from 219,869 in 2001 to 420,074 released in 2014, with the harvest ratio of pen-raised and wild pheasants remaining steady (Appendix Figure 7). It should be noted that no licensed shooting preserve statistics are used in the statewide population or harvest estimates.

In summary, pheasant management in South Dakota primarily involves working with cooperating agencies and landowners to develop and manage quality pheasant habitat, monitoring populations, and finally, developing season structures that allow harvest of surplus roosters and maximum hunter participation.

PREDATOR CONTROL

Predator control is often suggested as a management tool to increase pheasant survival and increase nest success, both of which can increase population growth. Generally, mammalian predation is the primary cause of nest failure and pheasant mortality during the breeding season (Reviewed in Riley and Schulz 2001). Avian predation has been found to be the primary cause of mortality during the winter (Leif 2003, Leif 2004).

Several studies on mammalian predator control efforts have shown an increase in nesting success or found higher pheasant abundance when compared to non-removal sites (Reviewed in Riley and Schulz 2001, Frey et al. 2003). However, the most recent predator removal study in SD found minimal impact on pheasant nest success (Docken 2011). In order to achieve measureable significant improvements in nest success, predator control efforts must be very intense which makes the process expensive and logistically difficult to implement at a large scale. Because new predators fill the void left by removed animals, the impact of predator control is short-lived. Predator control can also have unintended consequences. For instance, intense coyote removal can lead to increased abundance of mesopredators such as red fox and striped skunks which are disproportionately more detrimental to nesting pheasants. Additionally, all raptors are federally-protected under the 1918 Migratory Bird Treaty Act, and eagles are further protected under the 1940 Bald and Golden Eagle Protection Act. Raptor control is not possible under current federal regulatory framework. Habitat management actions such as removing tall trees which could serve as perch or nest sites should be considered to reduce raptor predation. Food plots also provide a secure feeding location for pheasants during winter when raptor mortalities are most common.

Pheasant populations have risen and fallen in response to habitat availability, mostly grassland nesting habitat, in the absence of targeted predator control. For instance, the pheasant population reached extremely high levels in the mid and late-2000s when favorable weather conditions occurred and abundant CRP grassland habitat was available, and targeted predator control was not used. We recommend that habitat management be used as the primary tool to encourage pheasant population growth (see pheasant habitat best management practices section of this plan). Predation likely has an exaggerated impact on pheasant populations where sub-optimal habitat exists. Where predator control may be considered as a management option, managers should be aware that cost, logistics, and lack of effectiveness often limit success when compared to habitat management.