

Umpqua Basin of Douglas County, while keeping the relative proportions of deer habitat within the known range of the subspecies from further deterioration; and (2) to delist the population, it recommended the maintenance of a minimum population of 500 animals from the larger population, to be distributed on 2,226 hectares (ha) (5,500 acres (ac)) of suitable, secure habitat within the Umpqua Basin of Douglas County on lands owned, controlled, protected, or otherwise dedicated to the conservation of the species (Service 1983).

The Recovery Plan defined secure habitat as those areas that are protected from adverse human activities (e.g., heavy, unregulated grazing by domestic animals, clearing of woody plants) in the foreseeable future, and that are relatively safe from natural phenomena that would destroy their value to the subspecies (Service 1983). The Recovery Plan did not define secure habitat to include only publicly owned lands; rather, it provided further guidance on secure habitat by stating that local entities, including planning commissions, county parks departments, and farm bureaus, could secure habitat through zoning ordinances, land-use planning, parks and greenbelts, agreements, memoranda of understanding, and other mechanisms available to local jurisdictions (Service 1983). The Recovery Plan also recommended that private conservation organizations be encouraged to secure habitat for Columbian white-tailed deer through easements, leases, acquisitions, donations, or trusts (Service 1983).

The Recovery Plan identified a series of tasks that the Recovery Team recommended to meet the downlisting and delisting objectives for the Douglas County population of Columbian white-tailed deer (Service 1983). These tasks fall into five main categories: (1) Tracking population status; (2) Ensuring viability of the population through enforcement of existing laws and regulations; (3) Securing and protecting habitat to allow the population to increase; (4) Studying the ecology of the population and assessing the threat of hybridization with Columbian black-tailed deer; and (5) Encouraging public support for Columbian white-tailed deer restoration. Nearly all of the tasks listed in the Recovery Plan (Service 1983) have been accomplished. We provide a summary of recovery tasks, along with the status of their implementation, below.

1. *Tracking population status.* Tasks in this first category have been fully implemented. The ODFW, with our

funding, has surveyed the population yearly since 1978. Data collected include spring and fall trend counts, estimates of overall population size, recruitment, and sex ratios. Surveys indicate that the population has grown from about 2,500 animals in 1982 to about 6,000 in 2002 (Service 1983; Lindsay Ball, ODFW, *in litt.* 2002). The Recovery Plan included a model to estimate the minimum population size necessary to avoid extinction; using this model, the Recovery Team concluded that a population of 500 deer in Douglas County could be considered safe from the potentially deleterious effects of inbreeding (Service 1983). The most recent estimate of the overall population of the Douglas County DPS is over 6,000 deer (ODFW, *in litt.* 2001).

2. *Ensuring viability of the population through enforcement of existing laws and regulations.* Tasks concerning enforcement of existing laws to protect the Columbian white-tailed deer have been fully implemented. It is currently illegal to take Columbian white-tailed deer under State law (ODFW 2001), and as proscribed in section 9 of the Act. Our biologists have coordinated with our agency's Law Enforcement Special Agents and our National Fish and Wildlife Forensics Laboratory in Ashland, Oregon, to refer illegal take cases to the Oregon State Police, which has successfully prosecuted a number of Columbian white-tailed deer poaching cases (Sgt. Joe Myhre, Oregon State Police, pers. comm. 2001). See additional discussion under Factor D, below, for more detail. We have also engaged in section 7 consultations with Federal agencies for those actions which were determined to have the potential to affect Columbian white-tailed deer.

3. *Securing and protecting habitat to allow the population to increase.* Since 1978, over 2,830 ha (7,000 ac) have come into public ownership and are being managed in a manner that is compatible with the needs of Columbian white-tailed deer (see full description of these parcels in Factor A, below). This acreage includes the North Bank Habitat Management Area (NBHMA), managed by the Bureau of Land Management (BLM), and Mildred Kanipe Memorial Park. Smaller parcels owned by Douglas County and The Nature Conservancy (TNC) also provide secure refugia for deer. In addition, Douglas County has used its authorities to conserve the Columbian white-tailed deer. The Douglas County Comprehensive Plan (Douglas County Planning Department (DCPD) 2000a), county zoning ordinances (DCPD 2000b), and the Douglas County Deer Habitat Protection Program (DCPD 1995), also have been

essential in protecting open space and rural agricultural landscapes used by the deer.

The Recovery Plan recommended that we and the ODFW develop a long-term management plan for the Douglas County population of Columbian white-tailed deer (Service 1983). Although a single, population wide plan has not been prepared, this task has been accomplished, in part, through site-specific management plans for the NBHMA (BLM 2001), Douglas County's Habitat Protection Program for the Columbian white-tailed deer (DCPD 1995), and Mildred Kanipe Memorial Park (Douglas County Parks Department 2001a).

4. *Studying the ecology of the population and assessing the threat of hybridization with Columbian black-tailed deer.* Several tasks in the Recovery Plan recommended research on the ecology of the population. A substantial amount of research has been conducted by the ODFW and the Oregon State University (Smith 1981; ODFW 1995; Ricca 1999; Whitney 2001). The BLM used information from these studies to develop the NBHMA management plan, the largest property managed for the deer. Laboratory studies and field observations have been used to gauge the extent of hybridization between Columbian white-tailed deer and Columbian black-tailed deer in Douglas County (Gavin and May 1988; Kistner and Denney 1991; ODFW 1995); none of these studies has indicated that hybridization is a threat to the population.

5. *Encouraging public support for Columbian white-tailed deer restoration.* The final set of tasks in the Recovery Plan deals with providing the public with information about the Columbian white-tailed deer restoration program. This task continues to be implemented by our biologists and the ODFW. The ODFW has produced informational materials on the deer population in Douglas County for the public and landowners. Our staff and the ODFW also provide information and recommendations to private landowners who have Columbian white-tailed deer on their property.

Recovery plans are intended to guide and measure recovery. The Act provides for delisting whenever the best available information indicates that a species, subspecies, or distinct population segment is no longer endangered or threatened. The Douglas County DPS population is robust and expanding, and substantial habitat has been protected by Federal acquisition and Douglas County's zoning and open space regulations. The recovery plan calls for