STATE OF NEVADA

DEPARTMENT OF WILDLIFE

Game Division

6980 Sierra Center Parkway, Ste 120 • Reno, Nevada 89511

(775) 688-1500 Fax (775) 688-1987

#16

MEMORANDUM

December 26, 2019

To: Nevada Board of Wildlife Commissioners, County Advisory Boards to Manage Wildlife, and Interested Publics

From: Brian Wakeling, Administrator, Game Division

Title: **Request for up to 30 Pygmy Rabbits by the Washington Department of Fish and Wildlife – For Possible Action**

Description: The Washington Department of Fish and Wildlife has requested up to 30 pygmy rabbits from Nevada during late winter-early spring 2020 to augment their restoration efforts. Pygmy rabbits from Nevada are similar genetically to the Columbia Basin pygmy rabbits, and these rabbits would be used to augment their semi-wild breeding population. The Commission may vote to endorse this request.

Presenter: Director Tony Wasley

Summary:

Washington Department of Fish and Wildlife has requested permission to capture and translocate up to 30 pygmy rabbits from Nevada for release in their semi-wild breeding population during spring 2020 (see attached letter). The Columbia Basin distinct population segment of pygmy rabbits is federally listed as endangered, and Nevada pygmy rabbits are among the most genetically similar populations. Washington has provided a detailed assessment of their needs and planned actions.

Continued collaboration among states is important to maintaining wildlife species. As Nevada has benefitted from translocations of other species, the Department strongly supports providing Washington with this important source of genetic diversity. Based on our evaluations, providing up to 30 pygmy rabbits this spring will not place any undue obstacles to our own populations.

Recommendation:

The Department recommends that the **COMMISSION VOTE TO ENDORSE THE REQUEST FROM THE WASHINGTON DEPARTMENT OF FISH AND WILDLIFE FOR UP TO 30 PYGMY RABBITS FROM NEVADA DURING 2020.**

State of Washington
DEPARTMENT OF FISH AND WILDLIFE
Mailing Address: P.O. Box 43200, Olympia, WA 98504-3200 • (360) 902-2200 • TDD (360) 902-2207
Main Office Location: Natural Resources Building, 1111 Washington Street SE, Olympia, WA

December 6, 2019

Brian Wakeling
Game Division Manager
Nevada Department of Wildlife
6980 Sierra Center Parkway #120
Reno Nevada 89511

Dear Mr. Wakeling:

I am writing in reference to recent communications between the Washington Department of Fish and Wildlife (WDFW) and your Department regarding the possibility of augmenting Washington's pygmy rabbit population in the Columbia Basin with translocated pygmy rabbits from Nevada.

The Columbia Basin distinct population segment of the pygmy rabbit is federally listed as endangered and is a state endangered species in Washington. Since 2011, WDFW has conducted intensive reintroduction efforts in central Washington to establish multiple populations of pygmy rabbits. These efforts have relied upon the use of semi-wild breeding enclosures to produce a sufficient number of juveniles (kits) for annual releases. Between 2011 and 2013 wild pygmy rabbits were translocated from Oregon, Wyoming, Utah and Nevada to augment Columbia Basin pygmy rabbits in our semi wild breeding enclosures to further bolster the genetic diversity and size of the breeding population. The wild pygmy rabbits introduced from other states instantly improved genetic diversity, productivity and survival and we were successful in producing over 2,000 juveniles (kits) from 2012-2018.

Reintroductions occurred in three Recovery Areas, each of which now has free-ranging wild pygmy rabbits. However, recently the recovery effort has experienced some setbacks related to disease and fire risk. Since 2015 disease (coccidia) in our breeding enclosures has significantly decreased female productivity and kit survival, despite treatment efforts. In 2017, a wildfire destroyed a breeding enclosure and temporary release pens resulting in a loss of 85 pygmy rabbits. During the winter of 2017-2018 pygmy rabbits in our breeding enclosures experienced high mortality likely due to the combined effects of fire-stress and disease (coccidia) in the enclosures. At this point, there were too few pygmy rabbits to sustain the semi-wild breeding population or support continued reintroductions. Additionally, the single, substantive wild pygmy rabbit

population on the Sagebrush Flat Wildlife was at risk from catastrophic wildfire while pygmy rabbit releases had only recently commenced to establish new populations within two separate Recovery Areas and their populations were too low to be self-sustaining. To reduce wildfire risk at the single substantive rabbit population and maintain momentum with establishing new populations in the two additional Recovery Areas, WDFW began translocating wild pygmy rabbits from the large wild population for direct release into the two additional Recovery Areas while also retaining some rabbits to rebuild the semi-wild breeding population. To address the disease issue, caused by the build-up of feces in the soil, we transitioned from the original permanent enclosures to new mobile versions, allowing us to move them around on the landscape in order to reduce disease and weed buildup, provide fresh pasture for rabbits, and spread them out on the landscape to safeguard against fire risks. While this overall strategy worked well in 2019, the single large wild population has since experienced a decline and we feel it cannot sustain additional harvest at this time. Currently, we have less than 20 rabbits within our breeding enclosures.

In order to continue recovery efforts and wild population establishment in 2020, the WDFW is in need of an additional 30-40 adult pygmy rabbits for the semi-wild breeding population. We anticipate needing only a single year translocation effort of pygmy rabbits from out of state to augment Washington's Columbia Basin population based on our new breeding enclosure strategy. Pygmy rabbits from Nevada are among the most genetically similar to Columbia Basin pygmy rabbits and are a priority source state. The WDFW is requesting 15-30 pygmy rabbits from Nevada to translocate to Washington State in early to mid-March of 2020. The WDFW is prepared to provide our agency biologists on-site to conduct the trapping in Nevada with guidance from the Nevada Department of Wildlife. If WDFW biologists could provide assistance to your Department while on-site (e.g., pygmy rabbit survey), please don't hesitate to ask.

Yours sincerely,

Dr. Penny Becker, Diversity Division Manager
Washington Department of Fish and Wildlife
PO Box 43200, Olympia, Washington 98504-3200
360-902-2694
Penny.Becker@dfw.wa.gov

Project Narrative: Columbia Basin Pygmy Rabbit Reintroduction and Recovery

1. *STATEMENT OF NEED:*

Large-scale conversion and fragmentation of native shrub-steppe habitats played a primary role in the long-term decline of the Columbia Basin pygmy rabbit (*Brachylagus idahoensis*). The resulting small and isolated sub-populations were unable to withstand additional stressors, including predation, disease, loss of genetic diversity, and inbreeding, ultimately leading to assumed extirpation from its range in Washington. Following their endangered listing in 2003 (USDI 2003), captive breeding with Idaho pygmy rabbits occurred from 2003 to 2011, preserving the unique Columbia Basin genes and introducing much needed genetic diversity. In 2011, the recovery effort transitioned to semi-wild breeding within four breeding enclosures located within their former range (Figure 1). From 2011 to 2013, adult pygmy rabbits were translocated from other states (OR, NV, UT, and WY), and added to the breeding enclosures to further bolster the size and genetic diversity of the semi-wild breeding population (Becker et al. 2011).

Semi-wild breeding within the enclosures and subsequent capture and release of the kits (juveniles) into the wild has shown to be successful and remains the basis for current recovery efforts as outlined within the *Recovery Plan for the Columbia Basin Distinct Population Segment of the Pygmy Rabbit* (USFWS 2012). Release efforts from 2011-2017 have been successful at establishing one free-ranging population (est. 100-150 adult rabbits occupying approximately 23 sq. km of habitat) within the Sagebrush Flats Recovery Area (SBF), and two fledgling populations (<30 adults each) in the Beezley Hills (BH) and Burton Draw (BD) Recovery Area (Tables 1 - 3, Figure 2). While this is encouraging, sustained kits release efforts from the breeding enclosures will still be necessary to establish viable populations within the two current priority recovery areas (BH and BD).

The current semi-wild breeding population requires augmentation to increase its size for suitable kit production and release effort in 2020. Pygmy Rabbits translocated from outside Washington will be added to existing breeding enclosures.

2. *PROJECT GOALS AND OBJECTIVES:*

The goal of this project will be to continue implementing activities outlined in the 2012 Recovery Plan. Specific objectives include:

- Maintaining a semi-wild breeding population.
    a. Population augmented with wild rabbits from WA or other states
- Release produced kits into protected habitat within designated Recovery Areas.
- Monitoring and surveys to document population establishment.
    a. Post-release kit survival and dispersal
    b. Burrow surveys for distribution of free-ranging pygmy rabbit populations (both released and wild-born)
- Collect samples for genetic monitoring to determine:
    a. Genetic health and presence of Columbia Basin genes within semi-wild breeding and free-ranging populations
    b. Identity and origin (enclosures or wild-born) of free-ranging pygmy rabbits

3. *APPROACH:*

Our semi-wild breeding population is located within multiple "breeding enclosures". These structures consist of 3-6 acres of shrubsteppe habitat surrounded by protective fencing to keep terrestrial predators out and pygmy rabbits in. Within the breeding enclosures, we aim to maintain a sustained yield of kits for release into the wild and future breeding efforts, but must balance the density within each enclosure to prevent overcrowding (disease, stress, and vegetation degradation). Enclosures are comprised of interlocking panels that can be relocated to new sites when needed. This method prevents site degradation, over utilization, and disease build up.

We monitor the semi-wild breeding population metrics through adult recaptures, kit releases, and census flush counts. Wild rabbits captured or retained for breeding have DNA samples collected (ear tissue biopsy) are implanted with PIT tags to allow for individual identification in the field, weighed/sexed, and treated for parasites (fleas, coccidia, worms, etc) if needed. If needed, we would augment the captive breeding population with wild rabbits from other western state or from the single established Washington population. This would only be initiated if additional breeding rabbits or improve the genetic diversity of the breeding pool was needed as outlined in the Genetic Augmentation Plan (Becker et al. 2011).

Kits are born within the enclosures throughout the spring and early summer. On a weekly basis, we attempt to capture kits (*Objective 2*) using various methods including tomahawk traps or net panels. Once kits are in hand, DNA samples (tissue punch in ear) and measurements (age, sex, and weight) are collected. Each kit is then placed into a transport bin and relocated to established release sites with temporary acclimation pens (1 acre). The pens provide some predator protection while rabbits establish burrow sites. Once burrows are established, pen fencing is removed to allow natural behavior.

After their release, we will determine post-release survival, dispersal, and burrow establishment on the release areas, *Objective 3*. Various methods are to accomplish this including game camera deployment, radio telemetry, and non-invasive fecal pellet genetic sampling (DeMay et al. 2015). Each method has its utility under certain circumstances. We have found the most economical method to be non-invasive genetic sampling of fecal pellets concurrent with winter burrow surveys, which additionally documents the distribution and abundance of active burrows/pygmy rabbits on the release areas.

The University of Idaho is a collaborative partner in this recovery effort, providing genetic analysis for population assessment in *Objective 4*. Tissue samples collected from rabbits within the enclosures during capture/release activities allow for establishing a unique genetic ID for each rabbit, including its genetic diversity (homozygosity), the parentage, and

presence/percent makeup of Columbia Basin genes (DeMay et al. 2016). This also allows for tracking the presence of Columbia Basin genes over time and comparison between captive and free-ranging populations. DeMay et al. (2013) established the ability to identify rabbit species and individual pygmy rabbits from fecal pellet samples. Collecting fecal samples during winter burrow surveys and resulting identify of those individual rabbits allows us to correlate factors influencing post-release survival, dispersal, and semi-wild breeding conditions within the enclosures (DeMay et al. 2016). Most importantly, it provide the ability to differentiate pygmy rabbits that were captive-born from those that were wild-born (descendants of released pygmy rabbits). Wild-born pygmy rabbits are a critical metric in assessing project success and establishment of self-sustaining population(s). The University of Idaho remains committed to genetic monitoring of this recovery project and received a USFWS Recovery Grant (2016) to fund a PhD student for 2016-2019.

The project area is located in southcentral Douglas and northwestern Grant Counties, within the Columbia Basin of Washington state (Figure 1). The landscape is comprised of native shrubsteppe habitats (big sage-bunchgrass and scabland-stiff sage), fields enrolled in the Conservation Reserve Program (sage steppe and grassland), and dry-land agriculture (predominantly winter wheat). Native shrubsteppe habitat in WDFW and Nature Conservancy ownership is managed for wildlife habitat, while the remaining private and public lands (WDNR/BLM) primarily used for grazing.

J. Gallie, Recovery Project Lead for WDFW 8+ years of experience trapping and handling pygmy rabbits. All WDFW Biologists and Technicians are trained in proper trapping, handling, and sample collection methods to minimize animal stress. All activities covered under USFWS Recovery Permit: TE-050644-6.

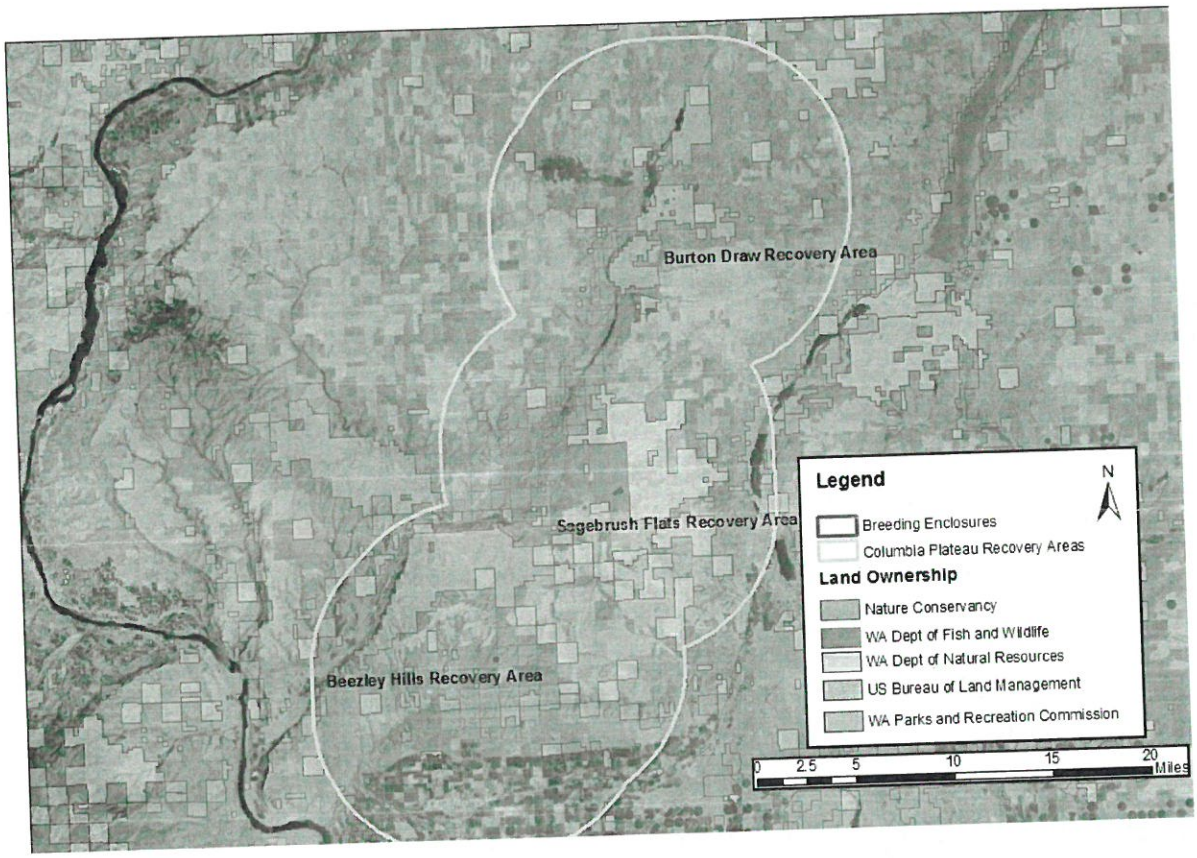

Figure 1. Project location, Douglas and Grant Counties of the Columbia Basin, Washington.

Becker, P.A., D.W. Hays, and R.D. Sayler. 2011. Columbia Basin Pygmy Rabbit (*Brachylagus idahoensis*) Reintroduction and Genetic Management Plan. Washington Department of Fish and Wildlife, Olympia.

DeMay, S. M., Becker, P. A., Eidson, C. A., Rachlow, J. L., Johnson, T. R., & Waits, L. P. 2013. Evaluating DNA degradation rates in fecal pellets of the endangered pygmy rabbit. *Molecular ecology resources*, *13*(4), 654-662.

DeMay, S. M., Rachlow, J. L., Waits, L. P., & Becker, P. A. 2015. Comparing telemetry and fecal DNA sampling methods to quantify survival and dispersal of juvenile pygmy rabbits. *Wildlife Society Bulletin*, *39*(2), 413-421.

DeMay, S. M., Becker, P. A., Waits, L. P., Johnson, T. R., & Rachlow, J. L. 2016. Consequences for conservation: population density and genetic effects on reproduction of an endangered lagomorph. *Ecological Applications*.

U. S. Department of Interior, Fish and Wildlife Service. 2003. Endangered and threatened wildlife and plants: Final rule to list the Columbia Basin Distinct Population Segment of the pygmy rabbit (Brachylagus idahoensis) as Endangered. Federal Register. 68:10388 – 10409.

U.S. Fish and Wildlife Service. 2012. Recovery Plan for the Columbia Basin Distinct Population Segment of the Pygmy Rabbit (*Brachylagus idahoensis*). Portland, Oregon. ix + 109 pp.