

PROPOSED SCOPE OF WORK

FLORIDA PANTHER DATA REVIEW

Justification and Need:

The Fish and Wildlife Service (FWS) recently appointed a new Florida panther recovery team to revise the panther recovery plan. A first step toward developing an effective revised plan that will contain true recovery program priorities and actions is for the team to understand and agree on the current state of knowledge regarding panthers by conducting a critical review of existing data and previous data analyses. The best means to achieve an unbiased review is to commission a scientific review team to 1) identify strengths and weaknesses of existing panther data and previously conducted analyses, 2) identify incorrect or incomplete analyses and interpretation of such data, 3) identify critical data gaps and questions that need to be examined, and 4) provide recommendations and a framework for how these gaps and questions should be addressed. The review likely will need to be conducted in two phases. In phase one, existing data and analyses will be reviewed. If warranted, phase two would be conducted based on recommendations from the review team to address any deficiencies in existing data and analyses identified in phase one. This scope of work addresses phase one.

Scope of Work:

1. The Review team will consist of three to six independent scientists, identified by The Wildlife Society, that have no relationship to previous panther researchers or the members of the Florida panther recovery team. The FWS' Florida panther recovery team leader and a Florida Fish and Wildlife Conservation Commission (FWC) coordinator would assist at the discretion of the review team to facilitate completion of a final product and deal with any logistical problems. In addition, individuals familiar with panther data collection will be identified by each data collection agency (FWC and the National Park Service) to serve as primary points of contact with the team to provide any needed technical assistance regarding data collection and analyses. Other individuals, including FWC and NPS staff or previous panther researchers, can be involved as technical consultants as needed at the discretion of the team.
2. The review team would compile, summarize, and evaluate the entire existing panther data set and all previously published panther literature. Literature to be reviewed would include previously published journal articles, books and book chapters, released agency reports, and any available draft agency reports. The team's review should include 1) a determination of what raw data have been collected, what form they are in (i.e., field notes, data collection forms...etc) and where and how they are stored, 2) an evaluation of the methods used to collect the data, and 3) an evaluation of previous data analyses in terms of the over all approach to these analyses, especially the hypotheses tested, the appropriateness and

robustness of the method used, the justifications of which data were used including exclusions or subsetting of the data set, and the validity and weaknesses of the conclusions and interpretations resulting from the analyses. In phase one the team also would identify data gaps and questions that remain to be addressed that are critical to panther management and recovery. The team would make recommendations for the future direction of data collections and analyses, and provide a framework for carrying out phase two of the review in which any needed reanalysis of existing data would be performed.

3. The team should focus on the following areas and develop a priority order for their review:
 - A Population size and density, and trends in population size and density over the course of monitoring
 - B Home range size and characteristics, by age and sex class, and changes in ranging behavior over the course of monitoring
 - C Dispersal characteristics by age and sex class and changes over the course of monitoring
 - D Habitat associations and use, and changes in habitat associations and use over the course of monitoring
 - E Age and sex specific survival rates and changes in survival over the course of monitoring
 - F Causes of mortality and changes over the course of monitoring
 - G Natality rates and changes in natality over the course of monitoring
 - H Validity and appropriate interpretation of population viability analyses, including an identification of the key data variables and how their estimation influences the results of the PVA
 - I Food habitats, prey population characteristics, and changes in prey availability over the course of monitoring
 - J Genetic health of the extant Florida panther population, pre- and post-restoration
 - K Panther health and diseases
4. The review team's final product in phase one should be submitted as a draft report to the Florida panther recovery team for review and recommendations for revision. Following any revisions agreed to by the review team, a final report should be submitted to FWC, FWS, NPS and the recovery team. The draft and final reports should be in a format that meets the requirements of any FWC and/or FWS contracts. The final report could then be submitted as a manuscript for publication in an appropriate journal (e.g., *The Wildlife Society Bulletin*) if the team chooses to do so.
5. If possible, an annotated bibliography of all Florida panther literature (both published literature and agency reports) should be developed as an addendum to the team's final report.