## Appendix F: Summary of the Decline and Recovery of Elk in California

Tule elk occurred only in California. Prior to the arrival of non-indigenous humans, they ranged from Shasta County south to Santa Barbara County, throughout much of the Coast Range and interior oak woodlands and valleys to the Sierra Nevada foothills. Once numbering near a half million animals (McCullough 1969), tule elk populations declined with the gold rush. Despite a statewide ban on elk hunting in 1854 (California Fish and Game 1928), by the late 1860s, tule elk were extirpated from all but one small locale in the southern San Joaquin Valley (McCullough 1969). Market shooting and competition for livestock forage contributed to their demise. Large body size, coupled with their social behavior (i.e. herding) certainly increased their vulnerability to market shooting. However, more important than shooting, livestock competition or conversion of perennial to annual grasslands was the conversion of a vast amount of tule elk habitat to agricultural land uses (McCullough 1969, Koch 1987).

Some thought tule elk were extinct by the 1870s when a group of less than 10 elk was found on the Miller and Lux Ranch in the southern San Joaquin Valley. Henry Miller, a wealthy landowner, set aside some land and provided them with complete protection. These actions saved tule elk from extinction; but also set the stage for an increase in tule elk numbers and expanded distribution due to complete protection, causing considerable private property damage (Fowler 1985, Koch 1987).

By the early 1900s, tule elk on the Miller and Lux Ranch caused extensive damage to fences, crops and pastures (McCullough 1969, Koch 1987). As the herd continued to grow, efforts were made to reestablish tule elk in various parts of the state (Dasmann 1975). These efforts involved primitive capture methods that were generally unsuccessful; many of the relocated herds gradually died out or required relocation to other areas (McCullough 1969).

By 1940 three well established tule elk herds existed in California: the Cache Creek herd in Colusa and Lake counties (California Fish and Game 1922); the Owens Valley herd in Inyo County (outside historic tule elk range); and a penned herd at Tupman Tule Elk Reserve in Kern County (near the site of the Miller and Lux Ranch tule elk herd; McCullough 1969). Private property conflicts occurred with the free-ranging Cache Creek (California Fish and Game 1930) and Owens Valley herds. The potential for private property conflicts discouraged reintroduction of tule elk during this period. Particularly severe conflicts in the Owens Valley were temporarily alleviated with periodic hunts and drastic population reductions which were unpopular with ranchers, sportspersons and animal preservationists (Koch 1987).

Consequently, in 1971 the State legislature enacted the Behr Bill, which prohibited tule elk hunting until the population statewide reached 2000 animals, and directed the Department to translocate tule elk to suitable areas. Thus, in addition to developing safe and effective capture methods, the Department was required to identify suitable translocation sites for a species known for its potential to wander great distances

(over/through fences), damage agricultural crops, and in the absence of population control, adversely impact habitat, other wildlife species and private property. Initially, an ad hoc task force was established to assist in this effort, with representatives from Bureau of Land Management (BLM), National Park Service (NPS), United States Forest Service (USFS), the Bureau of Sport Fisheries & Wildlife (which later became USFWS), State Wildlife agencies from Arizona, California, Nevada and Oregon, and the universities of Michigan (Ann Arbor) and California (Berkeley). Broad task force representation provided significant wildlife management expertise and included an awareness of the conflicts involved with managing elk in other states. The ad hoc task force established habitat criteria and other factors to consider in evaluating potential tule elk reintroduction sites and created an initial list of potential sites (Interagency Task Force 1971).

In 1976, a resolution by Congress endorsed 2000 tule elk as an appropriate national goal and directed federal agencies to make land under their jurisdiction reasonably available for tule elk (Bureau of Land Management 1980). The Tule Elk Interagency Task Force (Task Force) was formally established in 1977 to help meet directives of state and federal legislation. Membership reflected the composition of the initial ad hoc task force and included representatives from BLM (Task Force Chair), NPS, USFWS, USFS, U.S. Navy, U.S. Army, California Department of Parks and Recreation, Los Angeles Department of Water and Power, and the California Department of Fish and Game (CDFG) (California Department of Fish and Game 1978). The Task Force was assigned the following responsibilities: 1) Analyze the management proposals for each tule elk herd in California; 2) Establish a list of projects needed to preserve and enhance tule elk herds; 3) Evaluate the suitability of lands that can reasonably be made available for tule elk; 4) Evaluate the feasibility of achieving and maintaining a population of 2,000 tule elk in California; and 5) Prepare a statewide plan for the conservation of tule elk. CDFG was designated the legal responsibility for translocation operations.

The Task Force prepared *A Management Plan for the Conservation of Tule Elk* (Tule Elk Interagency Task Force 1979). In this plan, the Task Force built upon recommendations of the initial ad hoc task force and established specific criteria for identifying suitable release sites and translocating tule elk. These criteria employed sound biological principles that considered such factors as land ownership, land-use practices and the laws/regulations of the State. Over time, criteria were modified based on experience gained from capturing and translocating elk. While these criteria initially pertained to tule elk, they are useful and applicable to all of California's elk. The criteria are summarized in Appendix G.

The 1979 statewide tule elk management plan served as the foundation for the Departments tule elk management activities. Based on the criteria summarized above, the Task Force identified and prioritized suitable sites within California for tule elk reintroduction. Protection from harvest between 1971 until 1989 (when regulated hunting resumed), combined with an aggressive reintroduction program in which over 1,250 tule elk have been moved to new areas of the State, resulted in a dramatic increase in the statewide tule elk population.

However, as in the past, the increase in elk numbers and occupied range resulted in many of the State's tule elk herds causing private property damage (Koch 1987, California Department of Fish and Game 1991). In response to the increasing level of tule elk damage to property, Assemblyman Hauser introduced legislation (AB 998) in 1987, which amended Fish and Game Code sections 332 and 3951. As amended, Section 332 allows the Fish and Game Commission (Commission) to authorize tule elk hunting if the average of the Department's statewide tule elk population estimate exceeds 2,000 animals. Section 3951 specified that the maximum number of tule elk in the Owens Valley should not exceed 490 individuals and directed the Department to relocate tule elk to suitable areas and report to the Legislature every two years on their status in California (the last report to the Legislature was submitted in October, 2000; legislation in 2001 eliminated future reporting). The statute also requires that, where economic or environmental damage occurs, emphasis shall be placed on managing each tule elk herd at biologically sound levels using relocation, hunting, or other appropriate means determined by the Department.

The statewide tule elk population exceeded 2,000 animals in 1987, and the Commission established regulations under which a limited number of tule elk could be hunted in 1988. However, in September 1988, a citizens group obtained a court order preventing implementation of the regulations, based primarily on a finding that the Commission's decision did not comply with CEQA. In 1989, the Department prepared an environmental document regarding tule elk hunting and circulated the document for review as required by CEQA. The Commission certified the environmental document and adopted regulations providing for the take of tule elk from specific areas in the State. Hunters harvested 84 elk during the 1989 tule elk hunting season. Since 1989, the Department has prepared appropriate environmental documentation to continue annual public tule elk hunting in specified zones while maintaining or enhancing the population statewide.

The increase in numbers and distribution has provided a substantial increase in opportunities for viewing, photographing, and natural history study of tule elk. Currently, there are at least 5,700 tule elk in separate herds throughout California. Four herds (San Luis NWR, Tupman, Point Reyes, and Grizzly Island) have formal interpretive programs providing the public with the opportunity to view, photograph, hunt (Grizzly Island only) and study the natural history of tule elk with assistance provided by experienced State, Federal, or volunteer staff. A tule elk viewpoint along a US Highway 395 has been established for the Owens Valley herd, near the town of Lone Pine. Tule elk are also seen on hillsides near Highway 20 west of Williams, along Highway 101 near Laytonville, and along Highway 41 near Chalome.

Regarding Roosevelt elk, Murie (1951) reported their original distribution extended from the San Francisco Bay northward along coastal forest areas into Oregon and indicated their northern California range extended inland to the Mount Shasta area. Harper et al. (1967) attributed the demise of California’s Roosevelt elk to meat and hide hunting during the Gold Rush period and the subsequent influx of non-indigenous people and

domestic animals. Others cited factors related to agricultural and logging activities (California Conservationist 1936). Orr (1937) reported that California Roosevelt elk were restricted to a small portion of northern Humboldt and southern Del Norte counties and faced extirpation. By some accounts, Roosevelt elk had declined to as few as 15 animals (Harn 1958). However Harper et al. (1967) later concluded that their survival was not in danger and speculated that northwestern California may have contained from 1,000-2,000 elk.

Based on the current distribution of Roosevelt elk in California, the population has grown and expanded its range since 1967. Public ownership (USFS, BLM, NPS, and State Parks) of large tracts of Roosevelt elk habitat and associated Congressional mandates and directions to provide for and maintain wildlife habitats have resulted in Roosevelt elk population increases (CDFW unpublished data). Populations of Roosevelt elk currently exist in coastal areas of Mendocino, Humboldt, and Del Norte counties, along with interior Cascade and Klamath mountain ranges in Shasta, Siskiyou, and Trinity counties. Some of these populations were established when the Department (in cooperation with other State and Federal agencies) relocated elk to suitable historic range (CDFW unpublished data). During the 1980s and 1990s, the Department worked in cooperation with the Oregon Department of Fish and Wildlife, USFS, and BLM, to relocate Roosevelt elk to suitable unoccupied historic range. Capturing Roosevelt elk for relocation has been difficult, due to their use of dense vegetation and small group sizes. However, from 1985 through 2000 the Department translocated more than 350 Roosevelt elk to re-establish populations in portions of southern Humboldt, Mendocino, Siskiyou, and Trinity counties.

The tendency for elk to disperse, individually or in small groups, beyond core distribution areas in northern California has been documented. Harn (1958) and Harper et al. (1967) reported elk observations in other portions of Del Norte and Humboldt counties, as well as in Siskiyou and Trinity counties. Sightings of elk in eastern Siskiyou County (east of Interstate Highway 5) were reported as early as 1965 (CDFW files). The ability of elk to travel significant distances was demonstrated when, over a two week period in 2001, elk monitored by CDFW with telemetry/GPS methods traveled approximately 120 miles (point-to-point distance) from Montague (Siskiyou County) to Madeline (Modoc County) in northeastern California. Thus, elk are capable of dispersing into suitable unoccupied habitat and it is likely that likely that some northern California populations became established through dispersal from Oregon or other California locations. The Department currently estimates the statewide Roosevelt elk population at approximately 5,700 individuals.

Some elk also were released on the Hearst Ranch near San Simeon (San Luis Obispo and Monterey counties); details regarding dates, numbers, subspecies are unknown. William Randolph Hearst had widespread contacts and secured various exotic wildlife species for the Hearst Ranch zoo, which could have included red deer as well as Roosevelt, Rocky Mountain and tule elk. Many animals were released to free-ranging conditions in the 1930s. Elk persist in the San Simeon area, and could be hybrids according to McCullough (1969) and Dasmann (1975).

Elk also were brought to Santa Rosa Island (Santa Barbara County) around 1910 for hunting purposes. These have been variously reported as Rocky Mountain, tule and Roosevelt elk. The NPS purchased Santa Rosa Island in 1986, with plans to eliminate all elk from the island. This was accomplished by 2012.

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