THEODORE ROOSEVELT GENIUS PRIZE
ADVISORY COUNCIL

May 3, 2023

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The Honorable Debra Haaland
Secretary of the Interior
U.S. Department of the Interior
18th and C Streets, NW
Washington, D.C. 20240

Dear Secretary Haaland,

The Theodore Roosevelt Genius Prize Advisory Council (Council) commends you for your support of new avenues, such as prize competitions, to broaden development and uptake of technologies and innovations. At its March 9, 2023 meeting, Council members discussed opportunities for technology innovations in the fields of protecting endangered species, managing invasive species, managing nonlethal human-wildlife conflict, preventing wildlife poaching and trafficking, promoting wildlife conservation, and reducing human-predator conflict.

The Theodore Roosevelt Genius Prize Competition is a powerful reminder that cutting-edge innovation can come from non-traditional sources. The Council commends the Department of Interior (Department) for broadening its stakeholder base to include and elevate individuals, small organizations, underrepresented groups, and underserved communities. The support of early adopters of new technologies and local community influencers to promote and disseminate the solutions offered by these inventors is critical. The passion, enthusiasm, excitement, and representation of innovative individuals can catalyze interest, recruit buy-in, and influence the uptake and scaling of the technologies themselves.

Each of the recommendations below were approved by the Council and frames a future where innovators, in collaboration with Department scientists, help advance conservation and management of wildlife and resources.

1. Utilize Artificial Intelligence (AI) consistently to enhance effectiveness and efficiency.

   Artificial Intelligence (AI) could reduce labor costs, permit autonomous monitoring, detection, and trapping, identify individuals of rare and cryptic species, expand data sets to encompass large geographical ranges, reduce subjectivity and increase data quality control, and track specific problem or nuisance animals. Adoption of AI can also be applied to inform urban planning by identifying effective use of wildlife corridors and can be used to obtain data useful for wildlife management from the public's practice of posting photos of wildlife seen to social media. Many agencies within the Department collect and manage large data sets and, that when paired with AI, could powerfully advance resource management.

   To address inconsistent use of AI across federal wildlife management agencies and to align their practices with private industry, the Council recommends that federal wildlife management agencies invest in people with relevant technical skillsets, strengthen cross-departmental communications, develop a community of practices around the application of AI, and encourage its use in daily resource management activities.

2. Leverage social media platforms and engage the public to provide large, useful datasets.

   Social media platforms can be successfully used to engage the public, this is especially true for our younger generations. Leveraging social media platforms in solving wildlife conservation problems provides rich sources of wildlife-relevant data inclusive of photos, geo-references, and timestamps and can be paired with AI to reveal wildlife data, trends, and information beyond that which can be collected through traditional means and at reduced costs. The Council commends the Department for their use of social media for communications and crowdsourcing and recommends further pursuit of innovative strategies to engage and utilize the power of the public through these existing forums.

3. Embrace innovations, technologies, and software to increase access to large, public data sources.

   Large data sets are critical to science, and also essential for tools such as AI to be effective. The Council recommends that the Department embraces innovations, technologies, and software to house and increase access to data sources across agencies. Specifically, the Council recommends that a federal platform is developed, perhaps in partnership with the Office of Science and Technology Policy, to increase public and wildlife managers' access to large data sets, species

collections, and photo libraries, and to standardize and protect information related to sensitive species and habitats.

Through the work of the Council, we are reminded of the need for new ways and new partners to help solve our toughest conservation challenges. The Council appreciates the Department's consideration of these recommendations and the 2022 Theodore Roosevelt Genius Prize Competitions recipients for sharing their innovative solutions to wildlife management challenges. We are looking forward to the 2023 innovations.

It has been an honor to carry out our advisory role. Should you have any questions or need more information regarding this matter, please contact Stephanie Rickabaugh, the Council's Designated Federal Officer, at Stephanie_Rickabaugh@fws.gov or (571) 421-6758.

Sincerely,

Shelly Grow
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Shelly Grow, Co-Chair
Theodore Roosevelt Genius
Prize Advisory Council

Dr. Antoinette J. Piaggio, Co-Chair
Theodore Roosevelt Genius Prize
Advisory Council