

Elf Owl Survey Protocol Arizona IBA Program. Tucson Audubon – April 2021

Background and Purpose: There are two new IBAs in the Tucson Area – the **Tucson Mountains IBA** (more info here: http://aziba.org/?page_id=2395) and the **Tucson Sky Islands IBA** (more info here: http://aziba.org/?page_id=2374) and Elf Owl is a species that could qualify either of these sites as a Continental IBA if we can document **40 pairs or 120 individuals** (pairs is defined as breeding pairs or instances of breeding such as a nest or fledglings) This number is part of the definitions set by the Global IBA program coordinated by BirdLife International – it's a whole facet of the larger IBA program that sites are designated and elevated to Continental or Global status for specific species.

Identifying Elf Owls: These are nighttime hiking surveys focusing on audio detections but it is possible that we could see Elf Owls. They will sometimes come closer to the source of a call (you) and the best way I have figured out to see them is to watch in ambient moonlight and if you see a small shape fly into a nearby bush or tree to then cast a flashlight at that spot. It doesn't happen often but you sometimes do see them. They are sometimes there but still hidden behind a layer of leaves. Below are photos of Elf Owl and the other small owl that frequently occurs in this habitat – Western Screech Owl.



The above left bird is an Elf Owl – they are tiny, less than 6 inches long and the smallest owl in the world. They have no ear tufts and are generally brown in color tone.

This is a very useful link for more about Elf Owls – the audio here is great! (big listen button on right) <https://neotropical.birds.cornell.edu/Species-Account/nb/species/elfowl/overview>

The middle and right pictures are of Western Screech-Owls with the center photo showing what they look like with their ear tufts down, something they can do at will. They are gray in tone and at 8.5 inches in length are bigger than Elf Owls but still pretty small. Both species will nest in saguaro or tree cavities created by woodpeckers. They are also direct food competitors and hunt similar prey of large insects and tiny mammals. This is likely why Elf Owls will sometimes call back when Western Screech-owl is played. *Side note:* Elf Owls can also occur at higher elevations and will nest in oak habitat all the way up to Ponderosa Pine habitat. I mention this in case you hear them in these habitats in the future. In these other habitats in SE AZ you would likely also encounter Whiskered Screech-Owl and not Western Screech-Owl but that is another topic 😊

Protocol – How to Do These Surveys

These are nighttime hiking surveys and all teams will be assigned a trail/route. Teams will start at the beginning of their trail/route and get organized etc. while waiting for dusk. Elf Owls don't begin calling until it is nearly dark. At this time your team can begin the survey and do the first call-back point count right at the beginning of your trail. To do a call-back point first fill out the top of your datasheet with all asked for info. Then record the point count number, get the UTM GPS coordinates of your location and put them on your datasheet. This protocol is accompanied by a sample filled-in datasheet to demonstrate what is described next. When you are ready to begin, fill in the start time and begin a timer on either a watch, cell phone etc. During the entire point count all surveyors should be stationary and listening intently in all directions. The count begins with a minute of silence, after than minute play the Elf Owl territorial call for approx. 15 seconds. Then listen intently for a minute, then play Elf Owl again, listen intently for a minute. Then play Western Screech-Owl for approx. 15 seconds, listen intently for a minute, then play Western Screech-Owl again, listen intently for a minute. Record all data as the point count progresses and finish filling out all info for that point. Then you will turn on your flashlights etc. and travel 150 meters further down your trail and do another point count. Each team has a goal of doing 10 point counts but fewer are fine and more is great! When you are finished please return to your trailhead carefully using you flashlights etc. Any birds detected on the way back can be recorded if you think they are not repeats of what you had going the other direction but should be identified as "supplemental" on the notes part of the datasheet. Each team should plan on being done around 10pm. If you are going to be later please call me at (520) 360-2213 so I know you are safe.

Summary of point count protocol: - note that a custom audio file that incorporated the sequence below is [available for download here](#). **Note! The file starts with a minute of literal silence** - there is nothing wrong with the file if you are not hearing anything at first.

Minute 1: silence

Minute 2: play Elf Owl for approx. 15 seconds – listen for remainder of minute

Minute 3: play Elf Owl for approx. 15 seconds – listen for remainder of minute

Minute 4: play Western Screech-Owl for approx. 15 seconds – listen for remainder of minute

Minute 5: play Western Screech-Owl for approx. 15 seconds – listen for remainder of minute

Optional – If you are not sure about a sound or number of owls around you etc. it is permissible to play a call again after the 5 minute point count to try and get more information.

Filling out the datasheet – A sample datasheet is included at the end of this protocol. In this sample the following scenario has unfolded: The surveyors put all the info at the top and remembered to add the end time and total number of pages at the top right. This is very important for the first sheet and then on all other sheets used be sure to put a page number.

Stop #1 – recorded location in UTMs or decimal degrees (many smart phone apps use these units) and recorded start time. The 5 minute protocol outlined above was used, they detected an Elf Owl male and female and recorded their estimated distance and direction from surveyor location and made a note. Also heard a Western-screech Owl and recorded that on the next line. No more birds were detected so started point count 2 on next line.

If you detect birds between points that is great, just put "between" in stop # column, record coordinates and fill in bird information. Then continue to the next stop.

There are a few lines at the bottom to record other animals such as mammals and reptiles. There are also the 4 letter abbreviation codes of the nighttime species we are likely to encounter along the bottom for your reference. If something happens that requires explanation please write on the back of the data sheet but indicate which Stop # you are referencing.

Detecting Small Owls: Elf Owls and Western Screech-Owls have territories that are not very large when they are in excellent habitat. It is very likely that you will have data points where you are hearing owls from multiple directions so be sure to work that out as a team and capture that on the datasheet. It can help to cup your hands behind your ears and swivel to hear well and also to pinpoint sound direction. The most important thing to do when out there as a team is go with your gut and make a decision in the field in terms of how many birds, is it a pair etc. No one will ever have more information about what is happening than you do right there in the moment.

Info about Elf Owls: It is important for us to document pairs of Elf Owls whenever possible and you can do that by sound if you know what to listen for. This is a great link to read more about this species: <https://neotropical.birds.cornell.edu/Species-Account/nb/species/elfowl/overview> The large "Listen" button here plays an excellent recording for our practice purposes. There is a loud laughing call, that is the male. If you keep listening though there is a periodic "mew" call that is answering him - that is a female and his mate. We will need to carefully listen for this quieter and briefer female call to determine if we are hearing pairs.

Great-Horned Owls: This is very important! Our top priority is volunteer safety followed by the safety of our surveyed birds. Great-horned Owls will kill and eat smaller owls so we need to be very careful about not playing any calls of small owls if a Great-horned Owl is detected nearby. When small owls like Elf Owls hear a territorial call and respond they are moving around and calling more than they would without that stimulus and could be making themselves a more obvious target to a nearby Great-horned Owl. If you hear or see a Great-horned Owl close by **DO NOT** play any owl sounds and instead listen only for the five minutes – be sure to note this on the datasheet. To hear what Great-horned Owls sound like visit: <https://neotropical.birds.cornell.edu/Species-Account/nb/species/grhowl/overview>

A note about GPS: I do have an [online document on this subject](#) here that I keep up to date with new info. It is important that we all document exactly where we were located during each point count and that we put 150 meters between each point – the distance does not have to be exact but the locations recorded do need to be accurate. There are many GPS apps available for smart phones now and I think this is the most intuitive method. If you want to use this method please get the app a day or two before the survey and practice with it. I do have about 3 Garmin GPS units to loan or if you have one this is a great chance to bring it! If you do want to use a Garmin but are not all that experienced with this technology please see my instructional video here: <https://youtu.be/SjhlC93q86w> The video was originally made for cuckoo surveys so I talk about them sometimes but the GPS info is still rather helpful.

Safety Measures - IMPORTANT– These are nighttime surveys so everyone **must bring a bright flashlight or spot light** so they can safely maneuver the trails at night. A headlamp will also be useful for filling out datasheets at the call-back points. All must wear sturdy hiking or walking shoes and I personally suggest long pants and sleeves to protect from thorns etc.

Regarding snakes if we all use common sense and use our flashlights to watch where we are putting our feet on the trail we should be fine. Tucson Audubon has a limited number of snake guards that are worn around the shins. If you are interested in borrowing a pair let me know. I will be bringing all I have to the meeting location on survey day.

Info on the birds we are likely to encounter

Elf Owl: Already discussed above but the most common vocalization is a loud laughing call, that is the male. If you keep listening though there is sometimes a periodic "mew" call that is answering him - that is a female and his mate. We will need to carefully listen for this quieter and briefer female call to determine if we are hearing pairs.

<https://neotropical.birds.cornell.edu/Species-Account/nb/species/elfowl/overview>

Western Screech-Owl: call has a bouncy ball quality – there are excellent recordings here:

<http://www.audubon.org/field-guide/bird/western-screech-owl> down on the bottom right of the page are 4 links to listen to recordings – these are excellent and the last one is what a pair sounds like

Great Horned Owl: <https://neotropical.birds.cornell.edu/Species-Account/nb/species/grhowl/overview>

Don't play to call of our small owls if you hear one nearby – it could kill and eat them!

Lesser Nighthawk: Could be seen swooping around at sunset or heard singing from the ground under the full moon: <https://neotropical.birds.cornell.edu/Species-Account/nb/species/lesnig/overview>

Common Poorwill: small nightjar that will sit directly on ground or rocks and make its distinctive "poor-will" call. Seem to call more under full moon which we will be experiencing

<https://neotropical.birds.cornell.edu/Species-Account/nb/species/compoo/overview>