

**USFWS Virtual Public Meeting for the Gopher Tortoise**

**Virtual Public Meeting Transcript**

**December 13, 2022, 5:00-7:00 PM Eastern Time**

00:00:03.180 --> 00:00:08.370

EMPSi - Megan Stone: Hello, everyone! I'd like to welcome you all to the U.S. Fish and Wildlife Service's

00:00:08.520 --> 00:00:20.050

EMPSi - Megan Stone: virtual public meeting for the gopher tortoise. We're going to give folks a few minutes here to join the Webinar, and then we will begin the PowerPoint presentation shortly, so please stay tuned.

00:00:20.300 --> 00:00:31.930

EMPSi - Megan Stone: I do want to note that closed captioning is available by selecting the closed caption icon at the bottom of your zoom screen if you're using the zoom web portal or zoom app on your computer.

00:00:59.140 --> 00:01:09.770

EMPSi - Megan Stone: Again, welcome everyone to tonight's meeting. We're going to give folks a few more minutes to join the meeting, so please stay tuned and we will start the presentation shortly.

00:01:09.870 --> 00:01:22.770

EMPSi - Megan Stone: Again, I do want to note that the closed captioning is available by selecting the closed caption icon at the bottom of your zoom screen if you are using the zoom web portal or zoom app on your computer.

00:01:45.410 --> 00:01:55.200

EMPSi - Megan Stone: All right, with that we'll go ahead and get started with our Webinar tonight. On behalf of the U.S. Fish and Wildlife Service, I'd like to thank you all for joining us.

00:01:55.230 --> 00:01:58.139

EMPSi - Megan Stone: We appreciate your time and participation.

00:01:58.290 --> 00:02:10.200

EMPSi - Megan Stone: My name is Megan Stone with Environmental Management and Planning Solutions, Inc., a contractor for the U.S. Fish and Wildlife Service, and I'm going to be one of your meeting facilitators tonight.

00:02:10.360 --> 00:02:18.360

EMPSi - Megan Stone: Additionally, I have several members of the U.S. Fish and Wildlife Service with me on the meeting tonight who will be answering your questions.

00:02:18.380 --> 00:02:21.140

EMPSi - Megan Stone: They will introduce themselves later on.

00:02:22.190 --> 00:02:23.220

EMPSi - Megan Stone: So,

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EMPSi - Megan Stone: our expected agenda for the meeting tonight is up on the screen. I will first go over some brief ground rules for tonight's meeting.

00:02:32.060 --> 00:02:37.420

EMPSi - Megan Stone: The USFWS will provide introductions and a PowerPoint presentation.

00:02:37.880 --> 00:02:45.320

EMPSi - Megan Stone: For the remainder of the Webinar, the USFWS will answer any questions you may have about the gopher tortoise

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EMPSi - Megan Stone: during the question-and-answer session. And we're going to go through the questions submitted through registration first and, if time allows, we'll move on to any live questions.

00:02:57.690 --> 00:03:09.900

EMPSi - Megan Stone: To be clear, the Service has several subject matter experts available to answer questions during the Q-and-A portion of the meeting. However, this meeting will not include a public comment portion.

00:03:10.490 --> 00:03:15.530

EMPSi - Megan Stone: After the question-and-answer session, the Service will provide some closing remarks.

00:03:18.520 --> 00:03:24.530

EMPSi - Megan Stone: So, before we begin with the presentation I'm going to go over some ground rules for the meeting.

00:03:24.640 --> 00:03:35.949

EMPSi - Megan Stone: First, this meeting is being recorded as part of the project record, and a recording will be posted to the USFWS website. We put that link in the chat for you guys.

00:03:36.420 --> 00:03:49.130

EMPSi - Megan Stone: Second, your microphones and videos will be turned off for the duration of the meeting tonight. You will only be unmuted if and when I unmute you during the question-and-answer session if you are a phone caller.

00:03:49.480 --> 00:03:55.209

EMPSi - Megan Stone: Questions will be addressed during the question-and-answer session after the PowerPoint presentation.

00:03:55.370 --> 00:04:01.140

EMPSi - Megan Stone: First, the Service will answer questions submitted through registration for this virtual meeting.

00:04:01.190 --> 00:04:05.940

EMPSi - Megan Stone: If time allows the Service will then allow attendees to submit questions.

00:04:06.110 --> 00:04:14.039

EMPSi - Megan Stone: We will do our best to address questions in the order they come in to allow everyone an opportunity to voice their questions.

00:04:14.280 --> 00:04:22.149

EMPSi - Megan Stone: Instructions for how to submit questions electronically during the session will be provided after the Service's presentation.

00:04:22.280 --> 00:04:37.309

EMPSi - Megan Stone: And we will allow those joining by computers to submit questions electronically, and those joining by phone to submit questions verbally, as they do not have access to the chat feature to submit questions electronically.

00:04:38.010 --> 00:04:43.290

EMPSi - Megan Stone: Again, after the question-and-answer session, the Service will provide closing remarks.

00:04:43.560 --> 00:04:48.300

EMPSi - Megan Stone: So, with that I will now turn it over to the Southeast Regional Director,

00:04:48.390 --> 00:04:53.429

EMPSi - Megan Stone: Leo Miranda Castro, who will provide the welcome to tonight's meeting.

00:04:55.320 --> 00:04:59.880

USFWS - Leopoldo Miranda: Thank you so much Megan, and thank you everybody for participating

00:04:59.910 --> 00:05:04.760

USFWS - Leopoldo Miranda: here tonight. Good evening, buenas noches a todos.

00:05:04.860 --> 00:05:09.730

USFWS - Leopoldo Miranda: Welcome to tonight's virtual meeting on our Notice of Finding

00:05:09.810 --> 00:05:11.389

USFWS - Leopoldo Miranda: for the gopher tortoise,

00:05:11.750 --> 00:05:14.890

USFWS - Leopoldo Miranda: a keystone species for this in the Southeast region

00:05:14.910 --> 00:05:17.199

USFWS - Leopoldo Miranda: and one of my personal

00:05:17.480 --> 00:05:28.690

USFWS - Leopoldo Miranda: favorites. You can see my background, that's an area on my own personal property where we are enhancing some really good habitat for the turtles.

00:05:28.820 --> 00:05:36.470

USFWS - Leopoldo Miranda: Once again, my name is Leo Miranda Castro. I'm the director for the Southeast region of the U.S. Fish and Wildlife Service.

00:05:36.810 --> 00:05:37.880

USFWS - Leopoldo Miranda: And,

00:05:38.270 --> 00:05:45.739

USFWS - Leopoldo Miranda: first of all, thank you for again being here tonight, spending some time on this important

00:05:45.870 --> 00:05:50.169

USFWS - Leopoldo Miranda: species. And we will be able to answer a lot of the questions.

00:05:50.240 --> 00:06:04.809

USFWS - Leopoldo Miranda: If we cannot do that at the end, we will actually gather some of the additional questions, and get back to everybody through our public websites.

00:06:04.990 --> 00:06:13.759

USFWS - Leopoldo Miranda: I know that a lot of you are here to get many, many answers and thank you for everybody that has submitted

00:06:13.850 --> 00:06:23.509

USFWS - Leopoldo Miranda: many, many questions already. So, I really appreciate that, and on behalf of the Fish and Wildlife Service, thank you for that.

00:06:23.880 --> 00:06:36.890

USFWS - Leopoldo Miranda: With all of that in mind, I would like to introduce our team here tonight. They have been working on gopher tortoises for many, many, many years.

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USFWS - Leopoldo Miranda: And they've been working very closely with a lot of experts from academia, from State agencies, all the Federal agencies,

00:06:46.630 --> 00:06:55.810

USFWS - Leopoldo Miranda: as well as private land-owners and private entities. And they are here tonight to present the information contained in the assessment,

00:06:56.060 --> 00:07:00.520

USFWS - Leopoldo Miranda: discuss the findings and answer your questions.

00:07:00.540 --> 00:07:11.069

USFWS - Leopoldo Miranda: Tonight we have with us Lourdes Mena. She is from the Division of Classification and Recovery in the Florida Field Office for the Fish and Wildlife Service.

00:07:11.460 --> 00:07:15.510

USFWS - Leopoldo Miranda: John Tupy, Mississippi Field Office, U.S. Fish and Wildlife Service.

00:07:15.870 --> 00:07:24.820

USFWS - Leopoldo Miranda: Melissa Lombardi, Division of Conservation and Classification for the Southeast Regional Office, U.S. Fish and Wildlife Service.

00:07:24.870 --> 00:07:32.439

USFWS - Leopoldo Miranda: Scott Hoffmann, branch of delisting and foreign species from Falls Church, Virginia in our headquarters office.

00:07:33.070 --> 00:07:44.929

USFWS - Leopoldo Miranda: Conor McGowan, research wildlife biologist with the U.S. Geological Survey. Brian Folt, ecologist with the U.S. Geological Survey.

00:07:45.070 --> 00:07:46.260

USFWS - Leopoldo Miranda: Jane Cook,

00:07:47.600 --> 00:07:52.690

USFWS - Leopoldo Miranda: cartographic technician in the Florida Field Office, U.S. Fish and Wildlife Service.

00:07:52.850 --> 00:07:54.130

USFWS - Leopoldo Miranda: Mike Marshall,

00:07:54.460 --> 00:07:58.800

USFWS - Leopoldo Miranda: Project Director from Texas A&M Natural Resource Institute.

00:07:59.620 --> 00:08:06.509

USFWS - Leopoldo Miranda: Nicole Rankin, she is the Chief of Division of Conservation and Classification here in the Southeast Region.

00:08:06.840 --> 00:08:07.940

USFWS - Leopoldo Miranda: And

00:08:08.050 --> 00:08:18.579

USFWS - Leopoldo Miranda: Jo Emmanuel, also with the Fish and Wildlife Service's Florida Field Office. And Jo is one of our species leads and will be providing

00:08:18.640 --> 00:08:27.169

USFWS - Leopoldo Miranda: a lot of the information tonight, and she has been an integral part in the development of the Species Status Assessment, or SSA.

00:08:27.540 --> 00:08:30.240

USFWS - Leopoldo Miranda: She's going to provide the overview,

00:08:30.330 --> 00:08:33.820

USFWS - Leopoldo Miranda: and then pass it on to other of our experts.

00:08:34.020 --> 00:08:50.019

USFWS - Leopoldo Miranda: So, we will be happy to answer some of your questions submitted previously, and if we have time, like we mentioned earlier, we will be able to get some more questions live.

00:08:50.290 --> 00:08:53.029

USFWS - Leopoldo Miranda: With that, I will pass it on to Jo.

00:08:56.510 --> 00:09:08.890

USFWS - Jo Emanuel: Thank you, Leo, and good evening. We're going to present an overview of the biological information and modeling projections from the gopher tortoise Species Status Assessment, as well as the Service's decision

00:09:09.080 --> 00:09:13.110

USFWS - Jo Emanuel: which were recorded in the October 12th Federal Register notice.

00:09:14.040 --> 00:09:14.970

USFWS - Jo Emanuel: Next slide.

00:09:18.920 --> 00:09:31.240

USFWS - Jo Emanuel: So, a little bit on our federal actions history. In 1987, the gopher tortoise was listed as a threatened species in the western portion of its range. This was primarily due to threats associated with habitat loss and modification,

00:09:31.350 --> 00:09:43.639

USFWS - Jo Emanuel: as well as harvest for human consumption, and road mortality. In January of 2006, the Service was petitioned to list and designate critical habitat for gopher tortoises occurring in the Eastern portion of the range.

00:09:44.340 --> 00:09:53.319

USFWS - Jo Emanuel: In July, 2011, in response to that petition, the Service found that the Eastern range warranted listing, but listing was precluded due to higher priority actions.

00:09:53.620 --> 00:09:59.349

USFWS - Jo Emanuel: The Eastern population of gopher tortoises was included in subsequent annual candidate notices of review.

00:10:00.200 --> 00:10:08.819

USFWS - Jo Emanuel: Between 2019 and 2021, the Service completed a Species Status Assessment on the gopher tortoise, evaluating the condition of the species range-wide.

00:10:09.610 --> 00:10:21.889

USFWS - Jo Emanuel: So, for those participants not familiar with the Species Status Assessment, this is frequently referred to as an SSA. This is the instrument that the Service uses to compile the best available information regarding the species' biology

00:10:21.910 --> 00:10:24.950

USFWS - Jo Emanuel: and factors that influence the species' viability.

00:10:25.190 --> 00:10:35.280

USFWS - Jo Emanuel: So, as you can see in the diagram to the upper left of your screen, the SSA report. This is a living document that the Service uses to inform our decisions under the Endangered Species Act.

00:10:35.450 --> 00:10:40.040

USFWS - Jo Emanuel: And that includes listing decisions, such as the one that was required for the gopher tortoise.

00:10:41.020 --> 00:10:46.039

USFWS - Jo Emanuel: And below that diagram we note our Species Status Assessment core team which Leo just introduced.

00:10:46.120 --> 00:10:55.699

USFWS - Jo Emanuel: The core team coordinated with species and habitat experts during the development of the SSA. All states across the species range participated in the SSA process.

00:10:55.860 --> 00:11:02.859

USFWS - Jo Emanuel: Additionally, we requested review from 7 peer reviewers and integrated those responses into our assessment, where appropriate.



00:11:03.890 --> 00:11:13.849

USFWS - Jo Emanuel: And so finishing up the timeline on our right, upon completion of the draft SSA in August of 2021, the Service held several recommendation team meetings.

00:11:14.000 --> 00:11:20.830

USFWS - Jo Emanuel: We finished up on October 12th with a Notice of Finding for the gopher tortoise, which was published at the Federal Register on that date.

00:11:21.390 --> 00:11:22.200

USFWS - Jo Emanuel: Next slide.

00:11:25.510 --> 00:11:32.380

USFWS - Jo Emanuel: The gopher tortoise occurs in the Southeastern Atlantic and Gulf coastal plains from Southern South Carolina through Peninsular Florida,

00:11:32.490 --> 00:11:39.160

USFWS - Jo Emanuel: branching West through the Florida Panhandle, and including portions of Georgia, Alabama, Mississippi, and Eastern Louisiana.

00:11:39.850 --> 00:11:49.229

USFWS - Jo Emanuel: The eastern portion of the range is indicated in the light gray color on the map. It includes all portions of the range occurring east of the Mobile and Tombigbee Rivers. Those are also indicated.

00:11:49.550 --> 00:11:55.100

USFWS - Jo Emanuel: The western portion of the range is indicated in black and includes all areas west of those rivers.

00:11:55.270 --> 00:12:01.290

USFWS - Jo Emanuel: The core of the gopher tortoise range in the eastern portion includes Peninsular Florida as well as Southern Georgia.

00:12:01.620 --> 00:12:02.380

USFWS - Jo Emanuel: Next slide.

00:12:05.470 --> 00:12:19.129

USFWS - Jo Emanuel: The gopher tortoise, *Gopherus polyphemus*, was first described by Daudin in 1802. And as we discussed the eastern and

western portions of the range, it's important to note that there is no taxonomic distinction of the gopher tortoise in any portion of the range.

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USFWS - Jo Emanuel: Gopher tortoises are large, long-lived terrestrial turtles. They have domed grayish-black carapaces, with yellow hinge-less plastrons.

00:12:27.540 --> 00:12:30.290

USFWS - Jo Emanuel: The hind feet are elephantine or stumpy,

00:12:30.470 --> 00:12:33.459

USFWS - Jo Emanuel: forelimbs are shovel-like with claws used for digging.

00:12:33.700 --> 00:12:48.560

USFWS - Jo Emanuel: Adults can grow up to 15 inches in length and weigh up to about 13 pounds. The diet of the gopher tortoise primarily includes broadleaf grasses, some legumes and roots, they're known to consume a wide range of other plant species, as well as insects and carrion.

00:12:49.630 --> 00:12:55.840

USFWS - Jo Emanuel: Gopher tortoises are fossorial; they excavate and utilize their own burrows. These burrows are central to their life history.

00:12:56.150 --> 00:12:59.539

USFWS - Jo Emanuel: Gopher tortoise burrows are used for sheltering from cold weather,

00:12:59.610 --> 00:13:03.589

USFWS - Jo Emanuel: retreat from summer heat, as well as protection from predators and fires.

00:13:04.040 --> 00:13:12.030

USFWS - Jo Emanuel: The nests of gopher tortoises are often constructed near the entrance of the burrows and hatchlings and yearling tortoises may shelter in the burrows of adults as well.

00:13:12.810 --> 00:13:26.839

USFWS - Jo Emanuel: Gopher tortoises are a keystone species in the habitats they occupy and as such those burrows, those gopher tortoise burrows, are used by more than 350 other species. And you can see the

commensals illustrated in the graphic to the lower right of the screen.

00:13:28.320 --> 00:13:29.110

USFWS - Jo Emanuel: Next slide.

00:13:32.110 --> 00:13:42.600

USFWS - Jo Emanuel: So typical gopher tortoise habitat. It occurs on well drained, sandy soils. It consists of an open canopy, a sparse midstory, a diverse ground cover layer that's composed of herbaceous vegetation.

00:13:42.740 --> 00:13:47.120

USFWS - Jo Emanuel: The range of the gopher tortoise aligns pretty well with that of the longleaf pine,

00:13:47.140 --> 00:13:56.060

USFWS - Jo Emanuel: and while gopher tortoises are associated with longleaf pine uplands such as sand hills, clay hills, and pine savannas, they do occur in conjunction with other canopy species

00:13:56.140 --> 00:14:01.880

USFWS - Jo Emanuel: and in other natural communities, such as scrub, flatwoods, xeric hammocks, and coastal communities too.

00:14:02.730 --> 00:14:13.780

USFWS - Jo Emanuel: So, for the most part, these natural communities rely on frequent disturbance. This is primarily in the form of fire. It's necessary for the perpetuation and maintenance of habitat conditions that the gopher tortoise requires.

00:14:14.370 --> 00:14:25.680

USFWS - Jo Emanuel: And some gopher tortoises require a large swath of interconnected high-quality habitat. This is what's needed to support viable populations of gopher tortoises and ultimately lead to high resilience of the species.

00:14:26.360 --> 00:14:33.959

USFWS - Jo Emanuel: It's important to know when we think about habitat at the western extent of the range, those areas tend to have soils that include higher clay content

00:14:33.980 --> 00:14:43.060

USFWS - Jo Emanuel: and this may contribute to lower abundance and density of gopher tortoises in these areas as compared to the sandier soils found in the eastern portions of the range.

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USFWS - Jo Emanuel: Next slide.

00:14:46.940 --> 00:15:05.819

USFWS - Jo Emanuel: So, there are many factors that influence the current and future viability of the gopher tortoise. This is a very well-studied species, and in this assessment, we considered numerous influencing factors. I've got some of those listed here, but in addition, we consider things like disease, predation, and compatible land uses as well as invasive species.

00:15:06.290 --> 00:15:15.150

USFWS - Jo Emanuel: However, the three primary threats that we carried forward into our Future Condition Analysis includes the threats associated with habitat loss and degradation

00:15:15.190 --> 00:15:17.909

USFWS - Jo Emanuel: primarily due to urbanization and development;

00:15:17.970 --> 00:15:23.330

USFWS - Jo Emanuel: the effects of climate change, including increased drought, higher temperatures, and sea-level rise;

00:15:23.400 --> 00:15:27.350

USFWS - Jo Emanuel: and the effects of insufficient or incompatible habitat management.

00:15:28.930 --> 00:15:29.650

Next slide.

00:15:32.450 --> 00:15:45.759

USFWS - Jo Emanuel: And so, looking at the factors that influence viability for the gopher tortoise, we also consider conservation measures. So, in the left column here on your screen, we included the suite of regulatory tools and programs

00:15:45.780 --> 00:15:55.969

USFWS - Jo Emanuel: that serve to provide conservation at the federal level, such as those listed here for the Fish and Wildlife Service as well as the NRCS and the Forest Service. This is not an exhaustive list.

00:15:56.400 --> 00:16:06.680

USFWS - Jo Emanuel: Below that we see at the state level each State within the range continues to provide protection for the gopher tortoise, and you can see the State protections listed there in the table below.

00:16:07.540 --> 00:16:17.399

USFWS - Jo Emanuel: There's also several partnerships and tools that help to implement conservation of gopher tortoises and gopher tortoise habitat. Again, not an exhaustive list here in the center of the screen.

00:16:17.620 --> 00:16:33.090

USFWS - Jo Emanuel: But there are many partnerships, agreements, best management practices, strategies, and initiatives that are implemented across a wide range of stakeholders, and those also provide guidelines and a framework that are necessary to implement conservation actions that benefit gopher tortoises.

00:16:34.080 --> 00:16:45.340

USFWS - Jo Emanuel: Over on the right, in the right column for land conservation, in the analysis we calculated approximately 1.7 million acres of gopher tortoise habitat occurring on public lands range-wide.

00:16:45.680 --> 00:16:54.879

USFWS - Jo Emanuel: And, in general, land management of these lands is implemented through our resource management and planning documents. So, management is expected on most of these lands.

00:16:55.550 --> 00:17:04.230

USFWS - Jo Emanuel: Subsequent to the 12-month finding between 2011 and 2019 under a Candidate Conservation Agreement among partners, there's been a concert-

00:17:04.300 --> 00:17:06.260

USFWS - Jo Emanuel: Excuse me, a concerted effort

00:17:06.599 --> 00:17:15.740

USFWS - Jo Emanuel: to acquire land for the conservation benefit of gopher tortoises. And as you can see here through this agreement, 145,000 acres, more than that,

00:17:15.819 --> 00:17:20.319

USFWS - Jo Emanuel: were acquired for gopher tortoise conservation by federal and state partners.

00:17:20.829 --> 00:17:25.510

USFWS - Jo Emanuel: Additionally, since 2015, in Georgia, through the Gopher Tortoise Initiative there,

00:17:25.579 --> 00:17:33.030

USFWS - Jo Emanuel: Georgia has protected 26 viable populations of gopher tortoises, and approximately 124,000 acres of land.

00:17:34.170 --> 00:17:34.890

USFWS - Jo Emanuel: Next slide.

00:17:38.060 --> 00:17:53.080

USFWS - Jo Emanuel: And so, in addition to public conservation lands, we also considered private lands with gopher tortoise occurrences or gopher tortoise habitat. Most of the forested lands within the range of the gopher tortoise are in private ownership, and much of that is managed for forest production.

00:17:53.690 --> 00:18:04.550

USFWS - Jo Emanuel: So, through the development of this SSA, we did coordinate with forest industry partners to gather information about the status of the gopher tortoise and the management of habitat on these private forest lands.

00:18:04.740 --> 00:18:19.889

USFWS - Jo Emanuel: So just to provide an example here, through the coordination with large working forest ownerships, the National Council for Air and Stream Improvements reported to us through our data inquiry and collection period, over 10,000 observations of gopher tortoises

00:18:19.910 --> 00:18:24.320

USFWS - Jo Emanuel: occurring on these private ownerships between 2013 and 2019.

00:18:25.150 --> 00:18:37.700

USFWS - Jo Emanuel: So, conservation on these private forest lands is frequently accomplished through various best management practices, various forest certification programs, and through many partnerships and collaboration with other stakeholders.

00:18:38.200 --> 00:18:47.669

USFWS - Jo Emanuel: There are challenges and uncertainties that are associated with private forest lands, including a general lack of gopher tortoise data, including spatial components to those observations

00:18:47.770 --> 00:18:53.120

USFWS - Jo Emanuel: and a limited understanding as to the amount and condition of habitat within these land ownerships.

00:18:53.180 --> 00:18:59.079

USFWS - Jo Emanuel: And as private lands, there is the potential for conversion to development or other incompatible land uses.

00:19:00.050 --> 00:19:00.770

USFWS - Jo Emanuel: Next slide.

00:19:02.950 --> 00:19:14.279

USFWS - Jo Emanuel: So, moving into the analysis. The core team delineated 5 analysis units for the purpose of analysis and comparison within the SSA only. These were not developed for policy applications.

00:19:14.610 --> 00:19:25.419

USFWS - Jo Emanuel: The 5 units depicted in the larger map, these are our analysis units. These were developed based on current genetic understanding, substantial barriers to dispersal, including large rivers.

00:19:25.530 --> 00:19:32.570

USFWS - Jo Emanuel: We leaned into the level 4 EPA Eco Regions and relied on expert input to delineate those units.

00:19:33.040 --> 00:19:42.969

USFWS - Jo Emanuel: The Gilliard 2017 genetic study, it identified 5 genetic groups that could be used as management units. And in the SSA, these 5 genetic groups, which you can see in the inset map,

00:19:43.020 --> 00:19:50.220

USFWS - Jo Emanuel: aligned well with our other considerations, and formed the basis of representation units for analysis in the assessment.

00:19:51.720 --> 00:19:52.510

USFWS - Jo Emanuel: Next slide.

00:19:54.640 --> 00:20:10.999

USFWS - Jo Emanuel: So, after we delineated the analysis units to the extent possible, we then moved into delineation of gopher tortoise populations. And so, we received a variety of data. It came in many different formats, and it's largely a result of variation in survey methods in the field.

00:20:11.450 --> 00:20:21.630

USFWS - Jo Emanuel: The available data, the data that was provided to us, was organized into 2 groups. So, as you can see on the left here, we have spatially explicit data, and we have county centroid data.

00:20:22.150 --> 00:20:30.659

USFWS - Jo Emanuel: And I'll explain those a little bit here. Spatially explicit data, those are the data that are derived from systematic surveys on the ground which

00:20:30.720 --> 00:20:47.550

USFWS - Jo Emanuel: provided burrow locations and other metrics that allowed us to develop population estimates. This data came primarily from public lands where gopher tortoise burrow surveys were conducted, and additionally, the spatially explicit data is the data forecasted in our future condition modeling effort.

00:20:48.380 --> 00:20:54.919

USFWS - Jo Emanuel: Looking at the county centroid data. The majority of this data was collected via a private landowner questionnaire.

00:20:55.060 --> 00:21:05.709

USFWS - Jo Emanuel: The private lands data set is quite limited, and additionally, these data lack spatial information components that we would need to kind of derive those population estimates.

00:21:05.810 --> 00:21:12.680

USFWS - Jo Emanuel: This lack of spatial information is due primarily to issues associated with privacy on the landowners' part.

00:21:13.180 --> 00:21:19.370

USFWS - Jo Emanuel: The county sensory data, in addition, was not incorporated into the future condition modeling.

00:21:20.540 --> 00:21:30.089

USFWS - Jo Emanuel: It's important to acknowledge here that the data received does represent a subset of gopher tortoises that are likely to occur on the landscape, so we don't have information for all tortoises.



00:21:30.850 --> 00:21:45.459

USFWS - Jo Emanuel: And then next, kind of following that arrow at the top from the spatially explicit data to the right of the screen, we delineated populations using that spatially explicit data delineated at 2 spatial scales. We have local populations and landscape populations.

00:21:45.680 --> 00:21:58.129

USFWS - Jo Emanuel: This was done by buffering aggregations of individuals or boroughs and that was based on movement distances that were identified in published literature as well as in conjunction with our species experts.

00:21:59.520 --> 00:22:00.230

USFWS - Jo Emanuel: Next slide.

00:22:02.590 --> 00:22:14.930

USFWS - Jo Emanuel: So, through our delineation process we identified 656 local populations occurring within 253 landscape populations. The map here shows the distribution of populations across the range,

00:22:15.160 --> 00:22:21.370

USFWS - Jo Emanuel: and the table to the right of your screen shows the number of spatially delineated populations by state.

00:22:21.510 --> 00:22:32.829

USFWS - Jo Emanuel: And so, as mentioned, the core of the gopher tortoise range is primarily Peninsular, Florida, and Georgia, which, as you can see on this table here, it includes the largest number of both local and landscape populations.

00:22:34.270 --> 00:22:35.240

USFWS - Jo Emanuel: Next slide.

00:22:37.250 --> 00:22:46.129

USFWS - Jo Emanuel: In this assessment we described current resiliency as either high, moderate, or low, based on estimated abundance of gopher tortoises within local populations.

00:22:46.300 --> 00:22:56.540

USFWS - Jo Emanuel: So, based on the spatially explicit data, we estimated over 149,000 gopher tortoises within those 656 local populations that we delineated range-wide.

00:22:57.200 --> 00:23:08.319

USFWS - Jo Emanuel: The map depicts the distribution of the 3 resiliency classes. We have 360 populations in low condition, so those are depicted by yellow tortoises on the map.

00:23:08.790 --> 00:23:13.529

USFWS - Jo Emanuel: We have 169 populations in moderate conditions, so those are in blue.

00:23:13.560 --> 00:23:17.480

USFWS - Jo Emanuel: And 127 populations in high condition were in the red.

00:23:18.090 --> 00:23:24.970

USFWS - Jo Emanuel: And then, looking at the pie charts, you can see the proportion of condition classes within the eastern and western portions of the range.

00:23:25.160 --> 00:23:37.570

USFWS - Jo Emanuel: Most of the gopher tortoises occur in the eastern portion of the range, and this is where we have 22 percent of those populations in high resiliency condition. 27% are in moderate and 51% in low conditions.

00:23:38.130 --> 00:23:51.660

USFWS - Jo Emanuel: And the western portion of the range, comparing, a 90% of the populations occurring there are in low condition currently. And again, there is likely some influence to the prevalence of less suitable clay soils in those areas.

00:23:53.600 --> 00:23:54.360

USFWS - Jo Emanuel: Next slide.

00:23:57.550 --> 00:24:12.430

USFWS - Jo Emanuel: And so, moving into the future condition analysis, we worked with scientists from the University of Florida and the U.S. Geological Survey to build a predictive model to simulate how gopher tortoise populations might respond to changes in the environment in the future.

00:24:12.690 --> 00:24:19.399

USFWS - Jo Emanuel: So, on the left of the screen is the model matrix which was published earlier this year. The citation for which is included below.

00:24:19.610 --> 00:24:28.720

USFWS - Jo Emanuel: As mentioned in previous slides, only spatially explicit populations were forecasted in this model, the majority of which do occur on public conservation lands.

00:24:29.390 --> 00:24:41.250

USFWS - Jo Emanuel: A little bit about the model. It's a stochastic female-only model that predicts how the abundance of female tortoises will change in the future given demographic rates experienced at local population levels.

00:24:42.280 --> 00:24:55.980

USFWS - Jo Emanuel: The model incorporates other published models to evaluate expected effects of threats on gopher tortoise habitat. And the modeling framework supports the future condition analysis by estimating changes in population growth and persistent probabilities,

00:24:56.090 --> 00:25:01.179

USFWS - Jo Emanuel: while also considering and accounting for geographic variations in the gopher tortoise life history.

00:25:02.310 --> 00:25:20.260

USFWS - Jo Emanuel: And to encompass a range of future conditions and to account for uncertainty associated with the other published models that we leaned into, we developed several plausible scenarios that reflected changes in levels of threats, including climate warming, sea-level rise, urbanization, and shifts in habitat management. So those

00:25:20.440 --> 00:25:23.360

USFWS - Jo Emanuel: influences that we discussed a few slides back.

00:25:23.810 --> 00:25:29.810

USFWS - Jo Emanuel: We looked at model projections at three time frames: 40 years, 60 years and 80 years into the future.

00:25:30.020 --> 00:25:37.460

USFWS - Jo Emanuel: This is a long-lived species; gopher tortoises live a while so these timeframes do represent approximately one generation for tortoises.

00:25:38.510 --> 00:25:39.260

USFWS - Jo Emanuel: Excellent.

00:25:43.040 --> 00:26:01.870

USFWS - Jo Emanuel: So, this slide here. To simulate how future conditions might influence gopher tortoise populations, we reviewed literature for published effects on tortoise demographic rates and use those results to build the model linking demographic rates to environmental and anthropogenic effects on tortoise populations.

00:26:02.180 --> 00:26:04.169

USFWS - Jo Emanuel: And we'll just kind of click through.

00:26:06.920 --> 00:26:09.460

USFWS - Jo Emanuel: So, because temperature...

00:26:10.350 --> 00:26:24.940

USFWS - Jo Emanuel: Sorry. Because temperature influences the growth and the reproductive rates of individuals, those first red lines there show where we modeled climate warming effects on growth, transition rates of juveniles, and the reproductive rates of adults.

00:26:25.290 --> 00:26:35.100

USFWS - Jo Emanuel: The yellow lines there, because climate warming is also causing sea-level rise, this might inundate coastal areas and limit available habitat or juveniles in adults.

00:26:36.040 --> 00:26:46.700

USFWS - Jo Emanuel: And these lines here for urbanization. Urbanization is known to influence habitat connectivity, so we modeled urbanization effects on immigration among nearby local populations.

00:26:47.360 --> 00:26:56.009

USFWS - Jo Emanuel: And then, lastly, climate warming is expected to make conditions less favorable for the use of prescribed fire as a habitat management tool,

00:26:56.120 --> 00:27:06.610

USFWS - Jo Emanuel: so, we modeled the effects of climate warming and urbanization on habitat management. So, warming temperatures and increasing urbanization influenced burn probabilities of gopher tortoise habitat

00:27:06.650 --> 00:27:11.429

USFWS - Jo Emanuel: in those local populations, and that ultimately influences gopher tortoise populations.

00:27:12.810 --> 00:27:13.480

USFWS - Jo Emanuel: Next.

00:27:15.530 --> 00:27:26.069

USFWS - Jo Emanuel: So, this table is getting into the details of the scenarios that were simulated to understand how potential future environmental conditions might influence gopher tortoise populations 80 years into the future.

00:27:26.280 --> 00:27:33.929

USFWS - Jo Emanuel: So, for our modeling, we incorporated the 4 published models at the bottom of the screen. You can see here we have the IPCC climate model,

00:27:33.970 --> 00:27:42.959

USFWS - Jo Emanuel: the NOAA sea level rise model, the SLEUTH urbanization model, and the environment--excuse me--the fire management model from the 2020 Kupfer et al. publication.

00:27:43.660 --> 00:27:54.499

USFWS - Jo Emanuel: So, because future conditions are uncertain, we simulated these different scenarios to capture a range of future conditions. And so, looking at the top 3 scenarios, I think we can circle, those..

00:27:54.760 --> 00:28:04.899

USFWS - Jo Emanuel: You can see, we included low, medium, and high values for predicted climate warming, sea-level rise, and urbanization based on those published models for these variables.

00:28:04.960 --> 00:28:09.059

USFWS - Jo Emanuel: And so, these three are referred to as our low, medium, and high stressors.

00:28:10.300 --> 00:28:19.579

USFWS - Jo Emanuel: We then applied the values from the medium stressors to the scenarios to build out the remaining scenarios where habitat management and immigration were manipulated.

00:28:20.980 --> 00:28:28.489

USFWS - Jo Emanuel: And you can see those pulled down, those numbers pull down there. And then in doing this, we then held the medium stressor values

00:28:28.750 --> 00:28:32.470

USFWS - Jo Emanuel: and then vary the levels of habitat management and immigration.

00:28:34.470 --> 00:28:35.290

USFWS - Jo Emanuel: Next slide.

00:28:37.900 --> 00:28:50.310

USFWS - Jo Emanuel: So here we look at some of the mapped results for the future condition analysis. The circles on these maps indicate relative size of populations, larger populations depicted by larger circles, smaller populations with smaller circles.

00:28:50.560 --> 00:29:01.060

USFWS - Jo Emanuel: And in looking at the current condition in the upper left, this shows the compilation of that spatially explicit data that we received and were able to generate an initial population size estimate for.

00:29:01.470 --> 00:29:11.319

USFWS - Jo Emanuel: Through the model under the medium threat scenario, we were then able to project each population into the future time steps here through the year 2100, which you can see in the lower right.

00:29:12.180 --> 00:29:22.360

USFWS - Jo Emanuel: Of the modeled populations, most scenarios predicted between 170 and 200 populations remaining on the landscape 80 years in the future at year 2100.

00:29:22.530 --> 00:29:30.510

USFWS - Jo Emanuel: Most scenarios projected 30 to 40% of populations will remain on the landscape with 60 to 70% unlikely to remain.

00:29:31.440 --> 00:29:46.489

USFWS - Jo Emanuel: It's important to note here that populations with very small initial population sizes in the current condition--so those populations, with three or fewer adult females--were not modeled, as they were thought to be unlikely to remain.

00:29:47.330 --> 00:29:54.100

USFWS - Jo Emanuel: And then you can see in these maps where the larger populations remain in the core of the range in southern Georgia and Florida.

00:29:54.160 --> 00:29:58.680

USFWS - Jo Emanuel: And in general, large populations do remain, smaller populations drop off.

00:29:58.710 --> 00:30:06.989

USFWS - Jo Emanuel: But important populations remain on the landscape across all 5 analysis units in the year 2100 in all of our modeled future scenarios.

00:30:08.660 --> 00:30:09.590

USFWS - Jo Emanuel: Next slide.

00:30:10.360 --> 00:30:21.400

USFWS - Jo Emanuel: And to wrap up the future condition, just a few key takeaways here. We want to point out that the spatially explicit populations included in the model represent a small subset of gopher tortoise that likely occur on the landscape.

00:30:21.520 --> 00:30:23.080

USFWS - Jo Emanuel: And that

00:30:23.450 --> 00:30:30.080

USFWS - Jo Emanuel: the model only considered populations occurring on conservation lands where habitat management was expected to occur.

00:30:30.860 --> 00:30:39.869

USFWS - Jo Emanuel: So, projections among plausible future scenarios indicate that gopher tortoise populations are likely to remain among all analysis units at the eighty-year time step.

00:30:40.040 --> 00:30:47.050

USFWS - Jo Emanuel: And areas with the greatest likelihood of remaining on the landscape in the future include the core of the range, again Georgia and peninsular Florida.

00:30:47.340 --> 00:30:49.449

USFWS - Jo Emanuel: In our future model projections,

00:30:49.570 --> 00:30:54.030

USFWS - Jo Emanuel: immigration affected future populations more so than the stressors or threats.

00:30:54.060 --> 00:31:03.030

USFWS - Jo Emanuel: And to that end, larger populations connected to other nearby populations were more likely to remain on the landscape than smaller populations with less connectivity.

00:31:03.760 --> 00:31:16.419

USFWS - Jo Emanuel: And while the number of individual gopher tortoises and populations are expected to decline across each model projection interval, overall projections suggest the extinction risk for gopher tortoises is relatively low in the future.

00:31:17.630 --> 00:31:24.329

USFWS - Jo Emanuel: And so now I'm going to pass this over to Melissa, and she's going to present an overview of the decision process and the determinations.

00:31:27.060 --> 00:31:28.999

USFWS - Melissa Lombardi: Thanks so much, Jo.

00:31:29.020 --> 00:31:40.029

USFWS - Melissa Lombardi: Well, before we talk about the Service's determination for the gopher tortoise, I think it's important to keep in mind the definitions of species listing status under the Endangered Species Act.

00:31:40.450 --> 00:31:48.839

USFWS - Melissa Lombardi: So, an endangered species is defined as a species that is in danger of extinction throughout all, or a significant portion of its range.

00:31:49.080 --> 00:31:59.199

USFWS - Melissa Lombardi: And a threatened species is defined as a species that is likely to become an endangered species within the foreseeable future throughout all, or a significant portion of its range.

00:32:02.230 --> 00:32:09.790

USFWS - Melissa Lombardi: So, in the Federal Register Notice we explain our decisions on the gopher tortoise, and I want to summarize those for us now.

00:32:10.050 --> 00:32:15.679

USFWS - Melissa Lombardi: We determined that the species did not meet the definition of endangered or threatened under the Act,

00:32:15.850 --> 00:32:19.439

USFWS - Melissa Lombardi: either range-wide or in a significant portion of the range.

00:32:19.620 --> 00:32:25.720



USFWS - Melissa Lombardi: We also found that the western portion of the range met the criteria for a Distinct Population Segment,

00:32:25.880 --> 00:32:29.909

USFWS - Melissa Lombardi: and that the current threatened status was appropriate for that DPS.

00:32:30.340 --> 00:32:37.130

USFWS - Melissa Lombardi: For the eastern portion of the range, we determined that it also met the criteria for a DPS (Distinct Population Segment)

00:32:37.640 --> 00:32:41.059

USFWS - Melissa Lombardi: and that it did not meet the definition of threatened or endangered.

00:32:41.240 --> 00:32:48.000

USFWS - Melissa Lombardi: So, the Eastern DPS is no longer a candidate with the publication of the 12-month finding of not warranted for listing.

00:32:50.970 --> 00:32:59.529

USFWS - Melissa Lombardi: In this slide, and the 2 other process slides for the eastern and western portions of the range, I'll step through the Service's decisions.

00:32:59.730 --> 00:33:05.739

USFWS - Melissa Lombardi: The structure of the Federal Register Notice follows the order. I'll step through these determinations.

00:33:06.150 --> 00:33:12.930

USFWS - Melissa Lombardi: We'll look at the process as we go, and I'll describe the relevant policy as we get to those steps.

00:33:13.430 --> 00:33:32.299

USFWS - Melissa Lombardi: We first assessed the status of gopher tortoise range-wide, so the eastern and western portions of the range, and determined that the species is not in danger of extinction now, and is not likely to become endangered in the foreseeable future. So it does not meet the ESA definitions of endangered or threatened and is not warranted for listing.

00:33:32.890 --> 00:33:43.009

USFWS - Melissa Lombardi: Then, having determined that the species is not warranted for listing, we conducted the evaluation for the policy around the significant portion of the range.

00:33:43.420 --> 00:33:53.639

USFWS - Melissa Lombardi: If we find there is a significant portion of the range with a status other than not warranted, then we list the species as the status of that portion range-wide.

00:33:54.330 --> 00:34:03.859

USFWS - Melissa Lombardi: So, we looked across the range to determine if any geographic area met both prongs of the Significant Portion of the Range policy, those criteria,

00:34:04.140 --> 00:34:13.780

USFWS - Melissa Lombardi: and that would be having both a different status than the rest of the area we're looking at, so range-wide here, and then also the Significance Criteria.

00:34:14.219 --> 00:34:22.740

USFWS - Melissa Lombardi: So, there's an additional component with a significant portion of the range evaluation than what we looked at with just the range-wide status.

00:34:23.350 --> 00:34:31.759

USFWS - Melissa Lombardi: So, our decision-makers identified the SSA analysis units 1, 2, and 5 is areas to consider

00:34:31.969 --> 00:34:38.090

USFWS - Melissa Lombardi: and found that unit 5 in peninsular Florida does not have a different status than not warranted for listing.

00:34:38.840 --> 00:34:53.479

USFWS - Melissa Lombardi: We determined that units 1 and 2 may have a different status than not warranted. So, we then looked at the policy significance for those 2 units to determine if either of those areas met the bar for a significant portion of the range.

00:34:54.260 --> 00:35:13.090

USFWS - Melissa Lombardi: And we found that although some aspects of the species life history and the habitat are different in units 1 and 2, those areas do not contain unique aspects of the species needs or resources that the species depends on that are unavailable elsewhere in the range.

00:35:13.260 --> 00:35:18.910

USFWS - Melissa Lombardi: So those 2 areas did not meet our current understanding of the significance under the policy,

00:35:18.970 --> 00:35:22.029

USFWS - Melissa Lombardi: and we did not find a significant portion of the range.

00:35:22.350 --> 00:35:33.660

USFWS - Melissa Lombardi: I think it's important to note that the Significance Criteria in our analysis is a policy term, and it's separate from any meaning of importance to the conservation of the species.

00:35:36.090 --> 00:35:44.150

USFWS - Melissa Lombardi: When making the status determination range-wide, decision-makers considered the past, ongoing, and future anticipated threats

00:35:44.280 --> 00:35:47.860

USFWS - Melissa Lombardi: including habitat loss and fragmentation due to urbanization,

00:35:47.890 --> 00:35:51.350

USFWS - Melissa Lombardi: climate warming, sea-level rise, and habitat management.

00:35:52.020 --> 00:35:56.150

USFWS - Melissa Lombardi: In finding the species not in danger of extinction now, so not endangered,

00:35:56.330 --> 00:36:02.509

USFWS - Melissa Lombardi: they considered the number, the distribution, and the resiliency of populations across the range.

00:36:02.790 --> 00:36:13.179

USFWS - Melissa Lombardi: To determine if the gopher tortoise meets the definition of threatened, they considered the threats that are expected to continue to affect the species in the future, and the species response to those threats.

00:36:14.960 --> 00:36:22.589

USFWS - Melissa Lombardi: The western portion of the range was Federally listed as threatened before the 1996 Distinct Population Segment policy,

00:36:22.890 --> 00:36:30.670

USFWS - Melissa Lombardi: so, we evaluated the western portion to determine if it meets the discreteness and the Significance Criteria under that policy.

00:36:31.300 --> 00:36:37.829

USFWS - Melissa Lombardi: We found that the western portion currently listed as threatened does meet the criteria in the DPS policy.

00:36:38.150 --> 00:36:47.660

USFWS - Melissa Lombardi: It's discreet, so markedly separate from other populations due to the physical separation with the Mobile and Tombigbee rivers, and genetic uniqueness.

00:36:48.050 --> 00:36:51.979

USFWS - Melissa Lombardi: And the western portion meets the DPS Significance Criteria

00:36:52.040 --> 00:36:58.810

USFWS - Melissa Lombardi: in that the loss of the area would be a significant gap in the range, and the area differs markedly, again, in those genetic characteristics.

00:36:59.430 --> 00:37:06.049

USFWS - Melissa Lombardi: We then determine the status of the western DPS as likely to become endangered in the foreseeable future.

00:37:06.120 --> 00:37:12.250

USFWS - Melissa Lombardi: So, the current threatened status is appropriate, and no status change is needed for the Western DPS.

00:37:12.500 --> 00:37:20.350

USFWS - Melissa Lombardi: Decision-makers also did not identify any areas within the western DPS that may meet the definition of endangered, so no SPR.

00:37:22.230 --> 00:37:33.520

USFWS - Melissa Lombardi: In evaluating the status of the species, we always use the best available science and determined the threats affecting the species range-wide also affect the western DPS.

00:37:33.970 --> 00:37:49.669

USFWS - Melissa Lombardi: In addition to that, some population characteristics in the western DPS, including those smaller populations with lower abundance and decrease reproduction compared to the eastern portion of the range, mean that these threats can have an outsized impact on populations.

00:37:50.020 --> 00:37:57.869

USFWS - Melissa Lombardi: In addition, habitat is more fragmented in this area, and less habitat management occurs in the western DPS compared to the eastern portion.

00:37:58.770 --> 00:38:10.680

USFWS - Melissa Lombardi: When evaluating the status of the western DPS, most of the local populations within the DPS currently have low resiliency, so that ability to bounce back from environmental or population changes.

00:38:11.030 --> 00:38:17.500

USFWS - Melissa Lombardi: However, the gopher tortoise currently occurs on 103,000 acres in the western DPS.

00:38:17.680 --> 00:38:28.030

USFWS - Melissa Lombardi: In addition, 106 spatially explicit populations of varying levels of resiliency occur in the western DPS and are distributed across the geographic area of that DPS.

00:38:29.030 --> 00:38:36.689

USFWS - Melissa Lombardi: Gopher tortoises are a long-lived species, and populations currently occur in the western DPS, with reproduction and recruitment

00:38:36.760 --> 00:38:40.270

USFWS - Melissa Lombardi: reported from populations on public and private lands.

00:38:40.770 --> 00:38:50.710

USFWS - Melissa Lombardi: Future projections show increasingly disconnected populations and overall decline in the number of individuals and populations, particularly small populations.

00:38:50.860 --> 00:38:56.499

USFWS - Melissa Lombardi: But, gopher tortoise populations will remain on the landscape despite current and ongoing threats.

00:38:56.870 --> 00:39:04.240

USFWS - Melissa Lombardi: Decision-makers found that the western DPS is likely to become endangered in the foreseeable future so remains Federally listed as threatened.

00:39:06.360 --> 00:39:11.479

USFWS - Melissa Lombardi: In evaluating the eastern portion of the range, we again looked at whether it meets DPS criteria.

00:39:11.690 --> 00:39:18.669

USFWS - Melissa Lombardi: The eastern portion meets the criteria of discreteness again due to the physical separation, the Mobile and Tombigbee Rivers,

00:39:18.760 --> 00:39:22.600

USFWS - Melissa Lombardi: and it means a Significance Criteria under the DPS policy

00:39:22.640 --> 00:39:26.210

USFWS - Melissa Lombardi: because the loss of this portion would be a significant gap in the range.

00:39:26.740 --> 00:39:36.630

USFWS - Melissa Lombardi: Decision-makers then considered the status of the Eastern DPS And determined that it was not warranted for listing, so the candidate or warranted but precluded finding was withdrawn.

00:39:39.480 --> 00:39:47.430

USFWS - Melissa Lombardi: The candidate withdrawal was informed by the information provided by Federal, state, non-government organizations, and private partners

00:39:47.510 --> 00:39:54.719

USFWS - Melissa Lombardi: regarding gopher tortoise abundance and habitat conditions in the eastern DPS to inform our analysis of the species condition.

00:39:55.430 --> 00:40:09.480

USFWS - Melissa Lombardi: In determining the status of the eastern DPS decision makers considered that it comprises the majority of current gopher tortoise range and includes about 85% of local gopher tortoise populations across the range.

00:40:10.230 --> 00:40:19.970

USFWS - Melissa Lombardi: Although the range-wide threats we described also affect the eastern DPS, over 40% of populations exhibit moderate or high current resiliency.

00:40:20.940 --> 00:40:29.509

USFWS - Melissa Lombardi: These populations with higher resiliency are expected to withstand stochastic and catastrophic change and maintain adaptive capacity.

00:40:30.130 --> 00:40:41.189

USFWS - Melissa Lombardi: In addition, habitat restoration efforts, implementation of best management practices, and conservation measures to benefit the gopher tortoise have contributed to the current condition of the species.

00:40:41.820 --> 00:40:51.799

USFWS - Melissa Lombardi: Future projections of species condition show that 167, 275 populations will remain across the Eastern DPS in the model timeframe,

00:40:51.870 --> 00:40:57.669

USFWS - Melissa Lombardi: keeping in mind that the model includes only populations on conservation lands that we have information for.

00:40:58.660 --> 00:41:03.010

USFWS - Melissa Lombardi: For the eastern DPS, with the additional information and updated analyses,

00:41:03.030 --> 00:41:07.689

USFWS - Melissa Lombardi: we determined that the species does not meet the definition of threatened or endangered under the Act.

00:41:09.000 --> 00:41:14.949

USFWS - Melissa Lombardi: Just like with the western DPS, having determined that the species is not warranted for listing in the eastern DPS,

00:41:14.970 --> 00:41:21.580

USFWS - Melissa Lombardi: we then evaluated the DPS for any areas within it that may meet the significant portion of the range criteria.

00:41:22.040 --> 00:41:27.630

USFWS - Melissa Lombardi: Similar to our range-wide analysis, decision-makers considered units 2 and 5,

00:41:27.650 --> 00:41:34.890

USFWS - Melissa Lombardi: and again, found that unit 5 and peninsular Florida did not have a different status than the remainder of the eastern DPS.

00:41:35.380 --> 00:41:44.859

USFWS - Melissa Lombardi: We found that unit 2 may have a different status than not warranted but did not meet policy significance needed to meet that half of the SPR criteria.

00:41:45.540 --> 00:41:48.559

USFWS - Melissa Lombardi: So, we found that there's no SPR in the eastern DPS,

00:41:48.590 --> 00:41:58.129

USFWS - Melissa Lombardi: species is not warranted for listing in the eastern DPS, so we issued the Notice of Finding of not warranted and included the candidate withdrawal in the Federal Register notice.

00:41:59.130 --> 00:42:03.699

USFWS - Melissa Lombardi: This concludes the walk-through the Service's recent decisions regarding gopher tortoise.

00:42:03.890 --> 00:42:13.359

USFWS - Melissa Lombardi: We'll provide links to the notice and the supporting documents, and ways to communicate with the Service, and then move to the question-and-answer portion of the meeting.

00:42:16.270 --> 00:42:23.849

USFWS - Melissa Lombardi: The Notice of Finding and the supporting documentation, including the SSA and the future model publication

00:42:23.980 --> 00:42:27.820

USFWS - Melissa Lombardi: are available at the link shown on regulations.gov.

00:42:28.310 --> 00:42:32.519

USFWS - Melissa Lombardi: If you would like to communicate with us further following this public meeting,

00:42:32.550 --> 00:42:42.379

USFWS - Melissa Lombardi: we've set up the gopher tortoise email at the address shown, and we've also provided contact information for the species leads in the eastern and western DPS.



00:42:42.920 --> 00:42:49.150

USFWS - Melissa Lombardi: This concludes our presentation, and I'll turn this back over to Megan to facilitate the question-and-answer portion of the meeting.

00:42:51.060 --> 00:42:58.309

EMPSi - Megan Stone: Perfect. Thank you, Melissa. With that we'll go ahead and get started with our pre-registered questions.

00:42:59.850 --> 00:43:02.859

EMPSi - Megan Stone: But first I'll walk through some instructions.

00:43:03.170 --> 00:43:10.209

EMPSi - Megan Stone: So, the Service will be accepting questions through the scheduled end-time of this Webinar.

00:43:10.290 --> 00:43:19.730

EMPSi - Megan Stone: The intent of this question-and-answer session is to answer any substantive questions you have for USFWS staff on the gopher tortoise.

00:43:19.920 --> 00:43:24.770

EMPSi - Megan Stone: We ask that you keep any questions related to the scope of the gopher tortoise.

00:43:25.040 --> 00:43:31.490

EMPSi - Megan Stone: The USFWS wants to hear from all members of the public who are interested in voicing their questions.

00:43:31.730 --> 00:43:43.760

EMPSi - Megan Stone: We ask that you please be mindful of the number of questions you ask and pay attention to questions from others in case your question is asked by someone else and responded to by USFWS staff.

00:43:44.260 --> 00:43:53.570

EMPSi - Megan Stone: If you submitted your question when you registered for the meeting tonight, please note that you will not need to resubmit your question via the chat or over the phone.

00:43:53.600 --> 00:43:57.270

EMPSi - Megan Stone: We will begin by answering these pre-registered questions.

00:43:57.700 --> 00:44:01.930

EMPSi - Megan Stone: If time allows, we will open the meeting to any additional questions.

00:44:02.140 --> 00:44:06.200

EMPSi - Megan Stone: We will do our best to answer questions in the order they are received.

00:44:06.590 --> 00:44:14.109

EMPSi - Megan Stone: In the event that we have time to answer more questions, I want to go ahead and provide instructions for how to do so.

00:44:14.460 --> 00:44:21.620

EMPSi - Megan Stone: So, on the next slide, we have these instructions on the left for how to submit questions

00:44:21.740 --> 00:44:25.650

EMPSi - Megan Stone: via the chat feature, and on the right via phone.

00:44:28.250 --> 00:44:44.170

EMPSi - Megan Stone: So, after we've gone through questions submitted via the zoom web platform or zoom app chat feature, we will move on to participants calling in over the phone who would like to ask a question. So please stay tuned for those instructions.

00:44:44.500 --> 00:44:50.359

EMPSi - Megan Stone: At this time, if you have a question and you're using the zoom web platform or zoom app

00:44:50.490 --> 00:44:54.869

EMPSi - Megan Stone: you can go ahead and click on the chat icon at the bottom of your zoom screen.

00:44:54.970 --> 00:44:59.909

EMPSi - Megan Stone: If you hover your mouse over the bottom of your zoom screen the chat icon should appear.

00:44:59.950 --> 00:45:04.560

EMPSi - Megan Stone: You may need to exit your full screen view and zoom to see the chat icon.

00:45:04.960 --> 00:45:19.200

EMPSi - Megan Stone: You can then type your question in the chat box, and please send it to host and panelists. I will then read the

question aloud for all participants to hear, and a USFWS staff member will respond to your question aloud.

00:45:19.350 --> 00:45:23.089

EMPSi - Megan Stone: We will try to answer your questions in the order they are received.

00:45:23.240 --> 00:45:30.660

EMPSi - Megan Stone: And please note there may be a pause between asking your question and a USFWS staff member answering your question.

00:45:31.000 --> 00:45:34.890

EMPSi - Megan Stone: For those calling in through the phone who would like to ask a question,

00:45:35.260 --> 00:45:40.679

EMPSi - Megan Stone: you can press \* 9 to raise your hand to let staff know you have a question.

00:45:40.920 --> 00:45:55.289

EMPSi - Megan Stone: When it is your turn, I will identify you by the last 4 digits of your phone number. I will then unmute you so that you can ask your question. Again, a USFWS staff member will then respond to your question aloud.

00:45:55.480 --> 00:46:02.830

EMPSi - Megan Stone: You may be muted on your end. If that is the case, we will prompt you to unmute yourself by pressing \* 6.

00:46:03.030 --> 00:46:06.840

EMPSi - Megan Stone: So, we'll go ahead and leave these instructions up throughout

00:46:06.890 --> 00:46:09.340

EMPSi - Megan Stone: the remainder of tonight's meeting.

00:46:09.700 --> 00:46:24.000

EMPSi - Megan Stone: And we'll move on to our pre-registered questions. So, we did receive several questions about the impact of solar farms on gopher tortoise habitat and I'm going to turn that over to Jo to speak to.

00:46:25.560 --> 00:46:38.189

USFWS - Jo Emanuel: Thank you, Megan. In the overturned Species Status Assessment we consider the effects of habitat loss and fragmentation, including the influences of solar farm development on the species.

00:46:38.220 --> 00:46:44.770

USFWS - Jo Emanuel: We also noted solar development industry, citing efforts and ongoing coordination with the Service.

00:46:44.990 --> 00:46:52.469

USFWS - Jo Emanuel: In addition, State-led regulations and permitting requirements will continue to be in place as solar and other alternative energy efforts expand.

00:46:52.860 --> 00:47:04.960

USFWS - Jo Emanuel: As an agency, the Service will work with landowners and companies to develop habitat conservation plans or other beneficial management plans for the species on new and in existing solar farms.

00:47:05.250 --> 00:47:13.799

USFWS - Jo Emanuel: For example, the Gopher Tortoise Council and state wildlife agencies within the range of the gopher tortoise have developed voluntary best management practices

00:47:13.880 --> 00:47:18.900

USFWS - Jo Emanuel: for solar development that are compatible with the conservation of gopher tortoises.

00:47:19.000 --> 00:47:25.269

USFWS - Jo Emanuel: And these practices have been implemented or used in South Carolina, Florida, Alabama, and Georgia.

00:47:28.870 --> 00:47:29.620

USFWS - Jo Emanuel: Next.

00:47:30.040 --> 00:47:31.730

EMPSi - Megan Stone: Great. Thank you, Jo.

00:47:32.230 --> 00:47:41.599

EMPSi - Megan Stone: So, we also had several participants submit questions regarding the status of the species in several areas. Our first question was:

00:47:41.890 --> 00:47:50.950

EMPSi - Megan Stone: if the species is not doing as well in the western portion of the range, then why not uplist it to endangered? And we'll turn that over to Melissa.

00:47:52.610 --> 00:47:53.920

USFWS - Melissa Lombardi: Sure. Thanks, Megan.

00:47:54.430 --> 00:48:05.440

USFWS - Melissa Lombardi: Well, we evaluated the status of the Western DPS, of course, using the best available science that we have. We looked at those threats that we talked about in the presentation,

00:48:05.530 --> 00:48:13.410

USFWS - Melissa Lombardi: and also thought about those population characteristics that can have an outside impact there in the western DPS.

00:48:13.880 --> 00:48:16.229

USFWS - Melissa Lombardi: We also considered

00:48:16.600 --> 00:48:24.060

USFWS - Melissa Lombardi: the distribution of the populations across the 103,000 acres where they occur in the western DPS.

00:48:24.280 --> 00:48:28.659

USFWS - Melissa Lombardi: And also, those characteristics of gopher tortoises

00:48:28.950 --> 00:48:39.549

USFWS - Melissa Lombardi: as a long-lived species, we expect that they will remain on the landscape for several decades, despite the current and ongoing threats.

00:48:39.740 --> 00:48:47.890

USFWS - Melissa Lombardi: So, considering all that, we found that the western DPS does not meet the indefinite--does not meet the definition--excuse me--of endangered,

00:48:47.950 --> 00:48:49.940

USFWS - Melissa Lombardi: so, in danger of extinction,

00:48:50.140 --> 00:48:52.620

USFWS - Melissa Lombardi: And does not warrant listing as endangered.

00:48:52.990 --> 00:49:00.089

USFWS - Melissa Lombardi: However, we found that it does meet the definition of threatened, so, likely to become endangered in the foreseeable future,

00:49:00.190 --> 00:49:03.540

USFWS - Melissa Lombardi: and should remain with that current listing status.

00:49:03.900 --> 00:49:10.319

USFWS - Melissa Lombardi: We believe that threatened status is appropriate because the future projections show although

00:49:10.610 --> 00:49:21.400

USFWS - Melissa Lombardi: the populations are increasingly disconnected, some overall decline. But populations with recruitment and reproduction do remain on the landscape in the future.

00:49:24.430 --> 00:49:26.569

EMPSi - Megan Stone: Perfect. Thank you, Melissa.

00:49:27.000 --> 00:49:31.609

EMPSi - Megan Stone: So, with that we'll move on to our next pre-registered question, which is

00:49:31.750 --> 00:49:37.490

EMPSi - Megan Stone: the Service often refers to the gopher tortoise as a keystone species. If this is

00:49:37.590 --> 00:49:45.200

EMPSi - Megan Stone: accurate, why isn't the Service extending Federal protections to a species that is so ecologically important?

00:49:45.250 --> 00:49:47.429

EMPSi - Megan Stone: And we'll turn that over to Nicole.

00:49:51.290 --> 00:49:59.950

USFWS - Nicole Rankin: Thank you, Megan. As Leo mentioned during his introduction, you know, we do recognize the gopher tortoise as a keystone species.

00:50:00.020 --> 00:50:07.549

USFWS - Nicole Rankin: And gopher tortoises do play that key role in their ecosystems, including the use of their boroughs by several hundred other species.

00:50:07.960 --> 00:50:14.530

USFWS - Nicole Rankin: However, listing a species because of its role in the ecosystem is not required by the Endangered Species Act.

00:50:14.550 --> 00:50:21.110

USFWS - Nicole Rankin: It is not necessary for a determination that a species meets the definition of an endangered or threatened species.

00:50:21.490 --> 00:50:30.560

USFWS - Nicole Rankin: While the tortoise is a keystone species, we evaluated whether the gopher tortoise meets the definition of endangered or threatened, as Melissa outlined previously.

00:50:31.500 --> 00:50:40.880

USFWS - Nicole Rankin: In our Species Status Assessment, we did include these aspects of gopher tortoise life history, including its role in the habitat and ecological community where it occurs.

00:50:41.320 --> 00:50:49.529

USFWS - Nicole Rankin: And, as Melissa just mentioned a minute ago, we determined that in the western DPS that it should remain listed as threatened.

00:50:50.810 --> 00:50:58.790

USFWS - Nicole Rankin: But, in our assessment of the current and future viability of the eastern DPS, we determined that it does not meet the definition of endangered or threatened.

00:50:59.140 --> 00:51:02.669

USFWS - Nicole Rankin: But we do recognize how the gopher tortoise will continue to play

00:51:02.860 --> 00:51:06.729

USFWS - Nicole Rankin: and serve its role as a keystone species across the range.

00:51:08.550 --> 00:51:10.109

EMPSi - Megan Stone: Thank you, Nicole.

00:51:10.300 --> 00:51:13.070

EMPSi - Megan Stone: Our next pre-registered question is

00:51:13.140 --> 00:51:28.380

EMPSi - Megan Stone: the SSA analysis unit 2 is projected to decline similarly to the listed unit 1. Could you describe why it was not considered a DPS or a significant portion of the range within the eastern DPS?

00:51:28.720 --> 00:51:31.019

EMPSi - Megan Stone: And we'll turn that over to Melissa.

00:51:32.300 --> 00:51:33.560

USFWS - Melissa Lombardi: Thanks, Megan.

00:51:33.840 --> 00:51:38.890

USFWS - Melissa Lombardi: Yes, so we apply the DPS policy sparingly.

00:51:38.940 --> 00:51:46.879

USFWS - Melissa Lombardi: And in our evaluation, in our recommendation, we assess the eastern and western portion of the range

00:51:46.960 --> 00:51:52.060

USFWS - Melissa Lombardi: based on the currently listed portion of the range and the 2006 petition.

00:51:52.940 --> 00:51:59.969

USFWS - Melissa Lombardi: Within that we determined that the western and eastern portions met the criteria of the DPS policy.

00:52:00.580 --> 00:52:07.359

USFWS - Melissa Lombardi: We evaluated the SSA analysis unit 2 in our significant portion of the range analyses,

00:52:07.480 --> 00:52:20.020

USFWS - Melissa Lombardi: both as part of our range-wide analysis, and for the Eastern DPS analysis. So like we described in the Notice of Finding, we looked at the 2 prongs of the Significant Portion of the Range policy.

00:52:20.120 --> 00:52:26.759

USFWS - Melissa Lombardi: So, a geographic area has to meet both the status prong and the significance prong.

00:52:26.890 --> 00:52:32.889

USFWS - Melissa Lombardi: If it doesn't meet either one of those, then the area is not an SPR, it's not a significant portion of the range.

00:52:33.320 --> 00:52:42.400



USFWS - Melissa Lombardi: So, we determine that unit 2 may have a different status, than either range-wide or the eastern DPS, and that for those is not warranted.

00:52:42.720 --> 00:52:48.870

USFWS - Melissa Lombardi: So, we then assess significance of the area under just the SPR policy.

00:52:49.340 --> 00:53:07.570

USFWS - Melissa Lombardi: And that again, that policy significance, it doesn't mean that the area is not important to conservation or that it's not needed to maintain and improve the species condition, it's restricted only to the definition of significance under the SPR policy and our current understanding of it.

00:53:08.420 --> 00:53:27.630

USFWS - Melissa Lombardi: Our decision-makers did not find that unit 2 contains a resource or an aspect of the life history that's unique to that area that is not available elsewhere in the range or in the eastern DPS, so did not rise to the level of an SPR,

00:53:27.640 --> 00:53:30.560

USFWS - Melissa Lombardi: either of range-wide or within the eastern DPS.

00:53:32.350 --> 00:53:34.360

EMPSi - Megan Stone: Great. Thank you, Melissa.

00:53:35.070 --> 00:53:37.580

EMPSi - Megan Stone: Our next question is,

00:53:37.660 --> 00:53:48.780

EMPSi - Megan Stone: how are the 5 geographic units which had different population status considered in the decision not to list the eastern population? And we'll turn that over to Nicole.

00:53:52.420 --> 00:53:54.229

USFWS - Nicole Rankin: Thank you, Megan.

00:53:54.950 --> 00:54:02.649

USFWS - Nicole Rankin: The eastern population of the gopher tortoise includes 4 of the SSA analysis units that Jo mentioned during her presentation.

00:54:02.950 --> 00:54:11.279

USFWS - Nicole Rankin: So, we evaluated the species' current and future condition as we evaluated the eastern DPS in the context of the listing decision

00:54:11.310 --> 00:54:15.379

USFWS - Nicole Rankin: in this candidate portion of the range. So we looked at those 4 analysis units.

00:54:15.940 --> 00:54:18.389

USFWS - Nicole Rankin: The 4 units were evaluated as a whole,

00:54:18.940 --> 00:54:22.639

USFWS - Nicole Rankin: units 2 and 5, as Melissa has mentioned,

00:54:22.710 --> 00:54:29.729

USFWS - Nicole Rankin: were identified as potential geographic areas to be evaluated under the Significant Portion of the Range policy.

00:54:31.130 --> 00:54:39.530

USFWS - Nicole Rankin: Additionally, we have not received any other petitions for the species and have no other assessments or review in process at this time.

00:54:44.470 --> 00:54:45.479

EMPSi - Megan Stone: Perfect.

00:54:46.280 --> 00:54:47.140

EMPSi - Megan Stone: All right.

00:54:47.210 --> 00:54:52.880

EMPSi - Megan Stone: Our next question is, why are the representative units from the SSA

00:54:52.950 --> 00:54:58.909

EMPSi - Megan Stone: not considered when defining Distinct Population Segments? And we'll turn that over to Jo.

00:55:00.130 --> 00:55:01.339

USFWS - Jo Emanuel: Thanks.

00:55:01.530 --> 00:55:10.190

USFWS - Jo Emanuel: The delineation of analysis units was intended for the purposes of analysis for context and comparison within the SSA only.

00:55:10.290 --> 00:55:24.430

USFWS - Jo Emanuel: These analysis units were not delineated as listing boundaries, and as I mentioned in the presentation, we did base the analysis unit delineations on our current genetic understandings, those barriers to dispersal, those big rivers,

00:55:24.560 --> 00:55:30.950

USFWS - Jo Emanuel: eco-regions from the level 4 eco-regions list, as well as our species experts.

00:55:30.980 --> 00:55:41.789

USFWS - Jo Emanuel: We assessed the listed western portion of the range, and the candidate petitioned eastern portion of the range when evaluating the portions as Distinct Population Segments.

00:55:44.830 --> 00:55:46.439

EMPSi - Megan Stone: Great. Thank you, Jo.

00:55:47.120 --> 00:55:57.220

EMPSi - Megan Stone: Alright. Our next question is, is the Service considering the development of a 4(d) rule for the western population? And we'll turn that over to Nicole.

00:55:59.110 --> 00:56:00.400

USFWS - Nicole Rankin: Thank you, Megan.

00:56:00.560 --> 00:56:17.719

USFWS - Nicole Rankin: So, depending on our workload and our other priorities, we'll consider a Revision of Entity notice for the western DPS, and at that time we would consider a species specific 4(d) rule that includes the regulations that are necessary and advisable for the conservation of the DPS

00:56:17.780 --> 00:56:27.479

USFWS - Nicole Rankin: At this moment in time, the species does have a 4(d) rule in terms of it receives the blanket protections of an endangered species

00:56:27.540 --> 00:56:30.009

USFWS - Nicole Rankin: at the time it was originally listed.

00:56:32.110 --> 00:56:33.839

EMPSi - Megan Stone: Great. Thank you.

00:56:34.990 --> 00:56:43.029

EMPSi - Megan Stone: All right. So, the following questions center around state protections and conservation efforts. Our first question is,

00:56:43.060 --> 00:56:51.880

EMPSi - Megan Stone: what will happen if states and others do not continue the conservation efforts or State protections change? And again, we'll turn that over to Nicole.

00:56:53.460 --> 00:56:54.729

USFWS - Nicole Rankin: Thanks, Megan.

00:56:55.130 --> 00:57:03.069

USFWS - Nicole Rankin: So, as Jo mentioned during her presentation, in our determination we considered implemented and ongoing conservation efforts

00:57:03.230 --> 00:57:19.760

USFWS - Nicole Rankin: that we expect to continue. So if the best available information indicates that the condition of the species has changed or is changing in the future, then we would--we may choose to undertake a discretionary review of the species status, or we could be petitioned again.

00:57:19.830 --> 00:57:23.020

USFWS - Nicole Rankin: And then we would undertake that status review at that time.

00:57:25.370 --> 00:57:26.899

EMPSi - Megan Stone: Great, Thank you.

00:57:27.680 --> 00:57:38.890

EMPSi - Megan Stone: Our next question is a combination of a few questions seeking clarification whether the determination will impact forestry practices.

00:57:39.060 --> 00:57:46.310

EMPSi - Megan Stone: If it will reduce any direct cost to home construction or development rules for relocation requirements,

00:57:46.530 --> 00:57:49.779

EMPSi - Megan Stone: and if transmission lines are

00:57:50.040 --> 00:57:51.319

EMPSi - Megan Stone: affected.

00:57:51.420 --> 00:57:52.899

EMPSi - Megan Stone: So,

00:57:53.210 --> 00:58:01.769

EMPSi - Megan Stone: pre-registered participants asked what changes the Finding entails for the eastern DPS, if any?

00:58:01.860 --> 00:58:09.569

EMPSi - Megan Stone: And we'll go ahead and turn that over to Melissa, and just let me know if there's any parts of that question you want me to repeat.

00:58:14.950 --> 00:58:16.950

USFWS - Melissa Lombardi: Thanks, Megan.

00:58:17.460 --> 00:58:18.879

USFWS - Melissa Lombardi: No, I think I'm good for that.

00:58:18.970 --> 00:58:20.129

USFWS - Melissa Lombardi: So,

00:58:20.460 --> 00:58:21.859

USFWS - Melissa Lombardi: we just want to

00:58:22.060 --> 00:58:28.469

USFWS - Melissa Lombardi: be clear there's no Federal delisting action in our Notice of Finding for gopher tortoise.

00:58:28.810 --> 00:58:37.179

USFWS - Melissa Lombardi: The western portion of the range will remain listed as a threatened species, and retain those protections under the Endangered Species Act.

00:58:37.750 --> 00:58:43.729

USFWS - Melissa Lombardi: In the eastern portion of the range, the Eastern DPS, what we refer to as the candidate range,

00:58:43.980 --> 00:58:50.399

USFWS - Melissa Lombardi: the species has not previously been Federally listed as an endangered or threatened species.

00:58:50.680 --> 00:58:57.329

USFWS - Melissa Lombardi: So, the Notice of Finding concludes that Federal protection as an endangered or threatened species

00:58:57.490 --> 00:59:01.610

USFWS - Melissa Lombardi: east of the Mobile and Tombigbee rivers is not warranted at this time.

00:59:01.730 --> 00:59:07.250

USFWS - Melissa Lombardi: So, there's essentially no change to the Federal listing configurations for gopher tortoise.

00:59:07.520 --> 00:59:12.919

USFWS - Melissa Lombardi: We do expect that state protections and regulations will remain in place.

00:59:15.640 --> 00:59:21.499

EMPSi - Megan Stone: Perfect. Thank you, Melissa. This one's a little bit similar. The question is,

00:59:21.560 --> 00:59:25.490

EMPSi - Megan Stone: how will State protections for the gopher tortoise change?

00:59:25.620 --> 00:59:31.099

EMPSi - Megan Stone: And we'll go ahead and turn that over to Lourdes, and she's not--

00:59:31.390 --> 00:59:39.799

EMPSi - Megan Stone: I know she was having some connectivity issues. We'll go ahead and turn that over to Nicole.

00:59:40.210 --> 00:59:58.899

USFWS - Nicole Rankin: So, I think Melissa did a really great job of partially answering this question already. But I'll just kind of reiterate that our Notice of Finding did not change the species State listed status, or any state regulations or protections, or existing agreements that are in place.

00:59:59.180 --> 01:00:06.360

USFWS - Nicole Rankin: And we expect that states will continue to work towards the conservation of the species, and that regulations and protections for the gopher tortoise

01:00:06.430 --> 01:00:08.859

USFWS - Nicole Rankin: at the state level will remain in place.

01:00:08.900 --> 01:00:19.519

USFWS - Nicole Rankin: We will continue to work with our State partners and other conservations on conservation efforts for the gopher tortoise, as well as other species that occur within the range of the species.

01:00:20.340 --> 01:00:22.120

EMPSi - Megan Stone: Great. Thank you.

01:00:23.050 --> 01:00:32.289

EMPSi - Megan Stone: Our next question is, will all mandatory actions in the eastern range now be handled on a State-by-State basis?

01:00:32.390 --> 01:00:35.009

EMPSi - Megan Stone: And we'll go ahead and turn that over to Jo.

01:00:38.140 --> 01:00:39.929

USFWS - Jo Emanuel: Thank you.

01:00:39.960 --> 01:00:45.919

USFWS - Jo Emanuel: State regulations and permitting programs, as we've said, a few times will remain in place.

01:00:46.120 --> 01:00:51.859

USFWS - Jo Emanuel: The Service's gopher tortoise guidelines are in place and can support safe conservation efforts.

01:00:51.980 --> 01:01:01.480

USFWS - Jo Emanuel: State conservation programs, including translocation or other mitigation efforts, will continue to be managed and administered by the appropriate state agency

01:01:01.510 --> 01:01:04.209

USFWS - Jo Emanuel: as they were prior to our decision.

01:01:04.270 --> 01:01:11.830

USFWS - Jo Emanuel: The Service's decision does not affect these programs or other management plans, so those should continue to guide these efforts.

01:01:14.360 --> 01:01:16.220

EMPSi - Megan Stone: Great, Thank you.

01:01:16.620 --> 01:01:18.759

EMPSi - Megan Stone: Our next question is,

01:01:18.830 --> 01:01:32.110

EMPSi - Megan Stone: before August 2007 Florida issued Incidental Take Permits to developers that allowed them to bury tortoises without relocating them in exchange for habitat mitigation fees.

01:01:32.120 --> 01:01:39.239

EMPSi - Megan Stone: Although the State of Florida changed that policy, the permits issued before August 2007 don't expire.

01:01:39.370 --> 01:01:42.509

EMPSi - Megan Stone: Many of these lands currently remain undeveloped,

01:01:42.670 --> 01:02:00.180

EMPSi - Megan Stone: however, an estimated 22,000 gopher tortoises will be legally entombed if these lands are developed. How can the U.S. Fish and Wildlife Service justify this in its decision to not Federally protect the gopher tortoise in its eastern range?

01:02:00.300 --> 01:02:03.009

EMPSi - Megan Stone: And we'll go ahead and turn that over to Jo.

01:02:05.430 --> 01:02:18.249

USFWS - Jo Emanuel: Thank you. So, between 1991 and 2007, the Incidental Take Permit regulatory program generated approximately 55 million dollars in mitigation funding

01:02:18.270 --> 01:02:25.110

USFWS - Jo Emanuel: that resulted in the acquisition of over 15,000 acres of land specifically purchased for gopher tortoise conservation.

01:02:25.400 --> 01:02:31.170

USFWS - Jo Emanuel: So, these lands are perpetually managed for gopher tortoises, using funding from the state of Florida.

01:02:31.450 --> 01:02:38.209

USFWS - Jo Emanuel: And, although the Incidental Take Permits are no longer issued, they are perpetual with many of them still active.

01:02:38.440 --> 01:02:49.919

USFWS - Jo Emanuel: The Incidental Take Permit permittees do have the option to relocate gopher tortoises on site, or they can amend their permit to relocate gopher tortoises to an approved recipient site

01:02:49.970 --> 01:03:00.220



USFWS - Jo Emanuel: with no additional mitigation costs. So, between 2009 and early 2019 there have been 151 of these Incidental Take Permits

01:03:00.670 --> 01:03:04.070

USFWS - Jo Emanuel: that have the humane relocation amendments that have resulted

01:03:04.290 --> 01:03:10.599

USFWS - Jo Emanuel: in the relocation of gopher tortoises off development sites to FWC- approved recipient sites.

01:03:10.760 --> 01:03:17.339

USFWS - Jo Emanuel: And this has resulted in the humane relocation of more than 5,000 gopher tortoises. And so, by comparison

01:03:17.380 --> 01:03:26.769

USFWS - Jo Emanuel: prior to 2009, there were a total of 27 humane relocation amendments resulting in the relocation of over 1,200 gopher tortoises prior to that.

01:03:30.220 --> 01:03:31.520

USFWS - Jo Emanuel: Great, thank you.

01:03:33.980 --> 01:03:44.550

EMPSi - Megan Stone: Awesome. We'll move on to our next question. The Service received a few questions about protections of gopher tortoise populations in south Florida.

01:03:44.630 --> 01:03:47.469

EMPSi - Megan Stone: And we'll go ahead and turn that over to John.

01:03:58.440 --> 01:03:59.700

USFWS - John Tupy: Yeah, hi.

01:04:01.920 --> 01:04:03.209

USFWS - John Tupy: So,

01:04:03.480 --> 01:04:07.690

USFWS - John Tupy: we used the best scientific and commercial information

01:04:07.900 --> 01:04:17.539

USFWS - John Tupy: to inform our decision. We considered the populations across the range, including those in south Florida for which we had data.

01:04:17.670 --> 01:04:24.559

USFWS - John Tupy: Again, thinking about those populations where we had spatially explicit data.

01:04:24.810 --> 01:04:30.700

USFWS - John Tupy: As part of the SSA, we requested information from state and Federal partners and private landowners.

01:04:30.870 --> 01:04:35.029

USFWS - John Tupy: We received information from conservation and private lands, however

01:04:35.320 --> 01:04:42.650

USFWS - John Tupy: the data from some private lands was limited. It is important to note that data included in our analysis units

01:04:42.930 --> 01:04:47.780

USFWS - John Tupy: represents only a subset of gopher tortoises likely to occur on the landscape.

01:04:47.990 --> 01:04:55.800

USFWS - John Tupy: As such, population estimates within the SSA do not represent an assessment of all populations of gopher tortoises on the landscape.

01:04:55.940 --> 01:05:04.180

USFWS - John Tupy: But it does represent the best available information that we had at the time. And I'll just add another quick note.

01:05:04.250 --> 01:05:05.540

USFWS - John Tupy: It has

01:05:05.640 --> 01:05:16.239

USFWS - John Tupy: become apparent that there were some populations in extreme south Florida, Miami-Dade County, that might have been missed, so, we apologize for that.

01:05:18.720 --> 01:05:20.569

EMPSi - Megan Stone: Great, thank you.

01:05:21.380 --> 01:05:22.269

EMPSi - Megan Stone: Alright.

01:05:22.370 --> 01:05:26.220

EMPSi - Megan Stone: With that we'll move to our next question,

01:05:26.390 --> 01:05:28.760

EMPSi - Megan Stone: also related to Florida.

01:05:29.160 --> 01:05:38.039

EMPSi - Megan Stone: Florida is the heart of the tortoises range and is projected to have the greatest declines of the species over the next 80 years.

01:05:38.130 --> 01:05:40.859

EMPSi - Megan Stone: How can you defend not protecting it there?

01:05:41.390 --> 01:05:51.829

EMPSi - Megan Stone: Uncontrolled urban sprawl has caused a shortage of relocation sites, so this move to deny it protection seems flawed. And we'll turn that over to Jo.

01:05:54.810 --> 01:06:07.139

USFWS - Jo Emanuel: Thanks, Megan. So, the eastern DPS does comprise the majority of the current gopher tortoise range, so that occurs in portions of Alabama, Florida, Georgia, as well as South Carolina.

01:06:07.190 --> 01:06:14.169

USFWS - Jo Emanuel: And as we mentioned in the presentation, it does include the majority of gopher tortoise populations across the range.

01:06:14.360 --> 01:06:28.510

USFWS - Jo Emanuel: So Federal, state, non-governmental organizations, and private partners have provided information about the gopher tortoise numbers and habitat conditions in the eastern DPS to inform our analysis of the species condition.

01:06:28.980 --> 01:06:38.379

USFWS - Jo Emanuel: And so, all those threats, including habitat loss and fragmentation due to urbanization, climate warming, sea-level, rise, and habitat management affect the populations.

01:06:38.500 --> 01:06:41.109

USFWS - Jo Emanuel: Many of these populations are in good condition.

01:06:41.310 --> 01:06:52.199

USFWS - Jo Emanuel: So, in addition to that habitat restoration efforts, implementation of best management practices, and conservation measures specifically to benefit gopher tortoises have contributed

01:06:52.350 --> 01:06:54.750

USFWS - Jo Emanuel: to the current condition of the species.

01:06:55.150 --> 01:07:13.580

USFWS - Jo Emanuel: Future projections which included modeling of urbanization and development of the species condition show that many healthy populations will remain across the range. So, overall projections suggest that extinction risk for gopher tortoises in the eastern DPS is low in the future scenarios.

01:07:15.950 --> 01:07:17.040

EMPSi - Megan Stone: Thanks, Jo.

01:07:18.140 --> 01:07:28.459

EMPSi - Megan Stone: Okay, our next question is, will surveys, headstart, and habitat management programs continue to be funded? And we'll turn that over to John.

01:07:29.500 --> 01:07:35.399

USFWS - John Tupy: Sure. In the Western DPS, this species remains Federally listed

01:07:35.640 --> 01:07:43.930

USFWS - John Tupy: and this decision does not affect existing funding sources or processes. Service programs, including section 6 funding,

01:07:44.090 --> 01:07:48.899

USFWS - John Tupy: partners for fish and wildlife, coastal program and other collaborative

01:07:49.000 --> 01:07:54.990

USFWS - John Tupy: conservation programs will remain available for gopher tortoise conservation projects in the western DPS.

01:07:55.100 --> 01:08:01.409

USFWS - John Tupy: Gopher tortoises are state listed as endangered or threatened in Georgia, Florida, and South Carolina,

01:08:01.470 --> 01:08:02.180

USFWS - John Tupy: and

01:08:02.300 --> 01:08:11.309

USFWS - John Tupy: projects to benefit the species in those states may pursue funding under state administrative Service programs, including state wildlife grants.

01:08:11.430 --> 01:08:23.879

USFWS - John Tupy: Projects that benefit gopher tortoise habitat or co-occurring species, including red-cockaded woodpeckers and eastern indigo snake may also provide benefit to the eastern DPS populations.

01:08:24.080 --> 01:08:41.179

USFWS - John Tupy: In addition, other discretionary funding for gopher tortoise conservation efforts by state, federal, NGOs, or private organizations, including longleaf and sustainable forestry programs may be continued, based on those agency or organization policies.

01:08:41.310 --> 01:08:53.190

USFWS - John Tupy: However, the withdrawal of the candidate status for the eastern DPS means that the eastern DPS is not listed, petitioned, proposed, or a warranted but precluded

01:08:53.840 --> 01:09:10.190

USFWS - John Tupy: also known as a candidate species, so projects that solely benefit the gopher tortoise will no longer be eligible for Section 6 funding. However, any projects currently funded will continue to be funded and supported through the performance period of the grants.

01:09:12.060 --> 01:09:13.820

EMPSi - Megan Stone: Great. Thank you, John.

01:09:13.859 --> 01:09:16.259

EMPSi - Megan Stone: Our next question is,

01:09:17.250 --> 01:09:20.049

EMPSi - Megan Stone: what happens to the CCA now?

01:09:20.550 --> 01:09:23.450

EMPSi - Megan Stone: And we'll go ahead and turn that over to Melissa.

01:09:32.020 --> 01:09:33.389

USFWS - Melissa Lombardi: Thanks, Megan.

01:09:34.240 --> 01:09:45.460

USFWS - Melissa Lombardi: As far as the CCA, the existing agreements at the conservation agreements that we have with multiple other parties, including the CCA, are still in place.

01:09:45.710 --> 01:09:56.750

USFWS - Melissa Lombardi: We have no indication at this time that the parties to the agreements plan to discontinue the conservation actions that they carry out that are guided by those agreements.

01:09:57.940 --> 01:10:02.830

USFWS - Melissa Lombardi: The agreements do contain provisions for withdrawal of signatories to the agreements.

01:10:02.950 --> 01:10:08.030

USFWS - Melissa Lombardi: So, any of the participating State or Federal agencies, NGOs,

01:10:08.480 --> 01:10:14.719

USFWS - Melissa Lombardi: could choose that. But we have not had indication from partners that that's expected.

01:10:17.080 --> 01:10:18.539

EMPSi - Megan Stone: Great. Thank you.

01:10:19.930 --> 01:10:29.620

EMPSi - Megan Stone: Alright. Our next question is, will the Service maintain its strong support of partner efforts to enhance gopher tortoise habitat on private lands?

01:10:29.760 --> 01:10:31.929

EMPSi - Megan Stone: And we'll turn that over to Nicole.

01:10:38.040 --> 01:10:39.370

USFWS - Nicole Rankin: Thank you, Megan.

01:10:39.690 --> 01:10:40.510

USFWS - Nicole Rankin: Yeah,

01:10:40.580 --> 01:10:44.889

USFWS - Nicole Rankin: the Service strongly supports our conservation

01:10:45.000 --> 01:10:51.679

USFWS - Nicole Rankin: partners in the effort to enhance gopher tortoise habitat on private lands.

01:10:52.020 --> 01:10:57.330

USFWS - Nicole Rankin: Some Service funding, however, is prioritized for actions that benefit listed and at-risk species.

01:10:57.520 --> 01:10:58.879

USFWS - Nicole Rankin: With the at-risk

01:10:59.100 --> 01:11:05.330

USFWS - Nicole Rankin: species defined as a petitioned species, a species proposed for listing, or a candidate species.

01:11:05.880 --> 01:11:10.539

USFWS - Nicole Rankin: Any currently approved projects will be supported through the period of performance,

01:11:10.630 --> 01:11:17.380

USFWS - Nicole Rankin: and we expect to continue work with private landowners as well as our State agency partners and other organizations on conservation actions

01:11:17.430 --> 01:11:20.010

USFWS - Nicole Rankin: that enhance gopher tortoise habitat in the future.

01:11:23.350 --> 01:11:25.160

EMPSi - Megan Stone: Great. Thank you

01:11:27.080 --> 01:11:30.150

EMPSi - Megan Stone: All right. Our next question is,

01:11:30.280 --> 01:11:37.049

EMPSi - Megan Stone: you say that climate change will keep us from doing the prescribed burning that we need to do to maintain the habitat.

01:11:37.150 --> 01:11:40.640

EMPSi - Megan Stone: It seems like that's going to push the species to the brink

01:11:40.690 --> 01:11:45.040

EMPSi - Megan Stone: in that portion of the range. So, we'll turn that over to Mike.

01:11:46.810 --> 01:12:04.680

Texas A&M - Mike Marshall: Thank you, Megan. So, I think, first need to mention that we use Kupfer et al. 2020 as the model to investigate changes in fire due to climate change. And, while the implementation of prescribed fire may be challenging as a result of regional climate warming,

01:12:04.690 --> 01:12:16.030

Texas A&M - Mike Marshall: and particularly during the spring and summer, those models predict that the burn windows will shift over time with increased opportunities in the winter. So, you have a temporal component there.

01:12:16.210 --> 01:12:31.630

Texas A&M - Mike Marshall: Additionally, the same modeling suggests that there will be an increased risk of wildfire and a longer fire season. So, it's possible that an increase in wildfires may mitigate those predicted decreases in the number of available burned days.

01:12:31.810 --> 01:12:41.469

Texas A&M - Mike Marshall: Also, I'd like to add that land managers may utilize other tools, such as chemical or mechanical treatments to help offset that reduced ability to burn.

01:12:44.120 --> 01:12:45.749

EMPSi - Megan Stone: Great. Thank you, Mike.

01:12:46.920 --> 01:13:00.489

EMPSi - Megan Stone: Our next question, well, there were a few questions regarding what is being done to address the effects of hurricanes and coastal erosion on gopher tortoise habitat, and we'll turn that over to Nicole.

01:13:01.600 --> 01:13:02.780

USFWS - Nicole Rankin: Thank you, Megan.

01:13:03.340 --> 01:13:12.340

USFWS - Nicole Rankin: So, a primary defense of gopher tortoise habitat occurring in these coastal areas is to implement appropriate management and restoration actions.

01:13:12.800 --> 01:13:23.549



USFWS - Nicole Rankin: Other federal programs, including monitoring programs and the Fish and wildlife Service, as well as the National Park Service, as well as our science partners in the U.S. Geological Survey and other agencies

01:13:23.750 --> 01:13:30.129

USFWS - Nicole Rankin: are actively performing long-term monitoring of coastal systems to learn how these are changing and adapting over time.

01:13:30.590 --> 01:13:38.150

USFWS - Nicole Rankin: In addition, many of these same partners, as well as our State partners, have active restoration efforts occurring within coastal habitats.

01:13:41.990 --> 01:13:43.500

EMPSi - Megan Stone: Great, thank you.

01:13:44.120 --> 01:13:45.090

EMPSi - Megan Stone: Alright.

01:13:45.570 --> 01:13:52.980

EMPSi - Megan Stone: Our next question is, how are private landowners helping with conservation? And we'll turn that over to Jo.

01:13:55.100 --> 01:14:03.870

USFWS - Jo Emanuel: Thanks, Megan. So, for this we do estimate that approximately 80% of the land in the gopher tortoise range is in private ownership,

01:14:03.930 --> 01:14:10.730

USFWS - Jo Emanuel: and we recognize the important role that private landowners can play in improving the habitat conditions for gopher tortoises.

01:14:10.940 --> 01:14:23.729

USFWS - Jo Emanuel: So, private landowners contribute to conservation through management actions that promote an open canopy habitat condition that we discussed in the presentation. Looking to increase those herbaceous groundcover components,

01:14:23.770 --> 01:14:30.780

USFWS - Jo Emanuel: depending on site conditions and landowner goals, habitat management actions may also include the application of prescribed fire,

01:14:30.800 --> 01:14:36.340

USFWS - Jo Emanuel: mechanical treatments, which John's mentioned, looking again to create those open canopies,

01:14:36.620 --> 01:14:47.480

USFWS - Jo Emanuel: the 2013 Gopher Tortoise Conservation Strategy and a variety of best management practices and conservation initiatives to provide guidelines for gopher tortoise conservation on private lands.

01:14:47.710 --> 01:15:02.470

USFWS - Jo Emanuel: We do recommend coordinating with your local Fish and Wildlife Service Office, or your State agencies to develop a management plan or get technical assistance on best actions that could be mutually beneficial to your landowner goals as well as gopher tortoise habitat.

01:15:02.780 --> 01:15:07.690

USFWS - Jo Emanuel: And I think Leo may have had something to chime in on private landowners as well.

01:15:09.660 --> 01:15:16.169

USFWS - Leopoldo Miranda: Thank you, Jo. And I really appreciate this question, and all the others about private lands.

01:15:16.260 --> 01:15:19.449

USFWS - Leopoldo Miranda: As you have seen through the analysis here,

01:15:20.820 --> 01:15:32.149

USFWS - Leopoldo Miranda: a lot of what we've been considering within the Agency is on State, Federal land, protected land. But private lands are critical

01:15:32.280 --> 01:15:36.340

USFWS - Leopoldo Miranda: to the conservation of this species looking into the future.

01:15:36.590 --> 01:15:44.389

USFWS - Leopoldo Miranda: There are many, many programs out there, we have mentioned a few partners for Fish and Wildlife, we have mentioned the coastal program,

01:15:44.460 --> 01:15:58.820

USFWS - Leopoldo Miranda: but there's a lot of them. A farm bill, USDA farm bill programs that are also contributing to the conservation of the species. Anything that is done, for example,

01:15:59.220 --> 01:16:04.680

USFWS - Leopoldo Miranda: for red-cockaded woodpeckers within the range of the gopher tortoise, that benefits

01:16:04.740 --> 01:16:18.390

USFWS - Leopoldo Miranda: gopher tortoises. Working land for wildlife, and many, many other State and Federal programs, even private programs--Nature Conservancy and other NGOs that are contributing to this--

01:16:18.450 --> 01:16:26.480

USFWS - Leopoldo Miranda: regardless of the species, doesn't need to be just for gopher tortoises. But if you manage the habitat, often times,

01:16:26.560 --> 01:16:34.070

USFWS - Leopoldo Miranda: fire--you can see my background here--it's really important to maintain

01:16:34.100 --> 01:16:43.120

USFWS - Leopoldo Miranda: in the conservation of the gopher tortoises. The other thing is that the State regulations are really, really important, and we got

01:16:43.220 --> 01:16:45.639

USFWS - Leopoldo Miranda: a few of those questions earlier.

01:16:46.530 --> 01:16:52.920

USFWS - Leopoldo Miranda: One of the factors within the Endangered Species Act that we consider heavily

01:16:52.990 --> 01:17:11.719

USFWS - Leopoldo Miranda: are those regulatory mechanisms in place already that protect this species and all these States within the range of the gopher tortoise are doing an amazing job in protecting and regulating at this State level--not Federal--at the State level,

01:17:11.730 --> 01:17:17.690

USFWS - Leopoldo Miranda: those populations. So, that's something that we consider. If those regulations change

01:17:17.940 --> 01:17:20.620

USFWS - Leopoldo Miranda: and, let's say they get eliminated

01:17:20.780 --> 01:17:33.459

USFWS - Leopoldo Miranda: at the State level, that is something that might trigger the Fish and Wildlife Service to reconsider this kind of listing decision, or not listing decision.

01:17:33.540 --> 01:17:38.850

USFWS - Leopoldo Miranda: And, because condition will change, we will then

01:17:38.880 --> 01:17:42.990

USFWS - Leopoldo Miranda: very likely get petitioned to reconsider that decision.

01:17:43.010 --> 01:17:45.409

USFWS - Leopoldo Miranda: So, I just want to make

01:17:45.430 --> 01:17:55.599

USFWS - Leopoldo Miranda: really, really very, very clear that State regulations in place right now are helping the conservation of the gopher tortoise. If those change,

01:17:55.950 --> 01:18:11.639

USFWS - Leopoldo Miranda: that might change the landscape of the species, and we might need to reconsider the decision, or we might get petitioned to reconsider the petition. But again, in summary, private lands, conservation programs,

01:18:12.070 --> 01:18:20.640

USFWS - Leopoldo Miranda: programs from other Federal, State, and private entities are critical as well as the State-based regulations.

01:18:21.070 --> 01:18:21.940

USFWS - Leopoldo Miranda: Thank you.

01:18:23.380 --> 01:18:25.359

EMPSi - Megan Stone: Perfect. Thank you, Leo.

01:18:26.970 --> 01:18:39.830

EMPSi - Megan Stone: All right. We'll move on to our next question which is, what conservation efforts and practices have notably contributed to the recovery and conservation of the gopher tortoise?

01:18:39.970 --> 01:18:42.330

EMPSi - Megan Stone: And again, we'll turn that over to Jo.

01:18:43.970 --> 01:18:50.679

USFWS - Jo Emanuel: Thanks, Megan. So there's a good bit that we could unpack for this one, but during the SSA,

01:18:50.760 --> 01:18:59.509

USFWS - Jo Emanuel: there are many stakeholders that provided a lot of information to us that contributed to our knowledge of the condition of gopher tortoise populations and their habitat.

01:19:00.040 --> 01:19:04.899

USFWS - Jo Emanuel: This enabled us to complete a pretty robust analysis in the SSA.

01:19:05.160 --> 01:19:14.020

USFWS - Jo Emanuel: Additionally, we gathered information about the existing regulatory mechanisms that Leo just mentioned, various conservation efforts across the species range were considered.

01:19:14.170 --> 01:19:21.860

USFWS - Jo Emanuel: This is not an exhaustive list, but I'll rattle through some of the conservation actions that have directly contributed to gopher tortoise conservation.

01:19:21.920 --> 01:19:41.089

USFWS - Jo Emanuel: Since 2011 through concerted efforts of the Candidate Conservation Agreement for gopher tortoises as well as the Gopher Tortoise Initiative, and other projects to protect gopher tortoise habitat and gopher tortoise populations, we've seen more than 250,000 acres of land protected across the range.

01:19:41.430 --> 01:19:50.450

USFWS - Jo Emanuel: Additionally, as I mentioned in the present presentation, within Georgia alone, this Initiative has protected 26 viable populations of gopher tortoise.

01:19:50.930 --> 01:19:53.899

USFWS - Jo Emanuel: The Department of Defense Partners

01:19:54.290 --> 01:20:01.810

USFWS - Jo Emanuel: across 32 military installations have provided protections to gopher tortoises and habitat through direct involvement with the CCA

01:20:01.900 --> 01:20:09.070

USFWS - Jo Emanuel: as well as the incorporation of gopher tortoise management and protection measures in the installation INRMPs, which are their management plans.

01:20:09.390 --> 01:20:18.980

USFWS - Jo Emanuel: And to highlight this, we can look to long-standing partnerships such as the one we have with Eglin Air Force Base where habitat improvement and management has created conditions

01:20:19.100 --> 01:20:26.770

USFWS - Jo Emanuel: that were ideal for receiving thousands of translocated gopher tortoises, many of which came from those Incidental Take Permit sites.

01:20:27.080 --> 01:20:38.460

USFWS - Jo Emanuel: So, this effort has created within Eglin 10 viable populations where none existed prior to these efforts. So, there has been a lot that's gone on to conserve and recover.

01:20:39.330 --> 01:20:40.010

USFWS - Jo Emanuel: Next.

01:20:40.790 --> 01:20:42.400

EMPSi - Megan Stone: Great. Thank you.

01:20:43.200 --> 01:20:44.670

EMPSi - Megan Stone: Alright.

01:20:45.070 --> 01:20:53.599

EMPSi - Megan Stone: Our next question was regarding the effect of coyotes on gopher tortoise populations. And we'll turn that over to Mike.

01:20:55.460 --> 01:21:15.239

Texas A&M - Mike Marshall: Thank you, Megan. So, we certainly considered predation in the SSA. And I think in discussing this is, it would be helpful to think about individual versus population effects. So, predation of gopher tortoise nests is variable and gopher tortoises are most vulnerable to predation within the first year of life.

01:21:15.450 --> 01:21:27.550

Texas A&M - Mike Marshall: So, while raccoons are the most frequently reported predator of nests and juvenile gopher tortoises, other species, including coyotes, are known to predate nests and juvenile gopher tortoises.

01:21:27.870 --> 01:21:32.360

Texas A&M - Mike Marshall: Adult gopher tortoises are less likely to experience that predation

01:21:32.780 --> 01:21:35.779

Texas A&M - Mike Marshall: except by canines, including coyotes.

01:21:36.160 --> 01:21:48.479

Texas A&M - Mike Marshall: But while predation by coyotes may affect individuals, we could not quantify those effects at the population level and did not find that the threat from coyotes affected the species as a whole.

01:21:53.260 --> 01:21:54.999

EMPSi - Megan Stone: Great. Thank you.

01:21:55.870 --> 01:22:09.420

EMPSi - Megan Stone: Alright. Our next question is, can you please provide access to the data related to the models run for future projections of the species conditions across the range? And we'll turn that over to Nicole.

01:22:12.560 --> 01:22:21.590

USFWS - Nicole Rankin: Thank you, Megan. So, the published models used in our analyses, including SLEUTH, the NOAA models, and the others that

01:22:21.660 --> 01:22:33.600

USFWS - Nicole Rankin: Mike and Jo and Melissa mentioned earlier, are all publicly available, and the Species Status Assessment literature cited has more specific information about where those models can be

01:22:33.820 --> 01:22:37.110

USFWS - Nicole Rankin: accessed. And that is, as

01:22:37.200 --> 01:22:45.290

USFWS - Nicole Rankin: Melissa mentioned earlier, it's available at regulations.gov, so, if you go back to that slide, you can get more easy access to locating

01:22:45.530 --> 01:22:48.079

USFWS - Nicole Rankin: the literature cited.

01:22:48.170 --> 01:22:56.499

USFWS - Nicole Rankin: For the future condition model in the Species Status Assessment, location-specific and county-level data from years or decades of monitoring and surveys

01:22:56.530 --> 01:23:01.269

USFWS - Nicole Rankin: was provided to our team from other Federal agencies, State agencies,

01:23:01.330 --> 01:23:05.670

USFWS - Nicole Rankin: industry organizations, conservation organizations, and private landowners.

01:23:05.710 --> 01:23:12.389

USFWS - Nicole Rankin: And we cannot withhold that information when requested under the Freedom of Information Act request.

01:23:12.490 --> 01:23:18.690

USFWS - Nicole Rankin: So, data that we used in the run of our future model projections is available through that process.

01:23:21.110 --> 01:23:22.620

EMPSi - Megan Stone: Great, thank you.

01:23:23.480 --> 01:23:31.629

EMPSi - Megan Stone: And we have one last pre-registered question before we move into the live questions we've received so far.

01:23:31.820 --> 01:23:43.870

EMPSi - Megan Stone: This last question is, can you please describe how you estimated occupied and unoccupied potential habitat for the gopher tortoise? And we'll turn that over to Mike.

01:23:45.970 --> 01:24:09.319

Texas A&M - Mike Marshall: Thank you, Megan. So, I'm going to piggyback off of the last answer, here. There were many published models that we used in this SSA, and the central model that we used is a Crawford et al. model that you can find--it's publicly available--



and expert-informed habitat suitability analysis. So, we used that model for all habitat estimates

01:24:09.360 --> 01:24:12.740

Texas A&M - Mike Marshall: to get at occupied versus unoccupied.

01:24:12.810 --> 01:24:26.319

Texas A&M - Mike Marshall: The occupied habitat was estimated as the total amount of habitat, as shown by the Crawford et al. model contained within our spatially delineated population buffers that we discussed earlier.

01:24:26.800 --> 01:24:44.890

Texas A&M - Mike Marshall: So, the unoccupied would just be the estimated habitat that was outside of those buffers. So, although there could be tortoises occupying that habitat, we had no spatial data to estimate that. So, the occupied is just our spatially delineated populations,

01:24:44.900 --> 01:24:48.900

Texas A&M - Mike Marshall: and it's the habitat estimated within those population buffers.

01:24:51.670 --> 01:24:53.740

EMPSi - Megan Stone: Great. Thank you so much.

01:24:53.980 --> 01:25:01.339

EMPSi - Megan Stone: So, with that we'll go ahead and move on to the questions that have--they have been coming in through the chat feature.

01:25:01.590 --> 01:25:13.559

EMPSi - Megan Stone: Our first question that we have is, your model seems to predict a decline in populations in southwest Georgia, a relatively low human population area.

01:25:13.640 --> 01:25:16.939

EMPSi - Megan Stone: Why smaller populations, to begin with?

01:25:17.080 --> 01:25:19.649

EMPSi - Megan Stone: And we'll turn that over to Brian.

01:25:21.460 --> 01:25:22.610

USGS - Brian Folt: Thanks, Megan.

01:25:23.330 --> 01:25:30.749

USGS - Brian Folt: So, the scenarios that we simulated using the model, actually predicted populations to decline

01:25:30.810 --> 01:25:34.920

USGS - Brian Folt: across the entire species of the range, including southwest Georgia.

01:25:35.420 --> 01:25:37.569

USGS - Brian Folt: And, like the question suggested,

01:25:37.690 --> 01:25:49.189

USGS - Brian Folt: this result was largely because many of these populations in the current condition are extremely small, and have fewer than 3 adult females in the current condition, and that these populations

01:25:49.280 --> 01:25:52.900

USGS - Brian Folt: were unlikely to persist into the future

01:25:52.990 --> 01:25:54.759

USGS - Brian Folt: given the diverse

01:25:54.820 --> 01:26:02.240

USGS - Brian Folt: threats that we modeled. That included climate warming, changes in habitat management, urbanization, and sea-level rise.

01:26:03.190 --> 01:26:07.720

USGS - Brian Folt: And most of the future condition scenarios that we simulated predicted

01:26:07.830 → 01:26:11.349

USGS - Brian Folt: many populations to be unlikely to persist across

01:26:11.370 --> 01:26:13.870

USGS - Brian Folt: all of the different time steps that we simulated.

01:26:14.180 --> 01:26:23.489

USGS - Brian Folt: But, I'll also mention that all scenarios tended to predict many populations to also have extremely high persistence probabilities

01:26:23.690 --> 01:26:29.070

USGS - Brian Folt: in the future, including populations in southwest Georgia, and elsewhere throughout the species range.

01:26:32.470 --> 01:26:34.430

EMPSi - Megan Stone: Great. Thank you so much.

01:26:35.830 --> 01:26:36.809

EMPSi - Megan Stone: Alright.

01:26:38.700 --> 01:26:50.460

EMPSi - Megan Stone: We've got a few more questions coming in through the chat. Again, we'll be on answering questions until the scheduled end-time of this meeting,

01:26:50.520 --> 01:26:55.719

EMPSi - Megan Stone: so for the next 30 minutes, and if you'd like to submit a question

01:26:55.840 --> 01:27:01.429

EMPSi - Megan Stone: you can look at the instructions on up on the screen to do so.

01:27:01.680 --> 01:27:06.000

EMPSi - Megan Stone: So, with that we'll go ahead and

01:27:06.250 --> 01:27:09.999

EMPSi - Megan Stone: move on to our next question

01:27:10.250 --> 01:27:11.510

EMPSi - Megan Stone: which is,

01:27:12.210 --> 01:27:27.530

EMPSi - Megan Stone: the NRCS has reduced the FY '23 budget by 50%, or approximately 18.5 million this year alone, for WLFW gopher tortoise and the LLPI combined.

01:27:28.080 --> 01:27:36.390

EMPSi - Megan Stone: If those conservation practice funds are not restored, is it possible that this listing decision would be revisited in the future?

01:27:36.600 --> 01:27:42.529

EMPSi - Megan Stone: Was continuance of these programs for some period of time assumed in the decision?

01:27:42.590 --> 01:27:46.960

EMPSi - Megan Stone: And we'll go ahead and turn that over to Nicole and Leo.

01:27:50.090 --> 01:27:52.399

USFWS - Nicole Rankin: Hi Bridget, thanks for the question.

01:27:54.620 --> 01:28:04.250

USFWS - Nicole Rankin: So, I did want to mention that, you know, when we evaluate species under the Native Species Act we're evaluating it for the species. So, if there's a noticeable decline,

01:28:06.100 --> 01:28:24.410

USFWS - Nicole Rankin: then that's when we would re-evaluate the species. So, it wouldn't be tied to specific funds needing to be restored in order for us to revisit a decision. And the continuance of these programs were not part of our listing decision. As was mentioned previously, we did those future scenario projections

01:28:24.420 --> 01:28:42.520

USFWS - Nicole Rankin: and that looked at varying levels of habitat management in the future. And part of that was, you know, like a continuance of habitat management, but also a decrease in habitat management. So, just wanted to mention those things there and then I think Leo was going to also chime in here.

01:28:44.360 --> 01:28:50.180

USFWS - Leopoldo Miranda: Thank you, Nicole, and thank you, Bridget, for that extremely important question. And

01:28:50.260 --> 01:28:51.740

USFWS - Leopoldo Miranda: policy-wise,

01:28:51.840 --> 01:28:53.930

USFWS - Leopoldo Miranda: you know, Nicole is right on.

01:28:54.020 --> 01:28:57.180

USFWS - Leopoldo Miranda: That's something that--

01:28:57.810 --> 01:29:05.960

USFWS - Leopoldo Miranda: funding levels and all that--is not part of the equation. However, across the landscape, all the conservation actions

01:29:06.200 → 01:29:11.340

USFWS - Leopoldo Miranda: that have been going on for many years are assumed to continue

01:29:12.190 --> 01:29:19.659

USFWS - Leopoldo Miranda: in terms of farm bill programs, regardless if it is working land for wildlife, equip,

01:29:19.800 --> 01:29:25.900

USFWS - Leopoldo Miranda: Forest Service, forest stewardship programs, Fish and Wildlife Service programs. Things like that

01:29:26.020 --> 01:29:34.330

USFWS - Leopoldo Miranda: we are definitely expecting that those continue. If they stop,

01:29:34.370 --> 01:29:42.760

USFWS - Leopoldo Miranda: or are significantly reduced, that could have an effect across the landscape,

01:29:42.950 --> 01:29:50.690

USFWS - Leopoldo Miranda: and that might result in reductions of the residency of the species.

01:29:50.930 --> 01:30:06.930

USFWS - Leopoldo Miranda: So, that's something to keep an eye on because we are definitely relying on, not only on public, Federal, and State land, but also on private lands and continuation of those management and stewardship practices. So,

01:30:07.370 --> 01:30:09.370

USFWS - Leopoldo Miranda: the

01:30:09.710 --> 01:30:22.790

USFWS - Leopoldo Miranda: black and white answer in terms of the specific programs on these levels, the answer is no, that is not part of the equation. However, if there is an effect of reduced

01:30:22.880 --> 01:30:34.079

USFWS - Leopoldo Miranda: conservation actions, proactive, voluntary, non-regulatory actions across the landscape, that's something that we will definitely keep an eye on.

01:30:34.350 --> 01:30:45.559

USFWS - Leopoldo Miranda: And I'm sure that many of our partners out there will be keeping close attention to that. If there are significant reductions in those practices--

01:30:45.610 --> 01:30:55.109

USFWS - Leopoldo Miranda: like my background here. If that's on private lands, if we stop doing prescribed burning, habitat restoration for open pine systems

01:30:55.360 --> 01:30:58.809

USFWS - Leopoldo Miranda: across the landscape, that's something to be concerned.

01:30:58.890 --> 01:31:09.989

USFWS - Leopoldo Miranda: So, thank you for that that question, because private lands conservation, and all the programs that support that are critical

01:31:10.020 --> 01:31:13.969

USFWS - Leopoldo Miranda: to the conservation of this species, and many, many other species too.

01:31:14.020 --> 01:31:14.940

USFWS - Leopoldo Miranda: Thank you.

01:31:15.400 --> 01:31:18.490

EMPSi - Megan Stone: Perfect. Thank you so much, Nicole and Leo.

01:31:19.260 --> 01:31:23.509

EMPSi - Megan Stone: Alright. We'll move to our next question from the chat

01:31:23.610 --> 01:31:24.870

EMPSi - Megan Stone: which was,

01:31:25.170 --> 01:31:30.300

EMPSi - Megan Stone: how can you model GT populations, private versus public lands,

01:31:30.390 --> 01:31:40.090

EMPSi - Megan Stone: when in most cases objectives are very different? Timber production versus ecological habitat manipulation (fire).

01:31:40.290 --> 01:31:47.139

EMPSi - Megan Stone: And we'll go ahead and turn that over to Mike, and then see if Leo has anything he'd like to add.

01:31:48.380 --> 01:31:51.529

Texas A&M - Mike Marshall: Sure, Thank you. So,

01:31:51.540 --> 01:32:19.159

Texas A&M - Mike Marshall: it really can be boiled down to one thing-- our ability to model these gopher tortoise populations into the future came down to one thing: whether or not we could actually spatially delineate those populations on a map. So, in the case of the private lands data, we did not have spatially explicit information. It was covered earlier that we use county centroids. So, really

01:32:19.170 --> 01:32:37.209

Texas A&M - Mike Marshall: our ability to model those populations did not come down to management objectives being different. It came down to the fact that we just didn't have the ability to model those things because of the spatial context. I'll hand it over to Leo to maybe to talk about the differences in management objectives.

01:32:38.580 --> 01:32:47.430

USFWS - Leopoldo Miranda: Thank you, Mike. And this is another excellent question here because as you can see,

01:32:48.260 --> 01:32:57.820

USFWS - Leopoldo Miranda: we rely on the best available information, solid information. So, we have been very conservative in terms of what

01:32:58.100 --> 01:33:00.519

USFWS - Leopoldo Miranda: conservation actions are out there.

01:33:00.650 --> 01:33:07.579

USFWS - Leopoldo Miranda: So, we rely a lot in those models on data from State and Federal--

01:33:08.010 --> 01:33:10.330

USFWS - Leopoldo Miranda: public entities basically.

01:33:10.500 --> 01:33:14.549

USFWS - Leopoldo Miranda: But on private lands, we have been very limited.

01:33:15.110 --> 01:33:21.700

USFWS - Leopoldo Miranda: But we know that there's a lot of really good conservation happening on private lands, like the previous question.

01:33:21.730 --> 01:33:30.080

USFWS - Leopoldo Miranda: Using farm bill programs, that is millions and millions of dollars going directly to that kind of habitat management.

01:33:30.400 --> 01:33:33.660

USFWS - Leopoldo Miranda: In terms of the objective, the

01:33:35.270 --> 01:33:40.579

USFWS - Leopoldo Miranda: potential conflict between private landowner objective of producing

01:33:40.700 --> 01:33:42.679

USFWS - Leopoldo Miranda: fiber, timber--

01:33:42.760 --> 01:33:43.580

USFWS - Leopoldo Miranda: that

01:33:43.930 --> 01:34:00.259

USFWS - Leopoldo Miranda: versus the conservation of the species--we know that those tortoises still have really healthy populations in those lands, many private lands, including industrial timber.

01:34:00.360 --> 01:34:02.940

USFWS - Leopoldo Miranda: So, what is happening there

01:34:03.200 --> 01:34:05.660

USFWS - Leopoldo Miranda: is actually benefiting the tortoises,

01:34:05.780 --> 01:34:07.330

USFWS - Leopoldo Miranda: I'd rather see

01:34:07.410 --> 01:34:20.819

USFWS - Leopoldo Miranda: timberland than shopping malls, right? So, that's something that we need to probably get even better data in terms of what are the conservation

01:34:21.050 --> 01:34:40.230

USFWS - Leopoldo Miranda: best management practices that are already happening that allows the gopher tortoise to exist in healthy



populations in those- on those lands. So, that's something that I would like to explore even further.

01:34:40.340 --> 01:34:48.360

USFWS - Leopoldo Miranda: But in terms of the conflict, whatever is happening there, we still have the tortoises for many, many decades.

01:34:49.220 --> 01:35:06.180

USFWS - Leopoldo Miranda: Let's explore what those BMPs (best management practices) are on those private lands that are also producing a fiber, timber, --those working lands are really important to the conservation of the species, not just public lands.

01:35:06.860 --> 01:35:07.690

USFWS - Leopoldo Miranda: Thank you.

01:35:07.740 --> 01:35:10.260

EMPSi - Megan Stone: Perfect. Thank you, guys, so much.

01:35:10.660 --> 01:35:11.660

EMPSi - Megan Stone: Alright.

01:35:11.730 --> 01:35:23.659

EMPSi - Megan Stone: And, we do just want to remind folks that tonight we want to ensure the chat feature is used for questions only. So, if there is any information

01:35:23.670 --> 01:35:32.510

EMPSi - Megan Stone: that you have about the gopher tortoise you can feel free to send that to the gopher tortoise email which we'll provide

01:35:32.640 --> 01:35:35.050

EMPSi - Megan Stone: on the closing remark slide.

01:35:35.070 --> 01:35:39.109

EMPSi - Megan Stone: But again, we'll hope to keep this

01:35:39.240 --> 01:35:42.309

EMPSi - Megan Stone: this session focused on questions.

01:35:49.270 --> 01:35:53.389

EMPSi - Megan Stone: And right now, I don't see that we have

01:35:55.460 --> 01:36:00.300

EMPSi - Megan Stone: many more questions in the chat. It looks like we have around

01:36:00.350 --> 01:36:05.800

EMPSi - Megan Stone: 20 min or so left in our question-and-answer session tonight.

01:36:05.870 --> 01:36:09.530

EMPSi - Megan Stone: There have been a few questions

01:36:09.590 --> 01:36:14.690

EMPSi - Megan Stone: that have been really in depth and require a little bit

01:36:14.770 --> 01:36:22.049

EMPSi - Megan Stone: more thought, so, we do encourage those again to be submitted to the gopher tortoise email.

01:36:22.080 --> 01:36:25.979

EMPSi - Megan Stone: And if anyone wants to add anything to that,

01:36:26.160 --> 01:36:27.350

EMPSi - Megan Stone: feel free.

01:36:33.340 --> 01:36:36.459

EMPSi - Megan Stone: So, with that we'll wait until

01:36:38.730 --> 01:36:40.960

EMPSi - Megan Stone: more questions come in.

01:36:56.960 --> 01:37:14.800

EMPSi - Megan Stone: Alright. Our next question is, was the assessment of juveniles considered for future scenario projections, or only females? If juveniles were considered in the analysis, how does their survival into adulthood persist into the future?

01:37:14.810 --> 01:37:25.889

EMPSi - Megan Stone: Are major declines in future generations expected in light of the threats, and were they considered in the no listing determination? And we'll turn that over to Brian.

01:37:29.110 --> 01:37:31.220

USGS - Brian Folt: Thanks, Megan.

01:37:31.750 --> 01:37:37.920

USGS - Brian Folt: For this question, the answer is that yes, the survival of juveniles was considered

01:37:38.010 --> 01:37:42.510

USGS - Brian Folt: in the modeling analysis across all the different scenarios.

01:37:42.800 --> 01:37:53.250

USGS - Brian Folt: We modeled juvenile survival using the best available data and we did account for

01:37:53.370 --> 01:37:57.729

USGS - Brian Folt: the juvenile component of these populations in those analyses.

01:37:58.510 --> 01:38:01.390

USGS - Brian Folt: But to the- to the second

01:38:02.370 --> 01:38:06.450

USGS - Brian Folt: point-- So the first question is, where juveniles is considered? Yes.

01:38:06.550 --> 01:38:08.280

USGS - Brian Folt: Second part is,

01:38:10.110 --> 01:38:13.619

USGS - Brian Folt: how does their survival into adulthood persist into the future?

01:38:13.670 --> 01:38:19.830

USGS - Brian Folt: Most of the effects of the model in our scenario analysis related to adult survival,

01:38:19.900 --> 01:38:23.269

USGS - Brian Folt: it wasn't specific to juveniles. So,

01:38:23.290 --> 01:38:26.629

USGS - Brian Folt: that's kind of my answer to that. And then the last bit was,

01:38:29.260 --> 01:38:31.030

USGS - Brian Folt: are major declines...

01:38:31.950 --> 01:38:33.599

USGS - Brian Folt: let's see...

01:38:33.980 --> 01:38:40.549

USGS - Brian Folt: I can't comment on the on the last part of the question, but maybe with some more thought we could get back to you about that.

01:38:40.920 --> 01:38:41.770

USGS - Brian Folt: Thank you.

01:38:42.400 --> 01:38:48.469

EMPSi - Megan Stone: Great, thank you, Brian. And Nicole, do you have any more to add to

01:38:48.790 --> 01:38:51.920

EMPSi - Megan Stone: that listing component of the question?

01:38:52.890 --> 01:39:08.369

USFWS - Nicole Rankin: Sure, yeah. So I'll just mention, you know, everything that was in the Species Status Assessment, including in that modeling effort, was considered in our determination into the decision that it wasn't warranted for listing in the eastern portion of the range.

01:39:11.700 --> 01:39:13.710

EMPSi - Megan Stone: Great. Thank you, Nicole.

01:39:14.570 --> 01:39:15.550

EMPSi - Megan Stone: Alright.

01:39:17.520 --> 01:39:21.600

EMPSi - Megan Stone: We'll wait as more questions come in through the chat.

01:39:30.720 --> 01:39:31.719

EMPSi - Megan Stone: And I

01:39:32.170 --> 01:39:40.749

EMPSi - Megan Stone: don't see any hands raised. But again, if we do have any phone callers on tonight who would like to ask a question, you can do so by raising

01:39:40.830 --> 01:39:45.380

EMPSi - Megan Stone: your hand through pressing \* 9 on your phone keypad.

01:39:47.970 --> 01:39:50.640

EMPSi - Megan Stone: So, with that

01:39:50.760 --> 01:39:54.499

EMPSi - Megan Stone: we'll go ahead and turn back to the questions coming in through the chat.

01:39:56.380 --> 01:39:58.370

EMPSi - Megan Stone: Our next question is,

01:39:58.570 --> 01:40:12.730

EMPSi - Megan Stone: at a couple of different points, the clay soils in the western DPS have been mentioned as unique to that portion of the range and an important factor in the determination of unit 1 as the DPS.

01:40:12.940 --> 01:40:20.440

EMPSi - Megan Stone: Is there any evidence to suggest that the soils in unit 1 are significantly different than those in unit 2?

01:40:20.480 --> 01:40:27.980

EMPSi - Megan Stone: The Crawford et al. 2020 papers cited in the SSA actually show a nearly identical relationship

01:40:28.040 --> 01:40:33.550

EMPSi - Megan Stone: between soil drainage and modeled habitat suitability in these 2 units.

01:40:33.640 --> 01:40:42.529

EMPSi - Megan Stone: Nor do these regions appear to be unique in this relationship relative to the other modeled eco-regions. In fact,

01:40:43.130 --> 01:40:52.530

EMPSi - Megan Stone: SFL seem to be the only eco-region for which soil drainage stood out as different than in other eco-regions.

01:40:53.360 --> 01:40:56.469

EMPSi - Megan Stone: And we'll go ahead and

01:40:56.580 --> 01:40:59.759

EMPSi - Megan Stone: turn that over to

01:41:00.070 --> 01:41:01.030

EMPSi - Megan Stone: Melissa.

01:41:02.100 --> 01:41:04.269

USFWS - Melissa Lombardi: Thanks, Megan, and thanks Neal.

01:41:04.370 --> 01:41:20.360

USFWS - Melissa Lombardi: Yeah. So, in the SSA we did point out the difference in soils and kind of between units, and especially between units 1 and 2, and the remainder of the range, so those more clay type soils.

01:41:20.580 --> 01:41:31.169

USFWS - Melissa Lombardi: And we noted that as an influence on the species, in that gopher tortoises in those 2 units with those more clay soils tend to have

01:41:31.270 --> 01:41:35.630

USFWS - Melissa Lombardi: a smaller clutch size, lower reproductive success, that kind of thing.

01:41:35.920 --> 01:41:37.280

USFWS - Melissa Lombardi: So,

01:41:37.330 --> 01:41:46.060

USFWS - Melissa Lombardi: we thought about that as we looked at species status, species condition, those influences on the species.

01:41:46.580 --> 01:41:52.750

USFWS - Melissa Lombardi: In thinking about whether an area is a Distinct Population Segment, though

01:41:53.120 --> 01:42:07.970

USFWS - Melissa Lombardi: we need to meet the discrete portion and the significance portion. So, discrete is that markedly separate based on biological or ecological or genetic or physical factors.

01:42:08.290 --> 01:42:13.299

USFWS - Melissa Lombardi: So, we looked at the physical separation, and then the genetic separation

01:42:13.430 --> 01:42:22.999

USFWS - Melissa Lombardi: for DPS, but in our Federal Register notice we didn't rely on those ecological differences for DPS.

01:42:25.010 --> 01:42:27.160

USFWS - Melissa Lombardi: But yeah, we did look

01:42:27.200 --> 01:42:30.720

USFWS - Melissa Lombardi: at soils and think about how those influence gopher tortoises.

01:42:33.770 --> 01:42:36.349

EMPSi - Megan Stone: Great. Thank you so much, Melissa.

01:42:41.870 --> 01:42:42.990

EMPSi - Megan Stone: Alright.

01:42:46.610 --> 01:42:49.280

EMPSi - Megan Stone: Our next question in the chat

01:42:50.080 --> 01:42:52.189

EMPSi - Megan Stone: is,

01:42:52.370 --> 01:42:59.700

EMPSi - Megan Stone: were potential increased temperature effects on hatchling sex ratios included in the models?

01:43:04.080 --> 01:43:06.039

USGS - Brian Folt: I'd be happy to answer this question.

01:43:06.370 --> 01:43:07.819

USGS - Brian Folt: This is Brian Folt.

01:43:08.350 --> 01:43:10.780

USGS - Brian Folt: We did not include

01:43:12.050 --> 01:43:19.509

USGS - Brian Folt: a component in the model to account for hatchling sex ratios as a response to changing temperatures.

01:43:19.740 --> 01:43:24.840

USGS - Brian Folt: We did this because gopher tortoises currently inhabit a very

01:43:24.860 --> 01:43:30.170

USGS - Brian Folt: substantial latitudinal gradient in temperature conditions across the species range with

01:43:30.270 --> 01:43:34.369

USGS - Brian Folt: really warm nesting conditions in south Florida, and cooler nesting conditions

01:43:34.530 --> 01:43:36.529

USGS - Brian Folt: in northern parts of the species range.

01:43:36.620 --> 01:43:43.190

USGS - Brian Folt: And there is some evidence that females have the ability to choose where they put their nest in order to

01:43:43.240 --> 01:43:49.559

USGS - Brian Folt: create a relatively equal sex ratio of that nest. So for that reason, we did not model--

01:43:49.640 --> 01:43:52.319

USGS - Brian Folt: we did not include

01:43:52.770 --> 01:43:56.589

USGS - Brian Folt: climate warming effects on sex ratios of nesting choices.

01:43:57.130 --> 01:43:57.960

USGS - Brian Folt: Thank you.

01:43:59.380 --> 01:44:01.149

EMPSi - Megan Stone: Great, thank you, Brian.

01:44:01.300 --> 01:44:05.079

EMPSi - Megan Stone: We have another question here that you might be able to answer.

01:44:05.280 --> 01:44:07.909

EMPSi - Megan Stone: The question is,

01:44:08.800 --> 01:44:12.379

EMPSi - Megan Stone: while analyzing gopher tortoise populations--

01:44:14.540 --> 01:44:22.430

EMPSi - Megan Stone: I think this is a typo--what the number of gopher tortoises considered as a minimum viable population?



01:44:22.730 --> 01:44:32.370

EMPSi - Megan Stone: What was minimum number of acres considered for MVP? And we can actually go to Jo as well, if you have something to add there.

01:44:35.620 --> 01:44:39.269

USGS - Brian Folt: I can start. And I'll just say that in

01:44:39.530 --> 01:44:44.530

USGS - Brian Folt: the scenario analysis for the future conditions model, we assumed a

01:44:45.830 --> 01:44:53.709

USGS - Brian Folt: a minimum viable population size--or the modeling term, in the SSA, we called it a persistence probability threshold--

01:44:53.870 --> 01:45:02.659

USGS - Brian Folt: a minimum number of tortoises for a population that we consider be on persisting to it. We define that as it involving three adult females.

01:45:03.210 --> 01:45:06.329

USGS - Brian Folt: Which may be, given

01:45:08.680 --> 01:45:19.540

USGS - Brian Folt: some information about population structure, that might involve three adult females and one juvenile female, or assuming a 50-50 sex ratio, an overall population of eight tortoises was what we

01:45:19.710 --> 01:45:27.030

USGS - Brian Folt: basically considered to be the minimum population size of a persisting tortoise population into the future.

01:45:28.470 --> 01:45:31.269

USGS - Brian Folt: So, I'll comment on that, and then

01:45:31.300 --> 01:45:34.349

USGS - Brian Folt: if somebody else wants to jump in about the

01:45:34.650 --> 01:45:36.920

USGS - Brian Folt: the minimum number of acres--

01:45:37.700 --> 01:45:40.930

USGS - Brian Folt: Well, I'll just add that for the minimum number of acres we

01:45:41.240 --> 01:45:48.389

USGS - Brian Folt: didn't have a minimum number of acres. But, for that future conditions analysis we are mostly focused on the number of tortoises that were

01:45:48.550 --> 01:45:50.190

USGS - Brian Folt: present

01:45:50.530 --> 01:45:55.319

USGS - Brian Folt: at these future time frames after that analysis was done.

01:45:56.240 --> 01:45:57.230

USGS - Brian Folt: Thank you.

01:45:57.900 --> 01:45:59.809

EMPSi - Megan Stone: Great, thank you, Brian

01:46:00.480 --> 01:46:03.059

EMPSi - Megan Stone: Jo, anything you wanted to add there?

01:46:03.130 --> 01:46:06.959

USFWS - Jo Emanuel: I can add a little bit here

01:46:07.450 --> 01:46:15.860

USFWS - Jo Emanuel: for the abundance question, or for the MVP question. So, in the current condition, we looked at

01:46:16.030 --> 01:46:23.919

USFWS - Jo Emanuel: a high resilience condition as being those populations that included 250 or more adult tortoises,

01:46:23.960 --> 01:46:29.889

USFWS - Jo Emanuel: which aligns with the MVP that was identified in several gopher tortoise working groups.

01:46:30.070 --> 01:46:36.299

USFWS - Jo Emanuel: And those are the populations that we would expect to persist biologically through appropriate time frames.

01:46:36.440 --> 01:46:43.800

USFWS - Jo Emanuel: Our moderate resilience condition would be populations that had between 51 and 249 gopher tortoises,

01:46:43.960 --> 01:46:49.970

USFWS - Jo Emanuel: and the low resilience condition would include less than 50 gopher tortoises.

01:46:51.980 --> 01:46:59.830

USFWS - Jo Emanuel: We can probably circle back a little bit with the person that asked this question. I don't have the chat up in front of me now to get at the acres question.

01:47:01.090 --> 01:47:02.900

EMPSi - Megan Stone: Great. Thank you, Jo.

01:47:03.570 --> 01:47:05.570

EMPSi - Megan Stone: Our next question is,

01:47:05.780 --> 01:47:25.599

EMPSi - Megan Stone: are there avenues for reconsideration of the species listing determination based on a regional basis, say for specific areas of Florida where gopher tortoises appear to be at high or higher risk of this extinction? If so, what are the avenues? And we'll turn that over to Nicole.

01:47:25.730 --> 01:47:30.950

USFWS - Nicole Rankin: Hi! Thank you for this question. So, we list species under the Endangered Species Act.

01:47:31.010 --> 01:47:36.980

USFWS - Nicole Rankin: And that could be a species, a subspecies, or a Distinct Population Segment.

01:47:37.080 --> 01:47:47.220

USFWS - Nicole Rankin: So, what Melissa went through during the presentation about the DPS or Distinct Population Segment policy.

01:47:47.390 --> 01:48:02.180

USFWS - Nicole Rankin: To get at the part of the question about avenues for reconsideration based on a regional basis or specific areas, one of those avenues is we can be petitioned by any member of the public

01:48:02.190 --> 01:48:17.589

USFWS - Nicole Rankin: to look to see if there is a Distinct Population Segment in a particular area. And so there's a whole process for that, and that's available on our website. But, if you needed to reach out to somebody, specifically, I'm happy to provide that information to you.

01:48:20.620 --> 01:48:23.659

EMPSi - Megan Stone: Great, thank you, Nicole.

01:48:24.010 --> 01:48:28.820

EMPSi - Megan Stone: And you may have already addressed this a little bit, but we have another question

01:48:28.850 --> 01:48:37.120

EMPSi - Megan Stone: which is, can different units other than the 5 defined units be proposed as potential DPSs?

01:48:38.650 --> 01:48:58.149

USFWS - Nicole Rankin: Yeah, thank you for the question. As Jo alluded to in the presentation, those 5 analysis units in the SSA were delineated for the science portion, you know, our Species Status Assessment. So, they weren't predefined units that would meet the Distinct Population Segment policy. And so,

01:48:58.170 --> 01:49:05.030

USFWS - Nicole Rankin: we could evaluate it potentially in a different way to see if something met the Distinct Population Segment policy.

01:49:05.550 --> 01:49:07.740

USFWS - Nicole Rankin: So, hopefully that answers your question.

01:49:09.070 --> 01:49:11.229

EMPSi - Megan Stone: Perfect. Thank you, Nicole.

01:49:12.950 --> 01:49:21.150

EMPSi - Megan Stone: And we'll just wait and see if we have any more questions coming in through the chat. But I think for now we're mostly caught up.

01:49:21.980 --> 01:49:27.140

EMPSi - Megan Stone: Again, the instructions to ask a question are up on the screen, and we'll

01:49:27.220 --> 01:49:32.080

EMPSi - Megan Stone: be accepting questions for around another 10 minutes or so.

01:49:32.580 --> 01:49:33.680

EMPSi - Megan Stone: Thank you.

01:50:35.690 --> 01:50:55.069

EMPSi - Megan Stone: And we do just want to remind folks that if you have any additional questions or your question hasn't been answered thus far tonight, we encourage those to be submitted to the gopher tortoise email, and we'll provide that information shortly.

01:50:55.180 --> 01:51:02.419

EMPSi - Megan Stone: And the next question is a little bit duplicative, but we'll go ahead and

01:51:02.470 --> 01:51:04.740

EMPSi - Megan Stone: still try to answer it.

01:51:04.930 --> 01:51:22.849

EMPSi - Megan Stone: The question is, being that private lands make up such a significant portion of the range, and because there is limited data from those areas due to privacy restrictions, and considering that the SSA has put some level of dependence on the fact that private lands

01:51:22.860 --> 01:51:25.969

EMPSi - Megan Stone: hold persistent populations and habitat,

01:51:26.010 --> 01:51:28.900

EMPSi - Megan Stone: regardless of the lack of dependable data,

01:51:28.920 --> 01:51:31.360

EMPSi - Megan Stone: how would FWS react

01:51:31.450 --> 01:51:37.249

EMPSi - Megan Stone: to or become aware of a massive loss of private lands conservation efforts?

01:51:37.350 --> 01:51:40.110

EMPSi - Megan Stone: And we'll go ahead and turn that over to Leo.

01:51:41.050 --> 01:51:49.970

USFWS - Leopoldo Miranda: That's a really great question because not only, you know, we evaluate

01:51:50.000 --> 01:51:55.480

USFWS - Leopoldo Miranda: the status of the species across the landscape, regardless of where they are.

01:51:55.990 --> 01:52:00.169

USFWS - Leopoldo Miranda: In terms of the scientific data that we rely on,

01:52:00.260 --> 01:52:01.490

USFWS - Leopoldo Miranda: most

01:52:01.790 --> 01:52:05.979

USFWS - Leopoldo Miranda: of the data that we did use was from

01:52:06.250 --> 01:52:08.559

USFWS - Leopoldo Miranda: public lands, State

01:52:08.980 --> 01:52:10.370

USFWS - Leopoldo Miranda: and Federal, and

01:52:10.760 --> 01:52:17.130

USFWS - Leopoldo Miranda: so, all the modeling, all the solid data came from those public lands.

01:52:17.450 --> 01:52:22.380

USFWS - Leopoldo Miranda: But, however, we do know that

01:52:22.550 --> 01:52:24.219

USFWS - Leopoldo Miranda: private lands data

01:52:25.970 --> 01:52:29.190

USFWS - Leopoldo Miranda: is hard to come by, but we do know that

01:52:29.610 --> 01:52:32.319

USFWS - Leopoldo Miranda: those populations are still

01:52:32.340 --> 01:52:39.119

USFWS - Leopoldo Miranda: very resilient in many areas across the landscape on private lands.

01:52:39.160 --> 01:52:45.160

USFWS - Leopoldo Miranda: We have relied on data from different associations, NGOs,

01:52:45.280 --> 01:52:46.769

USFWS - Leopoldo Miranda: that provide

01:52:47.060 --> 01:52:48.700

USFWS - Leopoldo Miranda: that data to us.

01:52:49.000 --> 01:52:52.349

USFWS - Leopoldo Miranda: What I'm trying to say here is that

01:52:52.630 --> 01:52:55.449

USFWS - Leopoldo Miranda: private land conservation is critical

01:52:55.710 --> 01:52:56.900

USFWS - Leopoldo Miranda: to the

01:52:56.940 --> 01:53:01.750

USFWS - Leopoldo Miranda: conservation of gopher tortoises and many other species.

01:53:03.800 --> 01:53:10.329

USFWS - Leopoldo Miranda: What is going on across the landscape, keeping those working lands working is

01:53:10.670 --> 01:53:17.160

USFWS - Leopoldo Miranda: very important to the conservation of this species and many others that rely on the same habitats.

01:53:17.210 --> 01:53:22.049

USFWS - Leopoldo Miranda: Any other way to get that kind of data

01:53:22.190 --> 01:53:26.899

USFWS - Leopoldo Miranda: and respecting and protecting the private land

01:53:27.040 --> 01:53:28.139

USFWS - Leopoldo Miranda: owner

01:53:28.270 --> 01:53:30.449

USFWS - Leopoldo Miranda: data, and

01:53:31.020 --> 01:53:34.559

USFWS - Leopoldo Miranda: prevalence rights is really critical too.

01:53:34.790 --> 01:53:38.540

USFWS - Leopoldo Miranda: The landowners are

01:53:39.980 --> 01:53:42.340

USFWS - Leopoldo Miranda: providing really good stewardship

01:53:42.980 --> 01:53:51.490

USFWS - Leopoldo Miranda: to the land, land stewardship, protecting this species. So, how we can get that data

01:53:53.260 --> 01:54:03.219

USFWS - Leopoldo Miranda: in a way that we can use it to make policy decisions will be critical into the future. All of that being said,

01:54:03.590 --> 01:54:11.779

USFWS - Leopoldo Miranda: I think that, as I said before, we have been very conservative in terms of the data that we've been using.

01:54:12.610 --> 01:54:14.240

USFWS - Leopoldo Miranda: We rely on

01:54:14.610 --> 01:54:19.489

USFWS - Leopoldo Miranda: data that is reliable on

01:54:19.640 --> 01:54:20.849

USFWS - Leopoldo Miranda: public lands.

01:54:20.960 --> 01:54:27.530

USFWS - Leopoldo Miranda: But, we know that a lot more conservation is happening on those private events. So,

01:54:27.920 --> 01:54:31.909

USFWS - Leopoldo Miranda: that- that's something that I would love to explore

01:54:32.580 --> 01:54:34.850

USFWS - Leopoldo Miranda: even more. How do we get

01:54:34.920 --> 01:54:49.729

USFWS - Leopoldo Miranda: to compare apples and apples, and not apples and oranges across the landscape? But, in terms of the gopher tortoises, a lot is going on private lands. 86-90% of



01:54:49.920 --> 01:54:54.269

USFWS - Leopoldo Miranda: the lands in the southeast United States are private,

01:54:54.480 --> 01:54:56.670

USFWS - Leopoldo Miranda: and that's where this species

01:54:56.760 --> 01:54:59.750

USFWS - Leopoldo Miranda: has a stronghold.

01:55:00.220 --> 01:55:04.180

USFWS - Leopoldo Miranda: However, you know, we are

01:55:04.270 --> 01:55:06.909

USFWS - Leopoldo Miranda: relying on strong science.

01:55:07.230 --> 01:55:09.289

USFWS - Leopoldo Miranda: And whatever we can-

01:55:09.370 --> 01:55:20.479

USFWS - Leopoldo Miranda: we can get from private lands, I would love to get even better data down the road. If things change, we will not hesitate to

01:55:20.500 --> 01:55:25.920

USFWS - Leopoldo Miranda: reassess these decisions. That's why we have

01:55:26.050 --> 01:55:32.329

USFWS - Leopoldo Miranda: the Endangered Species Act, which is a probably the greatest conservation tool

01:55:32.530 --> 01:55:39.180

USFWS - Leopoldo Miranda: on the entire planet. And that's the beauty about it, that

01:55:39.720 --> 01:55:47.380

USFWS - Leopoldo Miranda: if the science and the data change, we can reassess. So I will encourage everybody here

01:55:47.740 --> 01:55:52.910

USFWS - Leopoldo Miranda: to provide the ways and ideas and feedback

01:55:53.000 --> 01:55:55.929

USFWS - Leopoldo Miranda: to get us that data.

01:55:56.150 --> 01:55:57.300

USFWS - Leopoldo Miranda: And,

01:55:57.330 --> 01:56:01.530

USFWS - Leopoldo Miranda: through full transparency, evaluate that data

01:56:01.880 --> 01:56:03.950

USFWS - Leopoldo Miranda: and make

01:56:04.080 --> 01:56:12.729

USFWS - Leopoldo Miranda: sound policy decisions based on strong science. So, thank you for that question. It is not an easy answer,

01:56:12.940 --> 01:56:16.750

USFWS - Leopoldo Miranda: I think that we struggle with that.

01:56:17.140 --> 01:56:21.019

USFWS - Leopoldo Miranda: And we will continue to struggle on how to get the best

01:56:21.050 --> 01:56:28.459

USFWS - Leopoldo Miranda: science that we can use to make the best policy decisions for the conservation of

01:56:28.660 --> 01:56:33.330

USFWS - Leopoldo Miranda: this species, and the habitat where they occur.

01:56:33.550 --> 01:56:36.690

USFWS - Leopoldo Miranda: So, again, thank you for that question. I really appreciate it.

01:56:38.380 --> 01:56:40.230

EMPSi - Megan Stone: Great. Thank you, Leo.

01:56:41.950 --> 01:56:48.679

EMPSi - Megan Stone: And we do have one more question that was about recent hurricanes.

01:56:50.020 --> 01:57:01.220

EMPSi - Megan Stone: And the Fish and Wildlife Service is going to follow up with this individual to make sure they're understanding the question correctly. But

01:57:01.280 --> 01:57:07.319

EMPSi - Megan Stone: if Connor has something he'd like to add to that question,

01:57:07.490 --> 01:57:10.329

EMPSi - Megan Stone: we can go ahead and turn it over to him.

01:57:10.720 --> 01:57:19.459

EMPSi - Megan Stone: The question was, thousands were killed along the coast of Florida during the hurricane when miles of dunes disappeared with them into the ocean.

01:57:19.540 --> 01:57:24.619

EMPSi - Megan Stone: There is zero movement by any agency to help. How does that not affect

01:57:24.690 --> 01:57:26.240

EMPSi - Megan Stone: your decision?

01:57:27.380 --> 01:57:30.019

EMPSi - Megan Stone: So, Connor? Do you have anything you'd

01:57:30.350 --> 01:57:31.980

EMPSi - Megan Stone: like to add there?

01:57:32.460 --> 01:57:40.480

USGS - Connor McGowan: Yes. So I'm not a part of the decision team, and so I can't speak to the decision process itself and how it accounted

01:57:40.630 --> 01:57:48.309

USGS - Connor McGowan: for that kind of thing. But I can say that the predictive modeling that Brian led, and I helped with,

01:57:48.720 --> 01:57:53.479

USGS - Connor McGowan: did account for sea-level rise effects on gopher tortoises

01:57:53.500 --> 01:58:10.350

USGS - Connor McGowan: along coastal habitats. So, part of our predictive modeling and part of those scenarios included coastal habitat loss due to inundation from sea-level uprise, which storm surges are a part of that process. And most of those predictions came from,

01:58:10.360 --> 01:58:20.719

USGS - Connor McGowan: I believe, the NOAA predictive models for sea-level rise in the region. And so, while we know that these individual events are difficult to witness,

01:58:20.750 --> 01:58:29.919

USGS - Connor McGowan: and tragic in a way, our modeling did try to account for that in predicting the future status of the species.

01:58:34.490 --> 01:58:35.429

EMPSi - Megan Stone: Okay.

01:58:36.250 --> 01:58:41.420

EMPSi - Megan Stone: Great. Thank you so much. It looks like we have reached the

01:58:41.500 --> 01:58:51.309

EMPSi - Megan Stone: end of our scheduled time tonight. So, with that I'll go ahead and turn it over to Leo for some closing remarks.

01:58:52.870 --> 01:59:00.020

USFWS - Leopoldo Miranda: Thank you so much, everybody here, for participating. This has been a wonderful 2 hours.

01:59:00.150 --> 01:59:08.830

USFWS - Leopoldo Miranda: As I said at the beginning, I'm a big fan of gopher tortoises. I love them, I have them on my own property here

01:59:08.940 --> 01:59:10.829

USFWS - Leopoldo Miranda: in Georgia.

01:59:11.320 --> 01:59:12.429

USFWS - Leopoldo Miranda: And,

01:59:12.950 --> 01:59:16.199

USFWS - Leopoldo Miranda: the level of engagement, I'm really

01:59:16.420 --> 01:59:17.830

USFWS - Leopoldo Miranda: happy about it,

01:59:17.960 --> 01:59:29.779

USFWS - Leopoldo Miranda: from all of you, and very proud of that. I think that it gave me hope, hope in terms of looking into the future, how people

01:59:30.070 --> 01:59:37.439

USFWS - Leopoldo Miranda: and the entire American public care about the environment and the species, and the habitats that they occur.

01:59:37.870 --> 01:59:43.059

USFWS - Leopoldo Miranda: So, in closing, I would like to say, thank you for all of you

01:59:43.330 --> 01:59:48.269

USFWS - Leopoldo Miranda: wonderful questions, great questions that show

01:59:48.650 --> 01:59:55.980

USFWS - Leopoldo Miranda: the conundrum that we are facing in light of climate change, and species and habitat conservation.

01:59:56.070 --> 01:59:57.420

USFWS - Leopoldo Miranda: So,

01:59:57.840 --> 02:00:02.030

USFWS - Leopoldo Miranda: one thing that I would like to say in closing here is that

02:00:03.180 --> 02:00:05.050

USFWS - Leopoldo Miranda: science is the driver.

02:00:07.240 --> 02:00:09.420

USFWS - Leopoldo Miranda: If conditions change,

02:00:09.640 --> 02:00:11.319

USFWS - Leopoldo Miranda: we can change too.

02:00:11.390 --> 02:00:19.089

USFWS - Leopoldo Miranda: So, that's something that is difficult. It's not a one-time done deal thing.

02:00:19.210 --> 02:00:20.480

USFWS - Leopoldo Miranda: so

02:00:21.000 --> 02:00:25.109

USFWS - Leopoldo Miranda: I will encourage everybody to keep engaging in all of this:

02:00:25.140 --> 02:00:28.429

USFWS - Leopoldo Miranda: conservation, species specific things,

02:00:28.620 --> 02:00:32.759

USFWS - Leopoldo Miranda: Endangered Species Act process, and all of that science.

02:00:32.970 --> 02:00:37.520

USFWS - Leopoldo Miranda: Please keep engaging. That's really important, not only for the gopher tortoise,

02:00:37.670 --> 02:00:42.450

USFWS - Leopoldo Miranda: but for the entire landscape, and the well-being

02:00:42.470 --> 02:00:56.890

USFWS - Leopoldo Miranda: of the entire American public. So, with that I would like to close and say muchas gracias, buenas noches, and looking forward to the next conservation talk.

02:00:57.180 --> 02:00:59.079

USFWS - Leopoldo Miranda: Appreciate it. Thank you, everybody.