Appendix 1. Roundtable Discussion Minutes

Hira A. Walker

Conservation Services Division, New Mexico Department of Game and Fish, Santa Fe, New Mexico, E-mail: hira.walker@state.nm.us

TABLE 1. Name, affiliation, and E-mail addresses of the two facilitators and 19 participants of the Gray Vireo Symposium roundtable discussion held 1300 to 1500 MDT on 12 April 2008 in Albuquerque, New Mexico.

Name	Affiliation	E-mail
FACILITATORS		
Walker, Hira	New Mexico Department of Game and Fish	hira.walker@state.nm.us
Held, Renae	New Mexico Department of Game and Fish (Currently at the New Mexico Environment Department)	renae.held@state.nm.us
PARTICIPANTS		
Arbetan, Paul	Natural Heritage New Mexico	arbetan@unm.edu
Britt, Charles	New Mexico State University	charlesbritt@gmail.com
Cox, Nancy	SORA Consulting	sora@spinn.net
Finley, Carol	United States Department of Defense, Kirtland Air Force Base	carol.finley@kirtland.af.mil
Gonzales, Santiago	United States Fish and Wildlife Service	santiago_gonzales@fws.gov
Hathcock, Charles	Los Alamos National Labs	hathcock@lanl.gov
Helfert, Steve	United States Department of Defense & United States Fish and Wildlife Service	steve_helfert@fws.gov
Herrmann, Lois	Audubon New Mexico	
Jankowitz, Rachel	New Mexico Department of Game and Fish	rjankowitz@state.nm.us
Locke, Brian	United States Army Corps of Engineers (Fort Bliss)	brian.a.locke@us.army.mil
Neville, Teri	Natural Heritage New Mexico	tneville@unm.edu
Pierce, Leland	New Mexico Department of Game and Fish	leland.pierce@state.nm.us
Ramsey, Marikay	United States Bureau of Land Management	marikay_ramsey@blm.gov
Reeves, Tim	San Juan College	treeves@sisna.com
Reid, Kent	New Mexico Fish and Wildlife Research Institute	rkreid@nmhu.edu
Ristow, Mary	Audubon	mristow@newmexico.com
Watson, Mark	New Mexico Department of Game and Fish	mark.watson@state.nm.us
Wickersham, John	Animas Biological Studies	wick@frontier.net
Wickersham, Lynn	Fort Lewis College/Animas Biological Studies	wickersham_l@fortlewis.edu

BACKGROUND

The roundtable discussion was well attended by people from different professional and personal backgrounds (Table 1). During the roundtable discussion, the symposium chair posed a series of questions to the participants to generate responses useful for developing future research on and management actions for the Gray Vireo (*Vireo vicinior*). A common thread of the roundtable discussions was that there is much to learn about the Gray Vireo and that scientists, researchers, and land management agencies alike are looking for guidance and effective strategies for action.

TOPIC 1: GRAY VIREO RESEARCH AND MONITORING NEEDS

WHAT ARE THE MONITORING PRIORITIES?

The top monitoring priority is to conduct surveys to determine all the locations where the Gray Vireo occurs in New Mexico. To best coordinate and facilitate monitoring across the State, perhaps a statewide Gray Vireo monitoring program should be developed by the Gray Vireo Recovery Team and peer reviewed by partners. To be successful, a statewide Gray Vireo monitoring program should define which variables should be measured, which data should be captured, and

whether emphasis should be placed on extensive versus intensive monitoring. Furthermore, areas for targeted surveys should be prioritized; areas that haven't been previously surveyed (e.g., Navajo Nation lands, Pueblo lands) are a survey priority.

Complimentary to developing a statewide Gray Vireo monitoring program, the database initiated by DeLong and Williams (2006) needs to be expanded to include new data from monitoring efforts, management activities, and research investigations across New Mexico. Accordingly, an information/data warehouse needs to be identified (possibly the Natural Heritage New Mexico) that can analyze the data and reach out to potential partners to acquire new data.

WHAT ARE THE MONITORING PRIORITIES?

The following research topics are a priority for investigation (the top three priority research topics are indicated by *):

- *Important predictors (e.g., patch size, tree density) of habitat selection at multiple scales;
- *Threats, on the breeding grounds, e.g., parasitism by the Brown-headed Cowbird (*Molothrus ater*), habitat loss, predation, grazing;
- Threats on wintering grounds, e.g., contaminants;
- Location of wintering grounds, which could involve employing banding and stable isotopes to link banding sites on the wintering and breeding grounds;
- Migration routes and stopover ecology;
- Population connectivity among the Western States;
- *Population viability, trends, and causes of any declines;
- Important predictors of reproductive biology, including nest success;
- Site fidelity;
- Diet;
- The effects of juniper (*Juniperus* spp.) encroachment on Gray Vireo and whether it is associated with increasing or decreasing Gray Vireo populations; and
- Associated/sympatric species (birds, mammals, herps, etc.) across regions and how they are affected by protection of the Gray Vireo and its habitats. E.g., will species, such as Pinyon Jay (*Gymnorhinus cyanocephalus*), Black-throated Gray Warbler (*Dendroica nigrescens*), and Gray Flycatcher (*Empidonax wrightii*), be positively affected? Will cavity nesters that need snags, such as Juniper Titmouse (*Baeolophus ridgwayi*), Bewick's Wren (*Thryomanes bewickii*), and Ash-throated Flycatcher (*Myiarchus cinerascens*), be negatively affected?

WHAT ARE THE POTENTIAL FUNDING SOURCES?

Potential funding sources for research and monitoring efforts include the United States Department of Defense Legacy Grant, the United States Department of Defense Strategic Environmental Research and Development Program, The New Mexico Department of Game and Fish Share with Wildlife Grant, the United States Bureau of Land Management, and the United States Fish and Wildlife Service (e.g., funding under the Neotropical Migratory Bird Conservation Act, State Wildlife Grants, and Section 6).

TOPIC 2: THREATS TO THE GRAY VIREO

WHAT ARE THE PRIMARY THREATS?

- Habitat loss;
- Brood parasitism by the Brown-headed Cowbird; and
- Nest predators.

HOW DO WE BEST ADDRESS THE THREATS?

- A regional approach is needed to determine which areas with juniper encroachment can be restored to grasslands and savanna woodlands and which areas need to be protected (e.g., from juniper thinning) for the Gray Vireo.
- Guidance is need regarding how many acres of used and potential Gray Vireo habitat across New Mexico per region are needed to maintain flourishing Gray Vireo populations.

WHO ARE THE LAND MANAGERS PROPOSING OR IMPLEMENTING ACTIONS THAT POSE THREATS?

- A pie chart is needed quantifying the percentage of the known Gray Vireo population or potential Gray Vireo habitat by land management agency.
- It is likely that the United States Bureau Land Management has the largest stewardship role for the Gray Vireo in New Mexico.
- The Navajo Nation might also have a large stewardship role for the Gray Vireo in New Mexico.

How do we best coordinate with Land Management agencies to protect the Gray Vireo?

- Through the on-line forum, in emailings to the Gray Vireo Recovery Team, and in press releases.
- There needs to be a consistent commitment to information dissemination.
- Perhaps requests should be made to land management agencies to sign letters of concurrence stating that they will consider the Gray Vireo in their management actions.

Topic 3: Adaptive guidelines to protect and improve Gray Vireo habitat

Who should develop The Guidelines?

- The Gray Vireo Recovery Team.

Which elements should the adaptive guidelines include?

- Guidance on completing surveys and nest searches prior to and after management actions;
- Buffers required for various management actions;
- Tree thinning prescriptions; and
- Priority areas for research, monitoring, and management.