

2000. Because the wolf population has continued to expand since that time, it no longer warrants listing as endangered.

Northwestern Montana

Reproduction first occurred in northwestern Montana in 1986. The natural ability of wolves to find and quickly recolonize empty habitat and the interagency recovery program combined to effectively promote an increase in wolf numbers. By 1993 the number of wolves had grown to about 55 wolves in 4 packs. However, since 1993 the number of breeding groups and number of wolves has slowed or perhaps stabilized, varying from 5 to 7 packs and from 48 to 84 wolves. The reasons for this are unknown, but are being investigated. The lack of continuing steady growth in documented wolf numbers may be due to a dramatic reduction of white-tailed deer numbers throughout northwestern Montana (Caroline Sime, Montana Dept. Fish, Wildlife and Parks, pers. comm. 1998) due to the severe winter of 1996–97, which we believe was responsible for the record high level of livestock depredations and correspondingly high level of wolf control in northwestern Montana during summer 1997. Our 1998 estimate was a minimum of 49 wolves in 5 reproducing packs. In 1999, and again in 2000, 6 breeding pairs appear to have produced pups, and the northwestern Montana population increased to about 63 wolves. In 2001, there were an estimated 84 wolves in 7 breeding pairs (Service *et al.* 2002).

Wolf conflicts with livestock have increased with the growing wolf population and with fluctuations in prey populations. For example, in 1997, following a severe winter that reduced white-tailed deer populations, wolf conflicts with livestock increased dramatically. That year alone accounted for nearly 50 percent of all the wolf livestock depredations that were confirmed and subsequent lethal wolf control actions that were taken in northwestern Montana during the period 1987–1999 (Bangs *et al.* 1998). Wolf numbers should increase as prey numbers rebound, but, for now, the need for wolf control measures has subsided. Unlike Yellowstone National Park or the central Idaho Wilderness, northwestern Montana lacks a core refugia that also contains overwintering ungulates. Therefore, wolf numbers are not ever likely to be as high in northwestern Montana as they are in central Idaho and northwest Wyoming.

Central Idaho

In January 1995, 15 young adult wolves captured in Alberta, Canada, were released in central Idaho (Bangs and Fritts 1996, Fritts *et al.* 1997, Bangs *et al.* 1998). During January 1996, an additional 20 wolves from British Columbia were released. In 1998 the population consisted of a minimum of 114 wolves, including 10 packs that produced pups (Bangs *et al.* 1998). In 1999 it had grown to about 141 wolves in 10 reproducing packs. By 2000 Idaho had 192 wolves in 10 breeding pairs and in 2001 the population was about 261 wolves in 14 breeding pairs (Service *et al.* 2002).

Greater Yellowstone Area

In January 1995, 14 wolves from Alberta, representing three family groups, were placed in 3 pens in Yellowstone National Park (Bangs and Fritts 1996, Fritts *et al.* 1997). The groups were released in late March. Two of the three groups produced young in late April. In January 1996, this procedure was repeated with 17 wolves from British Columbia, representing 4 family groups, for release in early April. Two of those groups produced pups in late April. Furthermore, as the result of a September 1996 wolf control action in northwestern Montana, 10 5-month-old pups were transported to a pen in the Park. These pups and 3 adults from the Greater Yellowstone Area, which were originally reintroduced from Canada, were released in spring 1997. By 1998, the Greater Yellowstone Area population consisted of 112 wolves, including 6 packs that produced 10 litters of pups. The 1999 population consisted of 118 wolves, including 8 breeding pairs. In 2000 Yellowstone had 177 wolves, including 14 breeding pairs, and there were 218 wolves, including 13 breeding pairs, in 2001 (Service *et al.* 2002).

Dispersal of Western Gray Wolves

Significant numbers of pups (9 in 1995, 25 in 1996, 99 in 1997, and steadily increasing to about 150 in 2000, and nearly 200 in 2001 and 2002) born to reintroduced wolves are becoming sexually mature and are dispersing from their natal packs. Because dispersing wolves may travel extensively and often settle in areas without resident packs, we expect that these wolves will continue to initiate significant expansion in the number and distribution of wolf packs in the northern Rocky Mountains. Dispersal will increase management costs and controversy, because many of these wolves will not be radio-collared and

will attempt to colonize areas of private land used for livestock production. This geographic expansion of wolf presence will also increase the amount of needed agency wolf control, particularly lethal control. Wolves that disperse southward in central Idaho and the Greater Yellowstone Area will increasingly encounter the full range of domestic livestock, including sheep, which are more susceptible to predation and multiple-mortality incidents than are other domestic livestock (Bangs *et al.* 1995, Fritts *et al.* 1992).

We predicted that these three populations eventually would expand and begin to overlap, resulting in one meta-population of gray wolves in the northern U.S. Rocky Mountains. In 1994 we believed that the most likely direction for wolf dispersal and population growth would be from northwestern Montana southward into the experimental areas. Wolves most commonly disperse toward other wolves even when separated by great distances, and we speculated that the presence of reintroduced wolves in the central Idaho and Yellowstone experimental areas would increase the likelihood for wolf dispersal into those areas from northwestern Montana. At that time, we believed that wolves in the northwestern Montana recovery area would be the first to reach 10 breeding pairs. We now believe that the severe winter of 1996–97 temporarily depressed the number of wolves in northwestern Montana and limited the number of dispersal-aged wolves in that area (Service 1994a, Bangs *et al.* 1998).

In contrast, the wolves reintroduced into central Idaho and Yellowstone have increased their numbers greatly, and nearly two-thirds of those wolves are young, dispersal-aged animals that may move from those areas over the next several years. We now believe that wolves that are offspring of the reintroduced animals will increasingly disperse into northwestern Montana and elsewhere. A recent study of wolf genetics among wolves in northwestern Montana and the reintroduced populations found that wolves in those areas were as genetically diverse as their source populations in Canada and that genetic diversity was not a wolf conservation issue in the northern Rocky Mountains at this time (Forbes and Boyd 1997). To date, from radio telemetry monitoring we have documented routine wolf movement between wolves in Canada and northwestern Montana, occasional wolf movement between wolves in Idaho and Montana, and at least two wolves that have traveled into Idaho from northwestern Wyoming. Additionally,