White-tailed Jackrabbit
(*Lepus townsendi*)

State Status: Candidate.
Federal Status: None.
Recovery Plans: None

Black-tailed Jackrabbit
(*Lepus californicus*)

State Status: Candidate.
Federal Status: None.
Recovery Plans: None

Figure 1. White-tailed jackrabbit *(photo by Joe Higbee*).

White-tailed Jackrabbit. The white-tailed jackrabbit is an ecologically important species affecting habitats and serving as prey for a wide variety of raptors and mammalian predators (Flinders and Chapman 2003). Its range extends from the prairies of the midwestern states and Canadian provinces westward to the Rocky Mountains, Cascades and Sierra Nevada mountain ranges and southward to the northern borders of Arizona and New Mexico. Most populations are declining due to factors such as, habitat loss, degradation, fragmentation, competition with black-tailed jackrabbits, and unregulated hunting (Flinders and Chapman 2003). In Washington, it is found throughout the semi-arid portions of the Columbia Plateau.

In parts of its historical range, where cultivation, drought or overgrazing have affected the habitat, white-tailed jackrabbits have been replaced by black-tailed jackrabbits (Lim 1987). In areas where the two species overlap they use different habitats: black-tailed jackrabbits occur primarily in sagebrush habitats with open grass while white-tailed jackrabbits are most common in bunchgrass habitats with less shrub cover (Couch 1927, Lim 1987). In Washington, they occur at somewhat higher elevations, in habitats such as grassy hills and plateaus (Johnson and Cassidy 1997). Dalquest (1948) found white-tailed jackrabbits on arid, hilly bunchgrass sites during the summer and in lower sagebrush valleys during winter. He also noted that as bunchgrass decreased due to overgrazing so did numbers of white-tailed jackrabbits.

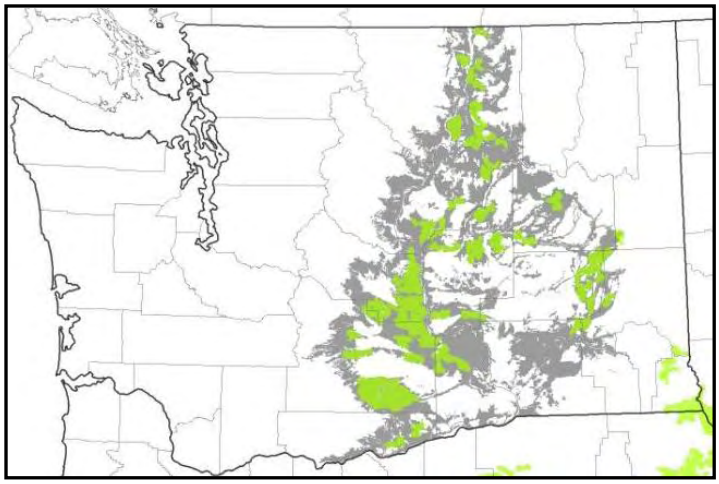

Figure 2. White-tailed jackrabbit modeled distribution (gray; from Johnson and Cassidy 1997), and habitat concentration areas (green; WHCWG 2010).

White-tailed jackrabbits are largely nocturnal which makes population monitoring a challenge; no reliable census method exists for all population levels. Home range of the white-tail is reported as 2 to 3 km in diameter (Lim 1987), but information is scant.

In Wyoming, white-tailed jackrabbits bred from late-February or mid-March until July, often giving birth to tree litters in succession (Rogowitz 1992). Average annual female production was 15 young in

North Dakota (James and Seabloom 1969). Young white-tailed jackrabbits are very precocial with eyes open, incisors erupted, and fully furred (Lim 1987).

The primary predators of white-tailed jackrabbits in Washington are coyotes, bobcats, and eagles (Dalquest 1948). They are also at considerable risk for mortality from vehicle traffic, shooting, and harassment by pets.

Black-tailed Jackrabbit. The black-tailed jackrabbit is the most common jackrabbit in the western U.S. (Flinders and Chapman 2003). Its range extends from southern-central Washington to South Dakota and southward into Baja California and well into south-central Mexico (Chapman and Flux 1990). They also have been successfully introduced into various eastern states.

Figure 3. Black-tailed jackrabbit *(photo by Mike Schroeder).*

Black-tailed jackrabbits were not present in Washington in the early 19th century. They first appeared in Washington in Walla Walla County around 1870 (Couch 1927). They spread north to the Snake River, and beyond it when the Snake froze over around 1908. They spread across Benton County after the Columbia River froze in 1920 (Couch 1927). Black-tails had occupied most of the Columbia Basin by 1930 (Figure 4; Johnson and Cassidy 1997).

In central Washington, east of the Cascade Mountains, black-tailed jackrabbit distribution is concentrated in the semi-arid Columbia Plateau shrubsteppe and grassland habitats, and extends south into Oregon. Areas used include sagebrush and rabbitbrush (*Chrysothamnus* sp.) dominated habitats as well as areas of mixed grassland and shrub (Johnson and Cassidy 1997). Black-tailed jackrabbits tend to occupy areas with more shrubs and less grass than white-tailed jackrabbits and are more tolerant of grazing by livestock (Best 1996). Their diet varies seasonally, consisting of a higher percentage of shrubs in winter, forbs in spring, and mostly grasses with almost no shrub ingestion in summer (Grant 1987). Black-tailed jackrabbits are generally nocturnal and solitary (Flinders and Chapman 2003). Like white-tailed jackrabbits, about daylight they retire to resting sites in taller vegetation, such as a 'form' under a shrub (Lechleitner 1958a). Population monitoring is a challenge as no reliable census method exists for all population levels.

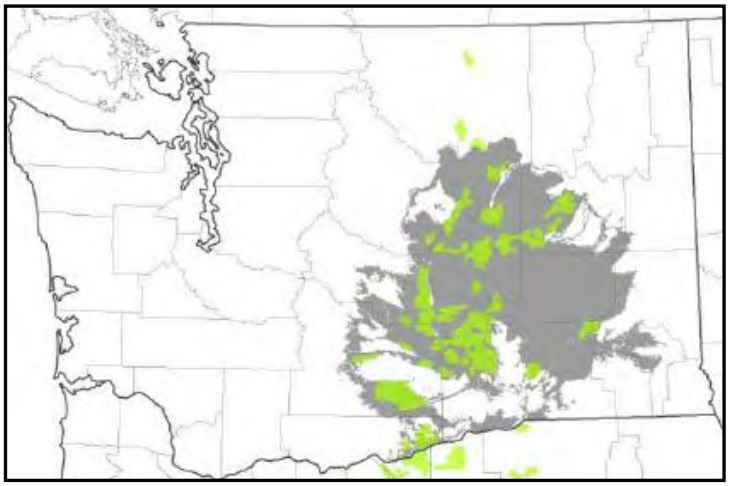

Figure 4. Black-tailed jackrabbit modeled distribution (gray; from Johnson and Cassidy 1997), and habitat concentration areas (WHCWG 2010).

Black-tailed jackrabbits are highly mobile. Size of home range varies from 20–300 ha (Lechleitner 1958b, Smith 1990). The literature suggests that no

regular seasonal migration occurs; however, most recorded large movements are between fall and winter ranges and winter and spring ranges (Rusch 1965; Grant 1987; Smith et al. 2002). Grant (1987) reported distances travelled by black-tailed jackrabbits averaged 16.2 km with a range of 2.2–57.3 km.

Black-tailed jackrabbits produce about 10-12 young annually, giving birth to multiple littles during a three month breeding season. Only 3.5–9% survived to 1 year of age (Verts and Carraway 1998). Predators known to prey on black-tailed jackrabbits include coyotes, badgers, bobcats, golden eagles, several species of hawk, owls, rattlesnakes, and gopher snakes. Additionally, they are at considerable risk for increased mortality from vehicle traffic, persecution, and harassment by pets.

Jackrabbits are vulnerable to loss of habitat connectivity from all four major connectivity threats: clearing and vegetation removal, development, roads and traffic, and the presence of people and domestic animals.

Conservation actions. Washington State University is working on development of survey methodology with funding from BLM. The study will compare the use of pellet counts to using spotlighting.

Landscape management. The Washington Wildlife Habitat Connectivity Working Group is addressing the conservation and restoration of habitat connectivity for numerous focal species, including jackrabbits. Connectivity analyses were completed for the state in 2010 (WHCWG 2010) and for the Columbia Basin in 2012 (WHCWG 2012).

Partners and cooperators: U.S. Fish and Wildlife Service, Washington State University, U.S. Bureau of Land Management.

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