranger District, 5990 South Highway 92, Hereford, Arizona. The point of contact for information on these documents is Mr. Glenn Frederick, District Biologist, or Ms. Annette Chavez, District Ranger, at (520) 378-0311. The final EA, DN/FONSI, and the Legal Notice of Decision are also available on the Coronado National Forest public website at [www.fs.fed.us/r3/coronado](http://www.fs.fed.us/r3/coronado).

The administrative record (AR) of the NEPA review is on file at the Bureau of Reclamation, 6150 West Thunderbird Road, Glendale, Arizona, 85306. The point of contact at Reclamation is Mr. John McGlothlen at (623) 773-6256.

## **Decision and Rationale**

Based upon findings of the final EA and consideration of responses to comments on the pre-decisional EA, I am signing this DN/FONSI and hereby approve the activities summarized below. The proposed action is described in detail in Chapter 2 of the final EA. The rationale for my decision is summarized below under the heading “Finding of No Significant Impact” and described in detail in the final EA, Chapter 3, and specialists’ reports filed in the AR.

My decision is to allow Reclamation to construct a 12-foot-wide by 5-foot-high, reinforced-concrete fish barrier in Redrock Canyon on NFS land, approximately 4.25 miles upstream from Sonoita Creek. Following construction, the AGFD, with assistance from Reclamation, the Coronado and the FWS, will: (1) salvage native fish, amphibians, and aquatic reptiles from waters of Redrock Canyon; (2) apply the piscicides antimycin A and/or rotenone and use mechanical methods to eradicate all nonnative fish in the watershed above the constructed barrier and reduce or eliminate bullfrog; (3) restore populations of native fish, frogs, salamanders, and semi-aquatic reptiles to all appropriate waters in the watershed; and (4) monitor the aquatic fauna of the watershed following treatment and restoration actions.

## **Alternatives Considered**

Three alternatives were evaluated in the EA: the proposed action; alternative A, removal of non-native species and restoration of aquatic species without a fish barrier; and no

action. No action is included as an alternative to the proposed action, in accordance with the requirements of CEQ regulations [40 CFR Part 1502.14(d)]. It provides a baseline against which the impacts of the proposed action may be compared. If no action is taken, Reclamation will not construct a concrete fish barrier in Redrock Canyon, and AGFD will not remove non-native species from and restore native species in the watershed.

## **Public Involvement**

Public notification of this proposed action was first listed on a Schedule of Proposed Actions on the Coronado website, [www.fs.fed.us/r3/coronado](http://www.fs.fed.us/r3/coronado), on January 1, 2007.

On January 18, 2007, Reclamation posted a Scoping Notice on its Phoenix Area Office website ([www.usbr.gov/lc/phoenix](http://www.usbr.gov/lc/phoenix)), inviting public comment on the scope of the impacts analysis, and mailed project information to 53 potentially interested individuals, organizations, and agencies, including parties identified by the Coronado. A meeting was held in Sonoita, Arizona, on February 8, 2007, to discuss the project with those parties who hold permits for grazing allotments within the project area. Reclamation and the Coronado received 11 letters of comment (including electronic mail) during the 30-day scoping period which ended on February 16, 2007. Key issues identified in those letters were addressed by resource specialists during preparation of the EA.

On September 14, 2007, a pre-decisional EA was mailed to 58 potentially affected or interested individuals and agencies, including those who commented during the scoping period, for a 30-day review. In addition, Reclamation sent news releases to the *Arizona Republic* newspaper and other major media outlets serving central and southern Arizona regarding the availability of the draft EA.

In accordance with Forest Service *Notice, Comment and Appeal Procedures* at 36 CFR 215, on September 14, 2007, the Coronado published a legal notice in the *Arizona Daily Star* announcing the availability of the EA for a 30-day public review. Finally, the pre-decisional EA was publicly available on Reclamation's Phoenix Area Office website and the Coronado website. Five respondents submitted written comments concerning the EA during the comment period. Public comments on the EA and the agencies' responses are contained in Appendix G of the final EA.

Continued public involvement will include publication of a legal notice announcing this decision and FONSI in the *Arizona Daily Star*. The date of publication of this notice will begin a 45-day public appeal period, in accordance with 36 CFR 215.11. Details on the Forest Service appeal process are presented in 36 CFR 215.12 through 215.19.

## **Finding of No Significant Impact**

After considering the context and intensity of the environmental effects described in the EA and the content of comments received from the public, I determined that the proposed action will not have a significant effect on the quality of the human environment, according to the criteria established in the CEQ regulations (40 CFR 1508.27), and that a

Finding of No Significant Impact (FONSI) is appropriate. Therefore, preparation of an environmental impact statement (EIS) will not be necessary.

Because the proposed action would not have international, national, regional and statewide effects, the following discussion relates to local effects on the Sierra Vista Ranger District and Santa Cruz County, Arizona.

### ***Air Quality***

The project area is not within a Class 1 airshed or nonattainment area. Project implementation will generate sporadic, localized particulate emissions from soil disturbances and sporadic, localized, particulate and gaseous emissions from operation of construction vehicles and equipment. Best Management Practices prescribed by the Arizona Department of Environmental Quality will be implemented to minimize dust, including the use of a water truck. There is no potential for the project to cause a violation of any National Ambient Air Quality Standards and measurable deterioration of ambient air quality (EA, Section 3.7).

### ***Water Resources***

Ground-disturbing activities associated with the project, if unmitigated, have the potential to increase soil erosion and sediment runoff to the stream in Redrock Canyon during periods of heavy precipitation, such as the summer monsoon season. To minimize this, construction will be scheduled only during dry weather. The use of Forest Service Best Management Practices (citation) for preventing and/or controlling erosion will be required in the construction contract (EA, Sections 2.4 and 3.1.2). Implementation of these controls will ensure that the composition of the stream bed and the course of water flow will not be measurably affected.

Potential increases in stream turbidity attributable to fish barrier construction will be short-term and discountable. No significant effect on stream dynamics or sediment transport will result from placement of the barrier. Construction of the barrier and application of a piscicide (antimycin A and/or rotenone) will have short-term, minor effects on water quality in the Redrock Canyon stream (EA, Section 3.1.2).

Water quality certification and permit coverage under Clean Water Act, Sections 401 and 404, have already been obtained. The terms and conditions of these permits/certifications will be implemented during the project.

### ***Soils***

Direct and indirect impacts to alluvial soils will result from construction disturbance, and from streambed aggradation of sediment impounded by the barrier. Overall, a total area of less than two acres would be affected (1.4 acre aggradation, 0.12 ac staging/access).

The presence of exposed bedrock and rocky substrates at the barrier site and along the stream banks will minimize soil erosion. Pedestrian and vehicle traffic associated with

stream renovation and native fish and amphibian restoration will result in discountable soil disturbance and compaction. Best Management Practices and erosion prevention measures will be required in the construction contract.

Soils in the project area that would be impacted during construction are not classified by the National Resource Conservation Service as prime or unique farmland (EA, Section 3.6).

### ***Terrestrial Vegetation and Wildlife***

Sources of potential impact to vegetation include clearing of a staging area and location of the fish barrier and introduction of nonnative plant seeds on vehicles and heavy equipment.

The planned 0.1-acre staging area has been disturbed repeatedly over many years by road maintenance, dispersed recreational camping, livestock grazing, and off-road vehicle travel. An estimated 0.02 acres of vegetation would be disturbed along a pre-existing vehicle corridor from FSR 138 upstream. Impacts to vegetation during barrier construction would be discountable because of the small area that would be disturbed, the type of vegetation present in that area (i.e., mostly seepwillow and scattered mesquite), and the high probability for regrowth of the area in a relatively short period of time.

Vehicles and heavy equipment would be power-washed before entering the construction site to reduce the likelihood of nonnative plants being introduced to the site (EA, Section 3.2.2).

Terrestrial wildlife in the immediate vicinity of the barrier and staging area would be disturbed in the short-term by vehicle and equipment activity and human presence. Temporary noise and habitat disturbance would occur in both areas. Direct injury or mortality of slow-moving animals may occur during vehicle or equipment operation. Losses are expected to be minimal, as most species would be temporarily displaced from the area shortly after the onset of construction.

The fish barrier is not expected to prevent movement of terrestrial species. Side slopes in the area are sufficient to allow terrestrial wildlife to easily move around the barrier.

During piscicide application, terrestrial wildlife may drink or have body contact with water containing rotenone or antimycin A and may consume fish killed by the piscicide. Terrestrial vertebrates do not uptake either of the piscicides through body contact, and neither piscicide is toxic to vertebrate animals when applied at levels and formulations in accordance with the labels.

### ***Aquatic Vegetation and Wildlife***

The proposed action would benefit longfin and speckled dace, desert sucker, canyon treefrog, black-necked and Mexican gartersnake, and Sonora mud turtle. The three fish

species would be restored into Redrock Canyon, and, with removal of predation by mosquitofish and reduced predation from bullfrogs, the three repatriated species are expected to expand into all suitable areas and establish self-sustaining populations. The tree frog, gartersnake, and mud turtle would be released from predation and competition by nonnative aquatic species, allowing their populations to potentially expand in numbers and distribution within the watershed. Mexican gartersnake would also be restored to the watershed through salvage and/or stocking.

Any gill-breathing native aquatic wildlife that are not salvaged may be lost as a result of the use of piscicides in the Redrock Canyon watershed. However, the restocking of salvaged fish following nonnative removal, with possible augmentation stocking from captive or nearest-neighbor stocks, is expected to result in increased abundance and distribution of longfin and speckled dace and desert sucker, for a long-term gain for both species.

Effects on native aquatic biota will be temporary and limited to the treatment area. Application of the piscicide has the potential to temporarily reduce the abundance of certain groups of aquatic macroinvertebrates in treatment area, but long-term effects on populations, biomass, and diversity are unlikely. Possible minor effects to other nontarget aquatic species will be limited to the treatment area. Dilution combined with the oxidation caused by sediment and organic material in the stream will detoxify all piscicide residues within a few days. Permanganate compounds will be applied in areas where rapid neutralization is desirable. Degradation byproducts of the piscicide and permanganate compounds will have a negligible effect on the environment. Removal of nonnative fish is expected to have a long-term beneficial impact on aquatic biota.

### *Special-Status Species*

The proposed action is consistent with the direction and objectives of the Forest Plan with regard to species listed under the Endangered Species Act (ESA); the 1994 and 2001 BOs for the CAP; and ongoing ESA section 7(a)(2) consultation between Reclamation and the FWS. A BO issued by FWS (2008) concluded that the proposed action is not likely to jeopardize the continued existence of listed species and would likely provide long-term benefit to species that are restored to the watershed (EA, Sections 3.2.8).

The proposed action is intended to benefit populations of federally listed amphibians and fish. The project would assist in the attainment of the objectives of the Gila topminnow, Sonora tiger salamander, and Chiricahua leopard frog recovery plans. It would also implement recommendations for conservation of Gila chub. The constructed barrier would provide a reinvasion-prevention mechanism that would allow successful removal of nonnatives in the reach of Redrock Canyon below the Falls and in lower Oak Grove Spring Canyon.

Piscicide application has the potential to kill individuals of federally listed native species that are not captured during salvage activities. The loss of a few individuals of these two species is considered acceptable when compared with the substantial improvement in the

long-term status of their populations in the Redrock Canyon watershed that would be afforded by the proposed action.

Forest Service sensitive species and management-indicator species (MIS) known to occur in the project area would not be negatively affected by the proposed action. The analysis in the EA reports that there will be no net loss of habitat, no trend toward Federal listing, and no loss of viability of any of these species because of the proposed action (EA, Section 3.2.10).

### ***Heritage Resources***

The proposed action was determined to be an undertaking that has the potential to affect archaeological, historic and cultural resources. In accordance with Section 101(d)(6)(B) of the National Historic Preservation Act (NHPA), twelve Native American tribes with traditional ties to southeastern Arizona were contacted about the project. No negative comments were received.

The Forest Service and Reclamation jointly conducted a Class III (i.e., intensive) archaeological field survey of the area of potential effect. Based on the survey, Reclamation made a determination of “no historic properties affected”. The Forest Archaeologist and Forest Supervisor concurred with the determination, and the Arizona State Historic Preservation Office (SHPO) was consulted in accordance with Section 106 of the NHPA. The SHPO concurred with this determination on January 11, 2007 (EA, Section 3.3.2).

### ***Visual Quality***

Construction of a permanent, concrete fish barrier will alter visual quality at the site, but when mitigated, the barrier will meet the visual quality object for the area, which is *Modification (while management activities may visually dominate the characteristic landscape, they must utilize naturally established form, line, color, and texture)*. Mitigation will include: (1) the use of colored concrete to match adjacent natural rock for the entire fish barrier (all exposed surfaces including walls and apron); (2) minimal removal of trees and damage to other vegetation; (3) restoration of the stream channel, staging areas, and vehicle tracks following construction; and (4) the use of riprap rock type and color to match native rock (EA, Section 3.5.2).

### ***Recreation***

The barrier includes a 5-foot-high, concrete drop structure, which poses a potential hazard to Forest users. However, because there are no recreation trails or roads that access the barrier site, the probability of accidental injury is low.

Recreational users may have limited access to certain areas of the Forest when piscicide applications and bullfrog eradication activities are being conducted. Mitigation will include: (1) posting cautionary signage (construction and piscicide treatment areas) in

both English and Spanish, and (2) restoring all disturbed ground created by this project, especially tracks or trails that might encourage visitors to access the fish barrier, and other areas that might encourage heavier dispersed uses (parking, camping, etc.)(EA, Section 3.5.2).

### ***Community Resources***

The proposed action will not impact the rural character of the area and the services available in local communities. The predominant land uses in the area are grazing and recreation.

The fish barrier would be located in the West Redrock pasture of the Seibold-Crittenden Allotment, which is managed according to Forest Service direction (grazed during winter once every 3 to 5 years). The site consists mostly of exposed bedrock and provides little, if any, forage used by livestock.

The Forest Service will coordinate all activities that comprise the proposed action closely with the allotment permittee. Removal of trees would be avoided to the extent possible, and the site would be rehabilitated following project completion. The volume of construction and future barrier-maintenance traffic would be low and would not disrupt the grazing operator's access.

Nonnative species removal from stock tanks and surface waters would occur on four allotments within the project area. Piscicides would be applied to surface waters outside of livestock enclosures, such as stock ponds, to which cattle have access. Rotenone has been used as a control for grub on dairy and beef cattle for many years with no adverse effects, and the EPA has reported that there is no need to restrict livestock consumption of treated waters. Pumping of stock tanks and cienega pools to facilitate nonnative removal may affect surface water availability in the short term if livestock are present during or shortly after pumping. If cattle are in the pastures during piscicide treatment of stock tanks, water would be made available by refilling the tanks and/or providing an alternative water source until natural replenishment occurs.

### ***Cumulative Impacts***

Other past, present, and reasonably foreseeable future actions in the project area include grazing and public recreation. The impacts of the proposed action are discountable for all resources evaluated in this EA. Therefore, cumulative impacts with other uses of the area will also be discountable.

## **Findings Required by other Laws and Regulations**

### ***National Forest Management Act***

The National Forest Management Act (16 USC Sections 1600-1614, August 17, 1974) requires that all proposed actions be reviewed for consistency with the Forest LRMP. A



review of the proposed action relative to the standards and guidelines resulted in a determination that it is consistent with the LRMP, and that no amendments to the plan are necessary prior to implementation of the action.

***Endangered Species Act and National Historic Preservation Act***

See *Special Status Species and Heritage Resources* above.

**Opportunity to Appeal**

On September 14, 2007, a legal notice was published in the *Arizona Daily Star* to announce that a pre-decisional EA and other project-related information were available for a 30-day public review period, as required by Forest Service regulations at 36 CFR 215. Comments were received from five parties during the EA review period. Therefore, a legal notice announcing this decision and FONSI will be published in the *Arizona Daily Star* after I have signed this DN. The date of publication of the legal notice will begin a 45-day public appeal period, in accordance with 36 CFR 215.11. Details on the appeal process are found in 36 CFR 215.12 through 215.19.

**Implementation Date**

According to 36 CFR 215.9, proposed actions subject to the appeal may be implemented according to the following criteria:

- a) When no appeal is filed within the 45-day appeal period, implementation of the decision may begin on, but not before, the 5th business day following the close of the appeal-filing period (§215.15).
- (b) Except for emergency situations (§215.10(c)), when an appeal is filed, implementation may occur on, but not before, the 15th business day following the date of appeal disposition (§215.2). In the event of multiple appeals of the same decision, the implementation date is controlled by the date of the last appeal disposition.

**Point of Contact**

Additional information regarding the proposed action may be obtained directly from Mr. Glenn Frederick, District Biologist, at the Sierra Vista Ranger District, 5990 South Highway 92, Hereford, Arizona; telephone (520) 378-0311.

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Jeanine A. Derby  
Forest Supervisor  
Coronado National Forest

Date