

CLEANING UP THE VARMINTS

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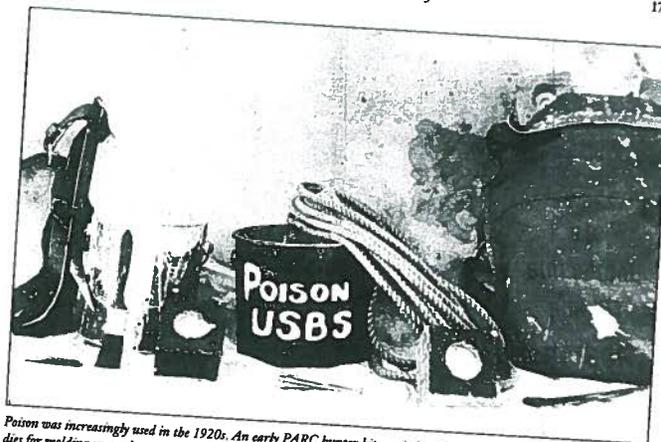
By the time the new Arizona Game and Fish Commission took office in 1929, the Predator and Rodent Control Branch of the US Biological Survey was a force to be reckoned with. Victory had been declared over the wolf and the lion. The grizzly had been nearly extirpated from Arizona. Whatever resident jaguars may have been present were thought to have been eliminated. Black bears had been reduced in numbers. The agency's attention was now primarily focused on the coyote and such rodent pests as porcupines, prairie dogs, gophers, and kangaroo rats, along with jackrabbits.

As attention turned to these animals, poisons and other chemical predacides became weapons of choice. That strychnine was not used more for wolves and lions was only due to the objections of lion hunters and other houndsmen. Much progress had been made in the use of poison to eliminate prairie dogs. The black-tailed species (*Cynomys ludovicianus*) was thought to have been completely removed from Cochise, Graham, and Greenlee counties. It was thought to be just a matter of determination, funding, and time until the state became prairie-dog free.

The early PARC administrators at the regional and national levels—Stanley Young, Stokley Ligon, and Mark Musgrave—were competent administrators and accomplished politicians (Brown 1983; Robinson 2005). They and other PARC personnel pushed their agency's agenda at county fairs, stockgrowers conventions, 4-H Club events, and sportsmen's meetings, giving presentations that demonstrated their accomplishments and generated support for their government-funded programs. The most important contacts were one-on-one conversations with individual ranchers, farmers, and government officials about how much money could be saved by eliminating predators and rodents.

With attention turning toward coyotes and rodent pests, chemical compounds developed at the PARC's Denver research laboratory were increasingly intended to replace the trap and the hound—a decision that caused several of the agency's lion hunters to leave the service. In future years, the use of poisons would lead to excesses and the public would decide to rein in the PARC. However, during the 1930s the agency's only enemies were budget-cutting bureaucrats, disgruntled bounty hunters, a few fur trappers, and a handful of academics, people who were beginning to question the rationale of paying mammal-control agents to remove rodents after other agents had removed the predators that preyed upon them.

Sportsmen and the newly created Arizona Game and Fish Commission were also dissatisfied with PARC, but for a different reason. Believing predator control essential to game recovery, the commission wanted the same measure of relief to be provided for game animals as for livestock. The list of PARC cooperators, which included county agricultural agents, the Arizona Agricultural Extension Service, US Forest Service, Indian Service, Farm Bureau, Arizona Woolgrowers Association, Arizona Cattlegrowers Association, irrigation districts, and numerous farmers and ranchers, was continually expanded. Yet neither the Arizona Game Protective Association nor the Arizona Game and Fish



Poison was increasingly used in the 1920s. An early PARC hunter kit consisting of a Number 4 Newhouse trap (left), dies for molding suet cubes, and a lidded can for carrying strychnine-treated baits. The rope and pack frame were used to access remote den sites and other baiting stations. (US Fish and Wildlife Service, from Brown 1983)

Department were major partners at this time, as they had no real money to contribute to a predator-control program designed primarily to increase game animals. Nor did the commission have much interest in rodents and jackrabbits, despite these nuisance animals being resident species under state jurisdiction.

Poisoning prairie dogs, kangaroo rats, porcupines, gophers, and jackrabbits was already well underway. All previous records had been broken during fiscal year 1928, when the PARC's six mammal-control agents and 4,018 cooperators treated 717,861 acres with 119,133 pounds of poisoned bait and distributed 1,894 pounds of poison gas to kill an estimated five million rodents in Arizona—an area 47% greater than the previous year.

The major villain in this "Systematic War on Prairie Dogs and Ground Squirrels" was now the Zuni or Gunnison's prairie dog (*Cynomys gunnisoni*). Some 251,839 acres of prairie-dog towns had been treated on the Apache, Coconino, and Tusayan national forests and the Hualapai Indian Reservation. Appropriations were requested to be doubled so as to treat 321,687 acres of untreated land plus a million acres on Indian reservations, with the hope of eliminating prairie dogs from Gila and Mohave counties within the year. Such an expenditure was justified in that enclosure studies had shown prairie dogs "destroyed" from 50% to 83% of the available grass and caused erosion (cattle-grazed grass not being considered "destroyed" and not contributing to erosion) (Gilchrist 1928). Plans called for dividing the state into three rodent-control districts under Everett Mercer¹

¹Everett Mercer had been removing prairie dogs and other rodents in Arizona since 1923 and was destined to become PARC state supervisor after Donald Gilchrist, just as Gilchrist had taken over the reins from Mark Musgrave.

and treating four million acres of prairie-dog towns in Apache, Navajo, Coconino, and Yavapai counties (Gilchrist 1929).

Plans for fiscal year 1929 were even more ambitious, with an accelerated attempt to remove even more prairie dogs, as well as pack rats, cotton rats, and other species—a total treatment involving 643,941 “rodent-infested” acres (Mercer 1929). By year’s end, Mohave County had been declared cleaned of prairie dogs, with sizeable areas of Apache, Coconino, and Tusayan national forests treated at a cost of eight cents per acre. The weapons employed were strychnine, thallium, and poison gas, with shooting used to get those animals that learned to avoid the poison bait or escaped gassing (Gilchrist 1929).

With so much progress being made against prairie dogs, pocket gophers were now becoming the primary PARC target, giving rise to the derogatory term “gopher-chokers” (“rat-killers” was another one) for the agency’s mammal-control agents. Whatever the term, some 2,189 farm and ranch cooperators signed up for gopher control during fiscal year 1928–29, using 7,992 pounds of poisoned sweet potatoes and 4,292 gopher traps in an effort that involved every county in the state (Gilchrist 1929).

The next year’s program was even more ambitious, with 453,079 acres being treated, 72,878 pounds of poison bait distributed, and 11,522 pounds of poison gas used. The number of gopher traps in use climbed to 10,900. Nor were prairie dogs ignored: Some 255,819 acres of prairie-dog towns were poisoned. The program now expanded to the Apache Indian Reservation at the invitation of the Indian Service. All in all, an estimated 3,600,000 rodents were eradicated during 1929–30, with prairie dogs reported removed from 1,831,703 acres of Arizona and jackrabbits from 676,240 acres (Gilchrist 1930).

Cooperators now numbered more than 10,000, and the PARC’s agents were hard-pressed to instruct and supervise all of the farmers who had been issued poison. Some of the agents were particularly distressed at the failure of dry-land farmers adjacent to the national forests to pre-bait prairie dogs, as poison grain put out directly often resulted in some of the rodents rejecting the treated grain and refusing to take any more bait (Gilchrist 1930).

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In 1929, livestock losses were considered much reduced and big game numbers on the increase, with “overpopulations” of deer in such places as the South Rim of the Grand Canyon, the Sycamore Canyon-Yavapai Game Refuge, and the Pinaleño Mountains. And although academics including Charles Vorhies and Walter Taylor (1933) were beginning to question the relationships between rodent and jackrabbit irruptions, grazing practices, and coyote control, Taylor (1935a) was observing that porcupine “work” tended to be concentrated in areas where lions had been much reduced or eliminated. Few if any Arizonans doubted that predator control was a desirable, even necessary, facet of game management.

Concerned about such game species as antelope and deer, especially mule deer on the Kaibab, the newly formed Arizona Game and Fish Commission was very much in favor of predator control. Despite the department’s limited budget, the commission ordered State Game Warden Robert Bayless to employ seven men recommended by former PARC supervisor Musgrave to engage in predatory-animal control work as state cooperators.



Bear trap in Arizona's Blue Wilderness. Government hunters were not the only enemies of grizzly and black bears in Arizona during the 1920s and 1930s. Homesteaders and ranchers used homemade bear traps such as this one to remove bears, whether they actually had killed stock or not. (From Brown 1985, provided by Jim Brooks and John Snyder, Arizona Game and Fish Department)

Hence, the Bayless (1930) administration set about actively cooperating with the PARC, the Forest Service, and the AGPA in a nascent program by which seven trappers were paid \$1,045 to take 58 predators, including 11 mountain lions, during the summer of 1930. This effort abruptly ceased the following year, when Gov. George Hunt dismissed Bayless and removed two of the three commissioners, during which time the department was subject to severe personnel cuts and a greatly reduced budget.

Although the new game code treated both species of bears as game animals and provided them with a closed season, it was by now almost too late for the grizzly, and black bears had already disappeared from some of the more marginal mountain ranges such as the Baboquivaris and the Bradshaws. The Forest Service estimated only 10 grizzlies remained in Arizona's national forests. Musgrave (1928) thought this number too optimistic, claiming to know of only one—an animal ranging from the New Mexico line around Blue, Arizona, over into the White Mountains south and east of McNary. Nonetheless, pressure to manage bears, not just kill them, increased, and only six bears were taken by the PARC in Arizona during fiscal year 1928–29.

Moreover, the PARC appeared to have done an about-face in regards to the district's attitude toward bears. In an article in the September 1930 issue of *Wildlife Sportsman*, Arizona district Supervisor Donald Gilchrist stated:

The Biological Survey finds that very few bear are stock killers, and are doing all that is possible to discourage the killing of them. Only bear that are known

to be killers are taken, the hunter taking them being required to have an affidavit signed by three stockmen that know of the particular bear in question. Hunters are given no credit for taking even a stock killing bear, and when such a killer is apprehended, he must be taken in accordance with the provisions found in the State Game Code.

Many rank-and-file PARC hunters disagreed with Gilchrist's stated position when it came to bears, and there was general dissatisfaction among them with the law requiring a depredation permit to take one. Not surprisingly, this same attitude was reflected in the ranchers. "There is an undercurrent of feeling among stockmen that bear should be taken off the protected list, due to their resentment of being forced to first secure a permit from the State Game and Fish Department" (Gatlin 1934). Given their allegiance to the stock-raisers, and the commission's only recent and tepid involvement in predator control, the PARC began to underreport the number of bears taken, if not by their men, then by their stockmen cooperators. Only five bears were reportedly taken by the PARC in Arizona in 1929-30. The PARC reported only that bears were on the increase in the early 1930s (Brown 1985).

In his September 1930 statement in *Wildlife Sportsman*, Gilchrist went on to say the PARC would henceforth use strychnine only in country where sheep and goats were pastured or "where it is not possible to stop severe losses of livestock, game or game birds, rapidly enough by means of traps. Strychnine would not be placed in mountainous countries where lion dogs or fur bearers would be endangered." Such a ban did not of course apply to rodent control, which was considered a separate division within the Arizona district of PARC.

Despite the stated limits on strychnine use, the war against wolves, lions, coyotes, and bobcats continued. Wolves proved to be both persistent and frustrating. Gilchrist reported no fewer than 17 lobos being taken in Arizona in fiscal year 1929-30, 13 by PARC hunters and one by a state hunter, with another three claimed to have been killed with poison but irretrievable (Gilchrist 1930). Of the 14 wolf carcasses accounted for, 12 were poisoned and two were caught in steel traps. All of the wolves taken but one, which was not verified as a wolf, were killed within 50 miles of the border, with William Knulbe catching five in one night. Although none was caught, a pack of wolves was also reported to be working the Black River portion of the San Carlos Indian Reservation (Gilchrist 1930).

The annual report for 1931 lists the taking of "a few stray wolves ... from Mexico" and an animal finally trapped in the Black River area (Foster 1931). Funding was becoming a problem, as the Depression years impacted congressional appropriations. Not all of the areas reporting significant losses could be visited and not all requests for assistance answered. Nonetheless, the "border patrol" was kept intact and eight wolves were killed in fiscal year 1931-32, despite the fact that only \$33,043 was available for salaries. Losses claimed due to wolves included 43 calves, 4 deer, 4 steers, and 2 chickens (Foster 1932).

And so it went, with four wolves taken in 1932-33 and three in 1933-34 (Foster 1933a, 1934). State hunters under PARC supervision now accounted for some of the kills. The Arizona district could now field only three hunters in any given month, despite the losses

due to wolves in 1932-33 being estimated at \$222,510, of which \$45,836 was due to losses of cattle. With total operating costs reduced to less than \$21,000 per year, of which \$17,469 went for salaries, predatory-animal work in Arizona faced its most crucial period in the history of the PARC, with the result that, "Due to the shortage of funds ... we could not maintain the air-tight patrol [against wolves] which we formerly kept on the border" (Foster 1934).

Rodent control also suffered during the early Depression years. Congress appropriated only \$37,500 in 1931 for rodent control in Arizona—an amount somewhat alleviated by the Arizona State Legislature's appropriation of \$15,000 for fiscal

years 1931-32 and 1932-33 to the University of Arizona Extension Service, to be used to eradicate injurious rodents in cooperation with the Biological Survey on a dollar-for-dollar basis. The legislature made similar appropriations of \$15,000 a year to the Livestock Sanitary Board to be cooperatively used for the destruction of predatory animals. These combined appropriations allowed the PARC to distribute 59,664 pounds of poison on 267,504 acres in 1931, increasing the acreage to 428,715 acres in 1932 and then having to cut back to 372,590 acres in 1933 (Gilchrist 1931, 1932, 1933). Animals killed ranged from coyotes and prairie dogs to porcupines to chipmunks.

In 1933, federal funding dropped to \$9,885.30, and the PARC was able to treat only 193,050 acres with 11,414 pounds of poison. The major emphasis was now on pocket gophers, rabbits, and kangaroo rats, with most of the porcupines killed by tracking in snow rather than poison. Only three mammal-control agents were kept on the payroll. The men were stationed in Mesa, Sulphur Springs Valley, and Yuma. An interesting aside was the ocelot's being added to the state's list of predatory animals in 1933 on the basis of one of these animals having been trapped by one of the PARC's agents (Foster 1933a).

Additional funding and help was realized in 1934 as money continued to become available to PARC from the states and emergency funds. These additional appropriations allowed the PARC to poison rodents on 761,696 acres—a new record. Some 337,564 acres of this total were federal lands, mostly national forests, with the remainder being Indian reservations belonging to the Navajo, Hualapai, and San Carlos Apache peoples. As a result of this additional funding, PARC agents now supervised 82 people, including Indian and non-Indian personnel of the Civilian Conservation Corps. Although prairie



It is a testimony to changing times that this photograph of dead prairie dogs was used to illustrate the PARC's annual reports on rodent control activities during the late 1920s and early 1930s. (US Biological Survey)

dogs and other rodents received the most attention in 1934-35, some 8,997 tree stations were treated with poison to kill porcupines, with another 966 of these animals trailed down and shot (Foster 1935).

Rodent-control measures again expanded in fiscal year 1935-36. PARC foremen were paid by both state and federal funds to supervise crews of the Works Progress Administration and Civilian Conservation Corps. As before, much of the emphasis was on removing prairie dogs and porcupines from the Coconino, Kaibab, and Prescott national forests. The Papago and Salt River Indian reservations joined the list of cooperators. Poisoning rodents was nonetheless proving unpopular with some Native Americans. Certain Navajos and Apaches resisted the use of rodenticides to kill prairie dogs. PARC personnel now also recommended that jackrabbits be controlled through shooting and organized drives, due to exposed baits poisoning livestock, birds, etc. (Foster 1936). Concerns for furbearers also resulted in the commission's closing the season on river otters in 1936 for an indefinite period.

For whatever reason, expenditures for rodent control decreased to \$22,751.67 in 1936-37, with more land treated for gophers than for any other species. No longer was the total eradication of prairie dogs expected in Coconino, Navajo, and Apache counties. The policy now was to locate remnant towns and poison those areas reported by stockmen who wanted them removed (Foster 1937).

This policy of treating areas on a complaint basis continued on into 1937-38, when the PARC budget again increased, this time to \$28,111, for the treatment of 384,289 acres. Of these, 180,271 acres were occupied by kangaroo rats—now the featured species. Less than 95,000 acres were treated for prairie dogs, mostly remnant towns of *gunnisoni* in Apache, Coconino, Yavapai, and Navajo counties. Field activities now concentrated on dry farms within and adjacent to the national forests, the PARC having always maintained that its prime responsibility was the removal of noxious pests from federal land. An additional 1,000 acres of Forest Service land were also poisoned in a further effort to prevent porcupines from damaging ponderosa pine trees (Mercer 1938).

Although men working for the Works Progress Administration and Civilian Conservation Corps did not take predatory animals, their employment as rodent killers and the appropriation of emergency monies freed up funds for additional predator control. In 1935, the PARC put four men in the field each month and supervised 10 state hunters, with the result that seven wolves were caught that year, including five by state trappers and one by a private trapper. Coyotes and bobcats continued to constitute the majority of the carnivores taken. There remained some fussing over bears: The Arizona Game and Fish Commission was reluctant to give stockmen and the PARC *carte blanche* when it came to perceived stock killers, as both species of bear were protected in the state's game code. Nonetheless, the commission issued permits to four Clifton men to take stock-killing bears within the Blue Range Game Preserve in the spring of 1934.

A state appropriation bill passed in 1935 allocated \$10,500 and \$10,000 respectively for the next two fiscal years to be spent by the PARC in Arizona, provided the Biological Survey matched these monies with a like amount. One consequence of the PARC hunters' cavalier attitude toward bears and the commission's allowing for the taking of stock-

killers was an increase in the number of bears taken. The most notorious of these was a two- to three-year-old grizzly taken in Strayhorse Canyon by PARC hunter Richard R. Miller on September 13, 1935. Although this animal was later photographed and verified as a grizzly by veteran hunter Bill "Kitt" Casto, and Miller had reported seeing sign of another young grizzly and an adult female, no mention was made of the event in PARC's annual report for 1935-36, Miller's grizzly being only one of 12 generic bears reported killed in Arizona that year.

Operating funds returned to more normal levels in 1936 with the continued help of state sources, allowing 10 federal and 10 state hunters to take to the field. Five wolves were taken that year and five the next, all Mexican lobos caught in steel traps along traditional wolf runs in Cochise and Santa Cruz counties. Prompt action on the part of the "border patrol" resulted in damage from wolves crossing the border being held to a minimum (Foster 1936; Mercer 1937). In 1938, PARC hunters took 2,344 predators of all kinds, and unsupervised cooperators took another 397 bobcats and coyotes. Three wolves were taken, including one along Black River in Greenlee County (Mercer 1938).

In the meantime, predator and rodent control continued to be primarily a PARC responsibility, with eight wolves taken in 1939 and complaints of "border-jumpers" on the rise:

Wolves frequently entered the state from Mexico and were responsible for serious depredation on cattle ... on one occasion it is known that eight of the animals were operating in Santa Cruz and Pima counties at the same time.

Reports indicated that these wolves "killed more than fifty head of cattle. During the fourth quarter, a single pair of wolves ... in Santa Cruz county ... killed 18 head of cattle and seriously injured 14 more before they were trapped" (Mercer 1939).

Nor was putting Arizona's last grizzly to rest an easy task. Although Miller's grizzly would be regarded as Arizona's "last grizzly" (Housholder 1966), my research disclosed others. While poring through old Federal-Aid reports, I found this startling entry by contract turkey biologist Lynn L. Hargrave: "One grizzly bear, an immature, was killed by Polk on the northwest slope of Mount Baldy, White Mountains, Fort Apache Indian Reservation during the summer of 1939."

Hargrave's (1939) report went on to state he had heard of other grizzlies having been run by dogs and seen that year, both on the reservation and in the adjacent Blue Range. The PARC trapper working on the reservation, B. B. Polk, had been credited with taking 103 black bears between May 5 and November 25, 1939, but the Biological Survey's state report for that year makes no mention of grizzlies on the reservation. Polk, who had been a state supervisor for the PARC in New Mexico, was intimately familiar with both bear species, and it appears Hargrave was calling attention to a situation he knew would not be formally reported by the PARC. This obscure report by a state biologist was therefore meant to become the historical record of Arizona's "final grizzly."

In July 1940, the Biological Survey became the US Fish and Wildlife Service. Fearful of other bureaucratic realignments and changes, State Game Warden Kenner Kartchner notified Arizona's congressional delegation that the National Park Service was attempting

to wrest the north Kaibab away from the Forest Service and that, if successful, the Park Service would prohibit any predator-control work being done on the Kaibab. As it was, predator control on the Kaibab from 1930 to 1940 had been limited to private trappers and lion hunters. Kartchner wanted the Forest Service to retain the Kaibab as a multiple-use forest and invite PARC up there, as the estimated number of deer had dropped from 30,000 in 1930 to between 5,000 and 6,000 in 1940.

On signing onto the Pittman-Robertson Act, the Arizona Game and Fish Commission acquired its own federal money and began taking what we would today call a more "proactive" interest in predator control. Although predator control was considered eligible for Federal-Aid matching monies in 1939, the commission insisted that any funds so spent be used to benefit game species, the Kaibab deer herd then being a prime consideration. This action was in response to the Arizona Woolgrowers Association's passage of a resolution in 1938, requesting that an increase in the state's predator and rodent control appropriation be funded by a portion of hunting and fishing license revenue.

In taking this action, the commission noted it had contributed more money since January 1, 1938, for predator control than for the entire period from the beginning of 1932 to the end of 1937 and that all that could be afforded was being spent. Wanting more, commission chairman George Wrench directed all deputy wardens at the close of the hunting seasons to run trap lines in their respective districts as a means of controlling predators (an order that was rescinded on September 19, 1940).

The commission was now anxious to get into the forefront of predator control. Also in 1939, the commission ordered the Game and Fish Department to pay bounties to Junior Wildlife Federation members of \$1 per coyote, bobcat, or fox, with bronze badges or pins going to those boys bagging the first 25 coyotes, 25 bobcats, or 25 foxes, the total amount not to exceed \$500. State Game Warden William Sawtelle was also to give silver buttons or pins to the first 10 boys who took five predators each.

In a more practical order passed in 1939, the commission directed the State Game Warden to enter into cooperative agreements with various federal agencies regarding benefits to wildlife without jeopardizing the state's rights in any way. The legislature also passed a memorial requesting Congress to increase the annual appropriation for the PARC program from between \$480,000 and \$600,000 a year to a million dollars.

That same year, the legislature approved an arrangement by which the department would cooperate with the Biological Survey on Pittman-Robertson wildlife restoration projects, without specifically mentioning predator control as a permissible expense. Given the department's budget problems, and its reduction in the field force to eight men as of January 1, 1940, commission chairman Charles Beach directed the department to hire additional trappers only as funds permitted and allow the trappers to keep the hides.

In the summer of 1940, the department and Forest Service agreed that deer numbers on the Kaibab were below their potential due to lack of predator control. As a result, the PARC sent lion hunters and coyote trappers to the Kaibab to supplement the number of animals taken by lion guides and regular fur trappers. The agency took one lion, 113 coy-

otes, and 11 bobcats in one month (*Arizona Republic*, September 17, 1940, "Kaibab trapping resumed"). Whatever the reason, the estimated number of deer on the Kaibab the following spring was said to be 8,000 (*Arizona Republic*, April 3, 1941).

Forgoing its earlier attitude toward bears, and fearful of the stockmen's influence with the state legislature, the commission also opened a 30-day stock-killing bear season in 1940 at the request of the Arizona Cattlegrowers Association.

In the spring of 1941, Kartchner wanted the commission to sign a cooperative agreement with the Fish and Wildlife Service by which predatory-animal hunters and trappers would be employed on a one-to-one basis between the state and federal government, thus doubling the predator-control effort. The legislature's appropriations bill for 1941 prescribed that the state would spend \$10,000 per year for predatory animal control and \$10,000 per year for rodent control, with the assumption that at least some of the money would come out of the department's Pittman-Robertson fund.



Original label. "Lobo wolf killed with cyanide shell at Santa Rita in June 1947. This is the first lobo caught in many years, and the first ever caught by the (unnamed) Fish and Wildlife trapper in picture. Photo by Cully." (Data sets were provided by the Santa Rita Experimental Range Digital Database. Funding for the digitization of these data was provided by USDA Forest Service Rocky Mountain Research Station and the University of Arizona.)

By the onset of World War II, the PARC was faced with increasing scrutiny from academics and sportsmen regarding its actions both on and off the reservations. Native American tribes were complaining about the poisoning and killing of such game animals as prairie dogs and jackrabbits and opting out as cooperators. Fielding good agents had always been a problem, and with other work available, PARC district supervisors were now complaining about the difficulty of keeping qualified field men with proven reliability. Unlike the political situation in 1929, when the PARC was intent only on justifying and selling its control programs, the political issue in the 1940s was how to redirect and maintain an effective program (Mercer 1938-50).

Determined to take an active stance in managing more of the state's wildlife, the Arizona Game and Fish Department embarked on a Federal-Aid project to control depredating beavers. It hired trappers to trap and translocate these animals from irrigation

canals and other problem areas, so as to maintain populations at acceptable levels. The pelts were turned in to the Phoenix office for public auction and the revenues went to the Game and Fish Fund. To oversee this program and other trapping projects, the department hired B. C. "Bobby" Fox as a fur conservation biologist in 1942, a position elevated to division status in 1944.

In the meantime, the PARC's arch-nemesis, the wolf, continued to show up. Wolves continued to enter the state from Mexico along traditional wolf runs between the Huachuca and Baboquivari mountain corridors, requiring two or three hunters to be kept in the border country to catch these invaders (Mercer 1940).

A single wolf was reported taken during 1941 near Green's Peak in Apache County. That, coupled with a two-year-old wolf trapped the succeeding year some 40 miles southwest of Winslow, suggested a small pack might still be holding out somewhere on the Apache Indian reservations. Seven wolves were also taken in southern Arizona that year, including a male and a litter of pups taken by the PARC's Bill Casto on Fort Huachuca (the female escaped back into Mexico). These were said to be the last native wolves whelped in Arizona (Mercer 1942). Nonetheless, five more wolves were caught in 1944 (Mercer 1944) and another five in 1945, including one on the Apache Indian Reservation, where a number of calves had been killed (Mercer 1945).

Only three wolves were taken in 1947, in addition to 5,846 other "major predators." The brunt of PARC's attention was now focused on coyotes, despite 46 bears also being trapped and 58 caught by dog packs, along with 46 mountain lions (Mercer 1947). Wolves also continued to be taken in southeastern Arizona each year in numbers of up to a dozen when bounty hunters and other cooperators again got into the game (Brown 1983). A mile-marker in wolf history was reached in 1950, when, "The fiscal year has passed without a single wolf being recorded by the cooperative hunting force. This has never happened before" (Mercer 1950). Although wolves would continue to infiltrate into Arizona from Mexico in ones and twos for another decade or so, and another one or two remained on the Apache Indian reservations, the day of the wolf in Arizona was finally over (Brown 1983).

Predator and rodent control continued to be a focal issue for both the PARC and the department after World War II. The trend toward using poisons and chemical predacides continued to accelerate due to a perceived increase in coyote numbers and dropping fur prices. So concerned was the department with coyotes and their impact on pronghorn antelope that the agency entered into an intensive cooperative effort with the Arizona Livestock Sanitary Board and Fish and Wildlife Service in 1945 to obtain maximum results at coyote control, the commission contributing more than \$24,000 a year in Pittman-Robertson matching monies for use by the PARC:

With control emphasis now focused on coyotes and a bounty authorized on lions and wolves in 1947, the department's concerns regarding predator control centered on black bears and beavers, both of which were now thought to be making a comeback (Arizona Game and Fish Commission 1949). As for predator and rodent control, the PARC's interest was to continue to meet the needs of its ranching and farming constituencies

using whatever means was most effective, with chemical control measures increasingly favored. The next chapter would begin in 1947 when the use of Compound 1080 became operational, the lion bounty was instituted, and coyotes were reported to be practically eliminated in several areas. ☒

Mountain Lions, Bobcats, Wolves, and Coyotes Taken by Government Hunters
Source: PARC Annual Reports, 1942-46

	1942	1943	1944	1945	1946
Lions	71	73	60	35	46
Bobcats	663	1,010	823	489	356
Wolves	5	5	5	4	3
Coyotes	4,357	6,390	6,080	6,647	5,340
Appropriated	\$7,752.00	\$8,600.48	\$13,974.07	\$19,100.14	\$24,281.02

*Federal-Aid monies were not always appropriated during war years, when most of the \$6,000 or so allocated to the states each year was spent on predator control. Surplus Pittman-Robertson monies became available after 1946.