

✘ Jaguars, the largest new-world cat species, are extremely rare in the United States. The US-Mexico border region marks the very northern edge of their range. They were thought to have been extirpated from the US until one was seen in Arizona in 1996. That, together with a lawsuit by the [Center for Biological Diversity](#), prodded the US Fish and Wildlife Service to finally issue a long-delayed [rule listing the jaguar as a domestic endangered species](#) in 1997.

Since then, four male jaguars are known to have crossed the border into the US. On February 18, 2009, the Arizona Game and Fish Department captured, collared, and released one of those males, a jaguar known as Macho B (pictured). Although they insisted that the capture was accidental, state wildlife officials issued a [press release](#) describing it as “an exciting development” and [touted the information](#) that could be gained from tracking the collared cat. Less than two weeks later, [Macho B was dead](#), having been recaptured when the collar showed little signs of movement and euthanized when veterinarians concluded he was suffering from kidney failure. His death raises troubling questions about state wildlife programs and their oversight by the Fish and Wildlife Service.

Although he appeared healthy when captured and immediately after his release, Macho B was the oldest known wild jaguar. One of the vets who treated him [told Tony Davis of the Arizona Daily Star](#) that the cat had undoubtedly suffered from kidney disease for some time, and that stress and the sedatives he was given at the time of capture probably aggravated the problem. But [according to another vet](#), subsequent tissue analysis showed no sign of chronic kidney failure. Additional tissue analyses are underway at two independent labs, but it is possible that Macho B was euthanized prematurely, before he had time to recover from simple dehydration. It’s also possible that he was relatively healthy prior to capture and not, as the treating vet originally said, already near death from natural causes.

There are many questions about how the capture came about, and how the cat was handled once caught. Officials at Arizona Game & Fish have said that the snare which caught Macho B was set for mountain lion and bear as part of a research project. [E-mails unearthed by investigative reporters](#), however, make it clear that state personnel knew that jaguars were in the vicinity and were at least actively preparing for the possibility that a jaguar might be caught, if not affirmatively hoping to catch one. A woman working with the Borderlands Jaguar Detection Project [claims that she baited the snare](#) with female jaguar scat at the direction of a state biologist. The biologist adamantly denies her charge.

If the trap was in fact baited for jaguar, no one suggests that was done with intent to harm a wild cat. To the contrary, the implication is that state biologists may have wanted to collar a jaguar to gather evidence that could help them conserve the species. In particular, they may have sought direct evidence that jaguar regularly cross the international border in order to fight construction of the planned border fence.

But the methods used were neither the most protective of the jaguar nor the most productive of information. Arizona and New Mexico have developed a protocol for the deliberate capture of a jaguar, but [it was not followed](#). That protocol would have called for the use of methods other than snares, as well as having a vet on scene and electronically monitoring the trap to minimize stress on the animal. Now the state agency is faced with [multiple investigations of its actions](#), including one by the Arizona attorney general and another by the US Fish and Wildlife Service.

It appears that both state and federal officials thought that a federal permit issued under section 10 of the ESA allowed deliberate capture of jaguars. If that interpretation is wrong, both the state and its employees could be subject to civil and criminal sanctions for taking an endangered species.

The permit itself is remarkably unspecific. It generally authorizes state employees to take listed wildlife “for conservation purposes . . . consistent with the purposes” of the ESA and the ESA section 6 agreement between the state and federal governments, so long as that take is not expected to cause the death of listed animal. Neither the permit nor the documents it references ever directly says that the state might either deliberately or inadvertently take a jaguar. The closest thing to a reference to capture is a promise in the Jaguar Conservation Framework developed by Arizona, New Mexico, and USFWS that procedures for handling captured jaguars will be reviewed.

Are there any positive lessons to be drawn from the unfortunate death of the only jaguar known to have spent time in the US in recent years? I see three, although I am not at all confident the state or federal agencies will learn them.

First, state wildlife management activities unrelated to endangered species can pose a real and important threat to those species. Taking the Arizona wildlife officials at their word, their efforts to manage mountain lions and bears, which are not endangered, caused the death of a critically endangered jaguar. Neither state nor federal authorities seem to have considered that possibility. Both should

examine state wildlife management more carefully with an eye to potential effects on listed species. Any such effects should be the subject of an incidental take permit, which would require that they be minimized and mitigated to the maximum extent practicable.

Second, state endangered species management deserves a much closer look, again from both state and federal authorities, than it appears to be getting. When FWS issues permits for state endangered species management, it should require that states fully explain any expected “take” (such as deliberate capture), and explain both the scientific value of that take and how its impacts on the species will be minimized.

Third, the scientific community could help by developing and distributing clearer protocols for minimizing the likelihood of inadvertent capture of non-target species and the trauma of such capture when it occurs. Solid technical advice could help state agencies achieve their legitimate conservation goals while relieving the pressure on FWS to effectively oversee the details of 50 different state programs.