Scientists hope that new rules will ensure the survival of a national symbol once it's dropped from the endangered species list.

Just 40 years ago, the bald eagle seemed headed for extinction in the conterminous United States. Nesting females were accidentally crushing their eggs, which were weakened by the ubiquitous insecticide DDT. Populations spiraled downward. By 1963, only 417 pairs were still raising young in the lower 48 states.

But the national icon began to bounce back after Congress banned DDT in 1972 and passed the Endangered Species Act (ESA) in 1973. Last year, there were nearly 10,000 successful breeding pairs. "It's one of the greatest wildlife success stories in the history of this country," says attorney John Kostyack of the National Wildlife Federation in Reston, Virginia.

Now, the U.S. Fish and Wildlife Service (FWS) in Washington, D.C., is poised to declare victory for the majestic avian by removing the bald eagle from its list of threatened species by a court-ordered deadline of 29 June. Bald-eagle experts agree with the move, although some argue that a small population in the Southwest isn't ready for delisting. Many remain worried, however, about how well new rules to protect the birds will be enforced and the extent to which populations will be monitored. They also call for safeguards to prevent development from encroaching on the birds' remaining habitat.

"Eagles will be a test case," says conservation biologist Bryan Watts of the College of William and Mary in Williamsburg, Virginia. What happens once they are delisted, says Watts, "will say a lot about how our culture will handle other conflicts between landowners and species."

Act two
FWS, which is legally responsible for making sure species don't falter once they are delisted, first proposed removing the bald eagle from the endangered species list in 1999. ESA considers a species to be fully recovered when the threat has been reduced, extinction is unlikely, and there is little chance of the species becoming endangered again "within the foreseeable future." To meet those goals, FWS created recovery plans for different regions of the country that spelled out specific targets and approaches to achieve them. By 1999, eagle populations exceeded the goals.

In 2005, the Pacific Legal Foundation (PLF) in Sacramento, California, sued FWS for not completing the delisting process on time. A U.S. district judge agreed and ordered the agency to finalize its listing proposal.

FWS staff have spent years trying to smooth the transition from the ESA to a 1940 law, the Bald and Golden Eagle Protection Act (BGEPA), that was designed to prevent people from shooting eagles and has remained on the books. On 1 June, FWS proposed new regulations under the old law intended to prevent any activity "likely to cause, based on the best scientific information available," harm to the birds. "That language was a sigh of relief," says James Bednarz, a conservation biologist at Arkansas State University, Jonesboro. It replaced earlier language that biologists worried would have prevented enforcement officers from acting until after damage had been done.

The new rules also make the BGEPA more flexible than it used to be. For example, wildlife managers would be permitted to remove nests near airports and transport eagles to safer locations. As with the ESA, landowners will be able to apply for permits for activities likely to affect the birds, such as building a road near a nest. Permission will be granted if there is no practical alternative and the landowner proposes some way to mitigate the potential harm by, say, not building the road during nesting season. The agency will accept public comments on the rules until 4 September. This month, PLF said it may challenge the new definition of "disturb" as too broad and that it would make the BGEPA the functional equivalent of the ESA.
Although biologists agree that there are healthy populations of bald eagles in most of the country, one exception may be the Southwest. The population there has grown, from three breeding pairs in 1971 to 43 in 2006, but some scientists don't think it is large enough to remain stable. Last year, a panel of scientists assembled by the Raptor Research Foundation, a scientific society, concluded that development still poses a significant threat and that the population is vulnerable because of low productivity and high mortality. "They're not ready to be delisted yet," says Steven Sheffield, a wildlife biologist at Bowie State University in Maryland, who chaired the panel.

But most biologists contend that delisting is the right thing to do even in the Southwest. Grainger Hunt of the University of California, Santa Cruz, who studied the bald eagle population in the 1990s, says the Arizona Game and Fish Department—which signed a multiagency conservation agreement in January to prevent a decline of the species—does a good job of conserving the existing habitat: "If this population does start having problems, you would see it coming and could make regulatory changes."

The Center for Biological Diversity (CBD), an advocacy group in Tucson, Arizona, doesn't want to take any chances, however. The group petitioned FWS last year not to delist the Southwest population and sued after the agency did not respond by its own 90-day deadline. The case is pending before the U.S. District Court in Arizona, and Kieran Suckling of CBD says he may ask the court to put the delisting on hold nationwide until it resolves the matter.

After delisting
Once populations are delisted, attention will shift to how well the new rules are enforced. A major concern is that delisting will give some landowners the erroneous impression that they can disturb eagles, Watts says. "We get calls all the time from developers waiting for delisting because they think protections will be reduced a great deal." Watts believes that stiffer enforcement after delisting will be needed to convey the message that the eagle is still protected and that penalties apply.

Watts and other biologists worry that states, which traditionally do most of the monitoring, will slack off once the eagle is delisted. Monitoring will be even more important then, says Watts, to shed light on how a species is impacted by delisting. "It's going to be the most interesting time in 20 years," he says. FWS officials admit they will spend fewer dollars on eagles once they are delisted, and many states are likely to follow their lead. That's not necessarily a bad thing, researchers admit, if it frees up resources to help other endangered species in dire straits.

Ultimately, the fate of the bald eagle is likely to rest on the amount of suitable habitat. That puts the onus on state and local governments to control development as best they can, and on citizens to manage their land with eagles in mind. But that may be a tall order. For example, real estate values along the Chesapeake Bay, which is home to a large population of eagles, have skyrocketed, increasing pressure to develop land. The eagles, Watts predicts, "won't recover from suburban sprawl like they did from DDT."