Scientific & Technical Review Panel Final Report for
2021-S-0006
Standard for the Use of GenBank for Taxonomic Assignment of Wildlife

Organization of Scientific Area Committees (OSAC) for Forensic Science

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Scientific & Technical Review Panel Members

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Report Summary:

The Scientific and Technical Review Panel (STRP) for "Standard for the Use of GenBank for Taxonomic Assignment of Wildlife" is an independent panel appointed by the National Institute of Standards and Technology (NIST). A STRP is established with a range of experts to consider how well a standard meets the needs of the forensic science, law enforcement, and legal communities, and to recommend improvements to the standards under review. The STRP appreciates the efforts of Kelly Meiklejohn, Wildlife Forensic Biology Subcommittee member, while serving as the subcommittee liaison to this STRP during the review process.

The STRP began its review process with a kickoff meeting on March 2, 2021 and concluded with this STRP final report. The panel reviewed the draft standard and prepared comments for the [OSAC Wildlife Forensic Biology Subcommittee](#).

Report Components:

The STRP reviewed this draft standard against OSAC's *STRP Instructions for Review* which include the following content areas: scientific and technical merit, human factors, quality assurance, scope and purpose, terminology, method description and reporting results. The details below contain a brief description of each reviewed content area and the STRP's assessment of how that content was addressed in the Draft OSAC Proposed Standard.

1. **Scientific and Technical Merit:** OSAC-approved standards must have strong scientific foundations so that the methods practitioners employ are scientifically valid, and the resulting claims are trustworthy. In addition, standards for methods or interpretation of results must include the expression and communication of the uncertainties in measurements or other results.

    1.1. The STRP finds this standard to be scientifically sound and believes it will be beneficial to the wildlife forensics community.

2. **Human Factors:** All forensic science methods rely on human performance in acquiring, examining, reporting, and testifying to the results. In the examination phase, some standards rely heavily on human judgment, whereas others rely more on properly maintained and calibrated instruments and statistical analysis of data.

    2.1. The STRP believes this standard describes a procedure and method that has some elements that rely on human judgment and the analyst's discretion, but these elements are not extensive or major. The STRP believes that the team responded to the human factors concerns sufficiently in this new version.

3. **Quality Assurance:** Quality assurance covers a broad range of topics. For example, a method must include quality assurance procedures to ensure that sufficiently similar results

will be obtained when the methodology is properly followed by different users in different facilities.

   3.1. The STRP finds the methodology in this standard to be sufficient for ensuring consistent results between laboratories.

4. **Scope and Purpose:** Standards should have a short statement of their scope and purpose. They should list the topics that they address and the related topics that they do not address. Requirements, recommendations, or statements of what is permitted or prohibited do not belong in this section.

   4.1. The STRP believes the scope and purpose of this document meets the criteria for this requirement.

5. **Terminology:** Standards should define terms that have specialized meaning. Only rarely should they give a highly restricted or specialized meaning to a term in common use among the general public.

   5.1. The STRP discussed that the terms "intraspecific" and "interspecific" are common terms that did not require a novel definition. As such, they suggest removing these terms from the terminology section. The STRP will leave it to the subcommittee to decide whether to keep or remove these terms.

6. **Method Description:** There is no rule as to the necessary level of detail in the description of the method. Some parts of the method may be performed in alternative ways without affecting the quality and consistency of the results. Standards should focus on standardizing the steps that must be performed consistently across organizations to ensure equivalent results. Alternatively, standards can define specific performance criteria that are required to be demonstrated and met rather than specifying the exact way a task must be done. For example, it may be enough to specify the lower limit for detecting a substance without specifying the equipment or method for achieving this limit of detection.

   6.1. The STRP believes that there are areas in the document in which the language used could be clearer and more defined, however, we believe this standard clearly describes a minimum framework from which separate organizations can follow and obtain consistent results.

7. **Reporting Results:** Methods must not only be well described, scientifically sound, and comprehensive but also lead to reported results that are within the scope of the standard, appropriately caveated, and not overreaching.

   7.1. The STRP believes this standard is rigorous where appropriate and meets all components described.