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Partners' Meetings  
Transcription of 2016 CNHP Partners Meeting, morning session

Item Metadata

Collection: Partners' Meetings

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BEGIN TRANSCRIPTION

00:01:16:00 - 00:04:44:16

Unknown

Oh, so he's just got it loaded. And then those notes here. I wonder if there's a clicker. Yeah. We can just use the former thing in there. Are you going to stammer? I guess they want us to stand here talking to me. Okay.

00:04:44:18 - 00:05:07:13

Unknown

Yeah. Are you on the wireless for the Witch Wireless? Guest. We couldn't get it to work. Yeah, it wasn't working for me either. Hopefully it's fast enough. Yeah, because there's going to be a live demo of something with Billy or. Oh, is he okay? Hopefully it'll be good enough. I don't know. Yeah. So I gotta get this going here.

00:05:07:16 - 00:05:25:07

Unknown

Okay.

00:05:25:09 - 00:05:39:15

Unknown

All right. Well, I'm going to go ahead and kick this off while people kind of start to get themselves seated and get your get loaded up with coffee before we get going.

00:05:39:18 - 00:06:05:09

Unknown

I wanted to extend a huge thank you to everybody for coming to this meeting and making this the biggest meeting that CNP has ever attempted to host. And so we are just beyond excitement right now that we're doing this. And this is really one of the most exciting days of my life to be

standing here with all of you and doing this seriously, it's totally amazing.

00:06:05:09 - 00:06:12:00

Unknown

So thank you so much. And.

00:06:12:02 - 00:06:40:19

Unknown

Welcome to CSU. We're in the middle of the biggest single construction event on this campus that's ever happened. So luckily we're a little bit separated from that over here at Lori. But this was just remodeled last year. We are the first event to take place on this on this refinished floor. So that's the smell. You smell is the the floor hearing.

00:06:40:21 - 00:06:51:25

Unknown

But as you can see from this, there's many buildings under construction and it's the face of this campus is going to look a lot different in about a year.

00:06:51:27 - 00:07:20:12

Unknown

So I hope everybody got parked and found got that taken care of. Okay. Did anybody have trouble? If you do, please let please let us know. And Stephanie, would you raise your hand if wherever you are, Stephanie Hart, she might still be outside, but she is our parking liaison for the day. So if you need help, if you want to get on the network, the wireless network here, it's very easy.

00:07:20:12 - 00:07:49:13

Unknown

Just go to CSU guest and then you'll have to open a browser and it'll ask you to accept the use policy. So this year, we had a big enough room to have all of the Colorado Natural Heritage Program staff here. So these are us. We're all almost all here somewhere and really want to meet you. If you haven't met some of us before, we we want to make sure that that happens today as much as possible.

00:07:49:15 - 00:07:59:16

Unknown

All of us at CNP are employees of Colorado State University, were part of the university. We're right here on campus.

00:07:59:19 - 00:08:21:20

Unknown

We're part of the Warner College of Natural Resources. And you'll hear a little bit more about that from our dean. We're also part of a network of heritage programs that includes 84 programs spanning the Western Hemisphere. And it's in that role that we aggregate the data and kind of make the map of Colorado's rare species and plant communities.

00:08:21:20 - 00:08:39:27

Unknown

And at our program, we take that a lot further and do all kinds of other things that you'll be hearing about today through our partners and in our breakouts, and with whom we work, work and on which we work with many of you.

00:08:40:00 - 00:09:12:06

Unknown

And I should. I'm sorry, I forgot to mention that that network is organized through a nonprofit called Nature Serve, which is based in Arlington, Virginia. So I wanted to extend a few thanks to our dean, who's been very supportive and helpful to us and doing this meeting also, our department head, Ken Wilson of the fish, Wildlife and Conservation Biology Department, Alan Cox, the former director of the Montana Natural Heritage Program, has done meetings like this in Montana for many years and provided some of the inspiration and guidance for us in doing this.

00:09:12:06 - 00:09:41:18

Unknown

And Lee, who's been my partner in crime and getting this meeting set up, need to also mention that if you have any trouble with food or need some coffee or if we're out of something, please tell Lee and she'll take care of that. And Lee, would you raise your hand? She's in the back table by the food. She's our official food liaison today with with conference services, and wanted to thank the students that are helping us do this in all of our speakers.

00:09:41:18 - 00:10:11:18

Unknown

We have a lot of them and really wanted to thank conference services. They have been totally awesome to work with and especially all of you for coming and joining us today. So the partners meeting that you're here for today is a concept that started in Montana ten years ago. We decided to give this a try in 2014. At that time, we had about 75 people who joined us for that and 32 organizations.

00:10:11:20 - 00:10:18:04

Unknown

We we captured all of that in a.

00:10:18:07 - 00:10:37:14

Unknown

Audio and video file that you can go on to our website and watch if you want to. And we're going to do the exact same thing here today. We're streaming this via YouTube, and I'm not sure, but I hope that there are people who couldn't come today joining us via the YouTube link, and we'll have that on our website afterwards too for this meeting.

00:10:37:14 - 00:11:03:00

Unknown

So we've invited the conservation leaders, practitioners, innovators, all of CNP partners. And and this year we really went big. This is by far the biggest thing we've ever hosted. We've got 141 people who are VP and representing 63 different organizations. I think that might actually be a

little bit more looking at how full our tables are here, which is super exciting.

00:11:03:02 - 00:11:42:12

Unknown

Okay, so we're here today to do several things. We're going to we're hoping to connect the key members of Colorado's conservation community a little bit better. We're providing a forum for communication across conservation efforts, and we're enhancing our collective effectiveness by networking, breaking down silos and leveraging our collective resources. We're also going to kind of highlight some successes and important developments with the purpose of inspiring us this afternoon to come up with some innovative solutions to conservation challenges.

00:11:42:14 - 00:12:02:13

Unknown

And we're going to spend some time thinking about priorities that we can address together and how we might make that happen. And we're planning to write up everything from today and provide it to you. We've collected a list of names of everyone who came, and we're going to send that stuff out to you after we get it put together.

00:12:02:15 - 00:12:11:03

Unknown

So those are the main purposes of our meeting. We're also going to celebrate L.L. Cool J's birthday today.

00:12:11:06 - 00:12:41:08

Unknown

And so this is kind of how how things are going to play out today. So this is our kind of basic agenda. And we have several segments of our of our day today. First we're going to have presentations through the morning by you. We'll take a little break actually a big break 25 minute break. As long as we stay on time, I'm hoping we can stick to our schedules and finish everything up at noon.

00:12:41:09 - 00:13:14:02

Unknown

We'll have a lunch that'll be served here in the Grand Ballroom B and after lunch we're going to set up the breakout groups, and our facilitators are going to lead the groups to those rooms so that you don't get lost. And we'll have our breakout group discussions based on those questions that I sent you in the agenda. And and then after the break, we're going to come back together and look at what everybody came up with and try to kind of pull all those pieces together and come up with next steps.

00:13:14:03 - 00:13:36:04

Unknown

Then when we adjourn, those of you who would like to join us can come over to the mayor of Old Town, and I'll put up a map of how to get there. And that's in your direction. Packet to it's very easy to get over there. And so we have a lot of things to cover today. We may or may not have

time for questions this morning, but we are going to have note cards on your tables.

00:13:36:04 - 00:13:55:25

Unknown

So if you want to capture something that comes to mind and we don't have time for a question session, then please write it down and we'll we'll capture that from you one way or another. In the worst case scenario, we'll just collect those from you after the meeting. But if we'll have time somewhere in the day and please, please get those to us.

00:13:55:25 - 00:14:19:07

Unknown

We really want to engage you with those questions and to help us stay on our rigorous schedule. We have a someone who's going to keep time for us, and that's Rob Shaw. So Rob is going to say a couple words about how that's going to work. Sorry, Rob didn't know I had this slide for him.

00:14:19:09 - 00:14:43:12

Unknown

When he set you up like that. Exactly how to respond. Can't wait here. Me back up on the mic. Come over to the mic for the YouTube. Yeah. Oh, I need mic for YouTube. Well, just. Yeah, they can hear you there. Okay. Yeah. We all right? Okay. We have a lot to talk about today. And I know that's it's it's enough to try and pack as much of our interest into conservation here in Colorado into one day.

00:14:43:14 - 00:15:09:13

Unknown

And so to move through these these talks and somewhat of a timely manner, I took the task of trying to keep people on task, a position that Dave Flattering described as the bad cop. So I'll be up here in front. And for those who are giving talks shortly, as you know how much time you have allotted for your talk, it's not on the agenda for each of the speakers, but they have access to that information.

00:15:09:13 - 00:15:27:25

Unknown

They know what the timeline is. So for anybody who has a talk that's five minutes or less once you get to one minute left is I'll hold up this to let you know that you have one minute. If you have a talk that's ten minutes or longer, you get to three minutes. I'll give you a warning. When you get to one minute left, I'll give you this.

00:15:27:25 - 00:15:49:21

Unknown

This salmon colored one. If the time is an end for your talk, I'll come up and stand near you. Which is awkward enough, but if you start going over that, considering the title, I brought a Nerf gun. So? So just understand that we'll try and keep this moving. We know we have a lot of talks to get through and that's why I'm sitting solo here.

00:15:49:21 - 00:16:05:10

Unknown

Somebody got word that I was playing bad cop and avoided me. All right. Thanks, Rob. We forgot to ask conference services about the firearms policy in this building. So we might need to check up on that. So.

00:16:05:13 - 00:16:28:16

Unknown

Okay. Thank you very much. So this is kind of how the first segment of the morning is going to roll out. We are going to we're just kind of explaining the purpose of meeting and what we're doing next. We're going to have in a couple of minutes a welcome video from Dean Hayes who can't join us today. And then we're going to introduce ourselves around the room and meet our neighbors and meet our students.

00:16:28:16 - 00:16:50:19

Unknown

So we also have a fabulous door prize for you. Reach into your seats to the left side of your seat and see if you have a yellow piece of paper taped under there.

00:16:50:21 - 00:16:56:18

Unknown

All right. Chris. Chris is one of our winners.

00:16:56:20 - 00:17:01:20

Unknown

All right, well, Chris, you want to come on up?

00:17:01:22 - 00:17:12:09

Unknown

We have one more floating around out there somewhere.

00:17:12:12 - 00:17:40:27

Unknown

So here you go, Chris. Sure. So Chris has one, a newly revised map of the potential conservation areas of Colorado. We just printed some of these and laminated them. And we they reflect some significant changes we've made to this map over the last few years. And one of the ones I really wanted to point out to you, if that's me, is this one right here.

00:17:40:27 - 00:18:07:09

Unknown

This is the newly renamed Fritz Knopf PCA, which is designated due to prairie bird species, which Fritz Knopf was a renowned scientist who studied the birds of the prairie ecosystem. So we renamed that PCA after Fritz. So Fritz was a USGS scientist who passed away very recently, and we worked closely with him for many years, so wanted to honor him that way.

00:18:07:12 - 00:18:25:21

Unknown

Who's got the other door prize? It's over here somewhere. You guys. Someone. Oh, come on up, sir.

00:18:25:24 - 00:18:40:10

Unknown

Okay, well, this is exciting. One of our students, Eric, has won the other one, so here you go. Thank you, thank you.

00:18:40:13 - 00:18:49:20

Unknown

Okay. Sack. Here.

00:18:49:22 - 00:19:14:25

Unknown

Oh, and I need to tell you guys where the bathrooms are when you go out the door. Here, take a left and go past the events planning services office. And just go around the corner and there's bathrooms over there. Okay, so now we've got a short welcome from Dean Hays to show you. Do you guys want to go ahead and roll that?

00:19:14:26 - 00:19:22:21

Unknown

Yes.

00:19:22:24 - 00:19:46:21

Unknown

Good morning. Welcome to the Colorado Natural Heritage Program partners meeting. I'm John Hays, dean of the Warner College of Natural Resources at Colorado State University. And it's my pleasure and honor to welcome you to the meeting today. I regret I can't be there with you in person. I'm I'm at a meeting, actually, in Kenya as this is being shown to you.

00:19:46:21 - 00:20:14:22

Unknown

But but I know you'll have a great meeting. Warner College and Natural Resources likes to try to be a leader in issues related to the wise use and conservation of our natural resources here in Colorado, across the West, and really across the planet. And we're so proud to have the Colorado Natural Heritage Program as part of our college.

00:20:14:28 - 00:20:46:19

Unknown

As many of you know, the Colorado Natural Heritage Program is housed in our Department of Fish, Wildlife and Conservation Biology and spent housed there for over 20 years now. And the growth and the impact of the program during that time has been pretty phenomenal. We're so proud to have it as part of our program and all the great work that they do, and the great work that you all contribute to in your partnership with with the Colorado Natural Heritage Program.

00:20:46:21 - 00:21:31:27

Unknown

One of the things that we really are striving to do in the college right now is to increase and enhance our impacts through our networking and through our partnership with many organizations regionally and and again globally. And I see the Colorado Natural Heritage Program in this meeting that you're at today as being a fundamental part of our broader mission as a college to engage with with the conservation community and the

natural resource practitioners to really advance the practice of activities related to natural resources and conservation in the state and more broadly.

00:21:31:27 - 00:22:05:03

Unknown

So thank you so much for taking the time to participate in this meeting today, and for all that you bring to this partnership. I wish I could be with you, and I'll look forward to linking up with you at another time and at another meeting to to advance the partnership and the wonderful work that you're doing. And with that, I'll just close by wishing that you have a fantastic meeting.

00:22:05:06 - 00:22:25:28

Unknown

So yeah, so I'll echo what Dean Hayes said, and thank you so much for everything you're doing. And so the next thing on our agenda is to intended to help everyone kind of get to know each other. We're going to we would like to go around the room and let people just say your name and the organization you're with, and just raise your hand or stand up.

00:22:26:03 - 00:22:44:08

Unknown

And then that way, I know there are many of you are here thinking, wow, it'd be great if I got a chance to meet so-and-so, and then you'll see what they look like and you'll know how to who to go try to catch during the break. So do you guys want to kick us off on this table? Maybe we'll kind of head back that way.

00:22:44:10 - 00:22:57:25

Unknown

Jill Handler, Colorado and heritage program supplier, as you see it. And I work at Sandy. Mike.

00:22:57:27 - 00:23:03:06

Unknown

Colorado department back.

00:23:03:08 - 00:23:09:04

Unknown

Colorado native plant society and.

00:23:09:07 - 00:23:21:22

Unknown

The North central planning science. Sharon Johnson was named for the occupation of Spring Valley field stations is truly.

00:23:21:24 - 00:23:26:13

Unknown

She was the first.

00:23:26:15 - 00:23:31:28

Unknown

Nancy Conservancy.



00:23:32:01 - 00:23:43:03

Unknown

Service and again by Western Colorado State Forest Service.

00:23:43:06 - 00:23:48:22

Unknown

For the watershed. Here's our.

00:23:48:25 - 00:23:58:14

Unknown

Really much average name for this program. Last time leadership through.

00:23:58:16 - 00:24:02:09

Unknown

Our.

00:24:02:12 - 00:24:15:10

Unknown

Team Jackson Color Parks.

00:24:15:13 - 00:24:19:01

Unknown

National.

00:24:19:03 - 00:24:34:14

Unknown

Parks and Wildlife Service. All about our Natural areas Council Jessica Smith, Colorado National Area in East Colorado natural heritage program.

00:24:34:16 - 00:24:39:01

Unknown

Our program.

00:24:39:03 - 00:24:52:08

Unknown

Leadership.

00:24:52:10 - 00:25:13:15

Unknown

And Colorado program. John Sobel, our program, Stevens Colorado natural heritage program.

00:25:13:18 - 00:25:16:16

Unknown

Conservation.

00:25:16:19 - 00:25:22:10

Unknown

Center for collaborative conservation.

00:25:22:13 - 00:25:42:22

Unknown

Amanda Barker, Colorado College of Land Trust with Lerner County, Ohio.

00:25:42:25 - 00:25:48:18

Unknown

Service for Roosevelt National Forest and the National.

00:25:48:20 - 00:26:03:14

Unknown

Grand River Grand National Forest Tyler Johnson of the Regional box.

00:26:03:16 - 00:26:20:00

Unknown

Jennifer to fill.

00:26:20:02 - 00:26:29:10

Unknown

Center for Environmental Management.

00:26:29:13 - 00:26:34:20

Unknown

Department of Fish and Wildlife Conservation Biology.

00:26:34:22 - 00:26:43:04

Unknown

National Park Service. And you're not going to do office Rock.

00:26:43:07 - 00:26:46:10

Unknown

Chambers of the Colorado.

00:26:46:13 - 00:26:55:01

Unknown

Gem canon, Colorado Forest.

00:26:55:03 - 00:26:59:25

Unknown

Eagle.

00:26:59:27 - 00:27:10:13

Unknown

Program for House Growth and management, and other.

00:27:10:15 - 00:27:14:12

Unknown

Forest conservation.

00:27:14:14 - 00:27:18:10

Unknown

Advocate La Rosa.

00:27:18:13 - 00:27:26:01

Unknown

Tenderness for like chairman. Parks.

00:27:26:03 - 00:27:32:26

Unknown  
Nature. Serve.

00:27:32:28 - 00:27:46:15

Unknown  
Private lands conservation for. In the U.S. Forest Service resources  
Kevin Johnson, southern Rockies landscape conservation. Former.

00:27:46:18 - 00:27:54:07

Unknown  
Department. Frank performance, U.S. Forest Service. Rocky Mountain  
Research.

00:27:54:09 - 00:28:15:18

Unknown  
Environmental Defense Fund, general. Personal.

00:28:15:20 - 00:28:22:26

Unknown  
Base. References. National forest.

00:28:22:28 - 00:28:27:17

Unknown  
Service.

00:28:27:19 - 00:28:52:02

Unknown  
Survey.

00:28:52:04 - 00:29:05:23

Unknown  
One Colorado nine gathered.

00:29:05:25 - 00:29:08:10

Unknown  
Program.

00:29:08:13 - 00:29:12:16

Unknown  
Managers.

00:29:12:19 - 00:29:20:10

Unknown  
National committee.

00:29:20:13 - 00:29:33:09

Unknown  
With the National Park Service. The National Natural Landmarks Program,  
and the Southern Plains Land.

00:29:33:12 - 00:29:38:02

Unknown  
Mark County.

00:29:38:04 - 00:29:48:16

Unknown  
CSU student.

00:29:48:19 - 00:29:55:26

Unknown  
Colorado.

00:29:55:28 - 00:29:59:08

Unknown  
Conservation.

00:29:59:10 - 00:30:17:22

Unknown  
Must understand if anyone else has received Susan's. Punjabi Colorado  
Natural Assessment of agriculture and career and the Colorado native.  
Next slide.

00:30:17:24 - 00:30:28:09

Unknown  
Piano. Fremont County weed management.

00:30:28:12 - 00:30:53:06

Unknown  
Well, thank you so much. Got such a great crowd here. And for anyone  
standing in back their seats up here, if you want to have a seat or  
standing back, whatever you want to do. Okay. So next is just to kind of  
take a moment to get to know each other. And what we're looking at here  
is social network topologies.

00:30:53:06 - 00:31:21:08

Unknown  
And we talked about this at the last partners meeting. So if you were at  
that partners meeting you'll remember doing this. But there's been a lot  
of interest in understanding social networks. And and we've started to  
understand how closely connected they are to our effectiveness and how  
having more connections ourselves makes us better at what we're doing,  
and that the size of our personal networks and our organizational  
networks has a huge impact on how much we're able to accomplish.

00:31:21:08 - 00:31:51:12

Unknown  
So what we've got here are three different types of social networks, each  
dot representing a person, and lines representing connections to other  
people. And each one of these is flawed. It's a weak social network  
because any one given person does not have that many connections within  
this network. So in social networks like these, it's really difficult to  
develop communities of practice, save resources and and leverage each  
other's work.

00:31:51:12 - 00:32:10:18

Unknown  
So so I'm kind of interested in what our social network in this room  
looks like. So I thought I'd ask you how many of you know see, I should

have done this before we just introduced. Now you all know everybody, but how many of you know five other people in this room? Raise your hand. That's pretty good. How many of you know?

00:32:10:18 - 00:32:45:13

Unknown

Ten others. Oh my gosh, how many? How about 50 others? How many people know 50 people in this room? Five. Zero. Okay. Anybody know everybody in this room? So the idea here is that through this meeting, we can kind of make a difference, improve our collective effectiveness by adding connections within our networks. So this is what that can look like when we have this is a very strong network right here.

00:32:45:13 - 00:33:09:06

Unknown

And I think we just by looking at your show of hands, we're getting close to something like this, which is really exciting. So, you know, CNP has been working with all of you for many years, and it was only recently that we kind of started realizing that this bringing together of people and trying to break down silos was another important role that our program can help play.

00:33:09:07 - 00:33:45:09

Unknown

So that's really at the core of why we're doing this. And we know that by working closely with you through these networks that we can really make great things happen. And that's what this afternoon is about, is to figure out what some of those great things are. So in the interest of getting closer to the diagram on the right, I know people tend to have batched into tables of people, you know, so you might have to reach across to another table, but take two minutes to introduce yourself to someone you don't know around you, and just say hi and just learn about that, that person a little bit.

00:33:45:09 - 00:35:54:12

Unknown

So let's go ahead and start that right now. And we'll do that just for two minutes.

00:35:54:14 - 00:36:01:16

Unknown

Okay. It's amazing how fast two minutes can go when you're having fun.

00:36:01:19 - 00:36:16:03

Unknown

But let's go ahead and please. Please, please feel free to continue whatever conversation you're having on our break and over lunch. And.

00:36:16:05 - 00:36:27:09

Unknown

Let's go ahead and get back to our program here.

00:36:27:12 - 00:36:35:20

Unknown

So the next thing I wanted to do is ask all of our students to stand up.

00:36:35:22 - 00:36:58:24

Unknown

Could all of our students please stand up? We wanted to call attention to them because these are the people who are going to be coming to partners meetings in 2040 or whatever. These are our future conservation leaders, and they really want to get to know everyone in this room. They're going to be coming out of CSU looking for jobs.

00:36:58:25 - 00:37:41:12

Unknown

We're training them as best as we can at CS, at CNP and through the program, which is amazing. So I'm not going to have them introduce themselves because they already did. But please make a point of talking with them if you get a chance. And this kind of tees up something really remarkable and special that has just happened to see that I, I wanted to mention, wanted to extend a really, really heartfelt thanks to the Segal family, Bill and Diane, who just made a significant donation to our program to help us start up an internship program.

00:37:41:12 - 00:38:03:16

Unknown

And this gift from this family will enable us to bring on at least six more interns, and we'll support active mentorship for each one of those interns. And this all started when their son, Adam, did an internship with us, and he had a great experience with us and has launched himself into a career that is making him very happy.

00:38:03:16 - 00:38:30:19

Unknown

And you can actually read about what Adam did with us on page 15 of your annual reports. He was very successful and did a great project with us, so the family decided to support us and keeping that going. So thank you so much, Bill and Diane.

00:38:30:21 - 00:38:52:04

Unknown

So we're going to go. Rob told me that he thought I was probably the biggest problem in sticking to our agenda. And he appears to be right because I've gotten us a little bit behind. But I think we can catch up with Rob's Nerf gun. So let's go ahead and start in on achievements for conservation in 2015. And these are our presentations for this segment of our program.

00:38:52:04 - 00:39:00:07

Unknown

So first up is Eric Glenn and John Sanderson. You guys want to come on up.

00:39:00:09 - 00:39:13:02

Unknown

And Eric is with Colorado Cattlemen's Agricultural Land Trust. John Sanderson is with TNC and is an honorary CNP alumni as well. So.

00:39:13:04 - 00:39:44:12

Unknown

Thank you all. It's wonderful to be here and a real honor to be here and actually not just honorary, because I started my conservation career in Colorado at the Natural Heritage Program, where I worked for four years back in the mid 90s. And Eric, we haven't actually met because Eric's relatively new in his job, but but we do share one of those network connections because what we want to just briefly celebrate here is the conservation of a 50,000 acre ranch down in southeast Colorado called Gee Canyon.

00:39:44:12 - 00:39:59:20

Unknown

And do we have any coming up our slides? And you just you can just click that down arrow there and, and your slides will come up. Okay. Sorry. I had a few slides I meant to tell you, but I forgot about.

00:39:59:22 - 00:40:38:26

Unknown

So this is an extraordinary story here. So this is G Canyon here. It's a fabulous place in the middle of a large expanse of of private land in southeast Colorado. It's really a stunning, stunning landscape. This particular ranch is 50,000 acres. It is part of a a vision that we have and share with many partners to protect a contiguous grassland of more than 500,000 acres in southeast Colorado, which would make it one of the largest grasslands protected grasslands in the entire world, actually.

00:40:38:28 - 00:41:06:08

Unknown

So J.E. Canyon is amazing. It's got over nine miles of the purgatory River, about 40 miles of other ephemeral and perennial streams. The Natural Heritage Program in TNC back in 2010 led a bio blitz on Gee Canyon. This. This book captures the results of that bioblitz that Renee and Dina Clark put together. Renee Rondeau and Dina Clark put together.

00:41:06:08 - 00:41:32:20

Unknown

This is on the back table. You can't have it, but I definitely encourage you to look through it. And in 24 hours, they documented over 850 plants, mammals, fish, amphibians and so on. One of the state's largest bighorn sheep herds, and elk and bear and mountain lion. And this is just such an extraordinary place. But it's actually not just the, the the biological side.

00:41:32:20 - 00:42:02:10

Unknown

It's also the it's also the human side as well. Lots of Native American art and remnants of dwellings on this property, and an extraordinary Anglo history as well, beginning a couple of centuries ago all the way back to fur trappers. And in the more recent past, this ranch is a vital piece of the ranching community down in southeast Colorado.

00:42:02:13 - 00:42:31:15

Unknown

The primary point I want to make about this ranch is that it's a success, not only because we put a large ranch in conservation. It's got it's currently about half under conservation easement with Cattlemen's Land Trust. And Eric mentioned that in a minute. And we're going to put the rest of it under easement and then transfer it back into private ownership for continued wildlife protection and ranching.

00:42:31:15 - 00:43:00:14

Unknown

But but it's not just the conservation, this, this or this story that about Jay Canyon goes back, at least I'd say 20 years when we envisioned working in this place and the Nature Conservancy and the conservation community, generally speaking, was kind of persona non grata in southeast Colorado 20 years ago. And then but but we had a vision for doing something down there that was good for nature and good for people.

00:43:00:16 - 00:43:45:03

Unknown

And we continued to work that vision. Working with Cattlemen's, CNP did a natural history inventory down in southeast Colorado and one thing after another leveraged into finally this extraordinary land protection deal that that required not only a vision, but then persistence over many, many years, a huge amount of partnership. The networks that Dave mentioned and all of this came together over time and how that persistence, vision, partnership and especially perseverance, which for those in our community, it can sometimes feel a little glum.

00:43:45:04 - 00:44:11:12

Unknown

Right? But but I can I can assure you that this deal is an example, that keeping the faith and keeping your persistence can really pay off in the long run. I want to say a few thank yous. I'm going to miss some folks, but the heritage program Cattlemen's really the private landowners in southeast Colorado, not just Jerry Wanger, the the former owner of Gee Canyon, but a whole community of private landowners and ranchers.

00:44:11:12 - 00:44:28:09

Unknown

We work with down there, a whole bunch of funders, parks and wildlife has been a great partner, great outdoors, Colorado and so on. And I know I missed a few folks there, but thank you all for helping to make this happen. It's a great accomplishment.

00:44:28:12 - 00:45:05:07

Unknown

I'll just leave you with the fact that this is a place that is of natural park quality. When we think of natural parks, and what's amazing about that, that's been privately managed through out its history, and it talks to the power of private land owners doing the right thing. And that's the message that we want to talk a lot about throughout the course of the day and throughout the course of the next step coming year, is the importance and the critical importance of supporting private landowners, because



they are doing the right thing, by and large, and we need to celebrate that.

00:45:05:08 - 00:45:32:25

Unknown

It's also a story of collaboration, and we're excited to collaborate with the partners to come out with a great outcome to keep this area of Colorado an intact ranching community and promote our rural communities. So with that, I will stay on time. Thank you.

00:45:32:27 - 00:45:40:25

Unknown

That is a wonderful and inspiring story. It's so excited about that.

00:45:40:27 - 00:46:00:08

Unknown

Amazingly beautiful place. Next up we have another speaker who's going to tell us about some work that's happening involving private lands. Terry Fankhauser is going to tell us about the Colorado Habitat Exchange.

00:46:00:10 - 00:46:24:25

Unknown

Terry is the director of Colorado Cattlemen's Association. Thank you Terry. Just hit it once. Yep. One time. Here you go. Great. Well, thanks for having us, I appreciate it. We're awful proud of Eric and the land trust and the work that they've done, and appreciate the partnerships that they've had throughout time. I point out a few people that are that are involved with the Colorado Habitat Exchange here.

00:46:24:27 - 00:46:43:16

Unknown

Of course, CNP has helped us on the science side. We very much appreciate that. One thing that the habitat exchange is not light on is in-depth science. It's I know it's been confusing to me for a while, and I think I'm starting to understand it a little bit better. We appreciate BLM. Bruce. I saw you in here.

00:46:43:16 - 00:46:53:24

Unknown

Bruce Rittenhouse with BLM's been active and engaged to understand we're going to have a bit of a chat next week, Bruce. And you're not coming. Okay, well, good for you.

00:46:53:26 - 00:47:14:10

Unknown

Let me know where you're going to be. We'll meet up later. But and then, most importantly, one of the colleagues in the organization that the Cattlemen's Association, as they pass the policy to look throughout the United States and develop a tool that would allow for ecosystem services and landowners to engage in an area that is productive for them.

00:47:14:10 - 00:47:39:28

Unknown

Productive for the environment is the Environmental Defense Fund, and Ted Toombs is in the back of the room. Ted's a colleague. Ted has put probably more work into this than anybody else. And Ted, we appreciate and recognize your effort. And as well, you can see the partners that are involved with this partnership. Western is a group that the Cattlemen's Association started, much like the Land Trust, to really be responsible for this type of work.

00:47:40:01 - 00:48:07:02

Unknown

Certainly the state of Colorado is actively involved. Cattlemen's association, State Land board. We've got folks in here from State Land Board. The state itself has been aggressively involved, parks and wildlife and then environmental incentives as a group that helped us facilitate some of this. And certainly it's focused, at least at this point in time, on greater sage grouse and working on mitigation or conservation investment with oil and gas or transmission.

00:48:07:02 - 00:48:34:14

Unknown

But the exchange is designed to stand up for a variety of services over time. This is one, the beginning one, and I think it'll take us a while, but it's it's it's it is designed to do other things. So I'm going to keep clipping right along. But this graphic just really talks about protecting and restoring habitat purchasing credits for mitigation, which really creates that next net conservation benefit which is built inherently into the exchange and how it makes calculations.

00:48:34:16 - 00:49:01:18

Unknown

This is not current. And the beauty of this exchange in Colorado is it's inherently connected to exchanges in other states that look very similar, if not identical. There are also additional conversations evolving in Utah and Idaho. Certainly Nevada's got an exchange. It's beginning to function as well as Oregon, Wyoming, Colorado are very nearly close to each other. And hopefully we have an exchange agreement signed very shortly.

00:49:01:20 - 00:49:21:09

Unknown

We'll know next week maybe what that looks like. There are three integral parts of this piece, and I think they've started to become circulated fairly broadly. But we have a policy document that outlines how the work of the exchange functions. If a science document that really includes that habitat quantification tool and how to run those calculations, that model.

00:49:21:09 - 00:49:47:01

Unknown

And then one thing is the agreement, how does Fish and Wildlife Service and hopefully ultimately BLM view the exchange? Are they going to be able to prove the use of that for compensatory mitigation on private land, or maybe even federal land at some point in time? The exchange is based on a

scientific framework, as I indicated in a policy framework, that science framework really looks at an arbitrary number.

00:49:47:02 - 00:50:08:01

Unknown

An acre will call it, and it looks at the functionality of that acre and what it is currently, and can it be enhanced, or will it be degradation depending on if it's an impact or or a credit development? The pieces on the right are in the policy manual, and they're inherently important aspects of the exchange. Additionality. We do need to have net conservation benefit.

00:50:08:01 - 00:50:30:21

Unknown

It needs to be durable through time. It needs to be dependable. And the last piece is that net benefit and tracking we have mitigation ratios. There's a there's a fairly elaborate monitoring and baseline and check in process that goes throughout the life of that that tool. There are four orders. I'll leave it to you to talk to Ted about all of that.

00:50:30:21 - 00:50:48:09

Unknown

That's not my strong point, but we work off of a fourth order calculation or for order calculation, and you can see what those are. And they probably make a lot of sense to you as you look at those. But it's a simple calculation which this is not it, but the simple calculation is that it just multiplies those across.

00:50:48:09 - 00:51:14:24

Unknown

Correct, Ted? Yep. Good, I learned something. I'm glad. After three and a half years of discussion, the timeline for this exchange is we've secured a half \$1 million recently that will stand up. The exchange administrator will invest \$300,000 in conservation certificates. We also have a national SIG grant that will work in two states and begin to invest some of the development of conservation investment, as well as the legal aspects of it.

00:51:14:24 - 00:51:40:09

Unknown

And we're currently pending on an additional grant for a couple million dollars to be able to do additional projects in 2 to 3 states. So we are very close to approving the exchange agreement. I think it's probably on our shoulders as the exchange to reach some agreement to make that happen. But we're very curious about the meeting. Bruce is not going to be at to understand how the exchange will function on federal lands.

00:51:40:12 - 00:52:08:22

Unknown

Yeah, but you're not there, Bruce. That's my point. So thank you for your time. Thank you for the invitation. I have to go to a moderated session on on Blackfoot had ferret here with Western governors. So if you have any questions again, Ted Toombs is the guy to talk to. He knows more than I do about this. So thank you.

00:52:08:25 - 00:52:22:24

Unknown

Thank you so much, Terry. Next up we have Steve Olson and Bruce Rittenhouse are going to tell us about Brown's Canyon National Monument.

00:52:22:26 - 00:52:44:08

Unknown

Are there any slides for this? Yes. Okay. We'll just put the one slide up. Just go next here. Yes. Okay. All right. Well thank you. So I'm just going to give it a little bit. Steve's with the Forest Service I'm with the BLM and this is a co-managed new national monument. It was designated in February of last year through a presidential proclamation through the Antiquities Act.

00:52:44:08 - 00:53:17:01

Unknown

And it's about 21,600 acres in near Buena Vista and Salida in the Arkansas River headwaters area. So unlike what you're hearing about what's going on in Oregon with public lands, there are people that support public land management and strengthening those those conservation of those public lands. And so, you know, this is not just done by, you know, the president doing it through the Antiquities Act without public input.

00:53:17:01 - 00:53:40:09

Unknown

So efforts to protect this area and increase the protection levels of this area were started back in the 90s by several businesses in the area. So there are a lot of local support and there are some opponents in the area, but the overwhelming support for this area to be designated was a real key in getting it passed through the Antiquities Act, and it was Antiquities Act and not a legislation.

00:53:40:10 - 00:54:00:13

Unknown

Right. Okay, okay. Just want to make that clear. So from BLM perspective, this national monument is part of our National landscape Conservation system, which includes NLCS national and conservation areas, which are several in in Oregon in state of.

00:54:00:15 - 00:54:38:21

Unknown

In Colorado McGinnis canyons. We have several on BLM land as well. So so what this is going to be jointly managed by both BLM and Forest Service. And I don't know that Steve may talk about the separation of ownership between the the agencies, but and we will be again working in partnership with the state as well. With this, we are currently preparing a management plan or starting here soon, and that will be done between the BLM and Forest Service, in cooperation with the state and key partners and stakeholders at the local level.

00:54:38:21 - 00:55:02:01

Unknown

So it will go through a public process and people will comment on it as well. So, and just lastly, from my perspective and BLM perspective, is that we did get \$100,000 in funds to start the planning process. So with that, I'm gonna turn over Steve, and he's going to talk a little more specifics. So we'll see how specific it is.

00:55:02:03 - 00:55:31:08

Unknown

Just as a pointer. Yeah. For context the range over here, South Park over here, the upper end of the Rio Grande Rift Valley where the Arkansas River is going through. Always good stuff. An indication of how little was really known about this area. Can it can kind of be inferred from reading the proclamation says there are slopes with with bristlecone pine.

00:55:31:10 - 00:55:40:03

Unknown

Have suspicions that a lot of what looks like that is actually limber pine. It's close.

00:55:40:06 - 00:56:04:22

Unknown

They say the regional endemic branches, buckwheat is in the understory in some of the stands out here. But as near as we can tell, it just gets close down near the southwest corner but not actually in it. Have a few doubts about the gray Jays. That would be more at home up in the South. Blue Jays that are out in the plains.

00:56:04:25 - 00:56:31:00

Unknown

I'm not picking on the presidential proclamations, just kind of there's questions that just don't make sense. They need some answers. Also have wonders. Wonder a little bit about the boreal toads that they say are in the area. Let's see. Yes, there it is. The map vegetation is mostly on the on the Forest Service side of the area.

00:56:31:01 - 00:56:42:26

Unknown

I don't have access to the BLM side vegetation stuff, and they do and they have and they do it in a different way. So.

00:56:42:28 - 00:57:08:25

Unknown

So anyway, we're working on a management plan for the area. And what my purpose really here today is to get some help. What we're planning a bio blitz for the area for June 1st, second and third up here. I would like to know who's coming, what your abilities are, what might be. If you could send me a note.

00:57:08:27 - 00:57:29:06

Unknown

Just saying yes. We also have apparently have a sign up sheet in the back for people who know what they're doing already looking for biologists of all shapes and forms entomologist, birders, Harper's. Botany. Crowd.

00:57:29:08 - 00:57:56:22

Unknown

Yeah. So other than that, the other thing that I should also mention is if if this isn't a good time, June 1st second isn't the best time for you or your group that you deal with. We're also planning a second event August 23rd, 24th, and 25th. Hopefully that's after the rafting season is over with and before school gets back in session.

00:57:56:22 - 00:58:18:01

Unknown

So other than that, let me know what you have. It's possible. It depends on what the river does. So anyway, anything else? I'm. I'm around.

00:58:18:03 - 00:58:23:01

Unknown

That is going to be loads of fun to go to that bioblitz.

00:58:23:03 - 00:58:36:10

Unknown

So next up we have David Clute from Colorado Parks and Wildlife. It's going to tell us about our new State Wildlife Action Plan.

00:58:36:13 - 00:58:56:28

Unknown

Kind of short here. Good morning once again I'm Dave Clute I'm the species conservation unit supervisor with Colorado Parks and Wildlife. Excited to be here today to tell you about Colorado State Wildlife Action Plan. This is the revision of the first Wildlife Action Plan. This is a required ten year revision. We want to thank CNP, who was a huge partner in the development of this plan.

00:58:56:28 - 00:59:11:24

Unknown

Lots of their biologists helped us out with the development of this plan, and we hope that you will all find this very useful. Development of this plan was led by Colorado Parks and Wildlife, but it's certainly intended to be a plan for all of Colorado, and we hope many of you will take a look at this plan and the priorities set forth here.

00:59:11:24 - 00:59:44:14

Unknown

And and use that to direct your actions as well. So there's some basic tenets of the state Wildlife Action Plan and state wildlife grants. State wildlife action plans are required. Required of state wildlife agencies to receive state wildlife grant funding from the from the U.S. Fish and Wildlife Service. Goals are to develop clear and compelling conservation goals. Establish prioritize frameworks for rare and imperiled species and II and conservation areas, and, importantly, support conservation efforts to preclude the need for listing under the Endangered Species Act.

00:59:44:14 - 00:59:58:00

Unknown

But I think, more importantly is to help keep common species common, so we don't ever reach that point of needing to list species, and then also to engage public and all the partners that are here in this room and wildlife conservation.

00:59:58:02 - 01:00:20:24

Unknown

Some highlights of of the changes through this revision. We wanted to make this more specific and more, more useful. So this is something that we can look towards for specific actions to further prioritize. You know, true conservation priorities provide more descriptive narratives for threats and conservation actions for the species of greatest conservation need. You might hear us refer to as GCN.

01:00:20:25 - 01:00:42:06

Unknown

That's what those are the species of greatest conservation need. And that's kind of what drives this and those habitats that they use. Also to use a lot utilize a standard taxonomy or standardized vocabulary for threats and action. So when we talk about different threats and different conservation actions for this whole suite of species we're looking at, we can put those into a common vocabulary and move the those conservation actions forward.

01:00:42:07 - 01:01:03:24

Unknown

We're also excited about the inclusion of plants in this revision, which was a great addition. Another required element, which is very necessary and very timely as a climate change vulnerability analysis. And we'll be talking about that in some of the breakout sessions today. And then also identify identification of conservation opportunity areas.

01:01:03:26 - 01:01:28:04

Unknown

So this is the list of the tier one species of greatest conservation need. There's two tiers tier one and tier two. These are the species which we think are most imperiled and most in need of current conservation action. If you're familiar with the first plan, you'll recognize that this is a much shorter list. Not that those other species don't require conservation actions, but we really wanted to focus our conservation actions on these most imperiled, most important species.

01:01:28:04 - 01:01:40:27

Unknown

We're certainly looking at all of all of the species tier one and tier two, how they relate to other species and other habitats in Colorado. But these are the species that are really directing our conservation actions.

01:01:41:00 - 01:02:02:03

Unknown

So looking at these these different taxonomic groups of species, we identified these various threats to the species of greatest conservation need. And this is where that standardized taxonomy really came in handy. So we could, you know, lump these together and look at, look at, you

know, kind of commonalities across these different tax. You can see lack of knowledge is a really big threat.

01:02:02:03 - 01:02:22:15

Unknown

And I think that's true of so many species. We simply don't have enough information to move conservation actions forward. So I know many of you work on that aspect of conservation. So so getting more knowledge. So we can so we can look at things like natural system modification and invasive species, things like that, and figure out conservation actions we can do to address those problems.

01:02:22:18 - 01:02:44:00

Unknown

So here we have sort of that standardized taxonomy again of actions to address those threats. Research and monitoring obviously is a big important thing to to address lack of knowledge. These all of these, you know, collections of actions help us to provide guidance on what to do. They help us with planning internally, help us with developing budgets. How do we spend money to address these actions.

01:02:44:00 - 01:03:03:14

Unknown

And they also help us with partnership development. How can we work with all of you out there that have expertise, access to lands, access to, you know, other resources? How can we all pool our resources to to address these threats? So here are some of the kind of the additions to this revision that we're excited about the inclusion of rare plants.

01:03:03:14 - 01:03:24:13

Unknown

There's a rare plant addendum included included in this revision of the State Wildlife Action Plan. Very exciting to have that information to, again, help us identify conservation opportunities and actions to address threats to these species. Again, this was you know, CNP was a great partner in developing this and the Colorado Natural Areas program and many of you with expertise on rare plants.

01:03:24:13 - 01:03:47:21

Unknown

So yeah, we're excited to have that as an element. We also have some some spatial prioritization tools. Here's a list or a map of aquatic priority watersheds. This certainly isn't the only places we'll be looking at doing conservation actions. But this helps us helps us to direct our actions to those areas where we might get the biggest bang for our buck or have the most opportunities to really address aquatic priorities.

01:03:47:21 - 01:04:21:25

Unknown

And there's lots of spatial prioritization tools included in the plan. We also have information to help us with monitoring and evaluation. So how do we move the conservation needle forward. So so how can once we're implementing elements of this plan, how can we monitor progress towards our goals? Again CNP and The Nature Conservancy developed this scorecard.



And we'll be using this to to track our actions as we move this plan forward over the next several years.

01:04:21:27 - 01:04:45:00

Unknown

In terms of process, the document has been reviewed and recommended for approval by the Fish and Wildlife Service Review Committee. That was reviewed by US Fish and Wildlife Service. Region six and then group of partners in Nebraska helped with that review, and they recommended that for for approval. It's currently now being reviewed by the national office. And we expect to get final approval from Director Ash sometime in spring of 2016.

01:04:45:00 - 01:05:08:13

Unknown

So we're excited to have have that. One other thing I wanted to to mention is some potential, exciting opportunities for increased funding to address the priorities identified in state Wildlife Action Plans, the Association of Fish and Wildlife Agencies has recently developed a Blue ribbon panel to address federal legislation to to improve funding for, again, the priorities identified in state wildlife action plans.

01:05:08:13 - 01:05:33:02

Unknown

That's a really, you know, high level you know, you know, trying to to get some action taken in Congress to provide funding needed to to address these kinds of plans. It's being spearheaded by the founder of Bass Pro Shops and former Wyoming governor. So, you know, really high level folks up there trying to get more, more funds for for implementing these state wildlife action plans.

01:05:33:02 - 01:05:52:26

Unknown

So we're excited to to see that move forward and hopefully have some very significant funding to, to help implement these plans in the future. Probably not a lot of time for questions, but find me afterwards if you do have any questions. Again, many of you participated in the development of this plan and we thank you for that. So it will be very exciting to see this published.

01:05:52:28 - 01:06:21:19

Unknown

The there is the final version that's been submitted to Fish and Wildlife Service available on our website. There's the address. Or just go to the Colorado Parks and Wildlife website and take a look at that. And yeah, we hope to have that approval soon. And again, thank you all for your participation.

01:06:21:21 - 01:06:38:04

Unknown

Next up, we have great outdoors Colorado Michelle Fishman and Chris Yuan Farrell, and also Danielle Levine to tell us about some big things that have happened in the state this year with land conservation.

01:06:38:07 - 01:06:44:10

Unknown

Your slides just advance it okay. All right. Thanks.

01:06:44:13 - 01:07:10:02

Unknown

Okay. Good morning I'm Michelle I just joined in October as the open space program manager. So I'm pretty new to the conservation community and probably don't know more than just the people at my table. So I'm excited to be here and to meet more of you today. We just wanted to highlight some of our big projects in the last year.

01:07:10:04 - 01:07:38:01

Unknown

Overall, last year, Goku's open space program conserved more than 38,000 acres around the state, primarily with conservation easements. We provided more than \$8 million in funding, and we're leveraged with that \$8 million by another 34 million in cash, matched by partners and landowner donations. So many of you, I'm sure, familiar with the toll property in Boulder County.

01:07:38:03 - 01:08:02:24

Unknown

This was one of our big projects last year. It was the number one ranking forest legacy project in the nation. It conserved more than 3300 acres near the headwaters of South Boulder Creek, and it was a large project with a lot of partners the Conservation Fund, the US Forest Service Forest Legacy Program, Boulder County, and the Colorado State Forest Service.

01:08:02:26 - 01:08:28:02

Unknown

Next is Sawtooth Mountain Ranch. This was a project with the trust for Public Land and again the Colorado State Forest Service, another forest legacy project. This was a conservation easement to protect over 2400 acres outside of Ridgway that borders the Uncompahgre National Forest, and this one involved land donation by the landowner of more than \$3.2 million toward the conservation easement.

01:08:28:02 - 01:08:53:28

Unknown

So that's quite significant. Next is the Valley Gateway with Colorado Springs and the trust for Public Land. This was a fee acquisition by the City of Colorado Springs, right in the heart of the city. It's a great area for public access and recreation, 203 acres that expanded the existing Valley Park by 30%.

01:08:54:01 - 01:09:20:21

Unknown

Next is the ranch, which is also down south in Pueblo County. This was a conservation easement on more than 25,000 acres by the Palmer Land Trust, which is located in Colorado Springs. This property involves or contains wildlife habitat that's prioritized by CNP, along with other organizations, and connected 28 miles of protected lands in the area.

01:09:20:24 - 01:09:49:04

Unknown

And lastly, there are just two projects that our board just awarded funding for in December, and we wanted to highlight those because we're here at CSU, these projects, we're in Larimer County. First is the War Trust property. This is a fee acquisition by the city of Loveland, provided \$500,000 in funding. And this property, it's an agricultural property that will be open to the public for access to the adjacent wildlife preserve and open space.

01:09:49:07 - 01:10:22:26

Unknown

This property, this transaction has not closed yet, so I won't get into too much detail. And then lastly is the Horse Tooth Mountain expansion by Larimer County. This is another fee acquisition. This was our largest grant in our last round of \$1 million to Larimer County to purchase this property adjacent to the open space to expand it. And Danielle from Larimer County will tell you more about that.

01:10:22:28 - 01:11:01:25

Unknown

So, yeah, just to expand a little bit on what Michelle said and to back up and talk about how CNP helped with this ongoing acquisition as a partner. In 2004, Larimer County hired CNP and TNP, came out and looked at the best potential areas for conservation in Larimer County and one of the areas that identified as a PCA was the Horse Tooth Reservoir Hogback area, which encompasses Horse Tooth CNP.

01:11:01:27 - 01:11:47:01

Unknown

I did it as a very high area of biodiversity significance. And then fast forward to 2015, Dave Anderson also came out and toured toward the potential area of acquisition, and helped helped Larimer County by writing a letter of support and ultimately Go Co awarded us \$1 million grant to purchase this expansion of Horse Tooth and one other item, another win for the conservation community in Larimer County was in 2015 through a partnership between City of Fort Collins, Larimer County, CSU, and the Department of Agriculture.

01:11:47:04 - 01:12:18:00

Unknown

The Larimer County Conservation Herd was released on a large, intact expanse of short grass prairie, which is the Soapstone Natural Area and Red Mountain Open space. 1010 bison were released there this year in 2015 to go to the next one. Oh, and there's a slide to go with that.

01:12:18:03 - 01:12:28:20

Unknown

Okay, well, well, thank you all so much.

01:12:28:22 - 01:12:55:20

Unknown

So that kind of wraps up most of our super exciting conservation achievements and events of the year. Oh, I forgot I have there's also bison in my freezer. And also wanted to just see a show of hands or who saw stinky. Yeah. Okay. Good. Yeah I didn't get to see stinky, but just a nod to our friends at Denver Botanic Gardens.

01:12:55:22 - 01:13:27:07

Unknown

So that was a big deal. Really big deal, flower wise. So okay, so let's see. We're we're doing pretty well here, only slightly behind. I think we'll get caught up. I'm really excited to see Provost Miranda has arrived here with us. So what do you would you want to I have you after the next segment because I didn't know if you kind of at the end here.

01:13:27:09 - 01:13:49:09

Unknown

We can you can go first if you like, but it's totally up to you. Okay. So it's a tremendous honor to have Provost Miranda here with us. Who's going to say a few words of welcome to you. Yeah. I just wanted to to say hi to everybody. Welcome you to Colorado State. Thank you all for being here today.

01:13:49:11 - 01:14:21:18

Unknown

And thank you all for partnering so effectively with our Colorado National Heritage Program here at CSU. It's really, you know, the program is an example of how Colorado State tries to exemplify and embody our land grant mission of reaching out to the to the community, to the state, to the region, and really globally and try to do more than just study problems, but try to help solve problems.

01:14:21:18 - 01:14:57:24

Unknown

We can't solve problems here at the university very effectively. By sitting in our offices. We need to get out and partner and work with the people that that really can help. Help us address some of the big challenges. And there, as we all know, there aren't bigger challenges than our environment and our all of the issues related to the to the problems that are presented by, by how we are affecting the environment, how the environment is being affected by exogenous variables as well.

01:14:58:00 - 01:15:24:20

Unknown

These are the biggest problems on the planet. Maybe they are the planet in fact. And so you all know this much better than I do. And so our ability to use programs and units like CNP to help take the whatever assets we do have at the university and partner effectively with all of you to actually get some things done is is tremendous.

01:15:24:20 - 01:15:56:10

Unknown

And when we look to programs like this and look to our inventory of how we engage around the state, how we engage with the public, how we engage with the state of Colorado and far beyond, we know that working with with

our partners and working with all of you is so important. And I'm delighted to see the room is full today, that there's no doubt it's testament to all of the enthusiasm and energy that that you all bring to this partnership as well.

01:15:56:10 - 01:16:15:25

Unknown

So I want to thank you all for coming. Thank David for inviting me to say hi. And I don't want to take up too much time. And I know you have a lot of important work and presentations and networking to do throughout the rest of the day. So thanks very much. If anyone has a quick question, I'm happy to answer it, but otherwise I'll get out of your way.

01:16:15:27 - 01:16:19:27

Unknown

David.

01:16:20:00 - 01:16:27:14

Unknown

All right, thanks a lot.

01:16:27:16 - 01:16:36:22

Unknown

With the program. Thank you so much.

01:16:36:25 - 01:17:01:12

Unknown

Yeah. Okay. Well, let's let's go ahead and start talking about our updates by theme. So you've picked up by now on the fact that the whole meetings organized around eight different themes, this one has become a wildly important and popular sort of topic for everyone in this room. Climate change, vulnerability and adaptation. And there were a lot of you that signed up to be in that theme, breakout this afternoon.

01:17:01:12 - 01:17:25:14

Unknown

So we've actually broken it into two different groups, and we have some presenters who are going to tell us about their work on this theme. So first up is Kevin Johnson with Southern Rockies Landscape Conservation Cooperative. He's going to talk with us about the adaptation forums that the LLC's working on.

01:17:25:16 - 01:17:28:21

Unknown

Just.

01:17:28:24 - 01:17:58:24

Unknown

All right. Dave said I had four minutes. So make sure your seat backs and table trays are in their upright and locked positions, seat belts securely fastened, and hang on. So what I would like to do is just inform you of a couple of efforts that our partnership is exploring and implementing across the landscape, and I guess, give you an opportunity

in the future to engage in these efforts and understand what we're trying to do.

01:17:58:24 - 01:18:23:13

Unknown

And I'm here to try and understand what you're trying to do, make those connections in that networking that Dave talked about earlier. So just to give you an idea of our geography that we try and cover and in, you can see in Colorado it's pretty much the Rocky Mountain front westward. And so that's just our geography where we we tend to focus inside of that.

01:18:23:15 - 01:18:48:13

Unknown

We've identified some watersheds that we are placing additional emphasis on. And we have the green River basin, the Rio Grande and the Four Corners area of the San Juan River and the Little Colorado and Arizona. And I've these are the three areas that we're kind of focusing on and give you an information about the efforts that we're doing in those.

01:18:48:13 - 01:19:22:15

Unknown

The green River basin, you notice, is outside of our geography. It overlaps into the Great Northern Landscape Conservation Cooperative Partnership to our north. So that's a collaborative effort with that partnership to the north. So what we're doing in these in the green River basin, we're doing landscape conservation design effort. And what that is, is it's a partnership driven method of identifying and understanding the current conditions of the landscape and what the future conditions are, what what are the future desired conditions of the landscape in that area.

01:19:22:15 - 01:19:55:13

Unknown

And then to begin to develop that spatially explicit depiction of what the current landscape is, what the desired conditions are, and then through a collaborative process, begin to identify those management prescriptions to achieve in a scientific manner the future desired conditions that the practitioners have laid out for that that landscape. And so it is both a process and a product in the end.

01:19:55:13 - 01:20:29:01

Unknown

And so what we have with that, we're working with Dave Theobald and his his fellow partners and conservation science partners, and we're working on that spatially. The the spatial component to this, where we have now worked with partners in that geography, that basin identified the stressors that are basically eating their lunch, not only climate, but there are other stressors that are in that geography.

01:20:29:01 - 01:20:52:27

Unknown

And what are the resources that they're trying to address. And so now we've got that information and we have identified existing data sets. So we're trying to now our next step is to bring the data sets together,

match it up with the stressors and the management goals. And then we are looking to have a workshop in the geography of the green River basin sometime this spring.

01:20:52:27 - 01:21:15:25

Unknown

And that's when we'd like to display what we've come up with and get feedback from the practitioners and the landscape. Is this relevant? Is it speaking to you and how do we improve it? How do we move forward to assist the practitioners in the landscape? Then we're doing adaptation forms down in the Rio Grande in the Four Corners area.

01:21:15:25 - 01:21:46:03

Unknown

And these are where we're trying to connect the scientists with the managers. There's a lot of data that already exists. It's not about gathering new data, but it's about how do we connect the existing science that's already there to what the managers needs are, and identify those important resources and stressors, and then begin to use the existing information you're going to hear about Bruce Rittenhouse, BLM and and vulnerability assessments.

01:21:46:03 - 01:22:13:24

Unknown

We heard about the swaps. There's so much of this information that's out there. How do we bring it all together and try to address this in a manner that is beneficial to the resources and informs management? So with that, I would just like to also mention that that those will occur in the spring as well, and that this is not a one time effort, but they are constantly reoccurring and constant feedback loop throughout the whole process.

01:22:13:24 - 01:22:22:15

Unknown

So with that, I'm done. You can unbuckle your seat belts. Thanks, thanks.

01:22:22:18 - 01:22:30:04

Unknown

That was impressive. He did a lot better job staying on time than I did so.

01:22:30:07 - 01:22:51:20

Unknown

All right. So next up is Bruce Rittenhouse with BLM going to talk with us about vulnerability and adaptation work that they're leading. All right. Thank you. So I'm glad to give this presentation because this is one thing I struggle with internally within our agency. So I'm going to get a little history here real quick. And I got how many minutes.

01:22:51:22 - 01:23:14:06

Unknown

Seven okay. All right. So back in 2011, our state director asked us to do asked our natural resources branch to do a climate change strategy. And it's like, well, what does that mean? And so initially there was another

person that was involved in this that was the lead, and then that person left and it got put on to my plate.

01:23:14:13 - 01:23:38:25

Unknown

And so when I'm not dealing with climate change I'm dealing with horses or some other things. So but so as we started delving into this climate change strategy and what it meant, what we were looking at was we needed to really focus on climate change adaptation. And about that time, there's been a surge of literature about climate adaptation and climate vulnerability assessments.

01:23:38:25 - 01:24:00:09

Unknown

And so what we wanted to look at specifically was to really to address climate change. And what we were getting from projects from our field offices. Were these things about, well, we want to go out and we want \$50,000 to go out and put air quality or air temperature devices out on the ground, and or we want to do stream gauge monitoring.

01:24:00:09 - 01:24:22:25

Unknown

It's like, you know, that stuff is done by other agencies and we're not we don't need to do that stuff. We can get that information from other agencies, EPA and USGS and so on. So we really focused on that was kind of a shift. And then to focus on the adaptation part and look at how, you know, climate change and how it will affect our resources.

01:24:22:25 - 01:24:50:28

Unknown

So I might flip back to a the or go up to the next slide. So the document that was one of those moments for me was the Glick et al. Paper Scanning the Conservation Horizon about vulnerability assessments. And if you have not read that document, that is a seminal piece in the climate change literature to read by Glick et al at a national wildlife federation.

01:24:50:28 - 01:25:12:20

Unknown

So that discusses the importance of vulnerability assessments. And again, because really, if you if you're going to look at doing adaptation for climate change, you really need to understand what is vulnerable and why. Okay. So so that is a key document there. And so I'll go back to the previous slide. We'll come back to that one in a minute.

01:25:12:22 - 01:25:40:22

Unknown

So you know that discussed these these vulnerabilities how to do them. And so you know as I sort of looking at this was was I thought we could do this internally within BLM and and and there was like a meeting I'll put the blame on Renee and indirectly Betsy Neely and maybe even a little bit with John Sanderson in the back there regarding a meeting that we had about three years ago or so back in our BLM office talking about this.

01:25:40:24 - 01:26:03:06



Unknown

And so along with and I use Betsy as an example, because in the Gunnison Basin, they were doing something specifically to that Gunnison Basin and doing these vulnerability assessments. And, and then now have gone on and we've done adaptation strategies. And so that's for another talk. So and maybe I don't think you're going to be talking about that next.

01:26:03:06 - 01:26:29:10

Unknown

You're talking about other things. But but so you know, so initially I thought we could do this internally with our staff. But our staff is running around doing so many things that I really needed to have somebody else do this work. And and that was when I turned to CNP and, and involving with Renee and and I do shout outs for Michelle, Karen and Lee as well because they're the core folks that we've been working with.

01:26:29:10 - 01:27:00:13

Unknown

So as a result. So let me just say here that again, kind of in context, there's our kind of our land ownership patterns in Colorado, mostly West Slope. And so we have 8.4 million acres. So what we decided to do is through some negotiation again and the amount of funding that we received, and this all boiled down to about funding, I would love to have another 75 animals and maybe about another couple hundred plant species and maybe even a few more ecosystems.

01:27:00:13 - 01:27:22:21

Unknown

But it boiled down to how much funding I could get. So we we did vulnerability assessments, or I should say CNP did most of the work. Okay. We were just kind of reviewers. BLM were reviewers, but the four folks I mentioned, they were the ones doing most of the work. So we did 22 ecosystem types, both aquatic and terrestrial.

01:27:22:22 - 01:27:51:16

Unknown

Of those that are relatively important to BLM management, pinyon juniper, sagebrush ecosystems and and a few others and some of the conifer ones. So with that and then we looked at the 36 animal species are our threatened endangered species that occur on BLM lands. And then we did 62 plant species well. And the animals were also our our special status species as well.

01:27:51:16 - 01:28:20:06

Unknown

The ones that we have management concern for that are not listed under ESA. Same with the plants. It was listed plant species and those that are on our sensitive species and special status species list here in Colorado. So so again this slide is vulnerability leads to adaptation. And so we're in the process. Now we have actually finished the or I'll say see has actually finished the vulnerability with our blessing is now posted on their website.

01:28:20:06 - 01:28:48:16

Unknown

So to really now we're at a level of where we are starting to plan adaptation strategies for key resources that BLM has a major responsibility for, and to again, looking at what can we do to the effects of climate change on our public lands and BLM? So what we did was real quickly, we the ecosystems here, you'll see we rated them out by extremely vulnerable.

01:28:48:16 - 01:29:09:02

Unknown

They were rated out as extremely vulnerable, highly vulnerable, moderately vulnerable and low vulnerability. There's obviously again we think of climate change vulnerability in a always primarily in a negative context that things are always everything's going to be impacted negatively. It's probably not the case. There's going to be some gains and some winners in this in this climate change world.

01:29:09:02 - 01:29:32:03

Unknown

So so I'm not going to go to the data. But you'll see most of the plants are extremely vulnerable probably because they're already really really rare. And any additional stressor besides the non climate stressors is going to increase that vulnerability. So really quickly is this was the natural resources side. I want to do a shout out to the the North Central Climate Science Center as well.

01:29:32:04 - 01:30:06:01

Unknown

Because we are now doing a social economic vulnerability assessment of how public land users, i.e. we're focusing on recreation users and and grazing as, as how will those actions on public lands be affected by climate change. And and then eventually the goal is, is to develop have a and I hope to come back in two years and say we've got a a BLM Colorado climate change response plan that identifies how we're going to manage public lands in face of climate change.

01:30:06:01 - 01:30:29:06

Unknown

So with that, I will I don't know if I have time for a question or not, but I'm around here all day, so and we'll be in the vulnerability workshop later this afternoon. All right. Thank you. Is there a question or not? Okay. We'll ask.

01:30:29:08 - 01:31:08:07

Unknown

Thank you so much, Bruce. So next up they're going to take us right up to our break is Betsy Neely with The Nature Conservancy and Nina Burkhart with USGS. So thank you. Thank you. I'm Nina, this is Betsy. And we're going to kind of go back and forth with our presentation. So we're talking about a project that we've been doing with funding from the North Central Climate Science Center and want to also really especially acknowledge, Renee, everybody keeps pointing to Renee, but Renee Rondo with the Colorado Natural Heritage Program.

01:31:08:07 - 01:31:28:25

Unknown

She was really instrumental to this project and has worked. We'll talk about the fact that we've worked in two basins, and Renee did a really exceptional job of working across both basins and really helping people to communicate. So I think that the success of our project so far has been really bolstered by your involvement. So I thank you very much.

01:31:28:27 - 01:31:55:27

Unknown

So, you know, we all know the climate change is, is, you know, providing these challenges to ecosystems and to people. We looked at some areas in southwest Colorado, and we're really interested in looking at these systems from a social, ecological perspective. And we wanted to work with decision makers and with people living in these areas, and help them think about developing adaptation strategies so that they can adapt to climate change.

01:31:55:27 - 01:32:05:20

Unknown

So I'm not going to turn it over to Betsy for a few minutes. She'll talk, and then I'll come back a little bit.

01:32:05:22 - 01:32:43:10

Unknown

One of the unique aspects of this project is that we're really focused on this intersection between the climate, the social and the ecological systems. The overall goal that we're trying to achieve is pretty lofty, but it's to facilitate adaptation in southwest Colorado to that contributes to social ecological resilience to sustainable human communities and to the conservation of these ecosystems and species.

01:32:43:13 - 01:33:30:16

Unknown

The key question that we're trying to ask is how can we help people in nature adapt in the face of an uncertain future? And so we've developed an adaptation framework that we're using that and we're also applying it along the way. And we're trying to address 3 or 4 key objectives. First, to better understand what's happening with the vulnerability of both the social systems and the ecological systems, and then to help inform strategy development, to develop climate scenarios as well as ecological models, to help us understand what's happening in these systems and what the threats are.

01:33:30:22 - 01:34:02:18

Unknown

And then I consider it a key prize or a key component of the whole project is to develop these actionable adaptation strategies that we can apply at the landscape level. And then finally, Nina's going to help us, and the social scientists are helping us better understand the institutional context so we can ensure that these adaptation adaptation strategies are successful.

01:34:02:20 - 01:34:30:24

Unknown

The study area is southwestern Colorado. It consists of the upper Gunnison River basin and the whole San Juan's basin and mountains. So it's a large study area, and it's consist of largely federal lands managed by the Forest Service in Green, BLM and the National Park Service and other number of state lands in a smaller amount of private lands.

01:34:30:25 - 01:35:03:07

Unknown

The key livelihoods in this area are ranching and agriculture, tourism, recreation and down in the San Juan's energy development. And all of these livelihoods are threatened with this ongoing and future climate change. So we used a stakeholder process to help us understand what to focus on. And in the project. We couldn't tackle all of the systems that occur in in that area.

01:35:03:08 - 01:35:55:15

Unknown

And so in the San Juans, Marci Bidwell of Mountain Studies Institute, working with Renee and others, identified the pinyon juniper woodlands and seeps and springs down in the bottom to focus on in that area working. The stakeholders really decided what was most important, both for social reasons and ecological importance. And in the Gunnison Basin, we worked with the informal Gunnison Climate Working Group, a suite of about 17 partners working together to prepare for change, and this group decided that the most important landscapes to focus on right now are the sagebrush landscape and spruce fir, both of which encompass about a million acres.

01:35:55:18 - 01:36:54:08

Unknown

To help us address the climate uncertainty we worked with as a research scientist with NOAA at Kew. And what MTS did was to do a lot of modeling, and he helped us based on 72 models and under two different emissions scenarios, a high and a moderate. The high is sort of business as usual. The track that we're on now and looking at differences in temperature and precipitation identified these three climate scenarios that we would use to work on in this project the hot and the dry, the feast and famine, which is more or less a moderately hot, no precipitation change, but there are a lot of fluctuations in that one.

01:36:54:08 - 01:37:10:21

Unknown

So it's quite problematic. And then the warm and wet and these were three plausible futures for this part of southwestern Colorado.

01:37:10:24 - 01:37:55:04

Unknown

Renee, working with Terry Schultz and from the Nature Conservancy and stakeholders from BLM, Forest Service, Park Service and researchers developed these, what we're calling ecological response models for each of our systems under the three climate scenarios. And what these models do is help us better understand how these systems operate, and they help us identify what are the important climate impacts, along with those non

climate stressors, and help us evaluate those impacts in the context of these different scenarios.

01:37:55:07 - 01:38:30:00

Unknown

And the green bubbles represent the ecosystem state. So in the upper right you have lower elevation sagebrush or Wyoming sagebrush. We're particularly concerned about that type in the feast and famine scenario, because we're the scientists believe that we'll see more fires due to the high fluctuation in precipitation and and temperatures. And that might lead to an uncharacteristic or a novel ecosystem dominated by non-native grasslands.

01:38:30:07 - 01:38:47:10

Unknown

So this really sets the framework for this project. And now Nina is going to talk about the social science work and our climate adaptation workshops. All right.

01:38:47:13 - 01:39:12:04

Unknown

Great. I see our timekeepers gone. So you're in trouble. We can do anything. Okay, so Betsy mentioned a few slides back that there were the three scenarios. There was a hot and dry, the warm and wet, and the feast and famine. So what we did then is that Renee and others, Marcy Betsy was part of this. A big group of people worked together and they wrote three narrative scenarios.

01:39:12:04 - 01:39:33:02

Unknown

And so each of those scenarios, there was a set for the San Juans, and there was a set for the Gunnison. And each of those scenarios really represented plausible futures. About 20 years out. And I actually have copies of them with me. I could do a reading now. I'm just kidding. But I have them with me. So if any of you want to catch up with me and want to look at them, I'm really happy to share them with you.

01:39:33:02 - 01:39:55:27

Unknown

There's nothing proprietary about them. But. So we came up with these narrative scenarios. We had lots of outside expert review and really worked hard to make sure that what we were presenting to people was plausible, scientifically sound, and was going to be helpful for people to think about the effects of some of these, some of these scenarios. So and I'll talk about something that we did with those in just a minute.

01:39:55:27 - 01:40:21:00

Unknown

But that's another piece of this. There are a lot of moving parts in this. You might be getting that idea. So the next thing we did is we did stakeholder interviews. And there was Laura Young was one of our collaborators at the University of Montana. She had a postdoc, Karina Weybourne, who spent a lot of time down in the San Juan Basin, worked

with Marcy Bidwell at Mountain Studies Institute, worked with Renee and contacted a lot of different stakeholders and interviewed them.

01:40:21:00 - 01:40:44:16

Unknown

And then a parallel process happened in the Gunnison. And Katie Clifford, who was a student, finished starting her PhD, now at sea in Boulder, working with Bill Travis. She did interviews in the Gunnison. And so it says, you know, 25 to 40 because I think there were 40 closer to 40 in the San Juans. There had already been a lot of interviews done in the Gunnison.

01:40:44:16 - 01:41:11:13

Unknown

And so we didn't want to completely duplicate those efforts. So fewer interviews there. And so we were really trying to so the interviews were focused on getting people to think about those targets that Betsy talked about a few minutes ago, and to think about how they thought those targets might be affected by climate change, what they thought they might do to manage those targets, and any sorts of difficulties, obstacles, challenges that they might see in terms of managing for those targets.

01:41:11:13 - 01:41:35:14

Unknown

And also just wanted to find out what people knew about those targets and what they could tell us about them. So those those were the interviews. And then the next thing that we did is that we ran a series, focus groups and workshops. And so in those workshops, what we did is we had people look at the narrative scenarios and respond to them.

01:41:35:14 - 01:41:57:08

Unknown

And so we would they would be fairly small groups. And again, the graduate students who did the interviews were the people who conducted these. They would have people look at those scenarios and respond to them and say, if this is your world 20 years from now, what do you think? What do you think you'll do about that? You know, how will the management that you're doing now change under these kind of scenarios?

01:41:57:09 - 01:42:22:14

Unknown

You know, what impacts would you be most concerned about? You know, do you see some conflicts and really had these conversations with people and people. And then we did workshops, more of a workshop format in, in the San Juan area and in the, in the Forest Service workshop. There was one that was just for the Forest Service. And the Forest Service asked to invite some of the permits who had been interviewed as well.

01:42:22:14 - 01:42:42:02

Unknown

And we got a lot of feedback in those workshops that people really appreciated the opportunity to have these conversations together and to work through this together. So it wasn't just the federal managers having these conversations, but they were involving people who would be

affected. So I have three minutes left. Keep moving. Oh, you came back. How do you know why three minutes left.

01:42:42:02 - 01:43:09:07

Unknown

I was getting so. And then the other piece that we did, Betsy, mentioned the institutional analysis. So when we talked, when we interviewed people, one of the things we asked them was what sort of obstacles they thought there might be to developing and implementing adaptation strategies. And so we've compiled those and we've looked at those, and now we're going through a process of also talking to people at state and federal levels in the agencies, primarily to see what they think those obstacles are.

01:43:09:08 - 01:43:43:27

Unknown

Because the reality is when we develop adaptation strategies or what people work on those, they have to think about feasibility. And so sort of institutional constraints and opportunities are part of that. So that was that's the institutional piece. So we've had one set of workshops. This happened in April. And we wanted to bring people together and have them integrate the social, ecological and climate pieces and to start thinking about what the social ecological system looks like and what sorts of interventions they might consider that would then help them to develop adaptation strategies.

01:43:43:27 - 01:44:06:26

Unknown

We did this in the San Juans, and then there were also workshops in the Gunnison, and we used a couple of different ways to do this. And clearly I'm not going to walk through all this, but we use this thing called a situation analysis, which is a tool that The Nature Conservancy uses. And then we also used one called Chain of Consequences, which is something the USGS uses and and workshops.

01:44:06:26 - 01:44:27:20

Unknown

People went through both of these, both of these processes for one target and for one of the scenarios. So they use the feast and famine. And it was helping people to see what the social ecological system looks like, and to think about what sorts of effects climate change might have on their targets, and then also to start thinking about intervention points.

01:44:27:20 - 01:44:44:19

Unknown

And so, you know, again, we can talk to you about this a little bit more later, but that that was the purpose of that. Maybe I'll just talk about this quickly. So this is an adaptation strategy in action. So this was about a four year process to.

01:44:44:21 - 01:45:05:12

Unknown

To do some restoration in some of these wetland areas. And you can see at the top no. The bottom is now the top is when they started and so they

and so the Nature Conservancy and the Gunnison Climate Working Group and others worked together. And they came up with this adaptation strategy. And you can see, you know, in 2014 things look a lot different than they looked in 2012.

01:45:05:13 - 01:45:26:08

Unknown

So that's about all I'll say about that okay. So next steps, we have some workshops coming up because we have people come up with these preliminary intervention points and to think about that. But we were going to have some workshops in both basins to help people develop adaptation strategies. And then of course, we have the final reports and manuscripts and those things that we would do.

01:45:26:09 - 01:45:47:22

Unknown

So, you know, really quickly, some of the things that we've talked a lot as a team, because we've got a big team, we've talked a lot about a team, a lot as a team, about what we've learned. And so we've learned a lot of interesting things about the climate, the ecology, the social system. But we've also learned a lot about working together and what that means in this integrated sort of a team.

01:45:47:25 - 01:46:18:27

Unknown

And one of the things the first thing is that, you know, management moves forward, the system moves forward. They're not waiting for us to tell them what to do. And so we're in this situation where we're trying to help managers and others think through this, but it's kind of a moving system. So that's been interesting to us. This co-production piece is this idea that we work with users of the science to help them produce a science, to help them produce a data and information, and that's a really time consuming thing to do.

01:46:18:27 - 01:46:38:03

Unknown

It's a lot easier to not do it, I think, but we've really been trying to work with stakeholders as we do this, and double the budget is something that we didn't really account for. Integrating the social, the ecological, the climate, how we do that has been something that we have sort of had to make up as we went along.

01:46:38:03 - 01:46:55:04

Unknown

And I think that we all have learned a lot from each other and feel really gratified by that. And that's that last point. I mean, I think that as a multidisciplinary team, we've all learned to think in ways that maybe we didn't think before, and we've been able to see the connections and really think about how we might work on these adaptation strategies.

01:46:55:04 - 01:47:03:00

Unknown

So thank you.



01:47:03:02 - 01:47:35:08

Unknown

Thank you so much, Nina and Betsy. I just love this project. I've shown images of these wetland restorations to lots of students and at other conferences. And, and it sort of takes that despair out of our feelings about climate change, when you can show that you're, you know, we're adapting for climate change, but we're also doing something that really benefits watersheds and benefits, you know, creates real, measurable benefits to people and helps restore water, water tables.

01:47:35:09 - 01:48:00:03

Unknown

And I think people see this and they just love it. They just realize that that there is hope. And I think the same goes for the other climate work that's happening with the with the swap and that BLM is leading. So this has really been inspirational. Thank you all for those wonderful presentations so far. We're almost back on time here for things.

01:48:00:03 - 01:48:32:04

Unknown

So I think we should go ahead and take our 25 minute break. There's food back there. There's supposed to be gluten free things I'm not. Hopefully we have those clearly labeled for people who are gluten intolerant. And so yeah, we will reconvene at 1110 and finish up a few more presentations and then have lunch. So you so much.

01:48:32:07 - 01:51:09:06

Unknown

Thanks for having me over the end of course. Had a good swing by. Yeah. Thank you so much. Have a good rest of the day. It's wonderful. Yeah. Thank you to.

01:51:09:08 - 01:51:21:12

Unknown

You.

01:51:21:14 - 01:51:25:10

Unknown

If you want to.

01:51:25:13 - 01:55:53:03

Unknown

Let's just put on this.

01:55:53:06 - 01:57:04:12

Unknown

Out. I'm just going to be here for.

01:57:04:14 - 01:57:15:09

Unknown

A special up and down and then get it here too. So I don't know what that means. I mean, I guess that's interesting.

01:57:15:12 - 01:57:24:06

Unknown

She should have asked.

01:57:24:08 - 01:57:38:21

Unknown

For.

01:57:38:24 - 01:57:55:07

Unknown

In the two person appointments.

01:57:55:09 - 01:58:00:01

Unknown

You know, I'm going to jump on here.

01:58:00:03 - 01:58:08:20

Unknown

I know.

01:58:08:22 - 01:58:59:26

Unknown

Where's the.

01:58:59:28 - 01:59:32:18

Unknown

But I was trying to move the touchpad around and there's no like mouse or anything. So, you know, with the I wonder if this is going to go on the screen for everybody.

01:59:32:20 - 01:59:42:19

Unknown

I don't know, but do you want to check it and see if.

01:59:42:21 - 01:59:53:25

Unknown

No I just go. Go. Oh he's the guy with the beard. Talking to Eric and Amanda over there with the green. Tucker cheered on.

01:59:53:27 - 02:00:04:02

Unknown

How was your meeting? Oh, it was good. I'm sorry, I can't know y'all. Should I just.

02:00:04:04 - 02:00:17:25

Unknown

Got email?

02:00:17:27 - 02:00:23:06

Unknown

People might hear you on the internet after speaking right now.

02:00:23:08 - 02:00:39:09

Unknown

Okay, we will go with that. Okay. And then Dave may need to get it back in.

02:00:39:11 - 02:00:56:10

Unknown

Just to the dam. Oh, cool. Cool cool. Excellent. Okay. So. Okay. So that's working. Okay, great. Yeah. No.

02:00:56:13 - 02:01:06:13

Unknown

Where.

02:01:06:15 - 02:01:11:15

Unknown

You were on the flight. That was.

02:01:11:17 - 02:01:20:27

Unknown

That when you had to sell.

02:01:21:00 - 02:01:26:16

Unknown

That plane.

02:01:26:19 - 02:01:32:18

Unknown

I've been on a tour of that.

02:01:32:21 - 02:01:38:25

Unknown

Like our whole.

02:01:38:28 - 02:05:17:05

Unknown

Like like I thought. Yeah, I was like, well, I got, like, dark.

02:05:17:07 - 02:05:22:16

Unknown

And.

02:05:22:19 - 02:05:37:02

Unknown

I got him in the bay, and it sounds like it's great, that looks like that.

02:05:37:04 - 02:05:42:20

Unknown

Well, no, I didn't want to make it work with president.

02:05:42:22 - 02:05:56:08

Unknown

So he's going to see if he can.

02:05:56:10 - 02:06:10:07

Unknown

Yeah, I was looking for a job. The most, most recent.

02:06:10:10 - 02:06:30:01

Unknown

That that.

02:06:30:03 - 02:06:40:25

Unknown

Was developed for the rapids.

02:06:40:27 - 02:06:47:04

Unknown

Like that. And play.

02:06:47:06 - 02:06:51:20

Unknown

Like.

02:06:51:22 - 02:07:12:00

Unknown

And I looked him up a test tube, so I guess I didn't put it this way. I know that because. Yeah. Yeah.

02:07:12:02 - 02:07:22:08

Unknown

I mean the database is attracting other things though for the site. That would be the case. Well, I might not.

02:07:22:10 - 02:07:40:07

Unknown

Remind me later to say that we could totally do that. Go with my SQL. Apparently I think it's.

02:07:40:09 - 02:10:10:21

Unknown

I don't think this has ever.

02:10:10:24 - 02:10:18:13

Unknown

Actually have a real life Bronco, man, so like, that was not.

02:10:18:15 - 02:10:26:16

Unknown

Like this. So yeah, this weekend and we're in the conference and.

02:10:26:19 - 02:10:59:08

Unknown

This is why I'm here.

02:10:59:10 - 02:11:23:09

Unknown

A little action.

02:11:23:12 - 02:11:37:00

Unknown

I can tell the aerial shot from flying over I got that. Yeah I made this like a.

02:11:37:02 - 02:11:58:01

Unknown

I think she might have.

02:11:58:03 - 02:12:14:08

Unknown

That.

02:12:14:10 - 02:13:23:02

Unknown

Disruption in the long like a little.

02:13:23:04 - 02:13:50:03

Unknown

Don't like the way.

02:13:50:06 - 02:14:08:04

Unknown

Your website. But sufficient to pulled up just like that. Like or something. Okay. So you're doing what you just did that in case you and I just put in some things that.

02:14:08:07 - 02:14:19:10

Unknown

You're going to get. Okay? You just do a little tweak here. Only have five minutes. Oh, good.

02:14:19:13 - 02:14:35:05

Unknown

This.

02:14:35:07 - 02:15:02:14

Unknown

At the time? Yes. Wetland information center. Whenever I get my presentation, just yes. Of information on that should work just fine. Other people use it. So maybe I'll be the guinea pigs. Yeah. Amy will be doing the same. I think Amy will have it going before you. Okay. So. Well, not not the psychic, but she'll be on the internet for her part.

02:15:02:16 - 02:15:08:25

Unknown

All right. So.

02:15:08:27 - 02:15:14:04

Unknown

Yeah, that should work just fine. You bet. Thanks.

02:15:14:06 - 02:15:31:26

Unknown

To start stuff, I just wanted to tell you really quick. I'm. I'm with Fremont County weed management. And when I talk about it. And mustard and Royal gardens. Oh. That's you? Yes. Oh, yes. Thank you. It's good to meet you.

02:15:31:28 - 02:16:19:18

Unknown

We wanted to take that.

02:16:19:20 - 02:16:31:12

Unknown

Okay. I'm going to call everybody back now. It's amazing how fast you can blow through 25 minutes when you're among all of your friends.

02:16:31:14 - 02:16:39:06

Unknown

Oh, thanks.

02:16:39:08 - 02:16:44:07

Unknown

As you guys come and sit back down.

02:16:44:09 - 02:17:09:14

Unknown

I wanted to acknowledge one person who I think gets the prize for coming the farthest to our meeting. That's Mary Pendergast. She came all the way from Utah to join us today. So, I don't know if Mary's back in the room, but thank you for traveling so far to join us.

02:17:09:16 - 02:17:40:01

Unknown

So let's just go ahead and go back into things, let people continue with their presentations. We have a six more coming up in the next 50 minutes. And I just forgot to show you this earlier, but wanted to just kind of update you on where things are at with the Colorado Natural Heritage programs, data on rare species and natural communities.

02:17:40:07 - 02:18:10:00

Unknown

Right now in the database, we have 26,281 map locations for species and communities, and a whole bunch of other observations of species on our watch list. And the winners of our door prizes have maps of our 1907 potential conservation areas. And we also have 34 networks of conservation areas, which are larger areas that include an aggregation of different potential conservation areas.

02:18:10:00 - 02:18:38:15

Unknown

And so all of those data are available through us. A lot of it is downloadable right on our website, and we're actively moving towards setting up an environmental review tool, working with Nature Serve that will allow people to log in and look at the detailed natural heritage data for species and plant communities. So that is forthcoming. I just wanted to make sure you guys knew that was happening.

02:18:38:18 - 02:19:07:01

Unknown

So here's our lineup for the rest of our morning up until lunch. So next up is Clark Jones from Pueblo Chemical Depot. So he's going to tell us about the climate change monitoring that that he's working on there. Thank you. Clark. Thanks. So I'm going to be talking about another one of Renee Rondo's projects. So where she is point at her like everyone else has.

02:19:07:03 - 02:19:27:06

Unknown

So as you said, I'm the natural resource manager at Pueblo Chemical Depot. And this is part of a project that kind of started out with a different goal of mine. But because of the long term nature of the project, it's could turn out to be very useful for forecasting changes in vegetation and short grass prairie. So just to give you a little bit of background.

02:19:27:09 - 02:19:56:25

Unknown

Pueblo chemical depots east of Pueblo, Colorado. It's about 23,000 acres. A lot of it is short grass prairie habitat. It was previously grazed, not all of it, but some portions of it were from 1943 to 1998. In 1998, they decided to remove the cattle, and then Pueblo Chemical Depot partnered with CNP to look at how the vegetation would recover and kind of compare grazed areas to graze areas.

02:19:57:01 - 02:20:28:08

Unknown

Since 1998, Renee and crew have been out there nine times and kind of been fortunate enough to see what's happened through these wet and drought years. So here's those three scenarios that were mentioned before the break. So this is for soil moisture that's projected through 2090. The green line is kind of this warm and wet scenario for moisture that you might see under a reduced greenhouse gas emissions scenario.

02:20:28:14 - 02:20:53:14

Unknown

The blue and the red lines are kind of the business as usual lines. The blue line is the feast and famine scenario that was mentioned. And the red line is sort of this hot, prolonged drought scenario. So one of the question is, is what effect might this have on short grass prairie, particularly one of the dominant grasses which is blue gramma.

02:20:53:16 - 02:21:24:20

Unknown

And so kind of what they've seen is that the ability of blue graham as ability to recover after serious drought may not be what we thought it was. So this is an raised plot with repeated photo points starting in 1999. So here's six points. 1999 was the wettest year the cap sampled, 2002 was the driest year. So you can see in the 1999 plot things are a little bit green.

02:21:24:20 - 02:21:52:15

Unknown

In 2002, some things it's bluegrass was kind of dormant there, and it's kind of starting to die back in 2003 and in 2015, there's not a whole lot of that left. Blue gram of cover went from an average of 41% in 1999 to point 5% this past year, and the frequency went from 93% to 1999 and 2001 to just 12% this past year.

02:21:52:18 - 02:22:18:26

Unknown

And I think this is probably one of the most telling graphs. On the left is the on the left y axis of the Summer drought index. So those negative numbers, those are moist years. We're not in a deficit. Those positive numbers below zero. Those are when you're in a deficit. And on the right it's the blue gram of frequency, which is basically presence absence within a quadrate.

02:22:18:28 - 02:22:46:08

Unknown

That's within a plot. I think there are 14 plots in a hundred quadrants per plots. That's each one of those dots represents the average of 1400 quadrants. I just want to point out here, too, that they didn't find any differences between the Grays and the on Gray's plots when looking at the frequency here. So you can see that there's been a very steep decline in blue gram of frequency in 2000.

02:22:46:13 - 02:23:18:16

Unknown

I guess it's 1999 and 2000. It ranged between 55% and 62% in 2015 over down to 13%. So just to conclude, kind of where I started was that this project wasn't really set, didn't really set out to look at climate change, but because of the long term nature of the project, I think it could be really important for forecasting changes in one of the most, for one of the most dominant species in the short grass period.

02:23:18:23 - 02:23:39:28

Unknown

And this also has added value for kind of where the whole project started. So Depot's undergoing a lot of changes. It's about to be turned over to a land reuse authority, and we're going to have the ability to make recommendations for whether or not we think grazing would be appropriate. And this data can also help inform that. And I think that's it.

02:23:40:00 - 02:23:46:13

Unknown

Thanks.

02:23:46:15 - 02:24:09:10

Unknown

Thank you so much, Clark. That's a really interesting example of how monitoring projects can turn into something that you didn't expect them to be. So next up we have Patrick Crist from Nature Serve, who's going to give us a presentation about avoidance and mitigation work that he's



leading. Thanks, Patrick. Thanks, Dave, and thanks for the opportunity to present today.

02:24:09:13 - 02:24:27:03

Unknown

Just move right along. Not much time. Just want to acknowledge coauthors there I was more like idea guy and cheerleader. CNP did most of the heavy lifting on this. To my knowledge, Rene did not work on this project.

02:24:27:06 - 02:25:04:02

Unknown

And of course, acknowledging Pikes Peak Cog, our client and collaborator over many years, being real innovators nationally in transportation and conservation integration. So objectives of this project. We wanted to identify potential conservation impacts but also opportunities. All of this in support of mitigation better providing conservation outcomes. Developing a framework to collaborate around mitigation needs. Streamlining the transportation permitting process and integrating planning and decision making among agencies.

02:25:04:03 - 02:25:47:21

Unknown

So this term Integrated Regional Mitigation Plan is also known in some circles as Ramps Regional Advanced Mitigation Planning. These address all the impacts of long range transportation plans. So it's not meant to be a project by project approach. The plan itself is, in reality a database that is suitable for doing dynamic queries. So it's not a static map and it links individual projects with their expected impacts, and then to a set of places, candidate sites that can provide offsite mitigation in these places can include existing conservation areas that could benefit from mitigation dollars providing restoration planned priority areas.

02:25:47:21 - 02:26:19:16

Unknown

We heard about swaps, for example. So these different priority areas that need funding to be protected and then also areas that need acquisition or restoration from partners. And so everybody knows geography. We're talking about Colorado Springs MPO. And just quickly high level methods. First we created a regional ecological framework. You'll see an image of that conducted cumulative effects assessments.

02:26:19:19 - 02:26:51:18

Unknown

Identified additional values to attract mitigation to otherwise equivalent sites, scored areas for their overall value, calculated the mitigation value scores for each of the sites, and then made the database available to the partners. So the Greens are the regional ecological frameworks. So that's basically a weighted overlay of the conservation elements. So the the species and habitats and ecosystem types of interest and weighted by endangered species present.

02:26:51:18 - 02:27:20:21

Unknown

So the darker the color the higher the value that was intersected with the 200 plus transportation projects. And so this is just indicating the colors from blue would be no mapped. Impacts up to the darker oranges and reds would be increasing numbers of impacts on species of interest. Then we have the project impacts database. So each row would be a project and then statistics about its impacts.

02:27:20:21 - 02:27:25:27

Unknown

And then this overall impact score.

02:27:26:00 - 02:27:50:28

Unknown

There's a process then to identify the opportunity areas that basically gets at. Are there options for the mitigation. Is there more than one site. If not you know that's an irreplaceable site is required for the mitigation. If there are options that's where these other values kick in. So ecosystem services, recreation value, proximity to existing protected areas and so on.

02:27:51:01 - 02:28:19:26

Unknown

I'll feed into that in ramp database. And so just to give one example this is for playa. So all of those square mile sites that you see that are colored are all candidate areas. But the darker the color, the more additional values there are that it can contribute. And so just some conclusions. There is a paper available if you're interested in all the nitty gritty methods, come see me and I can arrange to get you a copy of that.

02:28:20:03 - 02:28:41:00

Unknown

Nature. Serve is taking a lot of the great work that Michelle in particular and her group did to develop some methodology, coupled with other tools that we've developed to build a mitigation planning tool that can automate a lot of this work. We're interested in assisting more Colorado communities with this process. And you could look to league or not.

02:28:41:00 - 02:28:51:13

Unknown

And I as points of contact if you want to learn more. Thank you.

02:28:51:15 - 02:29:11:27

Unknown

Thank you. Patrick, it's really been a pleasure to work with you on so many of these powerful tools for doing conservation, making it successful. So thank you very much. Before we go on, I wanted to send a quick shout out to the people who are joining us on the live stream. We had like ten of them before, right, Alyssa?

02:29:12:00 - 02:29:40:19

Unknown

Okay. We have 11 people joining us remotely, so I wanted to say thank you and welcome to them. And so next up is Amy Greenwell who's going to tell us about streams. And I'm pulling up the internet for you okay. Thank you. Amy, I should just say that we don't have our streams partners here because of a conference that was in Durango that they're pretty much all at.

02:29:40:19 - 02:30:11:13

Unknown

And so Amy flew right back. And here she is to tell us, oh, I'm Amy Greenwell, I'm the GIS manager at CNP, and we've been working with the Boer and the Upper Colorado and San Juan recovery programs to develop this online database for endangered fishes for their pit tag data. So currently, before this site was designed, they had some biologists in each of the programs that had generously donated donated their time to collate data.

02:30:11:18 - 02:30:41:24

Unknown

As you can imagine, lots of folks are involved from federal agencies and states and private nonprofits and water interest groups. So it was quite an effort and it wasn't their full time job. It also didn't give real time access to the researchers that need data for their research projects and reports. So we worked with them to develop this site, and it's still in development phase, where we finished year one of a three year development cycle.

02:30:41:26 - 02:31:05:10

Unknown

So right now we have the container built, the websites up, and we have all of the data imported into the database. So I'm just going to bring up a few records here and show you all what it looks like. So we have a bunch of filters. When you get to the main page. We have about over 900,000 fish right now, and we have over a million different encounters of these fish.

02:31:05:13 - 02:31:26:18

Unknown

So the biologists right now can go in and copy and paste all of their pit tags into the box here and get information on it. Or, you know, you could filter on one or all of these options. So I'm just going to go ahead and look at mortality real quick and click on filter. So I'm a little slow without a mouse.

02:31:26:20 - 02:31:49:26

Unknown

So this brings up all the fish that we know have deceased. And if I wanted to export that I could click the download button right now. And everything that's in the filter would be poured into a text file delimited text file that can be open in Excel, and the user would get an email indicating the files ready. And I think for this particular query, it only takes a few seconds for the file to be ready.

02:31:49:26 - 02:32:17:07

Unknown

But of course that would vary based on what your filter options were. So you can look on the details here. You can find out a little bit of information about the fish if it's available, all of the hatchery details, and the grow up ponds that they use to raise them. And the hatcheries are really interested in this because they have quite a few grow up ponds and techniques they use, and they're interested in tracking kind of mortality over time and seeing if there are certain techniques or ponds that have a better survival rate.

02:32:17:08 - 02:32:38:20

Unknown

You can also look at all the tag details. Some fish are tag multiple times up to 4 or 5 times. Some of these fish actually live quite a long time and eventually they'll need new tags. So all the tags will be in the tag table. You can look at any studies that included these individuals. And then of course you can look at other encounters for this fish.

02:32:38:20 - 02:33:04:26

Unknown

In this case we had a stocking event in 2013. Then it was captured twice in the last capture resulted in the mortality. So if you're interested in viewing a little bit more information about the particular encounters, you just click on that tab for details. It'll bring up all the information that the researchers collected in the field. And you can see in this case, it was the Grand Junction office that captured this record using electro fishing.

02:33:04:26 - 02:33:25:26

Unknown

And then, of course, there's breadcrumbs to go back to where you started to help with the navigation on site. So that's kind of the meat of the database right there. You can also look at the specific encounters, which in this case we have more than fish because many of the fish have been encounter multiple times. And this gives you a different list of options for your filters.

02:33:26:00 - 02:33:50:26

Unknown

You can do ranges of river miles. You can do date ranges. You can do it by organization or by parent organization, because we have everything keyed out to specific offices. And sometimes those folks want to look at it at a more general level. We also have studies in here. And then we have these remote antennas that they set up on the streams in certain places where they're monitoring and train mostly, but sometimes it's community monitoring.

02:33:50:26 - 02:34:14:15

Unknown

And these detections are constantly detecting all the pit tag fish. And right now we're doing some manual uploads into the database. But eventually we will have this batch uploaded every evening. For most of the sites. A few of them cannot be connected to remotely, and those will

have to be done manually. All the items in here that are grayed out are on our development list for you too.

02:34:14:18 - 02:34:33:02

Unknown

So we're going to have a batch upload option available. Like I said, there's lots of folks involved and the ability for them to collect their data in the field and upload it right away is very attractive. Then all the other researchers will be able to access it. So that's in the works for year two and we also have some downloads.

02:34:33:03 - 02:35:02:01

Unknown

Eventually we're going to have an advanced query builder where you can kind of cherry pick the fields that you're interested in downloading, and you can also use some popular functions. And in the meantime we have some popular downloads already set up. You can put your queries in and hit download. In this particular case, the Cross Basin one was very interesting because the folks didn't realize that the fish could actually travel between the San Juan and the upper Colorado Basin, and it turns out that they do.

02:35:02:03 - 02:35:25:09

Unknown

So that was kind of spawned the interest in getting this data set going, because it took them a long time to realize they had fish in both basins. So I believe I'm at a time. If you would like to know more, please contact me. Or if you have a bunch of data you would need database solutions for. We're we're happy to help.

02:35:25:12 - 02:35:37:27

Unknown

Thank you.

02:35:38:00 - 02:35:44:28

Unknown

Thank you very much. Let's get back to our PowerPoints here.

02:35:45:01 - 02:36:08:15

Unknown

I love the double entendre of spawning fish data and then fish that. That was great. Let's see, where are we at here? Okay, so our next speaker is Amanda Barker from Colorado Coalition of Land Trusts.

02:36:08:18 - 02:36:44:01

Unknown

There we go. Good morning. My name is Amanda Barker with the Colorado Coalition of Land Trust. Our organization is a statewide group that a membership coalition. We have 33 member land trusts that are work in specific regions statewide. Even national groups, 11 local governments that are municipalities and county groups, as well as 31 professional groups, lawyers, appraisers, tax credit brokers, all working on private land conservation issues here in Colorado.

02:36:44:02 - 02:37:11:12

Unknown

We have two major programs, one being our education annual conference. Many of you may be interested. Get in touch with me. That's coming up in March. But our other main focus is in policy work. Our members work pretty consistently with local, with local and county decision makers and our land trust work with county commissioners, all sorts of of different groups.

02:37:11:12 - 02:37:44:29

Unknown

And then we work with the statewide delegation at the state legislature and our congressional delegation in Washington. So what is Map in all of this? Map is a database that gets into all protected areas. That includes conservation easements that a lot of our members work in. So we got looped into this work almost a decade ago, and I've been working with, with Michael Menefee in particular in getting some of these, the new launch.

02:37:45:00 - 02:38:15:21

Unknown

So not only can it be helps with policy decisions and how that works from the local level to the national level, Comp can be a source in planning, research, management, education, tourism, appraisals, all sorts of things. But it really is key to keep this updated and ever corrected with the ongoing changes that is happening with protected lands here in Colorado on all different scales.

02:38:15:24 - 02:38:19:08

Unknown

So the.

02:38:19:10 - 02:38:49:21

Unknown

Map is now going to be launching into version ten, and that is set to happen in March of this year. The difference that they're moving into a subscription service at this point, the idea behind that being there is going to be ongoing, real time input from community members that include everyone in this room and beyond to update and improve the data that is in the system.

02:38:49:21 - 02:39:20:03

Unknown

It's also going to be living online, where for the decision makers that I'm dealing with, they don't have to understand how to use ArcGIS. They don't have to understand how to use these complex geo databases that many of you are probably much more well versed in than I am. I want to touch that. They are looking to get upwards of 100 subscriptions, and that's the level that would get to ongoing sustainability with this program.

02:39:20:06 - 02:39:49:09

Unknown

Fees range from 150 to \$500, and I'm sure we can get more information to any group that would be interested in supplementing the the departments

that you guys are working with on a day to day basis. These subscriptions are going to be kept very low, because we're also going after larger sponsorships that range from 1000 to 5000. And I would love to talk to you guys about that as well.

02:39:49:12 - 02:40:09:25

Unknown

There are a couple of slides that I want to show you. Just what it looks like to have an interactive website. There are parameters on the left hand side that you can set to get to really drill into the type of data that you might be interested in looking at with these protected lands. Let's see. You can zoom to a location, do keyword or agency searches.

02:40:09:25 - 02:40:22:20

Unknown

You can suggest edits or additions to be put into the system, and those would be reviewed by and after you logged in.

02:40:22:22 - 02:40:34:07

Unknown

There's also a way to actually share your outcome, which is just a fantastic tool that I'm going to be making use of with some of our state legislators.

02:40:34:09 - 02:41:00:06

Unknown

Of course, this work can't happen without innovative agencies like Great Outdoors Colorado. They've put in a lot of funding over the years to get us to where we are, and we're ready to launch into the subscription service that I hope you guys will make use of. My contact information is here, and I would also encourage you to get in touch with Michael Menefee with CNP to get more information about this incredible new tool.

02:41:00:08 - 02:41:09:00

Unknown

Thank you.

02:41:09:02 - 02:41:23:16

Unknown

Amanda. So those are our first two data development and sharing theme presentations. And Seth McLean with Colorado Parks and Wildlife is going to tell you about Colorado the Beautiful now.

02:41:23:19 - 02:41:26:01

Unknown

Thanks.

02:41:26:03 - 02:41:47:20

Unknown

Hi, I'm Seth McLean. I'm the GIS unit manager with Colorado Parks and Wildlife. And I'm also the second to the last speaker before lunch. So I will try to keep this short. We see the man who started the reason I'm up here at least to discuss this, which is Governor Hickenlooper. And he rolled out this Colorado the beautiful vision.

02:41:47:22 - 02:42:11:04

Unknown

And he's and since then he's been trying to figure out what all of our roles, at least those of us in state government and in the private sector are in the vision. And so the reason I don't have any slides there than this is because it's maybe easier to talk about the vision. And the vision is that within a generation, all Coloradans will live within ten minutes of a park, a trail, or a vibrant green space.

02:42:11:07 - 02:42:16:10

Unknown

And there you go. You're done.

02:42:16:13 - 02:42:48:18

Unknown

Well, there's all sorts of components of that. Obviously, there are issues with open space. There are issues with trails. There are issues with potentially transportation because ten minutes of what, ten minute drive, ten minute bus ride, ten minute bike ride, ten minute walk. So there's all sorts of components that have gone on to that specifically now for Department of Natural Resources and specifically for one of our our marching order has been to pull together all the trails data, because of course, we have to know where all the trails are to figure out if everybody is within ten minutes of them.

02:42:48:19 - 02:43:20:21

Unknown

Right. So you've got to have the data there. And Governor Hickenlooper is a big GIS guy, and he assumes all people just have all this trails data, right. And well, this is true. Well, then you just pull it all together, right? Well, quite so easy. So we're working across the state. We've already got almost 200 data sets. But obviously when you're talking about trails data, you're talking about the major federal partners Forest Service, BLM, National Park Service, more minor ones.

02:43:20:28 - 02:43:41:18

Unknown

Fish and Wildlife Service has some trails on a couple of other refuges. And then of course, you have all the counties, you have all the municipalities. And needless to say, you also have, excuse me, a ton of different data formats. And you also have to track down everything because you can ask people to send you stuff and they'll send you stuff, but then you'll realize, well, you're missing this county or that county.

02:43:41:18 - 02:44:09:10

Unknown

And it's like, well, but I walked on that county's trail last week, so I know they have trails. So a lot of what we've been trying to do is figure out the data ingestion. I don't want to get to techie, but trying to pull together all this trails data and also think about long term, because one of the challenges with this is as soon as you pull together trails, data from maybe, you know, 64 counties, although it's probably only about two



thirds of the counties that have trails, 300 plus municipalities in Colorado.

02:44:09:12 - 02:44:30:13

Unknown

The feds, well, things start changing. And then you also have people asking about questions about bike trails. Well, bikes are interesting because you have parts of things where you have trails you can go on, and then you have actual roads which have bike lanes on them. Well, from a GIS standpoint, now you're dealing with two totally separate entities in the same area.

02:44:30:13 - 02:44:52:10

Unknown

You're dealing with the transportation people, and then you're dealing with the parks and open space or trails people. So that's another challenge to pulling together. Data is like, well, what trails do you want to focus on? There are some folks who are interested in OHV trails and we say, well, that's true. There are OHV trails, and parks and Wildlife has money from the registration of OHV to do OHV trails.

02:44:52:10 - 02:45:10:25

Unknown

So we'll something that we should look at as well. So what we are trying to do is to pull together as quickly as we can. Some prototypes and a lot of it is data ingestion of trying to just pull together all these trails, data, just getting a feel for what it even looks like. I mean, how many different data sets is it?

02:45:10:26 - 02:45:33:14

Unknown

500 datasets, 1000 data sets? And then how do you start to pull together and to at some level have this by May, which is when the governor wants it all. So and then the other thing is there are other aspects of Colorado. Beautiful. He's thought about outdoor recreation, getting kids outdoors, working with co and other partners on that.

02:45:33:14 - 02:45:58:10

Unknown

And there's a conservation side of things at trail planning. He'd like this to be able to use trail planning. And of course we need to know where public lands are that we were combat would come in. And of course we need to know where protected areas are or where it is where we have concern over. So there's a huge universe of things going on that we're trying to tackle piece by piece, and you'll hear more as we get there, I suppose.

02:45:58:12 - 02:46:06:00

Unknown

Thank you.

02:46:06:02 - 02:46:25:18

Unknown

All right. Well, I think Seth's got his work cut out for him there between now and May. Thank you very much. So our last presentation before lunch is Billy Bunch from EPA is going to talk with you about Colorado's Wetland Information Center on our wetland theme.

02:46:25:20 - 02:46:58:18

Unknown

So as Dave said, my name is Billy Bunch. I'm with EPA region regional wetland program in Denver, Colorado. Really, the goal of our nonrecourse wetland program is to connect local land use decision makers with the tools and information that they need to make informed decisions about how to protect, restore and conserve the wetland resources that they have. So today, I'll talk about a number of products that we've collaborated on with the Colorado Natural Heritage Program.

02:46:58:21 - 02:47:22:25

Unknown

And to start one more, there we go. Many of y'all, if you do wetlands work in the state of Colorado, are very familiar with this book right here. It's quite thick. It's a nice, heavy book to carry into the field to get your weight lifting in, but it's very user friendly. So this book is very different than your normal taxonomic keys.

02:47:22:26 - 02:47:53:28

Unknown

It's got a great diversity of pictures, information on conservation, values of these wetland plants, as well as county locations where they've been documented, elevation gradients, and so on and so forth. Additionally, there have been pocket guides that have been developed. This one is for the Eastern Plains, quite a bit lighter. And if you know you're going to a specific location in the Eastern Plains, this is a much better book to take out.

02:47:54:00 - 02:48:27:09

Unknown

I believe this book and this book, or both, available today, maybe from the Colorado Natural Heritage Program. Pairing with these books have been a number of plant identification trainings across the state of Colorado. This trainings have been very popular with a wait list associated with each of them. I have to give a shout out to Denise Culver and Pam Smith for their amazing work together to put on those plant identification trainings.

02:48:27:10 - 02:49:02:22

Unknown

If you haven't been to one, I definitely encourage you to get out there and get into one because Pam and Denise are rockstar duo to push these plant field guides a little bit further, the Colorado Natural Heritage Program has developed a wetland plant identification app for the state of Colorado. This app is analogous to this book, but instead you'll be able to access all of this information and more through your iPhone or Android phone.

02:49:02:25 - 02:49:26:14

Unknown

So if you were to open up the app, which is now available on Android, it's still in review at the App Store for the iPhone. The picture on the far left is going to be the opening screen. The second picture shows you a list of plants and some of the basic information that you can see when you access the Wetland Plants button there.

02:49:26:15 - 02:50:02:19

Unknown

That's on the introductory page. So you've got your scientific name, common name, plant family and then the classification. If you were to select an individual plant from that list, you'll see a variety of information that's also contained in the paperback version of the Wetland Field Guide. Probably the most interesting aspect about this app is this middle picture you see right here, which has the National Wetlands Inventory mapping data for the state of Colorado.

02:50:02:19 - 02:50:27:19

Unknown

And just like Google Maps, you'll be able to see where you are in relation to the National Wetlands Inventory. So this is incredibly powerful as well as on the very bottom of that second picture, you'll see three different buttons that you would be able to click within the app. The one on the far right is plants. And that would allow you to see what plants occur in the county that you're actually in.

02:50:27:19 - 02:50:54:09

Unknown

So thereby you're reducing the number of plants that you could potentially be dealing with. It's a great and incredible tool. You can download it for free today if you have an Android. iPhone is soon to come. So with that. I'm going to try and get to a website real quick. I think I may be able to set it works.

02:50:54:12 - 02:51:11:07

Unknown

Let's see. I had a little trouble with this. All right, here we go. And this should. Oh, here we go. Oh, okay.

02:51:11:09 - 02:51:16:27

Unknown

Hit escape.

02:51:17:00 - 02:51:33:15

Unknown

Oh, it's still on that. Sorry for the delay. Right before lunch. It's okay. We'll get. This won't turn itself off. I will do so.

02:51:33:18 - 02:52:00:29

Unknown

All right. Thank you. So, with the help of multiple funding partners to Colorado Natural Heritage Program has put together the Colorado Wetland Information Center. This is really intended to be your one stop shop for wetlands information, no matter your interest in wetlands. If your local

state a student, you should be able to find any pertinent information regarding the state of Colorado and wetlands.

02:52:01:00 - 02:52:25:00

Unknown

So if we were to look down here, if you can see my cursor, there's a link for classification. This is pretty basic information about ecological classifications of wetland types in Colorado, for example, what types of wetlands occur and what areas. You'll also find links to the field guides that I mentioned earlier. This second link right here is mapping.

02:52:25:00 - 02:52:54:02

Unknown

And the Colorado Natural Heritage Program has done an immense amount of monitoring and assessment of Colorado's wetlands. I'll get to an interactive mapper in just a little bit, but to proceed. The third link is assessment. And here you can find information on Colorado's wetland assessment methodology called the Ecological Integrity Assessment. This is unique to the Colorado Natural Heritage Program.

02:52:54:04 - 02:53:21:03

Unknown

And I encourage you, if you're going to go out in the field and you're interested in doing assessments to take a look at at the parameters within their assessment tool, the third link or fourth is conservation. And this is a question that EPA gets hit with quite a lot. If we meet with a local group or agency, they often ask, well, what wetlands are important in our area?

02:53:21:06 - 02:53:53:10

Unknown

Why would we conserve them? And if you follow that link, it will take you to a number of county level surveys of wetlands that have a host of information to help you make informed decisions about what wetlands you should conserve in the face of zoning and development and things of that nature. The fifth link is regulation. It gives a brief explanation of the federal and state level regulations that protect wetlands.

02:53:53:13 - 02:54:28:09

Unknown

If we scroll down just a little bit, you'll see wetland publications. This is a link to all of wetland publications. There are landowner resources and educator resources. The resources should be really good for anywhere between kindergarten all the way up to high school level information about wetlands. And so with that, let's get to another flashy tool that's been developed by the Colorado Natural Heritage Program, and it is the Colorado Wetland Inventory Tool.

02:54:28:14 - 02:55:00:16

Unknown

So when you load it up, it will automatically have you can see a grayscale version of the National Wetlands Inventory. You've got river basins and counties mapped out on the right. Here is basic information about the layers that are contained within the map. I think this tool is

an incredible compendium of information on wetlands in Colorado. Visually displayed, it's easy to show people what you're talking about in relation to wetlands.

02:55:00:16 - 02:55:30:25

Unknown

So if we were to X out of this, take a look at our list of layers. Obviously you can toggle back and forth between displaying river basins. Same with counties. We are going to take the wetland mapping off. You have riparian mapping that's been conducted by Colorado Parks and Wildlife. And so these show the quadratus where that mapping is available.

02:55:30:27 - 02:56:02:09

Unknown

You have mapping of the fin locations playa locations, wetland data summaries. This is a very interesting layer where you can take a look at what river basins have had. Wetland summaries conducted wetland assessments running out of time. So I'm going to have to blast through this a little bit. A lot of people have talked about the potential conservation areas that have been mapped out by Colorado Natural Heritage Program.

02:56:02:10 - 02:56:31:02

Unknown

This tool has filtered those to be just the wetlands. If you were to click on one of those shapefiles, you would see the report link, the mapping date, the designer and the site name, the biodiversity significance as well. If we click down here, you can see a display, a color coordinated version of the biodiversity significance of these wetlands.

02:56:31:02 - 02:56:53:24

Unknown

So if you're working at the county level, the state level, if your tribe, there is a host of information on this Colorado Wetland Information Center web page. I encourage you to take a look at it. I'll be here for questions at lunch. Denise Culver, Joanna Lumley, Pam Smith, Bernadette, everyone's been a great help, and I'm sure they'd be willing to answer any questions that you have.

02:56:53:25 - 02:57:08:26

Unknown

With that, I will get out of your way between lunch and me, so thank you.

02:57:08:28 - 02:57:32:12

Unknown

Well, everyone has done such a marvelous job sticking to their time. So we actually have a little bit of time for questions if folks want to ask anything of our entire lineup of speakers this morning, then I think we could open it up to that. Looks like we have about six minutes or so.

02:57:32:14 - 02:58:04:22

Unknown

Or is the question like where are the tacos? Yes. Well, I have a question that maybe that's wetlands staff can answer. And I'm wondering, since we now have a Colorado water plan, if you all had input into that, and maybe we can think in the future how we can all coordinate with that plan and those features that are important to us.

02:58:04:25 - 02:58:33:27

Unknown

Unfortunately, the shortest answer is no. We did not actively participate in the water plan process. I think I think we we should in future efforts. We I think in certain river basins, the basin roundtables are more aware of our work. The North Platte Basin Roundtable actually funded a county survey a number of not so many years ago, five years ago, six years ago.

02:58:33:27 - 02:58:59:01

Unknown

So there are individual basins that use our data more than others. So hopefully some of that information filtered in. But I absolutely agree that our use of water is instrumentally tied with our protection of wetlands. So we we need to be more keyed into that. Thank you.

02:58:59:03 - 02:59:03:25

Unknown

Any other questions?

02:59:03:27 - 02:59:46:27

Unknown

Well, I'll just kind of tell you a little bit about this afternoon. So it looks like lunch is ready back there. So we're going to wrap up lunch pretty promptly at 1255. I'll get up here and we'll start organizing people into their breakout groups. On your agenda are the facilitators for the breakout groups. And we're going to get those folks set up in this room to wave at you and try to get the groups in kind of gathered up, and they will lead you to the breakout group room so that you don't get lost and end up wandering the halls of the Laurie Student Center.

02:59:47:00 - 03:00:09:03

Unknown

Almost all of the breakout groups are on this floor, just down the hall this way quite a ways. And then one of one of our themes is going to be downstairs. So we'll make sure everybody gets where they need to go at that time. And if there are no further questions, then maybe we'll just go ahead and break for lunch right now.

03:00:09:06 - 03:00:15:04

Unknown

Thank you all so much. This is wonderful.

03:00:15:07 - 03:00:28:27

Unknown

And just a quick note to the folks who are joining us on the YouTube and the chat that will resume at 215 after our break. So thank you.

END TRANSCRIPTION