The U.S. Fish and Wildlife Service (USFWS) is revising the survey protocol for the southwestern willow flycatcher due to issues raised (Braden and McKernan 1998, 1999, Sogge et al. 1997, 1999), discussion with experts in the field, and subsequent review of pertinent documents by the Ornithological Council. The number and timing of surveys recommended in Sogge et al. (1997) (e.g., a minimum three surveys), are appropriate for general surveys and situations where the survey results will NOT be used to evaluate the effects of a project. However, surveyors will now need to be prepared to make at least five visits to evaluate project effects on flycatchers (e.g., typically those that would involve consultation with the USFWS). The purpose of these additional surveys is to provide greater confidence in determining resident southwestern flycatcher presence/absence and direct limited resources to where they can be most beneficial. Thus, what was once a single approach for all survey purposes has been changed to a two-strategy system; for general purposes, surveyors will need to conduct a minimum of three surveys, and in order to assess project-related impacts, surveyors will need to be prepared to conduct a minimum of five surveys.

**ALL SURVEYS**
Although the USFWS is modifying the recommended minimum number of survey visits to evaluate project effects to flycatchers, all surveys conducted should follow the general guidelines described in Sogge et al. (1997). This includes the use of tape-playback, thorough coverage of survey sites on ALL visits, ways to minimize impacts to the habitat, importance of recognizing all flycatcher vocalizations, importance of beginning surveys at dawn, etc.

Early-season visits in May and June (needed for both survey strategies) allow surveyors to look for flycatchers when they are most vocal. During these visits, surveyors using taped calls can elicit vocal responses from flycatchers, and subsequently observe behaviors that indicate nesting (e.g., establishing and defending territories, soliciting mates, acquiring/carrying nest material, etc.). These early visits also increase the surveyor's familiarity with the site (e.g., learning vegetation types, topography, etc.), and if birds are located, help the surveyor focus on specific areas within a site where the resident southwestern willow flycatchers might be found during the third survey period (and therefore where to devote extra survey attention).

During ALL visits, surveyors should observe and record flycatcher behavior such as territorial defense, pair status, carrying nest material, feeding fledged young, etc. Surveyors should spend additional time either during or after the survey to observe and document pair behavior and status (while being careful to not disturb the birds). Neither survey method is limited to three or five visits. Searches of large or particularly dense areas may take more than one day to complete a "single" survey of the area (depending on start time, number of surveyors, etc.). Or possibly, some surveyors may want to make extra visits to confirm an observation. It is important that all survey information be recorded on your survey forms (in Sogge et al. 1997) and submitted to your local USFWS or State wildlife agency as specified in your permit.

The survey efforts described in Sogge et al. (1997) and modified herein relate only to presence/absence type surveys. Efforts such as nest monitoring require different techniques, and more extensive effort, experience, and permitting. The permit to survey for willow flycatchers does
not authorize surveyors to directly monitor or search for nests. Both State and Federal permits are required for these activities because they are more invasive and require more experience. We recognize that surveyors may discover nests while trying to detect birds. In these instances, surveyors should place themselves at a distance where birds are not disturbed, quickly determine the status of the nest with binoculars, map the location, leave the immediate area, and contact your local State or Federal wildlife agency with this information as soon as possible.

GENERAL SURVEYS
The minimum three survey effort described in Sogge et al. (1997) is appropriate for conducting general willow flycatcher surveys, but should NOT be used to help assess impacts of a specific project. When using the minimum three survey methodology, the flexibility exists to conduct more than three surveys in order to be more certain about the presence/absence, breeding status, home range, absence, etc. of resident southwestern willow flycatchers. This might especially be worthwhile if flycatchers are detected during periods one and two, and/or based on the confidence/experience of the surveyor. If a surveyor has more time, it may best be applied by conducting more surveys during period three.

PROJECT-RELATED SURVEYS
Surveyors need to plan to make at least three visits during the third (or last) survey period (June 22 to July 17), because: (a) nesting southwestern willow flycatchers can be more difficult to detect once breeding efforts are well underway (e.g., the third survey period), compared to earlier in the breeding season; (b) detections during the third period are the “verification” that flycatchers are resident, lacking other evidence of local breeding; and (c), the potentially high conservation ramifications of incorrectly determining that flycatchers are not resident at a project-related site. Detecting southwestern willow flycatchers during the last survey period can be difficult because birds are less vocal and less likely to respond (especially with singing) to playback calls. Conducting more visits during this survey period provides greater confidence in determining the presence/absence of resident southwestern willow flycatchers, and can generate more information about nesting behaviors, number of pairs, and other related information.

MODIFIED SURVEY GUIDELINES: TIMING AND NUMBER OF VISITS

Survey schedule
1st survey period.
May 15 to May 31. Minimum one survey.

2nd survey period.
June 1 to June 21. Minimum one survey.

3rd survey period.
June 22 to July 17 (this period is extended one week longer than per Sogge et al. 1997). For general surveys - Minimum one survey. For project-related surveys - Plan to conduct a minimum of three surveys, each at least five days apart.

GUIDELINES FOR THE REVISED PROTOCOL FOR PROJECT-RELATED SURVEYS
1) Surveyors must be familiar with and adhere to the general survey techniques and guidelines in Sogge et al. (1997). Flycatcher survey training must be completed prior to being permitted to conduct surveys. Please follow all reporting requirements described in your permits such as contacting agencies when nests are discovered or submitting survey forms at the end of the season.

2) For project-related surveys, visits in the third period are recommended until flycatchers are found, or until three visits are completed with no flycatcher detections. If birds are found on either the first or second survey within the last survey period (visit 3 or 4), we recommend that surveyors continue to complete all five surveys, especially if pair status could not be determined in earlier visits.

3) Surveys conducted in different survey periods, and multiple surveys within the third survey period, must be at least FIVE days apart from each other.

4) Conduct the initial survey in period three between June 22 and June 30. Because surveys must be at least five days apart and there are just 27 days in the last survey period, it is important that surveys begin as soon as possible.

5) Detecting flycatchers in the third survey period can confirm resident status. Additionally, behaviors observed and recorded on survey forms throughout the survey period can help determine number of pairs, nesting status, etc. Surveyors should spend time either during or after surveys to observe and document flycatcher behavior (without directly monitoring nests or disturbing bird behavior).

6) Flycatchers could be considered as migrants or absent if birds are not detected during the last survey period. Yet, it may be possible for early-season nests to fail by late June, and the flycatchers not be detected in the last survey period. As a result, observing and reporting behavior of flycatchers in the first two survey periods is important in determining resident southwestern willow flycatcher status.

7) State and Federal permits are required to search for and monitor nesting flycatchers. Contact your State or Federal wildlife agency for more information on methodology. For example, the Arizona Game and Fish Department has produced a report (Rourke et al. 1999) that specifically describes how to monitor southwestern willow flycatcher nests. The applicant is responsible for having all applicable State and Federal permits prior to conducting flycatcher survey, monitoring, and management activities.

LITERATURE CITED


the U.S. Fish and Wildlife Service, Albuquerque, New Mexico. San Bernardino County Museum, Redlands, California

