

2011 Rachel Carson Award for Scientific Excellence

Dr. Jeffrey Olsen

Dr. Jeff Olsen has exemplified scientific excellence for his entire career as a Geneticist with the U.S. Fish and Wildlife Service. Over the course of the 5-year award period, Jeff has authored nine influential peer-reviewed articles in prestigious journals. Jeff continues to push the envelope for scientific excellence with several other papers currently in review. All of his papers bring to bear the best possible science for resolving tough conservation questions and provide insights into fish and wildlife conservation issues of importance to the Service and its partners. Jeff's research and publication record is exceptional and highly collaborative, involving a diverse array of both internal and external partners.

Jeff's research is varied and innovative, characterized by a high level of scientific quality and integrity. His work emphasizes genetic diversity and population structure, and includes species identification, estimation of effective population size, and the influence of behavioral and landscape factors on genetic diversity. His research applies state-of-the-art genetic methods to answer questions related to the ecology, conservation, and management, often at a landscape scale.

Jeff is highly regarded as a first class scientist by colleagues, peers, and supervisors. This is perhaps best exemplified by the fact that he was nominated independently by several of his peers and supervisors on multiple occasions for the Alaska Region Regional Director Award for Science Excellence, which he received in 2009.

Jeff also serves as an effective ambassador for the Service, not only through his numerous projects, publications and collaborations, but also with his frequent presentations at local and international meetings reporting on research results for many key Service projects. Jeff's determination and sustained efforts have contributed greatly to the scientific integrity, credibility, and reputation of the Service, helping to foster meaningful collaboration with the scientific community and to ensure that science excellence is a cornerstone in our conservation efforts.

One primary example involves Jeff's work on landscape genetics for three species of Pacific salmon that married genetic technology with Geographic Information Systems technology that expands our understanding of how hydrographic features of river systems influence gene flow and population structure of Pacific salmon. This study provides insight into how, and at what spatial scale, climate changes will impact genetic diversity in these species. He created a framework to evaluate how habitat and historic events influence genetic diversity at different spatial scales across a broad landscape for multiple species. The interactive map produced is one of the first of its kind (http://alaska.fws.gov/fisheries/genetics/CGL_googlemap.html) and specifically highlights landscape variables that influence genetic diversity in a variety of salmon species, thus circumscribing optimal habitat requirements for conservation on a landscape scale.

For the last five years, the results of Jeff's work have continually provided insights into fish and wildlife conservation issues that have helped the Service achieve extraordinary fish and wildlife conservation results making him deserving of this prestigious award.

For his exemplary leadership in advancing our understanding, management, and conservation of fish and wildlife through the application of genetics, particularly for Pacific salmon, Jeff Olsen is hereby awarded the 2011 Rachel Carson Award for Scientific Excellence.