

Wildlife in Oregon face mounting challenges as human development continues to intensify. Habitat loss and fragmentation have significant negative effects, impacting the ability of wildlife to find food, water, shelter, and opportunities to reproduce. Connectivity, the degree to which the landscape facilitates wildlife movement, is a critical component of wildlife conservation. Maintaining connectivity for wildlife necessitates consideration of a variety of movement types and must ensure that wildlife can: 1) fulfil their daily, seasonal, and life history needs, including movements between foraging areas, movements to and from breeding sites, and migratory movements; 2) disperse into new habitats and territories; 3) maintain genetic interchange between populations; 4) respond to stochastic events like wildfires, droughts, and flooding; and 5) adapt to changing climate conditions by moving into new areas to access suitable habitat, sufficient water, and/or tolerable temperatures.

“Barriers to Animal Movement” is one of seven Key Conservation Issues (KCIs), or key threats to species of greatest conservation need, outlined within the Oregon Conservation Strategy.

Connectivity is also an integral component of the Climate Change KCI, Land Use Changes KCI, and Water Quality and Quantity KCI. In 2018, ODFW initiated work on the Oregon Connectivity Assessment and Mapping Project (OCAMP) to help fill significant knowledge gaps in the understanding of wildlife connectivity in Oregon. ODFW, in collaboration with Portland State University, evaluated existing landscape-level connectivity for 54 species that represent a wide diversity of wildlife taxa, habitat associations, life history strategies, movement capabilities, and sensitivity to anthropogenic threats. OCAMP was completed in late 2022 and provides science-based information on Priority Wildlife Connectivity Areas (PWCAs) for protecting, maintaining, and/or enhancing habitat important for wildlife connectivity, and for improving wildlife passage across roadways. In addition, ODFW has been tasked with writing a Wildlife Corridor Action Plan to provide guidance for the protection of these Priority Wildlife Connectivity Areas in Oregon as part of a legislative mandate outlined in the Wildlife Corridors Act, House Bill 2834, from the 2019 legislative session.

ODFW is evaluating steps needed to fulfill legislative requirements, incorporate information on Priority Wildlife Connectivity Areas identified by OCAMP and other information on habitat critical to wildlife connectivity, such as ungulate migration pathways, into agency operations and planning,

and communicate priorities and opportunities to external partners and collaborators. This document provides a strategic framework for integrating wildlife connectivity priorities and concepts into ODFW's strategies, plans, and projects. The strategic framework presented here outlines ODFW's connectivity conservation priority actions for the next five years. This framework, along with the Priority Wildlife Connectivity Areas and the Wildlife Corridor Action Plan, will be reviewed and updated on a five-year cycle.

Each of the following priority actions will be implemented across all divisions and programs within ODFW, from the administrative level to the on-the-ground work of field-based staff. The identified 'Lead' in each of the priority actions below will be the primary point of coordination within ODFW, but implementation will involve staff across divisions, programs, and watersheds. While this document focuses primarily on actions to be undertaken by the agency, we recognize the critical role of partners in executing effective connectivity conservation. Many of these priority actions will be achieved in collaboration with partners, including state and federal agencies, tribes, conservation organizations, and private landowners.

Priority Actions:

1. Complete the Oregon Connectivity Assessment and Mapping Project (OCAMP)

- a. Process:** The results and products from OCAMP will serve as the agency's science core in directing conservation activities to benefit wildlife connectivity. OCAMP products will be science-based and represent current best practices in connectivity modeling. The Project will designate Priority Wildlife Connectivity Areas—areas of the landscape that have the highest overall value for facilitating wildlife movement—with consideration of habitat and movement needs statewide, across diverse taxa, habitat types, and structural habitat characteristics. The Priority Wildlife Connectivity Areas identified using OCAMP results will be tied to recommendations for conservation actions, such as need for long-term protection, habitat restoration, or transportation mitigation.
- b. Lead:** Conservation Program

- c. **Timeline:** Connectivity analyses were completed in late summer of 2022. Prioritization across species, with identification and delineation of Priority Wildlife Connectivity Areas and associated recommendations for conservation action, was completed in late 2022.

2. Write the Oregon Wildlife Corridor Action Plan

- a. **Process:** ODFW is responsible for developing the Wildlife Corridor Action Plan, a requirement of HB 2834 that is intended to help preserve long-term habitat connectivity for wildlife and provide guidance for all state agencies to develop benchmarks for the designation and protection of wildlife corridors in Oregon. The plan will be developed using the Priority Wildlife Connectivity Areas and associated recommendations for conservation action identified by OCAMP. ODFW is also responsible for coordinating efforts with Oregon Department of Transportation (ODOT) to reduce wildlife-vehicle collisions.
- b. **Lead:** Conservation Program
- c. **Timeline:** ODFW reported on project progress to Senate and House committees relating to natural resources in September 2022. Development of the Wildlife Corridor Action Plan began in early 2023. A draft Plan will be made available for public comment in fall of 2023. As required by HB 2834, the Plan will be reviewed and updated every five years.

3. Review policies and procedures

- a. **Process:** While OCAMP and the Wildlife Corridor Action Plan will identify Priority Wildlife Connectivity Areas and make recommendations for conservation actions to benefit wildlife connectivity, implementation will, in most cases, be voluntary. ODFW will execute a policy gap analysis to evaluate statutes, rules, regulations, procedures, and incentives to assess the extent to which existing policies can be leveraged to effectively address wildlife habitat connectivity and implement HB 2834. ODFW will engage stakeholders in this review, and explore options for remedying policy gaps, if applicable.
- b. **Lead:** Habitat Division
- c. **Timeline:** Anticipated completion fall 2023.

4. Integrate Priority Wildlife Connectivity Areas and other habitat important for connectivity into ODFW planning and operations

- a. Process:** OCAMP identified Priority Wildlife Connectivity Areas statewide. The agency will work to integrate these Priority Wildlife Connectivity Areas, along with other information regarding habitat important for wildlife connectivity, such as ungulate migration pathways, into its projects and planning.

Examples of efforts that will incorporate consideration of priority wildlife connectivity areas include:

- i.** Updates to Oregon's State Wildlife Action Plan, the Oregon Conservation Strategy, and Oregon's State Action Plan for the Implementation of Secretarial Order 3362.
- ii.** Mitigation programs (Payment to Provide, mitigation banks, etc.)
- iii.** Landscape prioritization tools to inform habitat restoration and protection, such as Conservation Opportunity Areas, ODFW's Aquatic Habitat Prioritization Tool, and any future terrestrial habitat prioritization tools
- iv.** Development of recommendations and guidelines for land managers to elevate conservation actions within Priority Wildlife Connectivity Areas, to include:
 - 1.** Renewable energy, land use, and waterway planning
 - 2.** The development of long-term planning documents for managed lands, such as Forest Plans and Resource Management Plans
 - 3.** Local government planning efforts
 - 4.** Natural Resources Conservation Service (NRCS) programs, tools, and resources
 - 5.** Best management practices for connectivity conservation on public and private lands
- v.** Development of agency species management plans, such as the Mule Deer Management Plan
- vi.** Implementation of agency policies, including the Climate and Ocean Change Policy and the Fish and Wildlife Habitat Mitigation Policy

- vii. Identification of priorities for land acquisition
- viii. Identification of restoration priorities for Regional Habitat Programs, Oregon Conservation Strategy Farm Bill Biologists, Western Oregon Stream Restoration Biologists, Private Forest Accord Stream Biologists, Good Neighbor Authority Coordinators, and Fish and Wildlife Districts.
- ix. Incorporation of aquatic and terrestrial wildlife-friendly design features in culvert and bridge replacement and repair projects triggered by fish passage statutes

b. **Lead:** All Divisions and Regions

c. **Timeline:** Integration of priorities into planning and operations began in spring 2023 and will be ongoing.

5. Provide guidance and technical assistance to partners

- a. **Process:** ODFW will leverage Priority Wildlife Connectivity Areas and other habitat of known importance for maintaining wildlife connectivity, including ungulate migration pathways, in providing guidance and technical assistance to partners, helping identify priorities for land acquisition, habitat enhancements, barrier removal, habitat restoration, and transportation mitigation that would benefit wildlife connectivity in Oregon. Efforts could include:
 - i. Collaboration with soil and water conservation districts, watershed councils, land trusts, etc. in selecting habitat for restoration and protection
 - ii. Aiding granting programs, including assisting with funding priorities for the Oregon Watershed Enhancement Board, Oregon Conservation and Recreation Fund, Wildlife Crossings Pilot Program, etc.
 - iii. Aiding ODOT, counties, and cities on site selection for wildlife passage projects to improve wildlife connectivity and reduce wildlife-vehicle collisions across roadways
 - iv. Providing technical assistance to state and federal land managers, including Oregon Department of Forestry, Oregon Parks and Recreation Department (State Parks), Department of State Lands, US Forest Service, Bureau of Land

Management, etc. regarding habitat management and restoration on public lands

- b. **Lead:** Habitat Division, Wildlife Division, East and West Regions
- c. **Timeline:** Work to provide guidance and technical assistance was initiated as Priority Wildlife Connectivity Areas were identified by OCAMP in late 2022 and will be ongoing.

6. Develop and implement communications plan

- a. **Process:** As Priority Wildlife Connectivity Areas and other habitat of known importance for maintaining wildlife connectivity are integrated into ODFW's work, there will be a need for communications to inform staff and partners about updates to existing plans and programs and opportunities for wildlife connectivity conservation. The agency will work to develop and implement:
 - i. staff guidance on the Priority Wildlife Connectivity Areas identified through OCAMP and other relevant information on wildlife connectivity, such as ungulate migration pathways, and how this information and related policies can be incorporated into work at the local level
 - ii. a partners-oriented communications plan that 1) emphasizes the value of wildlife connectivity and conserving habitats that are important for facilitating wildlife movement; 2) identifies existing informational resources, highlighting the availability of products and tools associated with the Priority Wildlife Connectivity Areas identified by OCAMP and other available information on wildlife connectivity; 3) acknowledges work partners are doing that ties into the Wildlife Corridor Action Plan and the Barriers to Animal Movement Key Conservation Issue in the Oregon Conservation Strategy; 4) supports partner advocacy and advancement of legislation that benefits wildlife habitat connectivity; 5) emphasizes the value of collaboration between the agency and partners in improving habitat conditions to benefit wildlife connectivity, 6) establishes a framework to facilitate new partnerships between ODFW and external entities toward enhancement and protection of habitat important to wildlife connectivity,

and 7) identifies current or potential incentive programs for landowners willing to conserve habitats important for wildlife connectivity

- b. **Lead:** Information and Education Division
- c. **Timeline:** The first step for the agency will be to identify funding to support plan development. Identification of potential funding sources will begin in 2023.

7. Secure funding

- a. **Process:** While the work required to develop the first iteration of the Wildlife Corridor Action Plan is fully funded, HB 2834 mandates Plan updates on a 5-year basis, necessitating continued work to update and refine Priority Wildlife Connectivity Areas and advance understanding of species habitat needs. Additionally, with the exception of a one-time allocation of General Fund to ODOT for wildlife passage projects, no funding has been identified to assist in the implementation of the Wildlife Corridor Action Plan, including funding for habitat enhancement/restoration, land acquisition, barrier removal, or education and outreach. ODFW will work with partners to identify funding opportunities to enhance the ability of the Wildlife and Habitat Divisions and partners to study, identify, and conserve habitats important to wildlife connectivity. Additionally, the agency will work to assist partners in identifying and applying for funding that can be leveraged to advance conservation actions in Priority Wildlife Connectivity Areas identified in the Wildlife Corridor Action Plan.
- b. **Lead:** Wildlife Division, Habitat Division
- c. **Timeline:** Ongoing

8. Advance understanding of wildlife connectivity

- a. **Process:** As the agency's science core for the identification of priority wildlife connectivity areas, OCAMP was based on current best practices in landscape-scale connectivity modeling and leverages the best available habitat and wildlife data. However, limitations exist in the ability of connectivity models to represent fine-scale patterns of wildlife movement. Spatial data required to accurately depict habitat quality are often inadequate or nonexistent, and many of Oregon's wildlife species have significant data gaps, both in occurrence data identifying species presence on

the landscape and in basic understanding of species life history processes, such as habitat requirements and drivers of movement, that allow for effective modeling and mapping of species connectivity. ODFW will continue to expand data collection and engage in monitoring and research to:

- i. verify understanding of species habitat needs
 - ii. ground truth Priority Wildlife Connectivity Areas
 - iii. validate species-specific habitat and connectivity models
 - iv. fill data gaps for OCAMP species, placing additional emphasis on acquiring movement data to help statistically validate connectivity model output.
 - v. evaluate the effectiveness of recommendations and best management practices intended to benefit wildlife habitat connectivity
 - vi. evaluate the effectiveness of ODFW's on-the-ground actions to enhance, restore, and/or protect habitat important to wildlife connectivity
- b. **Lead:** Wildlife Division, East and West Regions
- c. **Timeline:** Ongoing

These eight priority actions will direct the agency's work over the next five years to transition from science delivery and planning into on-the-ground implementation. This strategic framework will be revisited and updated on a five-year cycle, aligning with updates made to Priority Wildlife Connectivity Areas and the Wildlife Corridor Action Plan. Cumulatively, the priority actions outlined above will ensure that ODFW addresses connectivity needs, fulfills legislative requirements, communicates priorities and opportunities to the public, and continues to build and maintain partnerships toward improved conservation of wildlife habitat connectivity across Oregon.