

JAMES S. BEGLEY, M.S.
Spatial Ecologist/Landscape Analyst
Washington Conservation Science Institute
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KEY QUALIFICATIONS

For over 20 years, James Begley has provided quality GIS services to a variety of different agencies and organizations. His services and products provide decision support for natural resource specialists, engineers, and planners during the NEPA and SEPA processes. James has extensive experience with GIS analyses, modeling, and mapping related to forest restoration of Eastern Washington Forests for both terrestrial and aquatic landscapes. He is, and has been, responsible for database management on numerous projects and familiar with using analysis tools such as NetMap, GRAIP, and ArcHydro. The products of his services have been incorporated in numerous planning documents and scientific reports for purposes of forest restoration, national forest planning, and road ecology.

EDUCATION

2007 M.Sc., Resource Management, *Central Washington University*
1997 B.Sc., Natural Resource Management (Wildlife), *Washington State University*
1994 A.A., Arts and Sciences, *Bellevue Community College*
1992 A.A.Sc., Fisheries Technology, *Peninsula College*

EMPLOYMENT HISTORY

Spatial Ecologist/Landscape Analyst, *Washington Conservation Science Institute*, Tacoma, Washington; 2013 – Present.

Research Associate, *Montana State University, Western Transportation Institute (WTI)*, Bozeman, Montana; 2008 – Present.

Wildlife Biologist, *USDA Forest Service, Wenatchee National Forest/Wenatchee Forestry Sciences Lab*; 1997 – 2008.

Natural Resource Consultant, *Central Washington University*, Ellensburg, Washington; 2005 – 2007.

Scientific Technician, *Washington Department of Fish and Wildlife*; 1992-1996 (Seasonal)

PROJECT EXPERIENCE

GIS analyst for NEPA environmental assessment for the Taneum Restoration Project.

GIS analyst for NEPA/SEPA environmental assessment for proposed expansion of the Mission Ridge Ski Resort.

Performs aerial photo interpretation and landscape evaluations consistent with the Okanogan-Wenatchee National Forest Restoration Strategy.

Participated in the development of an aquatics landscape evaluation to be integrated with the Okanogan-Wenatchee National Forest Restoration Strategy involving the use of several different fish habitat and hydraulic GIS models including NetMap and ArcHydro.

GIS analyst for developing models representing resource selection functions, habitat quality, and habitat connectivity for wildlife species on the Kenai Peninsula, Alaska. These products are aiding engineers and planners during the NEPA process in determining impacts of the proposed expansion of the Sterling Highway.

Developed dispersal habitat connectivity models for grizzly bear, American marten, Canada lynx, and wolverine to help managers during the NEPA process in determining impacts of a proposed expansion of the Stevens Pass Resort, Washington.

Worked on the development of fish habitat and hydrologic models for the strategic prioritization process for the Okanogan-Wenatchee National Forest.

Performed a GRAIP analysis for a forest restoration project at Oak Creek WA (Yakima Co.).

GIS analyst for terrestrial species viability assessments for forest plan revisions of national forests in Northeast Washington and Northeast Oregon. Developed and analyzed source habitats and habitat connectivity models for a suite of 29 focal species.

Conducted GIS modeling for terrestrial species sustainability assessments for forest plan revisions of national forests in Northeast Oregon.

Served as the Cle Elum Ranger District GIS Data Service Specialist (six month detail) working closely with and biologists, hydrologists, foresters, planners, and engineers with NEPA related projects.

Developed land stewardship plans as a natural resources consultant for a conservation easement within the Suncadia master plan resort and the City of Roslyn's designated urban forest. Duties and responsibilities included the development of stand by stand, site specific prescriptions to achieve goals of wildlife habitat enhancement/restoration, hazardous fuels reduction, human safety, recreation, and visual aesthetics.

Developed GIS maps for the City of Roslyn's Critical Areas Ordinance, including: steep and hazardous slopes, riparian corridors, and wetlands. Wetlands were delineated and rated using the *Washington State Wetland Rating System for Eastern Washington*.

Participated in the following wildlife research studies for the United States Forest Service: (1) National Fire/Fire Surrogate Study; (2) I-90 Wildlife Habitat Linkage Assessment; (3) Pendleton Dry Forest Management Study; (4) Barred Owl Ecology Study; (5) Yakima Elk Habitat Study

Assisted in the design and initiation of the “Swauk Arboreal Rodent Study.” Responsibilities included supervising field crews for songbird monitoring and small mammal trapping.

A key player with WTI’s efforts in pre-construction wildlife research and monitoring for proposed wildlife crossing structures associated with the I-90 Snoqualmie Pass East project. Duties included surveying for carnivores using non-invasive techniques, remote camera surveys, small mammal live-trapping, snow tracking, and database/project management.

GIS analyst for projects determining locations of roadkill “hotspots” and wildlife linkages in areas of Wyoming, Idaho, and California.

Conducted GIS analyses for a project determining locations/clustering of carnivore mortality and movements in Jasper National Park, Alberta, Canada and Mount Robson Provincial Park, British Columbia, Canada.

GIS analyst for the Cascade Carnivore Connectivity Project. This multi-partner project used a landscape genetic approach to evaluate the impacts of highways and development on habitat connectivity for carnivore populations in the North Cascades Ecosystem.

GIS specialist for the “CARLESS Central California” project. This multi-partner project is identifying alternative transportation systems to public lands from a set of select urban neighborhoods. I deliver cartographic products and work closely with engineers and landscape architects.

GIS analyst for project studying the potential of using right of way’s on federal lands for carbon storage and sequestration.

Conducted GIS analyses for a project demonstrating the use and applicability of WTI’s Roadkill Observation Collection System (ROCS) for the Iowa State Department of Transportation.

Participated in a research study for the Washington Department of Fish and Wildlife to document the response of nesting bald eagles to harvesting of geoduck clams.

Participated in the following wildlife surveys for the Washington Department of Fish and Wildlife: (1) marbled murrelet surveys; (2) northern goshawks surveys; (3) harlequin duck surveys; (4) American marten surveys; (5) bald eagle surveys; (6) elk captures and radio telemetry; (7) duck banding; (8) pond turtle surveys; and (9) aerial surveys for common loons.

REPORTS/PUBLICATIONS

Huijser, M.P., J.S. Begley. 2019. Large Mammal-Vehicle Collision Hot Spot Analyses, California, USA. Unpublished report. Western Transportation Institute, Bozeman, Montana.

Gaines, W. L., B. C. Wales, L. H. Suring, J. S. Begley, K. Mellen-McLean, S. Mohoric. 2017. Terrestrial species viability assessments for the National Forests in Northeastern Washington. USDA Forest Service General Technical Report PNW-GTR-907.

Suring, L.H., W.L. Gaines, and J.S. Begley. 2017. Habitat use and movement patterns of focal species on Kenai Peninsula, Alaska, USA. Northern Ecologic L.L.C. Technical Bulletin 2017-1.

Haugo, R, W. Gaines, J. Begley, J. Robertson, D. Churchill, J. Dickenson, P Hessburg. 2016. Manastash-Taneum Resilient Landscape Project: Landscape Evaluation and Prescriptions. Unpublished report. The Nature Conservancy.

Ament, R.J., S. Powell, P. Stoy, and J.S. Begley. 2014. Roadside Vegetation and Soils on Federal Lands – Evaluation of the Potential for Increasing Carbon Capture and Storage and Decreasing Carbon Emissions. Unpublished report. Western Transportation Institute, Bozeman, Montana.

Long, R.A., J.S. Begley, P. MacKay, W.L. Gaines, and A.J. Shirk. 2013. The Cascades Carnivore Connectivity Project: A landscape genetic assessment of connectivity for carnivores in Washington's North Cascades Ecosystem. Final report for the Seattle City Light Wildlife Research Program, Seattle, Washington. Western Transportation Institute, Montana State University, Bozeman. 57 pp.

Huijser, M.P., Begley, J.S. 2012. Highway mitigation opportunities for wildlife in Boundary County, Idaho. Unpublished report. Western Transportation Institute, Bozeman, Montana.

Long, R.A., J.S. Begley, and P. MacKay. 2012. Baseline wildlife monitoring at I-90 Snoqualmie Pass East, prior to the installation of wildlife crossing structures. Unpublished report. Western Transportation Institute, Bozeman, Montana.

Huijser, M.P., Begley, J.S., van der Grift, E.A. 2012. Mortality and live observations of wildlife on and along the Yellowhead Highway and the railroad through Jasper National Park and Mount Robson Provincial Park, Canada. Unpublished report. Western Transportation Institute, Bozeman, Montana.

Huijser, M.P., R.S Ament, and J.S. Begley. 2011. Highway Mitigation Opportunities for Wildlife in Jackson Hole, Wyoming. Unpublished report. Western Transportation Institute, College of Engineering, Montana State University Bozeman, Montana.

Ament, R., D. Galarus, D. Richter, K. Bateman, M. Huijser, and J. Begley. 2011. Roadkill Observation Collection System (ROCS): Phase III Development. Western Transportation Institute, College of Engineering, Montana State University Bozeman, Montana.

Suring, L.S., W.L. Gaines, B.C. Wales, K. Mellen-McLean, J.S. Begley, and S. Mohoric. 2011. Assessing the sustainability of terrestrial wildlife species through land management planning: a case study. *Journal of Wildlife Management* 75(4): 945-958.

Begley, J.S., and R.A. Long. 2009. Modeling of wildlife dispersal habitat at Stevens Pass, Washington. Unpublished report. Western Transportation Institute, Bozeman, Montana.

Gaines, W.L., J.F. Lehmkuhl, M. Haggard, A.L. Lyons, and J. Begley. 2009. Short-term effects of Fire and Fire Surrogate treatments on avian community composition, density, and nest survival in the eastern Cascades, Washington. *Forest Science* 55(4).

Gaines, W.L., A.L. Lyons, J.F. Lehmkuhl, M. Haggard, J.S. Begley, and M. Farrell. 2009. Chapter 8. Avian community composition, nesting ecology, and cavity-nester foraging ecology. Pages 109–141 in Agee, J.K., and J.F. Lehmkuhl, compilers. Dry Forests of the Northeastern Cascades Fire and Fire Surrogate Project Site, Mission Creek, Okanogan-Wenatchee National Forest. USDA Forest Service, Pacific Northwest Research Station. PNW-RP-577.

Begley, J.S. 2008. Roslyn Forest Land Stewardship Plan. Unpublished report. Central Washington University, Ellensburg, Washington. Central Washington University, Ellensburg, Washington.

Begley, J.S. 2007. Stream “C” Land Stewardship Plan. Unpublished report. Central Washington University, Ellensburg, Washington.

Begley, J.S. 2007. Modeling Swakane bighorn sheep habitat and dispersal. Master’s thesis. Central Washington University, Ellensburg, Washington.

Lehmkuhl, J.F., K.D. Kistler, J.S. Begley, and J. Boulanger. 2006. Demography of northern flying squirrels informs ecosystem management of western interior forests. *Ecological Applications* 16:584-600.

Lehmkuhl, J.F., K.D. Kistler, and J.S. Begley. 2006. Bushy-tailed woodrat abundance in dry forests of Eastern Washington. *Journal of Mammalogy* 87(2):371-379.

Watson, J.W., D. Mundy, J. S. Begley, and D.J. Pierce. 1995. Responses of nesting bald eagles to the harvest of geoduck clams (*Panopea abrupta*). Final Report. Washington Department of Fish and Wildlife, Olympia, Washington, USA.

COMMUNITY SERVICE

City Council, City of Roslyn, Washington; 2008 – 2012
Public Works and Transportation Committee
Community Planning and Development Committee
Coal Mines Trail Commission

Planning Commission, City of Roslyn, Washington; 2006 – 2008
Planning Commission Chairman; 2008

Major accomplishments include being integral to revising the City of Roslyn's Comprehensive Plan and Development Regulations. Worked closely with public works, city planners, city attorneys, and a commissioner for Kittitas County.