

U.S. DEPARTMENT OF INTERIOR, FISH AND WILDLIFE SERVICE

RECORD OF DECISION

**HORSESHOE AND BARTLETT RESERVOIRS HABITAT CONSERVATION PLAN
FINAL ENVIRONMENTAL IMPACT STATEMENT**

MARICOPA AND YAVAPAI COUNTIES, ARIZONA

MAY 23, 2008

This Record of Decision (ROD) has been developed by the U.S. Fish and Wildlife Service (Service) in compliance with the agency decision-making requirements of the National Environmental Policy Act (NEPA) of 1969, as amended. The purpose of this ROD is to document our decision for the selection of an alternative including implementation of the Horseshoe and Bartlett Habitat Conservation Plan (H-B HCP or Plan). Alternatives have been fully described in detail and evaluated and analyzed in the March 2008 Final Environmental Impact Statement (FEIS) and the H-B HCP.

This ROD is designed to: (1) state our decision, present the rationale for its selection, and portray its implementation; (2) identify the alternatives considered in reaching the decision; and (3) state whether all means to avoid or minimize environmental harm from implementation of the selected alternative have been adopted in accordance with 40 CFR 1502.2.

Based upon our review of the alternatives and their environmental consequences described in the FEIS, our decision is to implement Alternative 2 – Optimum Operation of Horseshoe and Bartlett Reservoirs and Dams (the preferred alternative). The selected action entails the issuance of a Section 10(a)(1)(B) permit to Salt River Project (SRP) to incidentally take southwestern willow flycatcher (*Empidonax traillii extimus*), bald eagle (*Haliaeetus leucocephalus*), razorback sucker (*Xyrauchen texanus*), Colorado pikeminnow (*Ptychocheilus lucius*), Gila topminnow (*Poeciliopsis occidentalis occidentalis*), spikedace (*Meda fulgida*), loach minnow (*Tiaroga cobitis*), and, if listed in the future, yellow-billed cuckoo (*Coccyzus americanus*), roundtail chub (*Gila robusta*), longfin dace (*Agosia chryogaster*), Sonora sucker (*Catostomus insignis*), desert sucker (*Catostomus clarki*), speckled dace (*Rhinichthys osculus*), lowland leopard frog (*Rana yavapaiensis*), northern Mexican gartersnake (*Thamnophis eques megalops*), narrow-headed gartersnake (*Thamnophis rufipunctatus*), referred to collectively as the “covered species, or “covered bird species” and “covered aquatic species.” The H-B HCP will minimize and mitigate for take of flycatcher and cuckoo by operating Horseshoe reservoir to maintain riparian forest in the upper end of the reservoir, and acquiring and managing in perpetuity 200 acres of replacement habitats for these species. Bald eagle impacts will be minimized and mitigated by implementation of an interagency coordinated rescue program and construction and maintenance of an alternative nest structure. For covered aquatic species, take will be minimized and mitigated by

operating Horseshoe Reservoir to benefit razorback sucker in some years, negatively affect reproduction of nonnative fish in most years, constructing and maintaining a fish barrier in Lime Creek, funding improvements to a state native fish hatchery, stocking covered fish species, and supporting other Verde River watershed improvement projects as described in the H-B HCP.

The term of the permit is 50 years (2008 – 2058). Mitigation and minimization measures will be implemented according to the schedule described in the HB-HCP. One hundred and fifty acres of flycatcher and cuckoo habitat in the Safford valley (eastern Arizona on the Gila River) will be placed under conservation easement within one year of permit issuance and protected in perpetuity. An additional 50 acres will be acquired and protected by 2018. The delay in purchase for up to 10 years is to provide every opportunity to purchase suitable flycatcher and cuckoo habitat in the Verde Valley. Modification of Horseshoe Reservoir operations to benefit flycatcher, cuckoo, and covered aquatic species will begin upon permit issuance. Also, upon permit issuance, SRP will begin coordinating with the U.S. Forest Service and Arizona Game and Fish Department (AGFD) to implement covered aquatic species mitigation actions: Lime Creek fish barrier construction, native fish hatchery improvements, fish production, and covered fish stocking. Other minimization and mitigation measures in the H-B HCP include Verde River watershed projects that benefit covered aquatic species, and funding water supply protection studies and/or projects to conserve flycatcher and cuckoo mitigation properties. Monitoring covered species and habitats to assess H-B HCP minimization and mitigation effectiveness and to guide adaptive management would be implemented at Horseshoe Reservoir, on the Verde River from Clarkdale to Granite Reef Dam on the Salt River, and on the acquired properties.

For further information, contact Debra Bills, U.S. Fish and Wildlife Service, 2321 West Royal Palm Road, Suite 103, Phoenix, AZ 85021 (602/242-0210).

Background

SRP has applied to the U.S. Fish and Wildlife Service (Service) for an incidental take permit (ITP) pursuant to Section 10(a)(1)(B) of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531-1544, 87 Stat. 884). As part of the permit application, SRP has developed and would implement the Plan to meet the requirements of a Section 10(a)(1)(B) permit. The issuance of an ITP by the Service would allow SRP to implement the Optimum Operation alternative for Horseshoe and Bartlett Dams and Reservoirs, which are critically important water storage and supply reservoirs, for a period of 50 years.

The Service is the agency delegated the authority by the Secretary of the Interior to approve or deny an ITP in accordance with the ESA. To act on SRP's permit application, FWS must determine whether the Plan meets the approval criteria specified in the ESA, including Federal regulations at 50 CFR 17.22 and 17.32. The issuance of an ITP is a Federal action subject to NEPA compliance, including the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the NEPA (40 CFR

1500-1508). The decision to approve the incidental take permit will result in our entering into an Implementing Agreement with SRP to formalize assurances regarding implementation of the H-B HCP. The Implementing Agreement has been approved by the Department Office of the Southwest Regional Solicitor.

The Service issued the FEIS on April 30, 2008, to evaluate the potential impacts associated with issuance of an incidental take permit for implementation of the H-B HCP, and to evaluate alternatives (67 FR 71193). The final H-B HCP was issued on the same date as an attachment to the FEIS. Public comments and responses associated with the Draft EIS and Draft H-B HCP were also included as an attachment to the FEIS.

Purpose and Need

The purpose of the Section 10(a)(1)(B) permit would be to authorize incidental take associated with SRP's continued operation of Horseshoe and Bartlett Reservoirs, consistent with its purpose for water storage and deliveries, including periodic inundation and desiccation of habitat as Horseshoe and Bartlett water levels rise and recede. The permit would also allow incidental take associated with SRP's implementation of the HCP including managing Horseshoe water levels to maintain tall dense vegetation for flycatcher and cuckoo in the upper part of the reservoir, and rapidly drawing down the reservoir and emptying the pool annually to minimize impacts to covered aquatic species.

Horseshoe and Bartlett are operated to provide water supplies for municipal, industrial, and agricultural uses, and, incidentally, for recreation and flood control purposes. Bartlett and Horseshoe Dams and Reservoirs, located on the Verde River, were completed in 1939 and 1946, respectively. Along with four dams and reservoirs located on the Salt River and one dam and reservoir located on East Clear Creek, Horseshoe and Bartlett are operated and maintained by SRP pursuant to contracts with the U.S. Bureau of Reclamation. Numerous entities have vested and contractual rights to water stored by SRP facilities, including SRP shareholders; the cities of Phoenix, Scottsdale, Tempe, Avondale, Chandler, and others; several irrigation and water conservation districts; and several Indian tribes. In particular, the City of Phoenix holds storage rights in Horseshoe and the Salt River Pima-Maricopa Indian Community holds storage rights in Bartlett. SRP delivers an average of 1 million acre feet (AF) of water each year to these entities within a service area of approximately 375 square miles, of which approximately 40 percent of annual surface water deliveries are supplied by water stored and released from Horseshoe and Bartlett Reservoirs. Most of SRP's water deliveries are to cities and urban irrigation districts for delivery to more than 1.6 million people, meeting a large portion of the total water supply needs for the greater Phoenix (AZ) metropolitan area.

Key Issues and Relevant Factors

Key issues and relevant factors were identified through public scoping, an Advisory Group of agencies and concerned groups, and comments from the public. These issues and factors focused on: 1) water supply alternatives; 2) impacts on flycatcher recovery efforts; 3) impacts on razorback sucker, other native fishes, and sensitive aquatic reptiles and amphibians; 4) mitigation of impacts on listed species; 5) impacts on recreation; and 6) impacts of flood control. These issues were thoroughly examined in the draft and final EIS and H-B HCP. No new significant issues were raised following publication of the FEIS and H-B HCP.

The Selected Alternative

The selected alternative is the Optimum Operation or preferred alternative (Alternative 2) described in the FEIS. This alternative provides for the issuance of an incidental take permit to SRP for take that would occur incidental to the continued operation of Horseshoe and Bartlett consistent with modified operational objectives for operation of the reservoirs up to the maximum storage elevation of 2,026 feet and 1,748 feet, respectively. This alternative includes implementation of H-B HCP measures to minimize and mitigate the potential take of federally listed and candidate species to the maximum extent practicable. The intent of this alternative is to minimize the biological, environmental, and socioeconomic impacts from future reservoir operations, continue water storage and delivery, and power generation of Salt River dams, and satisfy the habitat, species, and issuance criteria of Section 10 of the ESA.

Other Alternatives Considered

Two additional alternatives were considered in the FEIS.

Alternative 1 — No Permit Alternative (No Action by the Service). Under this alternative, a Section 10 incidental take permit would not be issued. SRP would do everything within its control to avoid take of federally listed species and impacts to other covered species associated with its continued operation of Horseshoe and Bartlett. This would require managing Horseshoe operations to reduce water levels below the elevation at which flycatchers nested in the previous year before commencement of the nesting season. To avoid potential take of federally listed native fish, SRP would empty the reservoir as rapidly as possible in the spring and keep it empty for as long as possible each year to minimize benefits to nonnative fish. SRP would also construct and maintain a fish barrier in Lime Creek to prevent nonnative fishes from moving up that tributary from Horseshoe, into habitat occupied by the endangered Gila topminnow. SRP would work with the AGFD and the Service to modify the existing Verde native fish stocking and management program to avoid the take of stocked razorback sucker, Colorado pikeminnow, or other listed fishes from Horseshoe and Bartlett operations.

Alternative 3 — Modified Historical Operation Alternative. Under this alternative, we would issue an incidental take permit authorizing take associated with the operation of Horseshoe and Bartlett consistent with historical operating objectives similar to the Optimum Operation alternative but without the Horseshoe reservoir water operation objectives to minimize nonnative fish reproduction and maintenance of flycatcher and cuckoo habitat at the upper end of the reservoir. This alternative would include off-site measures to minimize and mitigate the potential take of federally listed species and impacts to other covered species, to the maximum extent practicable.

Environmentally Preferable Alternative

The environmentally preferable alternative is defined as the alternative “that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural and natural resources” (NEPA 1969 and Council on Environmental Quality Section 1505.2[b]). The environmentally preferable alternative is further defined as the alternative that best promotes the national environmental policy criteria as established in the NEPA.

Each of the three alternatives evaluated in the FEIS meets some of the provisions of the national environmental policy goals. The selected action (Alternative 2) is the environmentally preferable alternative because it surpasses the other alternatives in realizing the full range of environmental policy goals. Alternative 2 provides a high level of resource protection by acquiring and managing suitable covered bird habitat in perpetuity, managing water levels in Horseshoe to conserve covered bird and aquatic species, as well as other conservation actions to protect and enhance species and their habitat in the Verde River and elsewhere. The selected action provides the widest range of neutral and positive beneficial uses of the environment, maintains an environment that supports a diversity and variety of individual choices, and provides the best overall balance integrating resource protection while providing for the water needs of regional populations dependent on the water supply provided by Horseshoe and Bartlett operations.

Although the No Action alternative (Alternative 1) provides for the immediate protection of existing listed and candidate species, it may not provide for the long-term habitat needs of those species. Short-term protection of habitat would result in adverse effects to other natural resources, recreation, the local and regional economy, and the use of renewable resources. No long-term measures to provide preservation of habitat and conservation of aquatic species would be implemented. The Modified Historical Operation alternative (Alternative 3) would have greater impacts on the covered species than the Preferred Alternative, but the long-term availability of habitat would vary with reservoir water levels and the preservation of suitable riparian habitat in perpetuity would be limited to habitat protection measures provided by previous actions. The reservoir would not be operated to minimize impacts to covered aquatic species and to benefit razorback suckers, thus the impacts due to the Modified Historical Operation Alternative to covered aquatic species are the highest among the three alternatives.

Measures to Minimize and Mitigate Impacts

Measures to avoid, minimize, and mitigate to the greatest practicable extent the environmental effects that could result from implementation of the selected alternative have been incorporated into the decision. The H-B HCP includes actions to minimize and mitigate incidental take of covered species to the maximum extent practicable. Flycatcher and cuckoo minimization and mitigation measures include operation of Horseshoe to maintain breeding habitat at the upper end of the reservoir, habitat acquisition and management along with additional habitat conservation and species-specific protection measures in perpetuity. Mitigation measures provide for the acquisition and/or management of 200 acres of riparian habitat at locations on the Gila River and Verde River, and possibly other locations, if necessary, in central Arizona for the benefit of flycatchers and cuckoos. Within one year of permit issuance, 150 acres would be placed under conservation easement and managed for flycatchers and cuckoos, and an additional 50 acres would be protected within 10 years and managed in perpetuity. Included within the habitat conservation measures is funding for protection of water resources that support persistence of covered bird habitat on mitigation properties.

Minimization and mitigation measures would be implemented to benefit covered aquatic species. Operation of Horseshoe would be modified to reduce the production of, and benefits to, nonnative fish that could prey upon or compete with covered aquatic species.

Periodically holding Horseshoe water levels high to maintain habitat for covered bird species would also provide spawning, nursery, and grow-out habitat for razorback sucker. SRP would fund improvements and operation and maintenance of the AGFD Bubbling Ponds Native Fish Hatchery to increase the rearing and production capacity of covered fish species. The additional covered fish would be stocked in the action area to mitigate reservoir operation impacts and provide recovery opportunities. A fish barrier would be constructed and maintained in Lime Creek to protect covered aquatic species from nonnative fish that could move into occupied habitat. Finally, SRP would implement watershed management actions as described in the H-B HCP (e.g., stream gage and flow monitoring) that would provide further management opportunities to benefit covered aquatic species.

Coupled with the covered bird habitat acquisition and management program is an ongoing monitoring program at Horseshoe and mitigation sites to evaluate habitat condition, species populations and trends, and the effectiveness of mitigation and minimization measures. For covered aquatic species, monitoring of the fish community, gartersnake and leopard frog populations, and nonnative fish movements in Horseshoe and the Verde River would be conducted to evaluate mitigation measure effectiveness and covered species status. Results from the monitoring programs would feed into biological adaptive management, which would include various management measures in response to changed circumstance at covered bird mitigation sites and in the Verde River for covered aquatic species. Should covered bird or aquatic species habitat impacts exceed those anticipated in the H-B HCP, SRP would implement program adaptive management measures, as well. Program adaptive management includes acquisition of additional habitat of up to 200 acres for flycatchers and cuckoos, and an additional 10 percent increase in funding for mitigation measures for covered aquatic species. Adaptive management also includes the rescue of bald eagle eggs, nestlings, or fledglings, and construction and maintenance of an artificial nest structure if bald eagles nest within Horseshoe and the nest and its contents are taken by inundation caused by operations. See Tables 1 and 2 for the minimization, mitigation, and monitoring actions and schedules.

Decision

The Service's decision is to issue an ITP allowing SRP to implement the preferred alternative (Alternative 2), as it is described in the Final EIS. This decision is based on a thorough review of the alternatives and their environmental consequences.

Implementation of this decision entails the issuance of the ITP, including all terms and conditions governing the permit. Implementation of this decision requires adherence to all of the minimization and mitigation measures specified in the H-B HCP, as well as monitoring and adaptive management measures. In addition, we will enter into an Implementing Agreement with SRP to formalize assurances regarding implementation of the H-B HCP. This Record of Decision will be made available to members of the public requesting copies of the final H-B HCP permit package.

Rationale for Decision

The preferred alternative (Alternative 2) has been selected for implementation based on a variety of environmental and social factors including potential impacts and benefits to

covered species and their habitat, the extent and effectiveness of minimization and mitigation measures, and social and economic considerations.

In order for the Service to issue a Section 10(a)(1)(B) incidental take permit, the H-B HCP must meet the criteria set forth in 16 U.S.C. § 1539(a)(2)(A) and (B). These criteria, and how the H-B HCP satisfies these criteria, are summarized below.

1. The taking will be incidental. We find that the take will be incidental to otherwise lawful activities, including the continued operation of water storage and release at Horseshoe and Bartlett. The take of individuals of covered bird species will be primarily in the context of changes in habitat associated with fluctuating reservoir levels. The take of individuals of covered aquatic species will be primarily due to alteration of habitat suitability caused by the increased predation and competition of nonnative fish produced in, or benefiting from, the storage pools of Horseshoe and Bartlett.

2. The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such takings. SRP has committed to a wide variety of conservation measures, management activities, monitoring, adaptive management, and other strategies designed to avoid and minimize harm to the covered species and mitigate for any unavoidable loss. Impacts to flycatcher and cuckoo habitat at Horseshoe will be minimized by modification of operations to hold water levels higher in some years to benefit breeding habitat conditions at the upper end of the reservoir. The unavoidable periodic loss of flycatcher and cuckoo habitat from ongoing water storage operations will be offset by the acquisition and management of suitable replacement habitat in perpetuity.

Impacts to covered aquatic species caused by predation and competition of nonnative fish produced in the reservoirs will be minimized by modification of Horseshoe operations that would reduce nonnative fish reproduction, recruitment, and survival, and construction and maintenance of a fish barrier in Lime Creek to prevent movement of nonnative fish into occupied covered aquatic species habitat. Modification of Horseshoe operations to hold water higher periodically will benefit razorback sucker by supporting spawning, nursery, and grow-out habitat within the reservoir pool. The unavoidable loss of covered fish species due to operations will be offset by implementation of additional mitigation measures, including improvements to the AGFD native fish hatchery, rearing and stocking of covered native fish. Funding of watershed management projects will provide further mitigation measures for take of covered species and habitat. We find that the H-B HCP has met this criterion under the ESA and has provided for mitigation and minimization of take to the full extent required.

3. The applicant will develop a HCP and ensure that adequate funding for the HCP will be provided. SRP has developed the H-B HCP and committed to fully funding all of the obligations necessary for its implementation. These obligations include the cost for purchase of flycatcher and cuckoo riparian habitat, management of mitigation lands in perpetuity, enforcement of conservation easements, and monitoring of species populations and habitat at Horseshoe and mitigation lands for 50 years. Funding is also provided for implementation of covered aquatic species mitigation measures, including Lime Creek fish barrier construction, state hatchery improvements and operation and maintenance, stocking and rearing covered native fish, and watershed management

actions. SRP would also fund fish, leopard frog, and gartersnake monitoring in Horseshoe Reservoir and the Verde River to assess mitigation effectiveness and covered aquatic species status. To assure implementation and achievement of H-B HCP objectives, SRP has committed to funding a ½-half-time project coordinator position. In addition, SRP has committed to adaptive management measures that require additional flycatcher and cuckoo habitat acquisition and conservation; a bald eagle egg, nestling, or fledgling rescue program; construction and maintenance of an artificial bald eagle nest structure; and additional funding for covered aquatic species mitigation measures, should predicted impacts be exceeded. To accomplish H-B HCP implementation, SRP estimated in the H-B HCP that costs could total up to \$6.5-9.0 million. SRP has committed to fully meet the actual costs of implementing the H-B HCP regardless of whether actual costs exceed these estimates.

The Service's HCP No Surprises Assurances are discussed in the H-B HCP and measures to address changed and unforeseen circumstances have been identified. Adaptive management in the form of conservation, mitigation, or management measures and monitoring will be implemented to address change circumstances over the life of the permit that were able to be anticipated at the time of H-B HCP development. Unforeseen circumstances would be addressed through the Service's close coordination with SRP in the implementation of the H-B HCP. SRP has committed to a coordination process to address such circumstances.

The Service has, therefore, determined that SRP's financial commitment, along with SRP's willingness to address changed and unforeseen circumstances in a cooperative fashion, is sufficient to meet this criterion.

4. The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. As the Federal action agency considering whether to issue an incidental take permit to SRP, we have reviewed the issuance of the ITP under Section 7 of the Act ESA. Our biological opinion concluded that issuance of the ITP will not jeopardize the continued existence of the southwestern willow flycatcher, bald eagle, razorback sucker, Colorado pikeminnow, Gila topminnow, spikedace, loach minnow, and, if listed in the future, yellow-billed cuckoo, roundtail chub, longfin dace, Sonora sucker, desert sucker, speckled dace, lowland leopard frog, northern Mexican gartersnake, and narrow-headed gartersnake. We have also determined, as described in our biological opinion, that issuance of the ITP will not adversely modify critical habitat for the southwestern willow flycatcher and razorback sucker. No critical habitat has been designated for the other covered species in the action area, thus none will be affected.

Over the life of the permit, incidental take of flycatcher and cuckoo is quantified in terms of occupied habitat, because an accurate estimate of individuals anticipated to be incidentally taken could not be derived. The maximum amount of take anticipated for habitat inundation or desiccation event includes flycatchers and cuckoos occupying 400 acres of habitat. Incidental take of bald eagle is quantified as 10 eggs, nestlings, or fledges from 5 nests that may be taken due to inundation of nest trees. Incidental take of covered aquatic species is quantified in terms of occupied river miles because an accurate estimate of individuals anticipated to be incidentally taken could not be derived. The maximum amount of covered aquatic species habitat that is anticipated to be taken due to stranding within the reservoir, passage through the dams, and competition and predation

from nonnative fish produced within the reservoirs is 33.9 river miles. The amount of incidental take is at a level we have determined to be reasonable.

5. The applicant agrees to implement other measures that FWS may require as being necessary or appropriate for the purposes of the HCP. We and the Office of the Regional Solicitor, U.S. Department of the Interior, have cooperated with SRP in the development of the H-B HCP and Implementing Agreement. We commented on draft documents, participated in advisory group meetings, and worked closely with SRP in every step of plan and document preparation to ensure involvement by the Bureau of Reclamation, Tonto National Forest, tribal governments, Arizona Game and Fish Department, and other partners, and interested members of the public, so that conservation of the covered species would be assured and recovery would not be jeopardized. The H-B HCP incorporates our recommendations for minimization and mitigation of impacts, as well as steps to monitor the effects of the H-B HCP and ensure success. Annual monitoring, as well as coordination and reporting mechanisms, have been designed to ensure that changes in conservation measures can be implemented if measures prove ineffective or impacts exceed estimates. It is our position that no additional measures are required to implement the intent and purpose of the H-B HCP to those detailed in the H-B HCP, Implementing Agreement, and associated ITP .

We determine that the preferred alternative best balances the protection and management of suitable habitat for covered species, while allowing continued operation of water storage in Horseshoe and Bartlett Reservoirs. Considerations used in this decision include: 1) proposed modifications to the operation of Horseshoe will benefit covered bird and aquatic species; 2) suitable habitat for covered species will remain at Horseshoe, although the amount will vary annually relative to periodic inundation and desiccation of habitat as Horseshoe water levels rise and recede; 3) mitigation will benefit southwestern willow flycatchers and yellow-billed cuckoos by providing off-site suitable habitat, managed for these species in perpetuity, as well as other conservation measures to protect and enhance habitat; 4) mitigation measures for covered aquatic species will more than fully offset anticipated impacts of water operation and provide recovery opportunities in the Verde River watershed; and 5) the H-B HCP is consistent with the southwestern willow flycatcher, razorback sucker, Gila topminnow, spikedace, and loach minnow recovery plans. The No Permit and Modified Historical Operation alternatives were not selected due to unacceptable social and economic costs associated with developing replacement water sources necessary for SRP to meet its water delivery obligations and due to greater impacts to the federally listed, candidate and other covered species as compared to the preferred alternative.



Regional Director

6-13-08

Date

Table 1. Horseshoe and Bartlett Reservoirs Habitat Conservation Plan minimization and mitigation actions implementation schedule.

Action	Covered Species			Implementation Schedule
	Flycatcher and Cuckoo	Bald Eagle	Aquatic Species	
Land acquisition/conservation easement - 150 acres in Safford Valley	X			Within 1 year of permit issuance
Land acquisition/conservation easement - 50 acres Verde Valley (or other location)	X			Within 10 years of permit issuance
Mitigation land management and adaptive management (e.g., address habitat threats)	X			As property is acquired, adaptive management as necessary based on monitoring
Water supply protection projects for mitigation properties	X			As necessary after permit issuance
Operation of Horseshoe to sustain tall dense vegetation	X		Razorback sucker ¹	Begin with permit issuance
Operation of Horseshoe to minimize nonnative fish production			X	Begin with permit issuance
AGFD Bubbling Ponds Hatchery improvements			X	Begin coordination with permit issuance
Stocking of covered native fish species			X	Initiate when hatchery improvements completed or sooner with available hatchery space
Lime Creek fish barrier			X	Begin coordination with Forest Service for construction of barrier when permit issued
Watershed management activities			X	Continue following permit issuance
Adaptive management measures for covered fish (additional funding for hatchery and stocking)			X	Adaptive management measures – implement as necessary based on monitoring
Rescue of bald eagle eggs, nestlings, fledges; construct and maintain artificial nest structure, stock native fish as prey		X		Adaptive management measures – implement as necessary. Coordinate rescue plan with AGFD and Service within 1 year of permit issuance.

¹Also benefits razorback sucker by providing spawning, nursery, and grow-out habitat.