



**WG4 webinar for scientists, practitioners,
managers, and decision-makers on
genomic & biotechnological
opportunities for conservation
*June 22nd, 2023 15:00 CET***

**Samantha M. Wisely
University of Florida
Dept of Wildlife Ecology
and Conservation**



Gene editing as a conservation tool for the endangered black-footed ferret

Abstract

Black-footed ferrets are a critically endangered species that requires a captive breeding population to augment reintroduced populations. The principal impediment to recovery is susceptibility to sylvatic plague caused by the bacteria *Yersinia pestis*. Recent technological advances in biomedical science, including cloning and gene editing, open the door to creating black-footed ferrets that are immunologically resistant to *Yersinia pestis*. United States Fish and Wildlife Service along with partners from academia, industry and not-for-profit organizations is pursuing research into the feasibility and ethical implications of incorporating this technology into a conservation strategy.

Biosketch for Samantha Wisely

Dr. Samantha Wisely is a Professor in the Department of Wildlife Ecology and Conservation at the University of Florida. Dr. Wisely began her career studying the conservation genetics of the black-footed ferret. For the past 25 years, she has remained engaged in the conservation of the species. Her contributions include a biomedical survey of reintroduced populations, a feasibility analysis of conservation cloning for genetic

rescue and a bioethical analysis of cloning for conservation. Since 2014 she has served as an advisor to the United States Fish and Wildlife Service Black-footed Ferret Recovery Implementation Team.