



Catalina Bighorn Sheep Reintroduction Project July 21, 2014 – August 3, 2014

BRIEFING

The following is a summary of Catalina Bighorn Sheep Reintroduction activities on the Coronado National Forest. This project status update covers the period from July 21 – August 3, 2014. For project background and previously-reported information on project events, including photos and videos, please visit www.azgfd.gov/catalinabighorn.

Additional project information can be obtained by visiting the Arizona Game and Fish Department Facebook page at <https://www.facebook.com/azgafd#!/CatalinaBighorns>, the Arizona Game and Fish Department webpage at <http://www.azgfd.gov/catalinabighorn>, the Arizona Desert Bighorn Sheep Society webpage at <http://www.adbss.org> or by visiting the Catalina Bighorn Advisory Committee webpage at <http://www.catalinabighornrestoration.org/>. This update is a public document and information in it can be used for any purpose.

TO SUBSCRIBE

If you would like to receive project updates as they are published please send your email address to jsacco@azgfd.gov.

CURRENT POPULATION STATUS

Including this reporting period, it has been over four months since a sheep mortality. The original release of 31 sheep consisted of 21 adult females or ewes, three yearling/juvenile ewes, five adult males or rams, and two yearling/juvenile rams. Thirty of the released sheep were outfitted with satellite GPS collars to provide managers with up-to-date information to help make adaptive, data-driven decisions. As of August 3, 2014, 13 of the remaining 14 collared sheep are known to be alive; one of the collars may be malfunctioning.

BREEDING SEASON

The breeding season for desert bighorn sheep extends from early June through October, with peak rutting activity occurring in August. Physiological and behavioral sexual maturity varies. While rams as young as six months may be capable of breeding, they often don't due to the dominance of older rams. Often the breeding hierarchy is determined through head butting where rams face off and crash their horns into one another. The resulting sound has been compared to a rifle shot and can be heard for quite some distance. In nature, ewes probably do not breed until they are 2.5 years old and rams don't breed until 3.5. The gestation period is approximately 179 days.

Somewhat unique to the Catalina project is that we have lost all but one collared ram. There is considerable interest in the movements of the collared ram because he was well removed from the ewes

as we entered the breeding season. With only one known ram in the Catalinas we questioned if he would find the ewes and be successful in breeding with the majority of them. This is of particular interest since the population is just becoming established and every lamb gets us closer to the goal of a sustainable population. Fortunately as the breeding season started, the ram made his way expeditiously to the ewes where he has spent the majority of his time since. Last week, the ram was observed exhibiting breeding behavior. This is good sign; however, the results of his effort will be unknown until the lambing season.

We are currently putting plans in place for a possible second release this autumn, including the addition of rams. A year from now, it may be possible for people to once again experience the thunderous crack of bighorn sheep rams butting heads together in the Santa Catalina Mountains.

COMMUNICATION AND COORDINATION

The next written briefing will be provided on August 22, 2014.

CONTACT

Mark Hart is the Public Information Officer for this project and can be reached at (520) 628-5376.

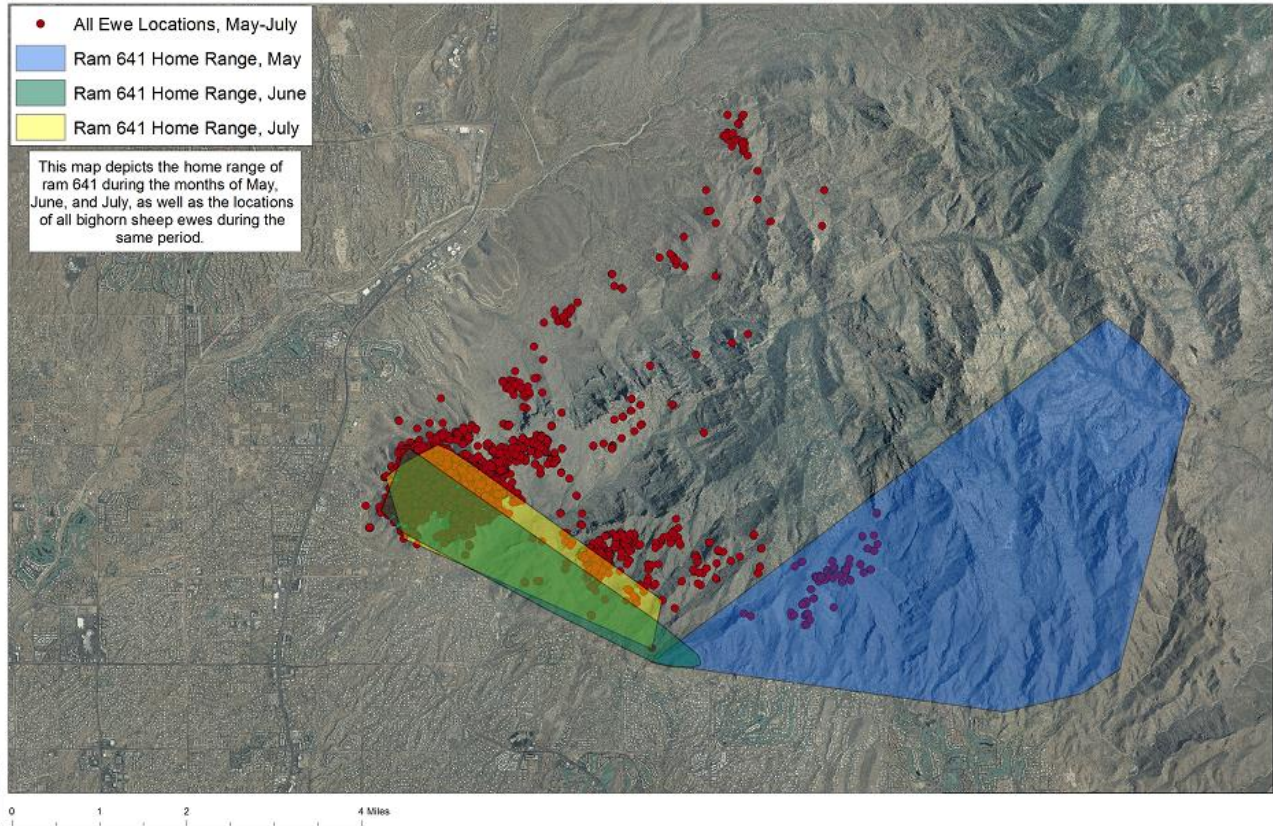
RESEARCH PROJECT FIELD NOTES

One of the primary objectives of the Research Branch study on the Catalina bighorn sheep is to identify and evaluate the relative influence of various behavioral, demographic, and habitat attributes on the landscape or in sheep ecology that put a bighorn sheep at risk of mortality. To evaluate these risk factors, we'll be using a model known as the Cox proportional hazards (PH) model to look at the time it takes for a sheep mortality to occur and what variables most likely predict its occurrence over a given time period or "interval of risk". The Cox PH is a familiar model in human medicine and disease studies, for example, in considering the risk factors contributing to heart disease, but it can also be applied in wildlife survival analyses.

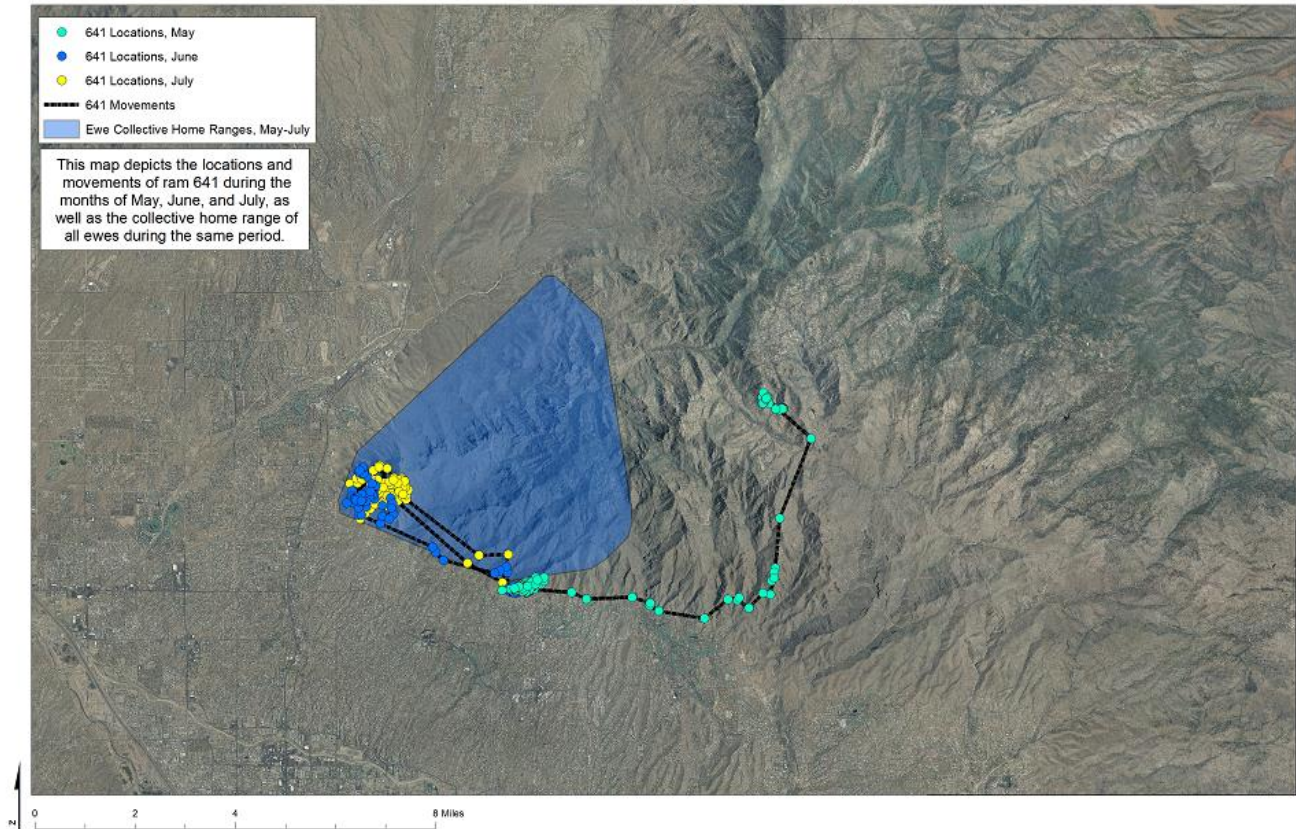
We'll be measuring the different risk factors for sheep via ground-based techniques or through remote-sensing methods. One critical variable we'll record is the amount of horizontal visibility present at sheep locations on the landscape. Visibility is an especially important factor for determining the risk of cougar predation on sheep because mountain lion hunting strategies rely on visual obstruction in order to stalk close to prey, and sheep rely on the ability to visually detect danger at a distance and retreat to safer terrain when threatened. Therefore, bighorn sheep may be at higher risk of predation in areas where horizontal visibility is obscured. Through some fairly simple measurements we'll make on the ground at sheep locations that the GPS collars provide us, we can estimate just how much a sheep might see as it stands in a spot and how much the view might be obstructed by things like boulders, topography, or vegetation. For instance, even cactus may help protect a sheep or hinder its' ability to see a lion stalking nearby! While the methods for measuring this important habitat characteristic are pretty straightforward, the challenge for our research team will be reaching all the necessary locations, so we may be calling for volunteers to help us in the near future! So if you like to hike in the Catalinas and want to follow in the footsteps of a bighorn sheep or two, there may soon be an opportunity to be involved in our ongoing research!

MAPS

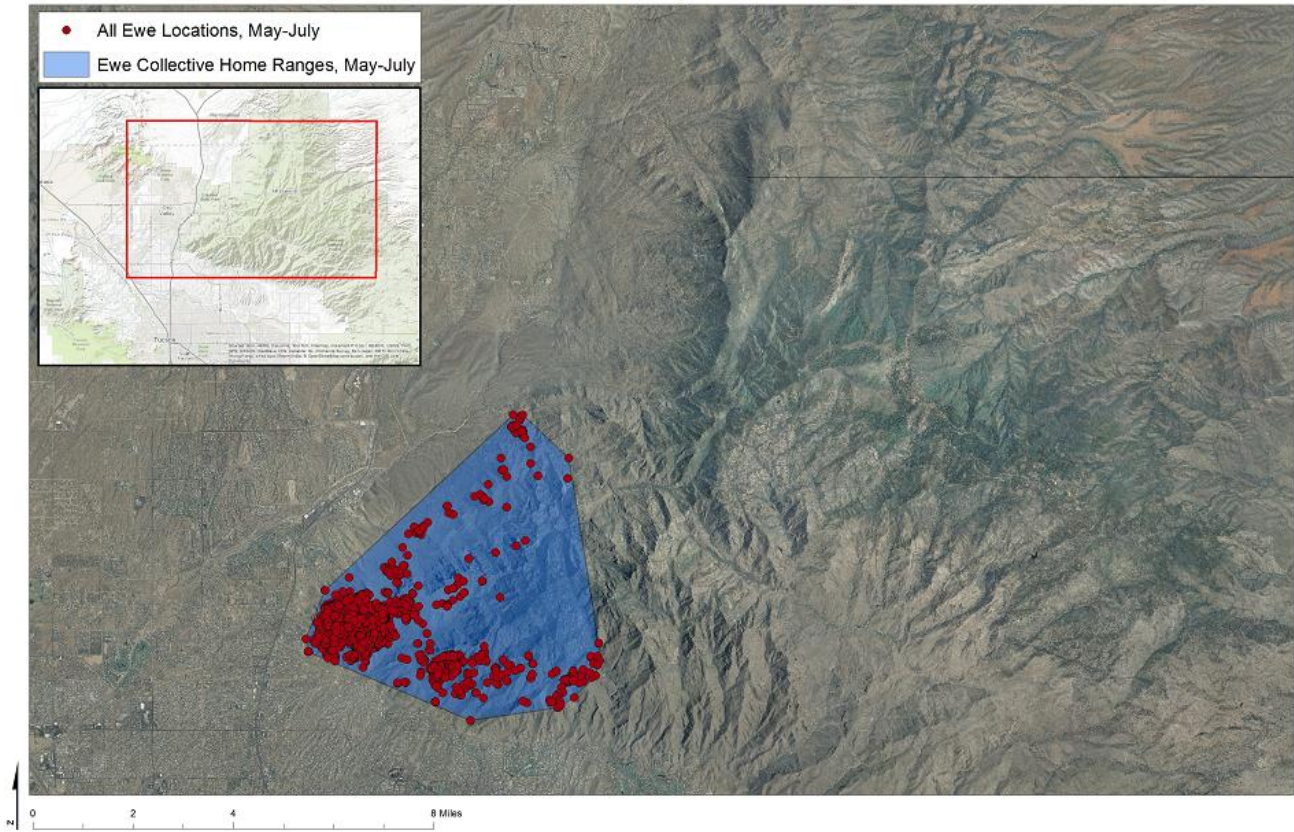
Santa Catalina Mountains, Bighorn Sheep Reintroduction



Santa Catalina Mountains, Bighorn Sheep Reintroduction



Santa Catalina Mountains, Bighorn Sheep Reintroduction



Santa Catalina Mountains, Bighorn Sheep Reintroduction

