# Endangered Species Reintroduction Coming to Alabama

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The State of Alabama ranks third among the fifty states in the number of species within its borders that are listed as threatened and endangered under the federal Endangered Species Act (ESA), 16 U.S.C. §§ 1531-1544. Alabama, with 117 species reported by U.S. Fish & Wildlife Service (FWS), is behind only Hawaii and California in this regard.

The vast majority of these protected species in Alabama are aquatic species—in particular, mussels and snails. The Mobile River Basin, which drains most of the State, is among the top ten river basins in the world in diversity of freshwater mussels. *See* U.S. FWS, *Recovery Plan for Mobile River Basin Aquatic Ecosystem*, 2000.

This overwhelming amount of diversity in Alabama may come as a surprise to many. But what may be an even bigger surprise is the fact that this diversity stands to increase in the near future, if a current Alabama Department of Natural Resources (ADCNR) initiative proceeds according to plan. ADCNR is underway with ambitious plans to collect, propagate, and reintroduce protected mussel and snail species within the State. One reason for ADCNR's effort is that FWS has identified reintroduction as a critical component for recovery (and hopefully delisting) of many of these species.

Alabama is no stranger to the reintroduction of imperiled species—releases of peregrine falcon and bald eagle are two notable successes carried out in the State. But the proposed efforts of ADCNR with respect to aquatic species will easily eclipse these prior isolated efforts in terms of number of species, individuals, and geographic scope. ADCNR's efforts are sure to draw the attention of private landowners, water users, and businesses in the State whose lands and operations may be impacted by future reintroductions. Fortunately, as shall be discussed in this article, the ESA contains flexible regulatory tools that can be used to permit reintroductions in a way that does not adversely impact current and future land and water use activities. Using these tools effectively can garner support for ADCNR's efforts from a broad range of interests in the State while at the same time protecting the interests of surrounding private landowners and businesses.

## The Alabama Aquatic Biodiversity Center

ADCNR's proposed reintroduction efforts will be carried out through its new Alabama Aquatic Biodiversity Center (AABC). The AABC was established by ADCNR's Wildlife & Freshwater Fisheries Division in 2004. The purpose of the AABC is to promote the conservation and restoration of rare freshwater species in Alabama waters. *See generally http://www.outdooralabama.com/programs/aquatic.cfm.* The AABC is situated on thirty-six acres of property near the Cahaba River in Perry County near Marion, Alabama, adjacent to the Perry Lakes Park and The Nature Conservancy's Barton's Beach Preserve. *Id.* Before establishment of the AABC, the United States Geological Survey (USGS) operated the facility as the Claude Harris National Aquaculture Research Center. *Id.* The USGS closed the facility in 1995, and the property was deeded to the State of Alabama in 1999. *Id.*

The AABC is the largest state nongame recovery program of its kind in the country, and it includes three culture buildings (with over 7,500 square feet of culture space), a 4,300-square foot administration building with offices and laboratories, and approximately 30 surface acres of culture ponds. *Id.* The AABC currently employs five staff members, including Program Supervisor Dr. Paul Johnson, formerly of the Tennessee Aquarium Research Institute. *Id.*

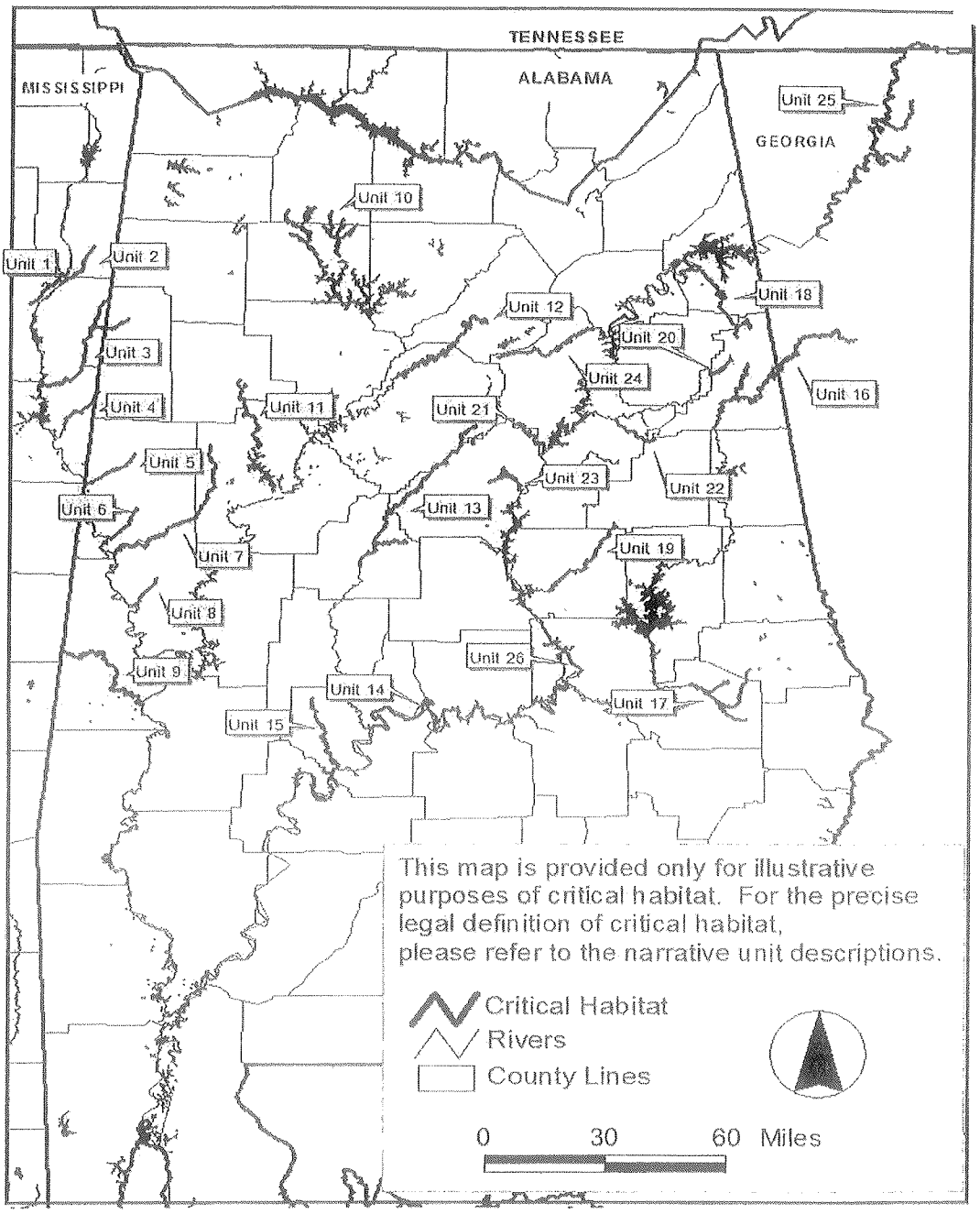
One focus of the AABC will be to propagate and reintroduce federally-listed mussel and snail species into waters in the State. FWS has identified over two dozen such species that are candidates for reintroduction activities in the Mobile River Basin. Table 1 lists these species, along with their status under the ESA and citation to their official listing notice by FWS.

Table 1: Potential Targets for Controlled Propagation, Augmentation and Reintroduction in the Mobile River Basin (Source: FWS, *Freshwater Mussels and Snails of the Mobile River Basin: Plan for Controlled Propagation, Augmentation, and Reintroduction* (March 11, 2003) NOTE: E=Endangered, T=Threatened, NL=Not Listed

| Common Name | Scientific Name | Federal Register Listing | Status |
|---|---|---|---|
| Alabama moccasinshell | *Medionidus acutissimus* | 58 Fed. Reg. 14,330 (1993) | T |
| Alabama rainbow | *Villosa nebulosa* | n/a | NL |
| Black clubshell | *Pleurobema curtum* | 52 Fed. Reg. 11,162 (1987) | E |
| Coosa moccasinshell | *Medionidus parvulus* | 58 Fed. Reg. 14,330 (1993) | E |
| Coosa creekshell | Villosa umbrans | n/a | NL |
| Cylindrical lioplax | *Lioplax cyclostomaformis* | 63 Fed. Reg. 57,610 (1998) | E |
| Dark Pigtoe | *Pleurobema furvum* | 58 Fed. Reg. 14,330 (1993) | E |
| Finelined pocketbook | *Hamiota altilis* | 58 Fed. Reg. 14,330 (1993) | T |
| Flat pebblesnail | *Lepyrium showalteri* | 63 Fed. Reg. 57,610 (1998) | E |
| Flat pigtoe | *Pleurobema marshalli* | 52 Fed. Reg. 11,162 (1987) | E |
| Heavy pigtoe | *Pleurobema taitianum* | 52 Fed. Reg. 11,162 (1987) | E |
| Inflated heelsplitter | *Potamilus inflatus* | 55 Fed. Reg. 39,868 (1990) | T |
| Interrupted rocksnail | *Leptoxis foremani* | 71 Fed. Reg. 53,835 (2006) (Status Review) | C |
| Lacy Elimia | *Elimia crenatella* | 63 Fed. Reg. 57,610 (1998) | T |
| Orange-nacre mucket | *Lampsilis perovalis* | 58 Fed. Reg. 14,330 (1993) | T |
| Ovate clubshell | *Pleurobema perovatum* | 58 Fed. Reg. 14,330 (1993) | E |
| Painted rocksnail | *Leptoxis taeniata* | 63 Fed. Reg. 57,610 (1998) | T |
| Plicate rocksnail | *Leptoxis plicata* | 63 Fed. Reg. 57,610 (1998) | E |
| Round rocksnail | *Leptoxis ampla* | 63 Fed. Reg. 57,610 (1998) | T |
| Southern acornshell | *Epioblasma othcaloogensis* | 58 Fed. Reg. 14,330 (1993) | E |
| Southern clubshell | *Pleurobema decisum* | 58 Fed. Reg. 14,330 (1993) | E |
| Southern combshell | *Epioblasma penita* | 52 Fed. Reg. 11,162 (1987) | E |
| Southern pigtoe | *Pleurobema georgianum* | 58 Fed. Reg. 14,330 (1993) | E |
| Southern toesplitter | *Lasmigona etowaensis* | n/a | NL |
| Stirrupshell | *Quadrula stapes* | 52 Fed. Reg. 11,162 (1987) | E |
| Spotted rocksnail | *Leptoxis picta* | n/a | NL |
| Triangular kidneyshell | *Ptychobranchus greenii* | 58 Fed. Reg. 14,330 (1993) | E |
| Tulotoma snail | *Tulotoma magnifica* | 56 Fed. Reg. 797 (1991) | E |
| Upland combshell | *Epioblasma metastriata* | 58 Fed. Reg. 14,330 (1993) | E |

The target locations for augmentation or reintroduction of these species include their Critical Habitat Units as designated by FWS. *See* 68 Fed. Reg. 14,751, 14,777 (Mar. 26, 2003); 69 Fed. Reg. 40,084, 40,100 (July 1, 2004). A statewide map of designated Critical Habitat Units is included below.






General locations of designated critical habitat in the Mobile River Basin

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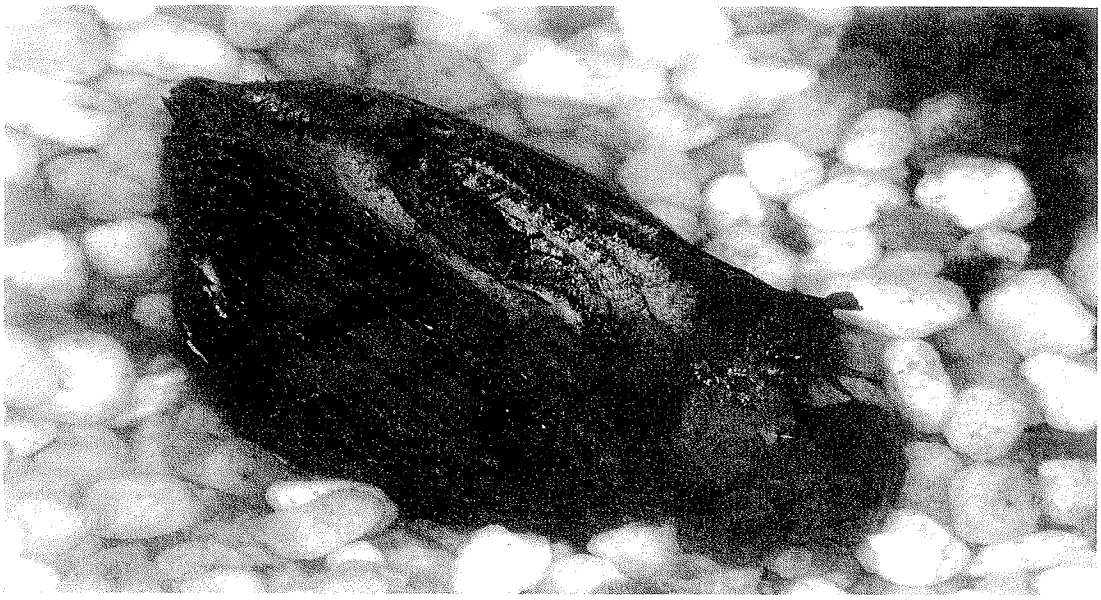
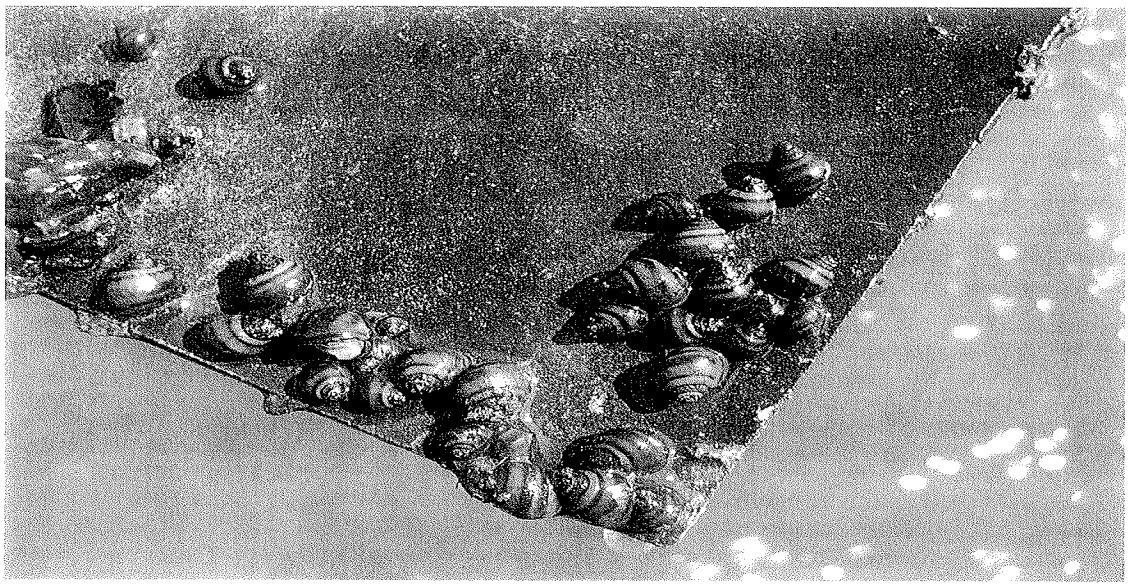
Because portions of the historic range of each of the 11 mussels were shared with 4 or more of the other mussel species, there is considerable overlap

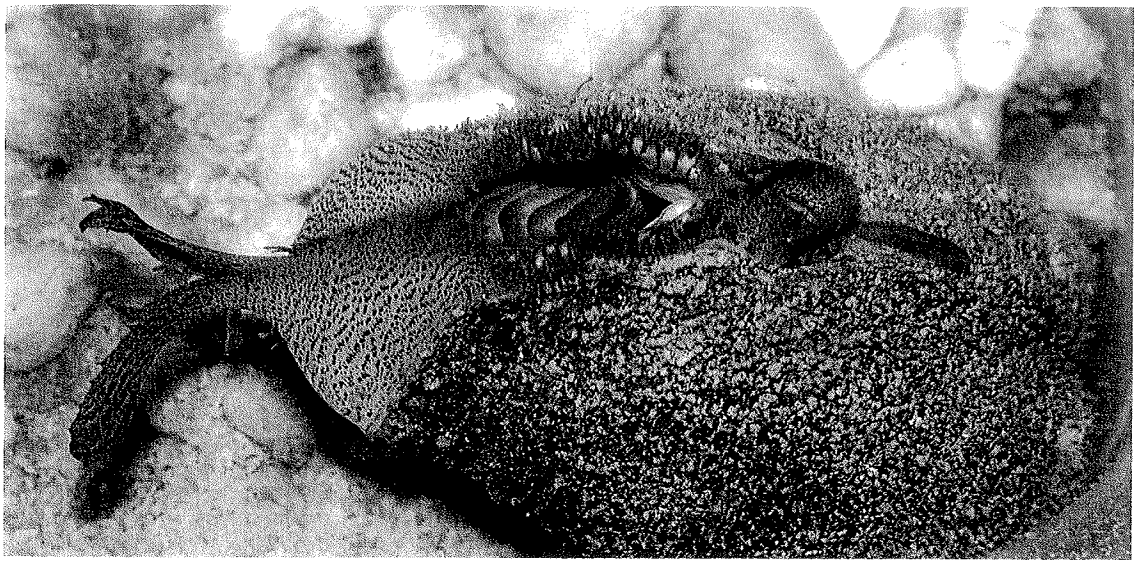
Lampsilis altilis





Leptoxis plicata

Lampscilis
Virescens



**Photos taken by Dr. Paul Johnson, Alabama Aquatic Biodiversity Center**

Though the AABC will not be fully operational for about another year, some reintroductions have already been performed in the Coosa River, Terrapin Creek, and Cahaba River. Target areas for future reintroductions include the Coosa and Cahaba Rivers, as well as waters in Cherokee, Elmore, and Talladega counties.

## The Long Reach of the Endangered Species Act

Because of the inclusion of endangered and threatened species in the planned releases by ADCNR, the potential impact on surrounding private landowners and businesses could be substantial. The ESA and the corresponding federal regulations prohibit the "take" of endangered and threatened species. *See* 16 U.S.C. § 1532(9)(a)(1)(B); 50 C.F.R. §§ 17.21(c), 17.31(a). As most practitioners know, the ESA defines "take" to mean "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." 16 U.S.C. § 1532(19). The Act does not further define the terms it uses to define "take." However, FWS regulations define the term "harm" to mean "an act which actually kills or injures wildlife." 50 C.F.R. § 17.3. "Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering." *Id.*

The decline in population and range for seven endangered mussels in the Mobile River Basin has been attributed by FWS to changes in their riverine habitats resulting from dam construction, dredging, mining, channelization, pollution, sedimentation, and water withdrawals. 71 Fed. Reg. 32,746, 32,749. Thus, many (if not most) human activities in the areas surrounding the reintroduction sites could be seen as causing or potentially causing a "take" of any species reintroduced by ADCNR. The potential impact on private landowners and businesses in areas surrounding the reintroduction sites could be huge. For example, in *Coho Salmon v. Pacific Lumber Co.*, 61 F. Supp. 2d 1001 (N.D. Cal. 1999), the court denied the summary judgment motion of the defendant logging company in a suit for injunctive relief by environmentalists because the court found there was a genuine issue of material fact as to whether the harvesting activities of the logging company were harming the salmon by modifying its habitat through the introduction of silt and sediment into the rivers and creeks at issue. Similar citizen suits could follow the reintroductions proposed by ADCNR.

## Regulatory Solutions

How, then, can reintroduction take place without subjecting surrounding private landowners and businesses to unexpected liability for "take" of the endangered and threatened snails, mussels, and fish that the AABC proposes to release?

There are several regulatory options to consider, some more suited than others to the task; they include individual permits, a non-essential experimental population designation, a programmatic safe harbor agreement, and/or a candidate conservation agreement.

One option available to the surrounding landowners and businesses would be to individually seek ESA § 10 incidental take permits as provided for in 16 U.S.C. § 1539 and 50 C.F.R. §§ 17.22 and 17.32. A variety of permits are available. The ESA provides specifically for permits for scientific purposes, enhancement of propagation or survival, and incidental take. 16 U.S.C. § 1539. *See also* 50 CFR §§ 17.22, 17.32. In addition, the ESA regulations mention permits for economic hardship, zoological exhibition, educational purposes, and special purposes. 50 C.F.R. § 17.32.

Perhaps the most relevant type of permit for the vast majority of interested readers is the incidental take permit. Under an incidental take permit, the permittee would be permitted to effect "take" which is incidental to (but not the purpose of) the otherwise-lawful permitted activity. 16 U.S.C. § 1539(1)(B). An applicant for an incidental take permit would be required to prepare and submit to FWS a habitat conservation plan. *Id.* This option is not particularly appealing for small scale projects or land use activities because the permitting process is lengthy and involved. *See* 50 CFR §§ 17.22(b) and 17.32(b) (requirements for incidental

take permits). In addition, the individual permits themselves can be challenged in court through citizen suits, delaying projects indefinitely. *See, e.g., Sierra Club v. Babbitt*, 15 F. Supp. 2d 1274 (S.D. Ala. 1998) (challenge to issuance of incidental take permit for the Alabama beach mouse). Therefore, it would be most beneficial to the potentially affected landowners and businesses to look to options other than individual permits to protect their interests. Three better approaches are discussed below.

1) Non-Essential Experimental Population Designation

The ESA authorizes FWS to designate a population of listed species that is to be reintroduced as a "non-essential experimental population" or "NEP." 16 U.S.C. § 1539(j)(1); 50 CFR §§ 17.80-.81. A NEP is treated as "threatened" under the ESA, meaning that FWS issues a special rule just for that population that outlines the kinds of activities that are allowed and prohibited. *See* 16 U.S.C. § 1539(j)(2)(C); 50 CFR §§ 17.81-.82. For example, FWS can authorize "take" that is "accidental and incidental to an otherwise lawful activity."

Experimental populations are defined in terms of an "NEP area." An example of a NEP area would be "the free-flowing reach of the Coosa River from the base of Weiss Dam downstream to the backwater of Neely Henry reservoir." Any of the species in this area would be considered part of the NEP.

There are many advantages to the NEP approach. For instance, unlike a permit (which would only protect the permittee), whatever protections that are included in a NEP special rule would apply to everyone. Also, a NEP special rule would be different from an agreement like a safe harbor or habitat conservation plan in that it would not require reporting or monitoring. The NEP approach does have one substantial limitation, however—an experimental population can only be designated for an area where the species does not already exist. *See* 16 U.S.C. § 1539(j)(2)(C)(ii); 50 C.F.R. § 17.81(f). Any NEP that is created must be "wholly separate geographically" from any existing wild populations of the same species. 16 U.S.C. § 1539(j)(1). The reason for this segregation of NEP and existing populations is that a commingling would essentially "downlist" the wild population because it might be confused with the NEP that has less protection.

Despite its limitations, the NEP approach may be the most effective solution for concerned landowners (at least in areas where there are no already existing populations) because the NEP would apply to everyone, and no single landowner would bear the administrative burdens and costs. Moreover, there is precedent for this approach in Alabama. For example, ADCNR has successfully sought and received NEP status for sixteen mussels and one snail in the Tennessee River. *See* 66 Fed. Reg. 32,250 (June 14, 2001); 50 C.F.R. § 17.85.

This NEP area was designated as the "free-flowing reach of the Tennessee River from the base of Wilson Dam downstream to the backwaters of Pickwick Reservoir." This NEP was established by FWS at the request of ADCNR for the specific purpose of reintroducing federally-listed mussels and snails that historically existed below TVA's dams. The special rule for this NEP permits a take in the NEP area "that is accidental and incidental to otherwise lawful activity . . . ." 50 C.F.R. § 17.85(a)(3)(i).

A NEP designation and special rule such as this one would be a viable solution to any issues that may arise due to the releases planned by the AABC, at least in areas where there are no already-existing populations. For areas where populations already exist, the next option will likely prove to be the best solution.

2) Programmatic Safe Harbor Agreement and Enhancement of Survival Permit

In situations where a NEP would be unworkable because the species is already present in the area, a possible solution would be for ADCNR to enter into a programmatic Safe Harbor Agreement (SHA) with FWS. A SHA specifies certain conservation measures that will be carried out by the applicant, in exchange for a permit that authorizes "take" of any new species that develop because of the conservation measures. *See* 50 C.F.R. §§ 17.22(c), 17.32 (c). The conservation measures justifying the SHA would be population augmentation by ADCNR. A SHA permit would

not allow "take" of any species already present (that is, the "baseline"), but only "take" of the new species reintroduced. 64 Fed. Reg. 32,717, 32,718 (June 17, 1999) (final FWS Safe Harbor policy). The agreement would require a baseline survey for any species covered by the agreement, and that survey would establish the level of future take. 64 Fed. Reg. at 32,723-24. Thus, while a NEP is an option for species "reintroductions," a SHA is an option for species "enhancement" or "augmentation."

Sometimes SHAs are created between FWS and a single private landowner, and cover only a certain parcel of land. For practical reasons, such an approach would not be effective here. Instead, a better solution would be for ADCNR to enter into a "programmatic" or "statewide" SHA with FWS. Under this approach, FWS would issue ADCNR a permit for "take" and also authorize ADCNR to issue "certificates of inclusion" to private property owners that would give them permit protection. The agreement would specify what actions the private property owner would need to take to obtain a certification of inclusion. One qualifying action would be contributing funds to the population augmentation efforts of ADCNR.

As with the NEP approach, there is precedent for the programmatic SHA approach in Alabama. First, ADCNR is currently a party to a SHA covering certain listed mussels in Chewacla Creek in Lee County. 68 Fed. Reg. 11,405 (March 10, 2003). Though not a programmatic agreement, the Chewacla Creek agreement does involve several parties and it is evidence that ADCNR has experience with SHAs involving aquatic species. Second, ADCNR has shown willingness to enter into programmatic SHAs because it has recently signed a statewide agreement for red-cockaded woodpeckers. 71 Fed. Reg. 34,154 (June 13, 2006). Third, in the recent past, ADCNR has applied for and received grant money from FWS specifically for the purpose of determining "the distribution of federally listed freshwater mussels in the upper Paint Rock River in north Alabama and to develop a set of management recommendations and guidelines for these mussels. These management recommendations and guidelines will provide the necessary conservation framework for future SHAs and other management agreements with private landowners in this watershed which contains at least 100 species of fish and 45 freshwater mussel species." *See* FWS Press Release (Aug. 28, 2001), *available at* http://www.fws.gov/southeast/news/2001/r01-054.html.

Thus, ADCNR has experience with using SHAs to recover mussels in the State, and the creation of a programmatic SHA for the augmentations proposed by AABC would be in line with prior work. Moreover, the Arkansas Game and Fish Commission has already created a programmatic SHA (and Candidate Conservation Agreement with Assurances, a type of agreement which shall be discussed below) for the Little Red River Watershed. 71 Fed. Reg. 53,129 (Sept. 8, 2006). Perhaps this Arkansas agreement could provide guidance for the framework for a programmatic SHA covering the proposed activities of the AABC. Finally, the SHA also has the potential to enhance ADCNR's work at the Alabama Aquatic Biodiversity Center because FWS has shown a preference for directing federal grants towards projects that are covered by a SHA. Thus, the interested parties should take a serious look at the possibility of the creation of a programmatic SHA regarding the proposed releases of the AABC.

A programmatic SHA would fill the gap left by a NEP designation and special rule in that it would cover the areas that the NEP could not (namely, areas where populations of the species to be released already exist). However, this still leaves us with another gap to fill: candidate species which are not yet listed. Such species would fall under the final regulatory tool.

### 3) Candidate Conservation Agreements with Assurances

A Candidate Conservation Agreement with Assurances (CCAA) is much like a SHA, except that it covers candidate, as opposed to listed, species. 50 C.F.R. §§ 17.22(d), 17.32(d). Therefore, this CCAA option can fill in the final gap by covering situations when ADCNR might want to reintroduce a species that is a candidate for listing. Under a CCAA,

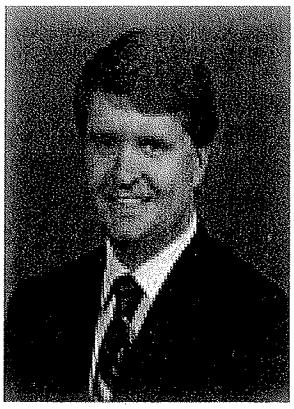
an enhancement of survival permit is issued, but its effective date is delayed until the date that the species becomes listed. 50 C.F.R. §§ 17.22(d), 17.32(d).

There is precedent for this approach in FWS's Region 4, which includes Alabama. The Georgia Department of Natural Resources and FWS entered into a CCAA for the reintroduction of the robust redhorse in the upper Ocmulgee River in central Georgia. *See* 66 FR 54,776 (Oct. 30, 2001). Moreover, the Arkansas programmatic SHA/CCAA mentioned in the previous section provides precedent for the creation of a programmatic CCAA to serve a purpose like that of a programmatic SHA. The Arkansas agreement could provide useful guidance for the creation of a programmatic CCAA regarding the releases proposed by the AABC. Therefore, interested parties should also give serious consideration to the possibility of creating a programmatic CCAA regarding the activities of the AABC.

## A Viable Solution for All Involved:

These approaches (non-essential experimental population designation and special rule; programmatic safe harbor agreement; and programmatic candidate conservation agreement with assurances) provide a framework for a good solution to protecting the interests of the AABC and of the surrounding private landowners and businesses. Moreover, these measures need not slow down or complicate the process of reintroduction. There is no need for multiple permits, agreements, or rules. One NEP rule and one programmatic SHA/CCAA can be developed that will cover all of the mussels and snails that ADCNR plans to release. Also, it would not be necessary to know exactly when and where ADCNR will release these species in order to develop the NEP rule and the programmatic SHA/CCAA. For example, the NEP for the Tennessee River was developed well in advance of any specific reintroduction efforts. FWS specifically stated in the rule: "The date the mollusks will be reintroduced, the number of individuals to be released, and the exact locations of the releases within the NEP Area cannot be determined at this time." 66 Fed. Reg. at 32,254. Thus, the NEP rule and programmatic SHA/CCAA can be issued in advance to provide the overall regulatory framework for the reintroductions and thereby garner broad-based support for the work of the AABC.

The releases proposed by ADCNR potentially present cause for concern among surrounding private landowners and businesses. However, there are several regulatory solutions available that can protect the interests of those private landowners and businesses as well as the AABC. For all of the reasons set forth in this article, a combination of NEP designation and programmatic SHA/CCAA can protect the interests of all involved.



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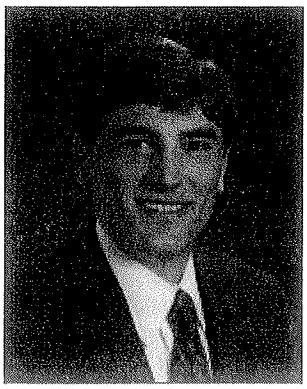

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