

From: [Kris Kuyper](#)
To: [Kulpa, Sarah](#); "jacquelinegrant@suu.edu"
Subject: [EXTERNAL] FW: EXTERNAL: Re: FW: EXTERNAL: Tiehm's buckwheat
Date: Wednesday, December 2, 2020 1:45:29 PM
Attachments: [Outlook-klknahqo.png](#)
[image002.png](#)

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

From: Paul Wolf <pgw0005@uah.edu>
Sent: Friday, November 20, 2020 3:50 PM
To: Kris Kuyper <kris@emstrats.com>
Subject: EXTERNAL: Re: FW: EXTERNAL: Tiehm's buckwheat

[EXTERNAL EMAIL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Kris: We just started processing samples. They arrived in Wisconsin yesterday for genomic library and RADseq prep. Hoping for data by January and some preliminary results by March. That is the plan

Paul

On Fri, Nov 20, 2020 at 5:30 PM Kris Kuyper <kris@emstrats.com> wrote:

Hi Paul,

Please see the attached letter from the USFWS. If you have any data to share prior to December 11th (in any form), we should forward it to them.

Thanks!

Kris Kuyper, CPESC, CESSWI
Biology Program Manager
T: 775.826.8822 (Reno) | 775.753.9496 (Elko)



C: 530.448.9098 | F: 775.826.8857

kris@emstrats.com | www.emstrats.com

1650 Meadow Wood Lane

Reno, Nevada 89502

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From: Barrett, Justin S <justin_barrett@fws.gov>

Sent: Tuesday, November 17, 2020 5:58 PM

Subject: EXTERNAL: Tiehm's buckwheat

[EXTERNAL EMAIL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good evening!

As many of you are aware, the U.S. Fish and Wildlife Service is undergoing a listing determination for Tiehm's buckwheat (*Eriogonum tiehmii*). Our attached letter is a request for any information your agency or organization may have to assist us in evaluating this species for listing under the Endangered Species Act and associated potential for proposed critical habitat. If you have any questions, please don't hesitate to reach out.

Thank you very much!

Justin

Justin Barrett

Assistant Field Supervisor

U.S. Fish and Wildlife Service

Reno Field Office

Phone: 775-861-6338

<https://www.fws.gov/reno/>



--

Paul G. Wolf

Professor and Chair, Department of Biological Sciences

University of Alabama in Huntsville

301 Sparkman Drive, Huntsville, AL 35899

paul.wolf@uah.edu (435) 757-2403

<http://www.paulwolflab.com/home>

From: [Jacqualine Grant](#)
To: [Kulpa, Sarah](#)
Subject: [EXTERNAL] genetics notes and ideas
Date: Tuesday, October 6, 2020 3:14:18 PM

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Hi Sarah,

I'm working with the sequencing company to get the genetics shipped out this week. Right now the plan is to sequence the woody materials that were collected last week. They are going to sequence the scat for free out of curiosity :)

Tailing pile analysis will have to wait until we can round up some more funds.

I'm really curious to know how many of the targets re-sprout in the spring. It's a project that I'd be willing to take on or help advise someone such as Sophie to undertake. Such a project would probably involve tagging the targets this fall.

Cheers,
Jackie

--

Dr. Jacqualine Grant

Associate Professor of Biology
Museum Curator (SCA 105A)

[Garth and Jerri Frehner Museum of Natural History](#)

Southern Utah University
Cedar City, UT 84720
USA

<http://suu.edu/cose/museum/>

<http://suu.edu/faculty/jacqualinegrant/>

ph: 435-865-8549

email: jacqualinegrant@suu.edu

From: [Jacqualine Grant](#)
To: [Kulpa, Sarah](#)
Subject: [EXTERNAL] NDOW report
Date: Monday, December 7, 2020 9:07:56 AM
Attachments: [NDOW ERTI Cover Letter October 2020.pdf](#)
[NDOW ERTI Report_Oct2020.pdf](#)

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Hi Sarah,

Here's that NDOW report if you want it. Their argument against antelope ground squirrels (AGS) is that roots are not typically consumed by AGS. However, they do not provide any references to back that up. Ironically, NDOW's website has a [page on AGS](#) in which they state that roots are among the primary items that ground squirrels eat.

Cheers,
Jackie

--

Dr. Jacqueline Grant

Associate Professor of Biology
Museum Curator (SCA 105A)
[Garth and Jerri Frehner Museum of Natural History](#)
Southern Utah University
Cedar City, UT 84720
USA
<http://suu.edu/cose/museum/>
<http://suu.edu/faculty/jacquelinegrant/>

ph: 435-865-8549
email: jacquelinegrant@suu.edu

From: [Jacqualine Grant](#)
To: [Kulpa, Sarah](#)
Subject: [EXTERNAL] quick update, formal report to follow
Date: Wednesday, November 11, 2020 1:24:06 PM

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Hi Sarah,

The genetic data show that sciurid (squirrel) eDNA was present on some of the roots, along with cervid eDNA and a little human eDNA contamination.

In the soil there was a mix of sciurid, cervid, and hominid eDNA along with some unidentifiable DNA sequences.

The pellets were analyzed for vertebrate and plant eDNA, and we found sciurid eDNA and *Eriogonum* eDNA, which strongly indicates that a sciurid was eating buckwheat. A few other plant species were identified from eDNA in the scat and I'll include those in the full report.

All of the sciurid eDNA sequences most closely match members of Marmotini, a taxon that includes *Spermophilus* (ground squirrels), *Cynomys* (prairie-dogs), *Marmota* (marmots and woodchuck), *Ammospermophilus* (antelope ground squirrels), *Tamias* (chipmunks), and *Sciurotamias* (rock squirrels). A complete species ID is not possible with these data because there was so little DNA.

Note that skull size and incisor width are very similar between *Ammospermophilus* and *Dipodomys* (kangaroo rat), but we did not find any genetic evidence for *Dipodomys* in our samples.

I'll send a detailed report tomorrow. I hope you had a nice day off!
I got braces on my teeth

--

Dr. Jacqueline Grant

Associate Professor of Biology
Museum Curator (SCA 105A)

[Garth and Jerri Frehner Museum of Natural History](#)

Southern Utah University
Cedar City, UT 84720

USA

<http://suu.edu/cose/museum/>

<http://suu.edu/faculty/jacquelinegrant/>

ph: 435-865-8549

email: jacquelinegrant@suu.edu

From: [Jacqualine Grant](#)
To: [Kulpa, Sarah](#)
Subject: [EXTERNAL] Re: draft Tiehms press release for your review
Date: Tuesday, November 17, 2020 8:26:11 AM

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Hi Sarah,

Sure, below are just a couple corrections/clarifications. Let's officially declare my service on this project pro bono work except for the travel.
jbg

The BLM and Service contracted a researcher affiliated with Southern Utah University to conduct an environmental DNA (eDNA) analysis on damaged Tiehm's buckwheat plant roots, soils and rodent scat in attempts to pinpoint the cause of recent and expansive damage to the buckwheat population. eDNA is trace DNA found in soil, water, food items or other substrates with which an organism has interacted. It is a reliable way to detect if and when vertebrates have fed on or attempted to feed on a plant.

On October 2, 2020, biologists from BLM, the Service and the University collected damaged roots, adjacent soil, and rodent scat to analyze for eDNA. They collected undamaged plant materials and soil from untouched Tiehm's buckwheat plants to serve as a controlled comparison in the analysis.

On November 12, 2020, BLM and the Service received the results of the eDNA analysis, which found that genetic material from small mammals was present on Tiehm's buckwheat material and in adjacent soils. In particular, the analysis found scurid (squirrel), cervid (deer) and a small amount of hominid (human) DNA present on the analyzed materials. The eDNA from scat matched DNA from scurids and *Eriogonum* (buckwheat), which strongly indicates that small mammals were eating the buckwheat. The analysis showed that eDNA from rodent species belonging to a subgroup called Marmotini was present. Marmotine rodents include antelope ground squirrels, prairie dogs, marmots, ground squirrels, chipmunks and rock squirrels, some of which are common at the site. These genetic markers coupled with an abundant ground squirrel population on-site, and rodent incisor (bite) marks on plant roots, strongly supports the hypothesis that ground squirrels were responsible for the damage.

On Tue, Nov 17, 2020 at 8:38 AM Kulpa, Sarah <sarah_kulpa@fws.gov> wrote:

Hi Jackie!

We are planning on putting out a press release related to the herbivory incident. I wanted to give you an opportunity to review a couple of the paragraphs to 1) make sure in the simplification of eDNA results we are accurate in our statements and 2) make sure you are comfortable with how

we are addressing your research and SUU (see beginning of the 3rd paragraph below).

Thanks!

Sarah

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Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
Reno, Nevada 89521
(775) 861-6340

--

Dr. Jacqueline Grant
Associate Professor of Biology

Museum Curator (SCA 105A)
[Garth and Jerri Frehner Museum of Natural History](#)
Southern Utah University
Cedar City, UT 84720
USA

<http://suu.edu/cose/museum/>
<http://suu.edu/faculty/jacquelinegrant/>

ph: 435-865-8549

email: jacquelinegrant@suu.edu

From: [Jacqueline Grant](#)
To: [Kris Kuyper](#)
Cc: [Kulpa, Sarah](#)
Subject: [EXTERNAL] Re: EXTERNAL: Genetics for Tiehms
Date: Wednesday, December 2, 2020 1:51:56 PM
Attachments: [image002.png](#)

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Thanks Kris, I have only contacted the Texas A&M folks. I did not get a response.
Jackie

On Wed, Dec 2, 2020 at 2:44 PM Kris Kuyper <kris@emstrats.com> wrote:

Hi Sarah,

I tried to reach them today and will let you know as soon as they respond. I contacted the researcher and his supervisor. If they don't respond today, I will call the number on their contract, since it is not in their signature blocks (ugh). I don't think Dr. Wolf will have results until March. Has anyone reached out to Dr. Ben Grady?



Kris Kuyper, CPESC, CESSWI
Biology Program Manager
T: 775.826.8822 (Reno) | 775.753.9496 (Elko)
C: 530.448.9098 | F: 775.826.8857
kris@emstrats.com | www.emstrats.com
1650 Meadow Wood Lane
Reno, Nevada 89502

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From: Kulpa, Sarah <sarah_kulpa@fws.gov>
Sent: Tuesday, December 1, 2020 2:21 PM
To: Kris Kuyper <kris@emstrats.com>
Cc: Jacqueline Grant <jacquelinegrant@suu.edu>
Subject: EXTERNAL: Genetics for Tiehms

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Hi Kris,

Jackie has reached out to the researchers at Texas A&M on the Tiehm's genetics, but she can't get a response from them. Can you help us get in touch with them? It would be really great if Texas A&M or Dr. Wolf can upload the trnl barcodes to BOLD or GenBank for Tiehms.

Thanks!

Sarah

Sarah Kulpa

Restoration Ecologist/Botanist

Reno Fish and Wildlife Office

1340 Financial Blvd. Suite 234

Reno, Nevada 89521

(775) 861-6340

--

Dr. Jacqueline Grant

Associate Professor of Biology

Museum Curator (SCA 105A)

[Garth and Jerri Frehner Museum of Natural History](#)

Southern Utah University

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USA

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ph: 435-865-8549

email: jacquelinegrant@suu.edu

From: [Kris Kuyper](#)
To: [Kulpa, Sarah](#)
Cc: [Jacqueline Grant](#)
Subject: [EXTERNAL] RE: EXTERNAL: Genetics for Tiehms
Date: Wednesday, December 2, 2020 1:44:41 PM
Attachments: [image002.png](#)

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Hi Sarah,

I tried to reach them today and will let you know as soon as they respond. I contacted the researcher and his supervisor. If they don't respond today, I will call the number on their contract, since it is not in their signature blocks (ugh). I don't think Dr. Wolf will have results until March. Has anyone reached out to Dr. Ben Grady?



Kris Kuyper, CPESC, CESSWI
Biology Program Manager
T: 775.826.8822 (Reno) | 775.753.9496 (Elko)
C: 530.448.9098 | F: 775.826.8857
kris@emstrats.com | www.emstrats.com
1650 Meadow Wood Lane
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From: Kulpa, Sarah <sarah_kulpa@fws.gov>
Sent: Tuesday, December 1, 2020 2:21 PM
To: Kris Kuyper <kris@emstrats.com>
Cc: Jacqueline Grant <jacquelinegrant@suu.edu>
Subject: EXTERNAL: Genetics for Tiehms

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Hi Kris,

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Thanks!

Sarah

Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
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Reno, Nevada 89521
(775) 861-6340

From: [Jacqualine Grant](#)
To: [Kris Kuyper](#)
Cc: [Kulpa, Sarah](#)
Subject: [EXTERNAL] Re: FW: EXTERNAL: Re: FW: EXTERNAL: Tiehm's buckwheat
Date: Wednesday, December 2, 2020 1:52:53 PM
Attachments: [Outlook-klknahgo.png](#)
[image002.png](#)

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Thanks Kris! We can run our DNA barcodes again once the Wolf lab has uploaded its genetic data in public databases in the spring.

Jackie

On Wed, Dec 2, 2020 at 2:45 PM Kris Kuyper <kris@emstrats.com> wrote:

From: Paul Wolf <pgw0005@uah.edu>
Sent: Friday, November 20, 2020 3:50 PM
To: Kris Kuyper <kris@emstrats.com>
Subject: EXTERNAL: Re: FW: EXTERNAL: Tiehm's buckwheat

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Kris: We just started processing samples. They arrived in Wisconsin yesterday for genomic library and RADseq prep. Hoping for data by January and some preliminary results by March. That is the plan

Paul

On Fri, Nov 20, 2020 at 5:30 PM Kris Kuyper <kris@emstrats.com> wrote:

Hi Paul,

Please see the attached letter from the USFWS. If you have any data to share prior to December 11th (in any form), we should forward it to them.

Thanks!



Kris Kuyper, CPESC, CESSWI

Biology Program Manager

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C: 530.448.9098 | F: 775.826.8857

kris@emstrats.com | www.emstrats.com

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From: Barrett, Justin S <justin_barrett@fws.gov>

Sent: Tuesday, November 17, 2020 5:58 PM

Subject: EXTERNAL: Tiehm's buckwheat

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Good evening!

As many of you are aware, the U.S. Fish and Wildlife Service is undergoing a listing determination for Tiehm's buckwheat (*Eriogonum tiehmii*). Our attached letter is a request for any information your agency or organization may have to assist us in evaluating this species for listing under the Endangered Species Act and associated potential for proposed critical habitat. If you have any questions, please don't hesitate to reach out.

Thank you very much!

Justin

Justin Barrett

Assistant Field Supervisor

U.S. Fish and Wildlife Service

Reno Field Office

Phone: 775-861-6338

<https://www.fws.gov/reno/>



Paul G. Wolf

Professor and Chair, Department of Biological Sciences

University of Alabama in Huntsville

301 Sparkman Drive, Huntsville, AL 35899

paul.wolf@uah.edu (435) 757-2403

<http://www.paulwolflab.com/home>

--

Dr. Jacqueline Grant

Associate Professor of Biology

Museum Curator (SCA 105A)

[Garth and Jerri Frehner Museum of Natural History](#)

Southern Utah University

Cedar City, UT 84720

USA

<http://suu.edu/cose/museum/>

<http://suu.edu/faculty/jacquelinegrant/>

ph: 435-865-8549

email: jacquelinegrant@suu.edu

From: [Jacqualine Grant](#)
To: [Kulpa, Sarah](#)
Subject: [EXTERNAL] Re: genetics notes and ideas
Date: Wednesday, October 7, 2020 7:47:09 AM

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Hi Sarah,

I might also be able to convince the SUU drone program to donate drone air time to photograph the site at the same resolution as a crime scene. Let me know if that would be of interest.

Jackie

On Tue, Oct 6, 2020 at 4:13 PM Jacquiline Grant <jacquilinegrant@suu.edu> wrote:

Hi Sarah,

I'm working with the sequencing company to get the genetics shipped out this week. Right now the plan is to sequence the woody materials that were collected last week. They are going to sequence the scat for free out of curiosity :)

Tailing pile analysis will have to wait until we can round up some more funds.

I'm really curious to know how many of the targets re-sprout in the spring. It's a project that I'd be willing to take on or help advise someone such as Sophie to undertake. Such a project would probably involve tagging the targets this fall.

Cheers,
Jackie

--

Dr. Jacquiline Grant

Associate Professor of Biology

Museum Curator (SCA 105A)

[Garth and Jerri Frehner Museum of Natural History](#)

Southern Utah University

Cedar City, UT 84720

USA

<http://suu.edu/cose/museum/>

<http://suu.edu/faculty/jacquilinegrant/>

ph: 435-865-8549
email: jacquelinegrant@suu.edu

--

Dr. Jacqueline Grant

Associate Professor of Biology

Museum Curator (SCA 105A)

[Garth and Jerri Frehner Museum of Natural History](#)

Southern Utah University

Cedar City, UT 84720

USA

<http://suu.edu/cose/museum/>

<http://suu.edu/faculty/jacquelinegrant/>

ph: 435-865-8549

email: jacquelinegrant@suu.edu

From: [Jacqualine Grant](#)
To: [Kulpa, Sarah](#)
Subject: [EXTERNAL] Re: Letter sent to USFWS that reports alot of small mammals in Tiehms area
Date: Saturday, November 14, 2020 6:20:23 PM

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Hi Sarah,

Thanks for this information, I'll review it and see if I can pull 12S DNA barcode data from Neotoma (woodrats), Thomomys (pocket gophers), and Heteromyidae (kangaroo rats and family). Then I can run a comparison against what was found in the root, soil, and scat samples so I can add that to the report. It might take me until the end of the week.

Cheers,
Jackie

On Sat, Nov 14, 2020 at 12:52 PM Kulpa, Sarah <sarah_kulpa@fws.gov> wrote:
Thought this may be helpful for eDNA report modifications related to Jim's questions.

Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
Reno, Nevada 89521
(775) 861-6340

--

Dr. Jacqueline Grant

Associate Professor of Biology
Museum Curator (SCA 105A)
[Garth and Jerri Frehner Museum of Natural History](#)
Southern Utah University
Cedar City, UT 84720
USA
<http://suu.edu/cose/museum/>
<http://suu.edu/faculty/jacquelinegrant/>

ph: 435-865-8549
email: jacquelinegrant@suu.edu

From: [John Christopherson](#)
To: [Cayenne Engel](#); [Kacey KC](#); [Kulpa, Sarah](#)
Subject: [EXTERNAL] RE: Rodent trapping thoughts
Date: Thursday, October 15, 2020 4:09:55 PM
Attachments: [image008.png](#)
[image009.png](#)

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Thank you Cayenne. We'll keep the information at the ready in case we decide to go that route. I'm hopeful the EDNA analysis Sarah mentioned will provide positive confirmation.

We should be receiving a report from the NDOW small mammal biologist this week (so I'm told).

JC

John Christopherson
Deputy Administrator - Operations
Department of Conservation and Natural Resources
Nevada Division of Forestry
2478 Fairview Dr.
Carson City, NV 89701
jchrist@forestry.nv.gov
(O) 775-684-2522 | (F) 775-684-2570

From: Cayenne Engel <cengel@forestry.nv.gov>
Sent: Thursday, October 15, 2020 3:01 PM
To: John Christopherson <jchrist@forestry.nv.gov>; Kacey KC <kaceyk@forestry.nv.gov>; Kulpa, Sarah <sarah_kulpa@fws.gov>
Subject: Rodent trapping thoughts

Quick note – there is a mammologist here at college of southern Nevada, Lois Merkler, that has been sampling rodents along all kinds of environmental gradients throughout Nevada for the last 20 years or so. If we need an expert to set up transects of live traps for sampling, they exist... I've been out

with her trapping before on other projects. She has the tools, is an expert in the small mammal species, and that's very much "her thing".

If there were funding that would help, I'm sure, but she also may be able to do it as a class activity as she typically takes students sampling throughout southern NV and already has NDOW permits for rodent trapping in most of the state.

-Cayenne

Cayenne Engel
Resource Management Officer
Department of Conservation and Natural Resources
Nevada Division of Forestry
4747 Vegas Drive
Las Vegas, NV 89108
cengel@forestry.nv.gov
(O) 702-486-5123 x228 | (C) 702-683-0639

From: [Rebecca Sawyer](#)
To: [Kulpa, Sarah](#)
Subject: [EXTERNAL] Rhyolite Ridge Herbivory Event
Date: Monday, October 19, 2020 9:22:38 AM
Attachments: [image001.png](#)

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Sarah

Please let me know when you expect the DNA results from the ERTI samples sent to Utah State.

Kind regards



Rebecca A. Sawyer
Environmental and Community Relations Director

E: rsawyer@ioneer.com **C:** +1 520.368.1772

9460 Double R Boulevard, Suite 200 Reno, Nevada 89521 USA

W: ioneer.com

From: [Jackie Grant](#)
To: [Kulpa, Sarah](#)
Subject: [EXTERNAL] Rodent damage
Date: Monday, December 21, 2020 11:34:08 AM
Attachments: [ATT00001.txt](#)

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Hi Sarah,

Attached is a photo of some rodent damage to creosote from the Arizona Strip. I'm sending it because I keep getting asked if I've ever seen anything like the Tiehm's buckwheat incident. Now I can say yes. This was right next to a packrat shelter.

Anyway, if you could ask biologists in your network to keep an eye out for any similar damage, that would be great. I'd like to document as much regional rodent damage as I can.

Thanks, and have a good winter break!



From: [Jacqualine Grant](#)
To: [Kulpa, Sarah](#)
Subject: [EXTERNAL] Tiehm's eDNA study
Date: Thursday, November 12, 2020 3:14:12 PM
Attachments: [FWS Tiehms eDNA report 20201111.pdf](#)

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Hi Sarah,

Attached please find the Tiehm's buckwheat eDNA report based on soil, root, and pellet samples that were collected onsite on 10/2/20.

There is a lot of raw data that is not in the report. Please let me know if you'd like access to the spreadsheets, or if you would like me to add them to the report.

Cheers,
Jackie

--

Dr. Jacqueline Grant

Associate Professor of Biology
Museum Curator (SCA 105A)
[Garth and Jerri Frehner Museum of Natural History](#)
Southern Utah University
Cedar City, UT 84720
USA
<http://suu.edu/cose/museum/>
<http://suu.edu/faculty/jacquelinegrant/>

ph: 435-865-8549
email: jacquelinegrant@suu.edu

From: [Kulpa, Sarah](#)
To: [Jacqueline Grant](#)
Subject: draft Tiehms press release for your review
Date: Tuesday, November 17, 2020 7:38:12 AM

Hi Jackie!

We are planning on putting out a press release related to the herbivory incident. I wanted to give you an opportunity to review a couple of the paragraphs to 1) make sure in the simplification of eDNA results we are accurate in our statements and 2) make sure you are comfortable with how we are addressing your research and SUU (see beginning of the 3rd paragraph below).

Thanks!

Sarah

The BLM and Service contracted a researcher affiliated with Southern Utah University to conduct an environmental DNA (eDNA) analysis on damaged Tiehm's buckwheat plant roots, soils and rodent scat in attempts to pinpoint the cause of recent and expansive damage to the buckwheat population. eDNA is trace DNA found in soil, water, food items or other substrates with which an organism has interacted with. It is a reliable way to detect if and when vertebrates have fed on or attempted to feed on a plant.

On October 2, 2020, biologists from BLM, the Service and the University collected damaged roots, adjacent soil, and rodent scat to analyze for eDNA. They also collected undamaged plants and soil from untouched Tiehm's buckwheat plants to serve as control materials in the analysis.

On November 12, 2020, BLM and the Service received the results of the eDNA analysis, which found that genetic material from small mammals was present on Tiehm's buckwheat material and in adjacent soils. In particular, the analysis found scurid (squirrel), cervid (deer) and a small amount of hominid (human) DNA present on the analyzed materials. The scat showed both scurid eDNA and Eriogonum (buckwheat) eDNA, which strongly indicates that small mammals were eating the buckwheat. The analysis shows that rodent species belonging to a taxon called Marmotini were present; including antelope ground squirrels, prairie dogs, marmots, ground squirrels, chipmunks and rock squirrels. These genetic markers coupled with an abundant ground squirrel population on-site, and rodent incisor (bite) marks on plant roots, strongly supports the hypothesis that ground squirrels were responsible for the damage.

Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
Reno, Nevada 89521
(775) 861-6340

From: [Kulpa, Sarah](#)
To: [Barrett, Justin S](#); [Heston, Sophia M](#)
Subject: Fw: [EXTERNAL] genetics notes and ideas
Date: Wednesday, October 7, 2020 8:24:15 AM

See Jackie's notes below. I talked with her and she realized we have money to run the soil as well. She also said she might be able to get the SUU drone program to donate time to fly the site. Do you think that is something of interest? I could also try to get my brother or Jason to do it too.

Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
Reno, Nevada 89521
(775) 861-6340

From: Jacqueline Grant <jacquelinegrant@suu.edu>
Sent: Tuesday, October 6, 2020 3:13 PM
To: Kulpa, Sarah <sarah_kulpa@fws.gov>
Subject: [EXTERNAL] genetics notes and ideas

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hi Sarah,

I'm working with the sequencing company to get the genetics shipped out this week. Right now the plan is to sequence the woody materials that were collected last week. They are going to sequence the scat for free out of curiosity :)

Tailing pile analysis will have to wait until we can round up some more funds.

I'm really curious to know how many of the targets re-sprout in the spring. It's a project that I'd be willing to take on or help advise someone such as Sophie to undertake. Such a project would probably involve tagging the targets this fall.

Cheers,
Jackie

--

Dr. Jacqueline Grant

Associate Professor of Biology
Museum Curator (SCA 105A)
[Garth and Jerri Frehner Museum of Natural History](#)
Southern Utah University
Cedar City, UT 84720

USA

<http://suu.edu/cose/museum/>

<http://suu.edu/faculty/jacquelinegrant/>

ph: 435-865-8549

email: jacquelinegrant@suu.edu

From: [Jackson, Marc A](#)
To: [Barrett, Justin S](#); [Kulpa, Sarah](#)
Subject: Fw: [EXTERNAL] letter regarding ongoing damage to Tiehm's buckwheat
Date: Monday, November 2, 2020 11:42:12 AM
Attachments: [FragaDonnelly ERTI letter 11.2.2020 final.pdf](#)

What do you think about the claims the damage is on-going? The OHV damages makes sense but not sure about herbivory continuing. How is everyone feeling about fencing the site?

Marc Jackson
Field Supervisor
Reno Fish and Wildlife Office
U.S. Fish and Wildlife Service
1340 Financial Boulevard, Suite 234
Reno, NV 89502
Phone: 775-861-6337
Fax: 775-861-6301

From: Patrick Donnelly <PDonnelly@biologicaldiversity.org>
Sent: Monday, November 2, 2020 10:49 AM
To: Jackson, Marc A <marc_jackson@fws.gov>; kaceykc <kaceykc@forestry.nv.gov>; Furtado, Douglas W <dfurtado@blm.gov>
Cc: Raby, Jon K <jraby@blm.gov>; Herzik, Kevin <Kevin.Herzik@mail.house.gov>; Riddle, Kelly (Rosen) <Kelly_Riddle@rosen.senate.gov>; kyle_chapman@cortezmasto.senate.gov <kyle_chapman@cortezmasto.senate.gov>; bcrowell@dcnr.nv.gov <bcrowell@dcnr.nv.gov>; James Morefield <jdmore@heritage.nv.gov>; Melanie Scheible <melaniefornvsenate@gmail.com>; Naomi Fraga <nfraga@calbg.org>; Alli Melton <AMelton@biologicaldiversity.org>; Amy Atwood <Atwood@biologicaldiversity.org>; Scott Lake <slake@biologicaldiversity.org>
Subject: [EXTERNAL] letter regarding ongoing damage to Tiehm's buckwheat

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Hello,

Attached you will find a letter from Dr. Naomi Fraga and myself regarding our observations at Rhyolite Ridge on October 31, 2020. Continuing and ongoing damage to plants and habitat at Tiehm's buckwheat population at Rhyolite Ridge constitutes an emergency threat to the continued existence of the species.

Best regards,
-Patrick Donnelly

On November 12, 2020, BLM and the Service received the results of the eDNA analysis, which found that genetic material from small mammals was present on Tiehm's buckwheat material and in adjacent soils. In particular, the analysis found scurid (squirrel), cervid (deer) and a small amount of hominid (human) DNA present on the analyzed materials. The eDNA from scat matched DNA from scurids and *Eriogonum* (buckwheat), which strongly indicates that small mammals were eating the buckwheat. The analysis showed that eDNA from rodent species belonging to a subgroup called Marmotini was present. Marmotine rodents include antelope ground squirrels, prairie dogs, marmots, ground squirrels, chipmunks and rock squirrels, some of which are common at the site. These genetic markers coupled with an abundant ground squirrel population on-site, and rodent incisor (bite) marks on plant roots, strongly supports the hypothesis that ground squirrels were responsible for the damage.

On Tue, Nov 17, 2020 at 8:38 AM Kulpa, Sarah <sarah_kulpa@fws.gov> wrote:

Hi Jackie!

We are planning on putting out a press release related to the herbivory incident. I wanted to give you an opportunity to review a couple of the paragraphs to 1) make sure in the simplification of eDNA results we are accurate in our statements and 2) make sure you are comfortable with how we are addressing your research and SUU (see beginning of the 3rd paragraph below).

Thanks!

Sarah

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On October 2, 2020, biologists from BLM, the Service and the University collected damaged roots, adjacent soil, and rodent scat to analyze for eDNA. They also collected undamaged plants and soil from untouched Tiehm's buckwheat plants to serve as control materials in the analysis.

On November 12, 2020, BLM and the Service received the results of the eDNA analysis, which found that genetic material from small mammals was present on Tiehm's buckwheat material and in adjacent soils. In particular, the analysis found scurid (squirrel), cervid (deer) and a small amount of hominid (human) DNA present on the analyzed materials. The scat showed both scurid eDNA and *Eriogonum* (buckwheat) eDNA, which strongly indicates that small mammals were eating the buckwheat. The analysis shows that rodent species belonging to a taxon called Marmotini were present; including antelope ground squirrels, prairie dogs, marmots, ground squirrels, chipmunks and rock squirrels. These genetic markers coupled with an abundant ground squirrel population on-site, and rodent incisor (bite) marks on plant roots, strongly supports the hypothesis that ground squirrels were responsible for the damage.

Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
Reno, Nevada 89521
(775) 861-6340

--

Dr. Jacqueline Grant

Associate Professor of Biology
Museum Curator (SCA 105A)
[Garth and Jerri Frehner Museum of Natural History](#)
Southern Utah University
Cedar City, UT 84720
USA
<http://suu.edu/cose/museum/>
<http://suu.edu/faculty/jacquelinegrant/>

ph: 435-865-8549
email: jacquelinegrant@suu.edu

From: [Barrett, Justin S](#)
To: [Kulpa, Sarah](#)
Subject: Fw: [EXTERNAL] RE: Tiehm's herbivory report
Date: Monday, December 7, 2020 11:29:27 AM
Attachments: [image001.png](#)
[image002.png](#)
[Outlook-hcptncc.png](#)

No guarantee that it will come early but it will be coming...

Justin Barrett
Assistant Field Supervisor
U.S. Fish and Wildlife Service
Reno Field Office
Phone: 775-861-6338

<https://www.fws.gov/reno/>



From: Rebecca Sawyer <rsawyer@ioneer.com>
Sent: Monday, December 7, 2020 11:27 AM
To: Barrett, Justin S <justin_barrett@fws.gov>
Subject: [EXTERNAL] RE: Tiehm's herbivory report

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Justin

My apologies for the delay in getting back to you. Ioneer will get you the UNR report this week. If there are any specific questions on the report please contact me.

Kind regards



Rebecca A. Sawyer
Environmental and Community Relations Director

E: rsawyer@ioneer.com C: +1 520.368.1772

9460 Double R Boulevard, Suite 200 Reno, Nevada 89521 USA

W: ioneer.com

From: Barrett, Justin S <justin_barrett@fws.gov>

Sent: Friday, December 4, 2020 12:58 PM

Subject: Tiehm's herbivory report

Good afternoon,

I wanted to bring this report and statement to your attention. These have been posted on our Reno Fish and Wildlife website but there may be some problems with the links so I wanted to make sure the information was appropriately disseminated.

Thank you!

Environmental DNA analysis supports conclusion that damage to rare Tiehm's buckwheat plants was caused by herbivory

December 4, 2020 - An environmental DNA (eDNA) analysis conducted on damaged Tiehm's buckwheat roots, nearby soils and rodent scat strongly links small mammal herbivory to the widespread damage and loss of Tiehm's buckwheat reported in September 2020. Tiehm's buckwheat is a rare plant found only near Rhyolite Ridge in Esmeralda County, Nevada. To determine the cause of the damage, the U.S. Fish and Wildlife Service and the Bureau of Land Management contracted a researcher affiliated with Southern Utah University to conduct an independent review and analyze materials collected from the area for eDNA. The analysis found squirrel, deer and a small trace of human DNA on root samples and soils near damaged or dead plants.

Buckwheat DNA was detected in the scat, and the genetic signatures were a strong match (96.9-99.8 percent) to ground squirrels. This coupled with known white-tailed antelope ground squirrel populations at Rhyolite Ridge, burrowing at damaged plants, and rodent bite marks on plant roots strongly supports that ground squirrels were responsible for the damage. Current drought conditions likely motivated the rodents to seek moisture by consuming the shallow taproots of mature buckwheat plants. This is the first time herbivory was documented on Tiehm's buckwheat and its significance depends not only on its frequency and intensity, but whether damaged

plants can recover and survive.

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Welcome to the Reno Fish and Wildlife Office! The Reno Office protects and conserves endangered fish, wildlife, plants, and their habitats in Northern Nevada, the Eastern Sierra and Tahoe Basin for the continuing benefit of the American people.

www.fws.gov

Justin Barrett
Assistant Field Supervisor
U.S. Fish and Wildlife Service
Reno Field Office
Phone: 775-861-6338

<https://www.fws.gov/reno/>



From: [Kulpa, Sarah](#)
To: [Jacqueline Grant](#)
Subject: Fw: [EXTERNAL] Report of surveys for small mammals among buckwheat on Rhyolite Ridge_201024.V1
Date: Wednesday, October 28, 2020 9:57:42 AM
Attachments: [image003.png](#)
[Report of surveys for small mammals among buckwheat on Rhyolite Ridge_201024.V1.docx](#)

Hi Jackie,

Please do not share, but wanted to provide this to you as we await eDNA results. I will be curious to see what our data might show compared to this.

Cheers,

Sarah

Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
Reno, Nevada 89521
(775) 861-6340


From: Kris Kuyper <kris@emstrats.com>
Sent: Tuesday, October 27, 2020 5:04 PM
To: Kulpa, Sarah <sarah_kulpa@fws.gov>; James Morefield <jdmore@heritage.nv.gov>; Wickham, Perry B <pwickham@blm.gov>; Elizabeth Leger <ealeger@gmail.com>; jchrist@forestry.nv.gov <jchrist@forestry.nv.gov>
Cc: Matt Weaver <mweaver@ioneer.com>; 'Rebecca Sawyer' <rsawyer@ioneer.com>
Subject: [EXTERNAL] Report of surveys for small mammals among buckwheat on Rhyolite Ridge_201024.V1

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Hi,

Attached is a summary of the results of a small mammal survey performed at Rhyolite Ridge on October 12-14 by Dr. Mike Morrison, a subconsultant to EM Strategies, for your information. The purpose of the survey was to investigate herbivory at the Tiehm's buckwheat population.

Thank you,

 Kris Kuyper, CPESC, CESSWI



Biology Program Manager
T: 775.826.8822 (Reno) | 775.753.9496 (Elko)
C: 530.448.9098 | F: 775.826.8857
kris@emstrats.com | www.emstrats.com
1650 Meadow Wood Lane
Reno, Nevada 89502

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From: [Barrett, Justin S](#)
To: [Kulpa, Sarah](#); [Heston, Sophia M](#)
Subject: Fw: [EXTERNAL] Rodent damage
Date: Monday, January 4, 2021 10:53:56 AM
Attachments: [Outlook-1iyizyv.png](#)

If this is helpful, here is a link to pictures that Dr Jim Boone has started pulling together regarding herbivory events I haven't had a chance to look at them yet

Justin Barrett
Assistant Field Supervisor
U.S. Fish and Wildlife Service
Reno Field Office
Phone: 775-861-6338

<https://www.fws.gov/reno/>



From: Jim Boone <(b) (6)>
Sent: Monday, January 4, 2021 10:31 AM
To: Barrett, Justin S <justin_barrett@fws.gov>
Subject: Re: [EXTERNAL] Rodent damage

Hi Justin,

Thanks for passing this along Since the Tiehm's buckwheat event, I've been documenting herbivory to all kinds of species all over the Mojave desert, including Northern Arizona (Parashant) Indeed, it will be interesting to see how this affects the survival of these plants

I've uploaded hundreds of observations to the [iNaturalist](#) photo database To recover these images in iNat, click Explore, then Filters On the Filters screen, in the "Description/Tags" field, enter "rodent damage" To find only my observation, click the button "More Filters", then in the "Person" field, enter my user name: (b) (6) Currently, that brings up 329 observation of 20 species I'll add a few more today

I'll follow up with Dr Grant

Stay well, Jim

Jim Boone
Las Vegas, NV
birdandhike.com

On Jan 4, 2021, at 9:26 AM, Barrett, Justin S <justin_barrett@fws.gov> wrote:

Hello again Dr Boone,

I'm passing this along because you had expressed a continued interest in documenting the herbivory events that occurred to Tiehm's buckwheat and apparently other species this last year If you have any interest in finding out more about the Arizona creosote case shown here, feel free to reach out to Dr Grant She was the researcher who conducted eDNA analysis on Tiehms

A couple weeks ago, my family and I camped in Beatty We drove down there in the dark but coming back I noticed the impacts to Joshua trees that you'd mentioned in your blog post It was 27 degrees out, snowing and blowing so I didn't stop but the impacts are quite apparent It will be interesting to see how this affects the survival of these plants

Happy New Year!

Justin

Justin Barrett
Assistant Field Supervisor
U S. Fish and Wildlife Service
Reno Field Office
Phone: 775-861-6338

<https://www.fws.gov/reno/>

<Outlook-2skrgkq.png>

From: Jackie Grant <jacquelinegrant@suu.edu>
Sent: Monday, December 21, 2020 11:33 AM
To: Kulpa, Sarah <sarah_kulpa@fws.gov>
Subject: [EXTERNAL] Rodent damage

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hi Sarah,

Attached is a photo of some rodent damage to creosote from the Arizona Strip. I'm sending it because I keep getting asked if I've ever seen anything like the Tiehm's buckwheat incident. Now I can say yes. This was right next to a packrat shelter.

Anyway, if you could ask biologists in your network to keep an eye out for any similar damage, that would be great. I'd like to document as much regional rodent damage as I can.

Thanks, and have a good winter break!

<IMG_8222.jpg>

From: [Kulpa, Sarah](#)
To: [Heston, Sophia M](#); [Barrett, Justin S](#); [Jackson, Marc A](#); [Crosby, Brandon J](#); [Wickham, Perry B](#); [Distel, Scott J](#); [kaceykc](#); [jchrist@forestry.nv.gov](#); [James Morefield](#); [Rebecca Sawyer](#); [Kris Kuyper](#); [Elizabeth A Leger](#); [Jamey Wilcher](#)
Cc: [Gilkeson, Joanna C](#)
Subject: Fw: [EXTERNAL] Tiehm's eDNA study
Date: Thursday, November 12, 2020 3:26:09 PM
Attachments: [FWS Tiehms eDNA report 20201111.pdf](#)

Hi all,

The much anticipated eDNA result report is in, see attached :)

Cheers,

Sarah

Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
Reno, Nevada 89521
(775) 861-6340

From: Jacqueline Grant <jacquelinegrant@suu.edu>
Sent: Thursday, November 12, 2020 3:11 PM
To: Kulpa, Sarah <sarah_kulpa@fws.gov>
Subject: [EXTERNAL] Tiehm's eDNA study

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hi Sarah,

Attached please find the Tiehm's buckwheat eDNA report based on soil, root, and pellet samples that were collected onsite on 10/2/20.

There is a lot of raw data that is not in the report. Please let me know if you'd like access to the spreadsheets, or if you would like me to add them to the report.

Cheers,
Jackie

--

Dr. Jacqueline Grant
Associate Professor of Biology

Museum Curator (SCA 105A)
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Southern Utah University
Cedar City, UT 84720
USA

<http://suu.edu/cose/museum/>
<http://suu.edu/faculty/jacquelinegrant/>

ph: 435-865-8549
email: jacquelinegrant@suu.edu

From: [Kulpa, Sarah](#)
To: [James Morefield](#); [Kris Kuyper](#)
Subject: Fw: [EXTERNAL] Tiehm's eDNA study
Date: Friday, November 13, 2020 10:16:07 AM

Hi Jim and Kris,

I emailed Jackie with your comments, Jim and your knowledge of the DNA for Tiehms, Kris. See Jackie's response below.

Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
Reno, Nevada 89521
(775) 861-6340

From: Jacqueline Grant <jacquelinegrant@suu.edu>
Sent: Friday, November 13, 2020 9:13 AM
To: Kulpa, Sarah <sarah_kulpa@fws.gov>
Subject: Re: [EXTERNAL] Tiehm's eDNA study

Hi Sarah,

Thanks!

Yes, I can make those adjustments to the document. I put it together pretty quickly, so let me know of any edits for sure.

I'm still figuring out payment. If I accept payment then I can't have anything on the report associated with my position at the university, but on the other hand, my position at the university lends credence to the validity of my work on the report. I might just forgo any payment except the travel (which I'm also getting around to).

I emailed the Texas A&M people a month ago, but didn't get a response. Maybe you can ask the Ioneer person to ask Grady, Davis, or Wolf to upload the trnl barcode to BOLD or GenBank? If they plan on publishing the ERTI genome then they will most likely end up submitting the genome to GenBank where it will be publicly available. So, one thing to consider is that the matches are based on what's in GenBank now. If the sequences were to be run again in the future the matches might come up a little differently because of the addition of new sequence data.

It may not be possible to get a perfect match because DNA barcodes are small stretches of sequence that sometimes do not differ enough between species to make a perfect species identification. This means that the DNA barcode could be a 99.75% match for both *A. leucurus* and *A. harrisii* even when we have both barcodes in the database. Given the length of time between when we sampled and when the depredation occurred, the eDNA performed really well!

I'll run those plant barcodes through GenBank and provide a list of matches down to 90% or so. I have some other stuff that has to get done today, so if it can wait then I'll finish these tweaks early next week and I'll send all the raw data then too.

Have a good weekend!

Jackie

From: [Gilkeson, Joanna C](#)
To: [Barrett, Justin S](#); [Kulpa, Sarah](#); [Heston, Sophia M](#); [Jackson, Marc A](#); [Abele, Steve](#)
Subject: Fw: Another Tiehm's buckwheat story
Date: Monday, December 21, 2020 3:18:38 PM
Attachments: [Sides still at odds over d.pdf](#)

FYI - another story but nothing really new here. CBD continues to question the eDNA analysis and ground squirrel conclusion.

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: Heil, John C <john_heil@fws.gov>
Sent: Monday, December 21, 2020 9:16 AM
To: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>; Bierce, Pamela <pamela_bierce@fws.gov>
Cc: Balduini, Daniel <daniel_balduini@fws.gov>
Subject: RE: Another Tiehm's buckwheat story

Here you go Joanna.

Cheers,
John

From: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>
Sent: Monday, December 21, 2020 8:53 AM
To: Bierce, Pamela <pamela_bierce@fws.gov>; Heil, John C <john_heil@fws.gov>
Cc: Balduini, Daniel <daniel_balduini@fws.gov>
Subject: Fw: Another Tiehm's buckwheat story

Good morning! Does anyone have access to the article below? If yes, can you share a copy with me? Thank you!

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: Rose, Christopher S <crose@blm.gov>
Sent: Monday, December 21, 2020 7:00 AM

To: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>; Maciel, Martha L <martha_maciel@fws.gov>
Cc: Bush, Christopher I <cbush@blm.gov>
Subject: Another Tiehm's buckwheat story

Extinction crisis or nature at work? Sides still at odds over demise of desert plant species
(Tiehm's Buckwheat)

<https://m.lasvegassun.com/news/2020/dec/20/extinction-crisis-or-nature-at-work-environmentali/>

Chris Rose
Public Affairs Specialist
Bureau of Land Management
Nevada State Office
1340 Financial Blvd.
Reno, NV 89502
crose@blm.gov
775-861-6480

From: [Gilkeson, Joanna C](#)
To: [Heil, John C](#); [Maciel, Martha L](#); [Bierce, Pamela](#)
Cc: [Jackson, Marc A](#); [Barrett, Justin S](#); [Kulpa, Sarah](#); [Heston, Sophia M](#); [Abele, Steve](#)
Subject: Fw: Tiehm's buckwheat coverage
Date: Monday, December 7, 2020 10:02:08 AM

FYI - BLM is quoted using our statement in the Nevada Current article.

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: Rose, Christopher S <crose@blm.gov>
Sent: Monday, December 7, 2020 7:01 AM
To: Bush, Christopher I <cbush@blm.gov>; Evenson, Ronald (Rudy) R <revenson@blm.gov>; Maciel, Martha L <martha_maciel@fws.gov>; Gilkeson, Joanna C <j Joanna_gilkeson@fws.gov>; Harvey, Jess D <jharvey@blm.gov>
Subject: Tiehm's buckwheat coverage

Here are the articles that have come out regarding the Tiehm's buckwheat issue.

Rare Nevada plant damaged by wild animals, not humans, feds say
<https://www.kolotv.com/2020/12/06/rare-nevada-plant-damaged-by-wild-animals-not-humans-feds-say/>

Report blames squirrels for buckwheat destruction; group remains skeptical
<https://www.nevadacurrent.com/2020/12/05/report-blames-squirrels-for-buckwheat-destruction-group-remains-skeptical/>

FWS: Squirrels, not miners, destroyed rare Nev. wildflowers
<https://www.eenews.net/eenewspm/2020/12/04/stories/1063719975>

Chris Rose
Public Affairs Specialist
Bureau of Land Management
Nevada State Office
1340 Financial Blvd.
Reno, NV 89502
crose@blm.gov

775-861-6480

From: [Gilkeson, Joanna C](#)
To: [Jackson, Marc A](#); [Barrett, Justin S](#)
Cc: [Kulpa, Sarah](#); [Heston, Sophia M](#); [Abele, Steve](#)
Subject: Fw: Tiehm's buckwheat eDNA news release for review
Date: Thursday, November 19, 2020 9:05:24 AM

FYI! Justin, I know literally told you yesterday that BLM was in for a joint news release, but guess its a no go.

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: Maciel, Martha L <martha_maciel@fws.gov>
Sent: Thursday, November 19, 2020 8:22 AM
To: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>
Subject: Fw: Tiehm's buckwheat eDNA news release for review

Good morning, Joanna,
Here's the latest from BLM... no joint release. I'll connect with Paul and let you know where we go from here. Plan B - FWS news release?

From: Bush, Christopher I <cbush@blm.gov>
Sent: Thursday, November 19, 2020 8:15 AM
To: Maciel, Martha L <martha_maciel@fws.gov>
Subject: Re: Tiehm's buckwheat eDNA news release for review

Martha,

I had a discussion with Jon yesterday afternoon on this and he is not convinced a joint release is the best tactic at this time - we are satisfied with the current state of the media/information space with regard to this issue. Sending out a release may just kick up dust and bring in queries we can't answer while facing litigation.

I told him that your boss may be reaching out directly to him to discuss and he's more than happy to have that discussion.

Apologies for the news release "whiplash" on this.

I'm heading into several meetings this morning but clear late this afternoon if you want to discuss some more.

Best,

Chris

Christopher Bush
Director of Communications
Bureau of Land Management - Nevada
Office: 775-861-6629
Cell: 775-225-9532
cbush@blm.gov
www.blm.gov/nv

From: Maciel, Martha L <martha_maciel@fws.gov>
Sent: Wednesday, November 18, 2020 12:39:03 PM
To: Bush, Christopher I <cbush@blm.gov>
Subject: Re: Tiehm's buckwheat eDNA news release for review

Hi Chris,
I totally understand, busy times. Can we try 8:30 am tmrw? We'd like to move the NR to our regional leadership tmrw morning so we can move to HQ before Monday. Holiday week will create possible delays.
I'll see if I can articulate below:
Will BLM leave the LE statement in the NR or should we just focus on eDNA? As currently written, the LE statement seems a bit confusing and raises more questions.

Martha Maciel

Assistant Regional Director, External Affairs
U.S. Fish and Wildlife Service | DOI California-Great Basin Region
(279) 900-5264 | martha_maciel@fws.gov
www.fws.gov/cno | [@USFWS_PSW](https://twitter.com/USFWS_PSW) | [@USFWS](https://twitter.com/USFWS)

From: Bush, Christopher I <cbush@blm.gov>
Sent: Wednesday, November 18, 2020 11:49 AM
To: Maciel, Martha L <martha_maciel@fws.gov>
Subject: Re: Tiehm's buckwheat eDNA news release for review

Martha,

Any chance we can shift this conversation to tomorrow at some time? I have just had something pop up and won't be available this afternoon. My apologies.

Chris

Christopher Bush

Chief, Communications
Bureau of Land Management - Nevada
Office: 775-861-6629
Cell: 775-225-9532
cbush@blm.gov
www.blm.gov/nv

From: Maciel, Martha L <martha_maciel@fws.gov>
Sent: Wednesday, November 18, 2020 8:48 AM
To: Bush, Christopher I <cbush@blm.gov>
Subject: Re: Tiehm's buckwheat eDNA news release for review

12:30 works. I have interviews from 1-5pm. Thanks Chris!

Martha Maciel

Assistant Regional Director, External Affairs
U.S. Fish and Wildlife Service | DOI California-Great Basin Region
(279) 900-5264 | martha_maciel@fws.gov
www.fws.gov/cno | [@USFWS_PSW](https://twitter.com/USFWS_PSW) | [@USFWS](https://twitter.com/USFWS)

From: Bush, Christopher I <cbush@blm.gov>
Sent: Wednesday, November 18, 2020 8:43 AM
To: Maciel, Martha L <martha_maciel@fws.gov>
Subject: Re: Tiehm's buckwheat eDNA news release for review

Martha,

My apologies, but it seems my response last night was not sent to you (iphone glitch, I guess). I am in meetings for most of the morning today and could be available in the early afternoon after a 1230 awards ceremony, if that works?

Christopher Bush
Chief, Communications
Bureau of Land Management - Nevada
Office: 775-861-6629
Cell: 775-225-9532
cbush@blm.gov
www.blm.gov/nv

From: Maciel, Martha L <martha_maciel@fws.gov>

Sent: Tuesday, November 17, 2020 4:51 PM

To: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>; Harvey, Jess D <jharvey@blm.gov>

Cc: Anderson, Erica L <erica.anderson@sol.doi.gov>; Rose, Christopher S <crose@blm.gov>; Bush, Christopher I <cbush@blm.gov>; Furtado, Douglas W <dfurtado@blm.gov>

Subject: Re: Tiehm's buckwheat eDNA news release for review

Thank you Jess and Joanna for your work on the news release. I think it looks good and adding a brief statement about next steps is a good approach.

Chris - I have a few questions about the LE investigation and the statement provided in the news release. Do you have time in the morning for a quick call?

Martha Maciel

Assistant Regional Director, External Affairs

U.S. Fish and Wildlife Service | DOI California-Great Basin Region

(279) 900-5264 | martha_maciel@fws.gov

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From: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>

Sent: Tuesday, November 17, 2020 11:59 AM

To: Harvey, Jess D <jharvey@blm.gov>

Cc: Maciel, Martha L <martha_maciel@fws.gov>; Anderson, Erica L <erica.anderson@sol.doi.gov>; Rose, Christopher S <crose@blm.gov>; Bush, Christopher I <cbush@blm.gov>; Furtado, Douglas W <dfurtado@blm.gov>

Subject: Re: Tiehm's buckwheat eDNA news release for review

Hi Jess,

Thank you for the quick review!

I agree about the next steps approach. I'll add a sentence about the 12-month finding and say we're working with partners to come up with solutions. If BLM could add a sentence about what they're doing that would be great.

~ Joanna

Joanna Gilkeson (she/her)

Public Affairs Specialist

Reno, Nevada

U.S. Fish and Wildlife Service

Office: 775/861-6336

Cell: 760/473-3954

<https://www.fws.gov/reno/>

From: Harvey, Jess D <jharvey@blm.gov>

Sent: Tuesday, November 17, 2020 11:51 AM

To: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>

Cc: Maciel, Martha L <martha_maciel@fws.gov>; Anderson, Erica L <erica.anderson@sol.doi.gov>; Rose, Christopher S <crose@blm.gov>; Bush, Christopher I <cbush@blm.gov>; Furtado, Douglas W <dfurtado@blm.gov>

Subject: RE: Tiehm's buckwheat eDNA news release for review

Joanna,

This looks good to me and the verbiage is that which was previously approved.

I think the BLM will probably want to keep the investigation part in, but I will defer to leadership for the final answer on that.

In my opinion, I think it might be good to add the sentence at the end that talks about the next steps. That way it shows that we are continuing to address the issue even after we have these answers.

Respectfully,

Jess D. Harvey
Public Affairs Specialist
Battle Mountain District Office
50 Bastian Road
Battle Mountain, Nevada 89820
Work: 775.635.4054

From: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>

Sent: Tuesday, November 17, 2020 11:28 AM

To: Harvey, Jess D <jharvey@blm.gov>; Rose, Christopher S <crose@blm.gov>; Bush, Christopher I <cbush@blm.gov>

Cc: Maciel, Martha L <martha_maciel@fws.gov>

Subject: Tiehm's buckwheat eDNA news release for review

Hi BLM colleagues,

Please see the attached news release regarding Tiehm's buckwheat. I have added several paragraphs about the eDNA analysis, but did not leave them in track changes as the document would have been disaster! For your information, I modified the subtitle and opening paragraph but did not change subsequent statements about the BLM investigations.

Next steps:

1. BLM, would you like to keep the language about the investigations in this release or strictly limit it to information about the eDNA?
2. Do we want to add a section about next steps? FWS is currently conducting the 12-month finding for Tiehm's and we can add a sentence about that.
3. Send your edits to me as soon as possible, and I will update the document. We are hoping to be able to send this out just after Thanksgiving.
4. Once the document is updated, Martha and Chris will route through our respective channels for review.

Please let me know if you have any questions or concerns about the document. Thank you in advance for the coordination!

Thank you,
Joanna

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: [Gilkeson, Joanna C](#)
To: [Young, Adele R](#)
Cc: [Barrett, Justin S](#); [Kulpa, Sarah](#); [Heston, Sophia M](#)
Subject: Fw: Tiehm's buckwheat eDNA news release for review
Date: Wednesday, December 2, 2020 2:14:34 PM

Hi Adele!

See the email chain below for BLM's message on this approach.

~ Joanna

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: Maciel, Martha L <martha_maciel@fws.gov>
Sent: Tuesday, December 1, 2020 11:51 AM
To: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>
Subject: Fw: Tiehm's buckwheat eDNA news release for review

Hi Joanna,

We received the green light from BLM on posting the statement and report. See below...

I have a few more coordination points with RO ES and HQ EA.

I have my weekly mtg with Paul this afternoon and will confirm with him, as well.

Do you know which SOL we should coordinate with? I can also ask Fris.

On your end, how are we doing with the final report? Are we ready to post this week once we get all the remaining approvals?

Also, I heard from Pam this morning that EE News inquired yesterday about any new information on the cause. She'll let him know that no new information available yet. Once the report is live, we'd follow up and send him the link.

Martha Maciel

Assistant Regional Director, External Affairs

U.S. Fish and Wildlife Service | DOI California-Great Basin Region
(279) 900-5264 | martha_maciel@fws.gov
www.fws.gov/cno | [@USFWS_PSW](https://twitter.com/USFWS_PSW) | [@USFWS](https://twitter.com/USFWS)

From: Bush, Christopher I <cbush@blm.gov>
Sent: Tuesday, December 1, 2020 9:58 AM
To: Maciel, Martha L <martha_maciel@fws.gov>
Subject: Re: Tiehm's buckwheat eDNA news release for review

Martha,

Apologies for the lag time in circling back on this. I spoke with Jon last week on this issue and we have no issues with the report or statement.

Jon actually came around on the joint release after my discussions with him, but I don't want to "gum up the works" at this point if you're ready to go with your products.

I can also discuss further after our national call this afternoon, if needed.

Best,
Chris

Christopher Bush
Director of Communications
Bureau of Land Management - Nevada
Office: 775-861-6629
Cell: 775-225-9532
cbush@blm.gov
www.blm.gov/nv

From: Maciel, Martha L <martha_maciel@fws.gov>
Sent: Tuesday, December 1, 2020 9:50:49 AM
To: Bush, Christopher I <cbush@blm.gov>
Subject: Re: Tiehm's buckwheat eDNA news release for review

Hi Chris,

Any updates from your team? We're hoping to post the report this week and want to ensure there are no concerns from BLM.

Also, we received media inquiry from Scott Streater, EE News. Ideally, we'd refer him to the report and statement, once posted.

I have time this afternoon if you'd like to discuss.

I hope you had a restful Thanksgiving.

Martha

Martha Maciel

Assistant Regional Director, External Affairs

U.S. Fish and Wildlife Service | DOI California-Great Basin Region

(279) 900-5264 | martha_maciel@fws.gov

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From: Bush, Christopher I <cbush@blm.gov>

Sent: Monday, November 23, 2020 3:28 PM

To: Maciel, Martha L <martha_maciel@fws.gov>

Subject: Re: Tiehm's buckwheat eDNA news release for review

Martha,

Thanks and apologies for not being able to connect on Friday. I have shared what you sent with our team and will provide any input we have on this for you this week.

Chris

Christopher Bush

Chief, Communications

Bureau of Land Management - Nevada

Office: 775-861-6629

Cell: 775-225-9532

cbush@blm.gov

www.blm.gov/nv

From: Maciel, Martha L <martha_maciel@fws.gov>

Sent: Monday, November 23, 2020 2:05 PM

To: Bush, Christopher I <cbush@blm.gov>

Subject: Re: Tiehm's buckwheat eDNA news release for review

Hi Chris,

I hope you had a good weekend. Looping back to provide you an update on our latest discussion re: the eDNA. Based on the feedback from BLM we have modified our approach and will not be issuing a news release on the eDNA. Instead, we would like to make the report available online on our field office website with a brief statement.

We'd like to ensure that BLM is comfortable with this approach and give you an opportunity to

review the statement. See below & attached.

I'm available on the cellphone (279) 900-5264) this week if you'd like to discuss.

Environmental DNA analysis supports conclusion that damage to rare Tiehm's buckwheat plants was caused by herbivory

Drought conditions across the state were a factor in animal behavior this summer

An environmental DNA (eDNA) analysis conducted on damaged Tiehm's buckwheat plant roots, nearby soils and rodent scat strongly links small mammal herbivory to the widespread damage and loss of Tiehm's buckwheat reported in September 2020. Tiehm's buckwheat is a rare plant found only near Rhyolite Ridge in Esmeralda County, Nevada.

To determine the cause of the damage, the U.S. Fish and Wildlife Service contracted a researcher affiliated with Southern Utah University to conduct an independent review and analyze materials collected from the area for eDNA. The analysis found squirrel, deer and a small trace of human DNA on root samples and soils near damaged or dead plants.

Buckwheat DNA was detected in the scat, and the genetic signatures were a strong match (96.9-99.8 percent) to ground squirrels. This coupled with known white-tailed antelope ground squirrel populations at Rhyolite Ridge, burrowing at damaged plants, and rodent bite marks on plant roots strongly supports that ground squirrels were responsible for the damage. Current drought conditions likely motivated the rodents to seek moisture by consuming the shallow taproots of mature buckwheat plants. This is the first time herbivory was documented on Tiehm's buckwheat and its significance depends not only on its frequency and intensity, but whether damaged plants can recover and survive.

Link to full eDNA report: [INSERT LINK]

Martha Maciel

Assistant Regional Director, External Affairs

U.S. Fish and Wildlife Service | DOI California-Great Basin Region

(279) 900-5264 | martha_maciel@fws.gov

www.fws.gov/cno | [@USEFWS_PSW](https://twitter.com/USEFWS_PSW) | [@USEFWS](https://twitter.com/USEFWS)

From: Maciel, Martha L <martha_maciel@fws.gov>

Sent: Friday, November 20, 2020 8:16 AM

To: Bush, Christopher I <cbush@blm.gov>

Subject: Re: Tiehm's buckwheat eDNA news release for review

Good morning Chris,

I have an update and would like to run a few things by you. Do you have time today for a call?

9-10am or 12-1pm or 3pm?

Happy Friday!

Martha Maciel

Assistant Regional Director, External Affairs

U.S. Fish and Wildlife Service | DOI California-Great Basin Region

(279) 900-5264 | martha_maciel@fws.gov

www.fws.gov/cno | [@USEFWS_PSW](https://twitter.com/USEFWS_PSW) | [@USEFWS](https://twitter.com/USEFWS)

From: Maciel, Martha L <martha_maciel@fws.gov>

Sent: Thursday, November 19, 2020 8:19 AM

To: Bush, Christopher I <cbush@blm.gov>

Subject: Fw: Tiehm's buckwheat eDNA news release for review

Chris,

Thanks for the update. I'll let folks know and re-group. I'll keep you posted on our next steps.

Martha Maciel

Assistant Regional Director, External Affairs

U.S. Fish and Wildlife Service | DOI California-Great Basin Region

(279) 900-5264 | martha_maciel@fws.gov

www.fws.gov/cno | [@USEFWS_PSW](https://twitter.com/USEFWS_PSW) | [@USEFWS](https://twitter.com/USEFWS)

From: Bush, Christopher I <cbush@blm.gov>

Sent: Thursday, November 19, 2020 8:15 AM

To: Maciel, Martha L <martha_maciel@fws.gov>

Subject: Re: Tiehm's buckwheat eDNA news release for review

Martha,

I had a discussion with Jon yesterday afternoon on this and he is not convinced a joint release is the best tactic at this time - we are satisfied with the current state of the media/information space with regard to this issue. Sending out a release may just kick up dust and bring in queries we can't answer while facing litigation.

I told him that your boss may be reaching out directly to him to discuss and he's more than happy to have that discussion.

Apologies for the news release "whiplash" on this.

<michael_fris@fws.gov>

Cc: Heil, John C <john_heil@fws.gov>

Subject: Update: eDNA draft summary

Paul,

Here is the draft eDNA statement that would accompany the report on the Reno FO webpage. Sharing an early draft with you that has been cleared by the field office to get your initial thoughts and ensure we're on track.

If you approve, we'll route through the BLM and our SOL.

Our target timeframe for posting on the Reno FO webpage is the first week of Dec.

Happy to adjust as needed.

Martha

Martha Maciel

Assistant Regional Director, External Affairs

U.S. Fish and Wildlife Service | DOI California-Great Basin Region

(279) 900-5264 | martha_maciel@fws.gov

www.fws.gov/cno | [@USFWS_PSW](https://twitter.com/USFWS_PSW) | [@USFWS](https://twitter.com/USFWS)

From: [Gilkeson, Joanna C](#)
To: [Jackson, Marc A](#); [Barrett, Justin S](#); [Kulpa, Sarah](#); [Heston, Sophia M](#); [Abele, Steve](#)
Subject: Fw: Updated eDNA report
Date: Wednesday, December 2, 2020 11:14:23 AM

FYI!

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: Maciel, Martha L <martha_maciel@fws.gov>
Sent: Wednesday, December 2, 2020 10:57 AM
To: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>
Cc: Heil, John C <john_heil@fws.gov>
Subject: Re: Updated eDNA report

Excellent! I have shared the final report and statement with SOL. Waiting to hear back.
Paul will make a few calls.

We should plan to post on Friday, Dec 4 morning. Does that work for you?

I also had a good chat with Chris Bush, BLM yesterday. I agreed to share the final report and he'll share with LE. He's aware of the EE News inquiry and we agreed to coordinate on any future media inquiries. I confirmed that you would keep Jess in the loop and ensure local coordination.

Martha Maciel

Assistant Regional Director, External Affairs
U.S. Fish and Wildlife Service | DOI California-Great Basin Region
(279) 900-5264 | martha_maciel@fws.gov
www.fws.gov/cno | [@USFWS_PSW](#) | [@USFWS](#)

From: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>
Sent: Wednesday, December 2, 2020 8:56 AM
To: Maciel, Martha L <martha_maciel@fws.gov>
Cc: Heil, John C <john_heil@fws.gov>
Subject: Fw: Updated eDNA report

Martha,

We have the final report! See Sarah's email below about another pending update but we can always replace the file on the website if these changes are made.

Thank you so much.

Best,
Joanna

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: Kulpa, Sarah <sarah_kulpa@fws.gov>

Sent: Wednesday, December 2, 2020 8:51 AM

To: James Morefield <jdmore@heritage.nv.gov>; Kris Kuyper <kris@emstrats.com>; Beth Leger <ealeger@gmail.com>; Jamey Wilcher <jdwilcher13@gmail.com>; Crosby, Brandon J <bcrosby@blm.gov>; Distel, Scott J <sdistel@blm.gov>; Wickham, Perry B <pwickham@blm.gov>; jchrist@forestry.nv.gov <jchrist@forestry.nv.gov>; Kacey KC <kaceykc@forestry.nv.gov>; Rebecca Sawyer <rsawyer@ioneer.com>; Heston, Sophia M <sophia_heston@fws.gov>; Barrett, Justin S <justin_barrett@fws.gov>; Jackson, Marc A <marc_jackson@fws.gov>

Cc: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>

Subject: Updated eDNA report

Hi all,

Jackie updated the eDNA report and I am sharing that version for your files. Nothing has changed in terms of analyses and results; she made minor edits and included her contact info and lit cited. Jackie and Kris have been trying to get in touch with the researchers at Texas A&M to have them upload the Tiehm's trnl barcodes to BOLD or GenBank. If that happens, Jackie will most likely update this report again with that information. Let me know if you have any questions.

Cheers,

Sarah

Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234

Reno, Nevada 89521
(775) 861-6340

From: [Gilkeson, Joanna C](#)
To: [Barrett, Justin S](#); [Jackson, Marc A](#); [Kulpa, Sarah](#); [Heston, Sophia M](#)
Subject: Fw: WSJ Op-Ed Tiehm's Buckwheat
Date: Wednesday, December 9, 2020 9:38:05 AM
Attachments: [20201209 WSJ TB Story.docx](#)

FYI.

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: Bush, Christopher I <cbush@blm.gov>
Sent: Wednesday, December 9, 2020 9:35 AM
To: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>; Rose, Christopher S <crose@blm.gov>; Harvey, Jess D <jharvey@blm.gov>
Cc: Maciel, Martha L <martha_maciel@fws.gov>; Bierce, Pamela <pamela_bierce@fws.gov>; Heil, John C <john_heil@fws.gov>
Subject: Re: WSJ Op-Ed Tiehm's Buckwheat

Joanna,

I have a personal subscription to the WSJ and I have copied the piece to a Word doc attached. It's editorial slant is in line with the usual style of the WSJ Editorial Page.

I have also cut and pasted the text under my signature block.

Christopher Bush
Chief, Communications
Bureau of Land Management - Nevada
Office: 775-861-6629
Cell: 775-225-9532
cbush@blm.gov
www.blm.gov/nv

WSJ: The Usual Suspects

The U.S. Fish and Wildlife Service on Friday arrived at a shocking conclusion, the [Las Vegas Sun reports](#).

The September destruction of thousands of Tiehm's buckwheat plants, an incredibly rare desert wildflower that lives only in a small portion of Esmeralda County, has been 'strongly

linked' to ground squirrel damage. . . .

The Center for Biological Diversity first discovered the damage in September on a “routine visit,” finding that 40% of the plant’s population had been destroyed. Almost immediately, the group and Ioneer Corp. — an Australian mining company interested in developing an open-pit lithium mine in the flower’s habitat — had a public disagreement about the source of the damage.

The Center for Biological Diversity has been trying to block a lithium mine in Nevada’s desert, which would supply minerals for electric car batteries, by seeking Endangered Species Act protections for buckwheat. Environmental activists are equal opportunist obstructionists. Lo, green groups during the Obama Presidency sought ESA protections for critters like the [sage grouse](#) to stop oil and gas drilling. But recently they have rallied in defense of the [Joshua tree](#) and [desert tortoise](#) in the Mojave Desert to block solar farms.

In September, environmentalists accused Australian lithium mine developer Ioneer Corp. of floricide. The U.S. Fish and Wildlife Service thus performed a forensic investigation. On Friday the agency reported that it “found squirrel, deer and a small trace of human DNA on root samples and soils near damaged or dead plants” as well as buckwheat DNA was in animal feces.

“This coupled with known white-tailed antelope ground squirrel populations at Rhyolite Ridge, burrowing at damaged plants, and rodent bite marks on plant roots strongly supports that ground squirrels were responsible for the damage,” [FWS explained](#).

Environmental groups, however, profess shock that rodents and deer would feast on flowers. Have they ever seen [Bambi](#)?

Naomi Fraga, the director of conservation at the California Botanic Garden, told the Las Vegas Sun that the FWS “report appears to provide evidence that buckwheat plant parts have at some point been eaten by white-tailed antelope ground squirrels at Rhyolite Ridge,” but “I don’t see how this line of evidence can substantiate that the entirety of the wide-scale damage was caused by small mammals.”

Shouldn’t government scientists have more important things to do than analyze squirrel poop?

From: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>

Sent: Wednesday, December 9, 2020 9:23 AM

To: Rose, Christopher S <crose@blm.gov>; Harvey, Jess D <jharvey@blm.gov>

Cc: Maciel, Martha L <martha_maciel@fws.gov>; Bierce, Pamela <pamela_bierce@fws.gov>; Heil, John C <john_heil@fws.gov>; Bush, Christopher I <cbush@blm.gov>

Subject: WSJ Op-Ed Tiehm's Buckwheat

Hi Chris and Jess,

Does BLM have a subscription to WSJ? This op-ed mentions Tiehm's buckwheat and we don't have an account at FWS, so thought we'd check to see if you have one :).

<https://www.wsj.com/articles/locked-down-in-la-la-land-11607358901>

Thanks!

Joanna

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: [Kulpa, Sarah](#)
To: [Kris Kuyper](#)
Cc: [Jacqualine Grant](#)
Subject: Genetics for Tiehms
Date: Tuesday, December 1, 2020 2:21:22 PM

Hi Kris,

Jackie has reached out to the researchers at Texas A&M on the Tiehm's genetics, but she can't get a response from them. Can you help us get in touch with them? It would be really great if Texas A&M or Dr. Wolf can upload the trnl barcodes to BOLD or GenBank for Tiehms.

Thanks!

Sarah

Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
Reno, Nevada 89521
(775) 861-6340

From: [Kulpa, Sarah](#)
To: [Jacqualine Grant](#)
Subject: Letter sent to USFWS that reports alot of small mammals in Tiehms area
Date: Saturday, November 14, 2020 11:51:00 AM
Attachments: [20200929_CMoose_CommentOnTiehmsBuckwheat.pdf](#)

Thought this may be helpful for eDNA report modifications related to Jim's questions.

Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
Reno, Nevada 89521
(775) 861-6340

From: [Barrett, Justin S](#)
To: [Kulpa, Sarah](#); [Heston, Sophia M](#)
Subject: Re: [EXTERNAL] genetics notes and ideas
Date: Wednesday, October 7, 2020 8:37:10 AM
Attachments: [Outlook-puix3e0u.png](#)

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Justin Barrett
Assistant Field Supervisor
U.S. Fish and Wildlife Service
Reno Field Office
Phone: 775-861-6338

<https://www.fws.gov/reno/>



From: Kulpa, Sarah <sarah_kulpa@fws.gov>
Sent: Wednesday, October 7, 2020 8:24 AM
To: Barrett, Justin S <justin_barrett@fws.gov>; Heston, Sophia M <sophia_heston@fws.gov>
Subject: Fw: [EXTERNAL] genetics notes and ideas

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From: Jacqueline Grant <jacquelinegrant@suu.edu>
Sent: Tuesday, October 6, 2020 3:13 PM
To: Kulpa, Sarah <sarah_kulpa@fws.gov>
Subject: [EXTERNAL] genetics notes and ideas



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From: [Kulpa, Sarah](#)
To: [Barrett, Justin S](#); [Heston, Sophia M](#)
Subject: Re: [EXTERNAL] genetics notes and ideas
Date: Wednesday, October 7, 2020 8:40:00 AM
Attachments: [Outlook-puix3e0u.png](#)

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From: [Barrett, Justin S](#)
To: [Heston, Sophia M](#); [Kulpa, Sarah](#)
Subject: Re: [EXTERNAL] genetics notes and ideas
Date: Wednesday, October 7, 2020 9:08:02 AM
Attachments: [Outlook-puix3e0u.png](#)
[Outlook-1bbbd5eo.png](#)

Agree on all fronts. I trust you both on the drone footage decision. If it can help us answer some questions or quantify impacts from the herbivory event or from the anticipated mine, then maybe we should consider it, depending on the cost.

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From: Heston, Sophia M <sophia_heston@fws.gov>
Sent: Wednesday, October 7, 2020 9:03 AM
To: Kulpa, Sarah <sarah_kulpa@fws.gov>; Barrett, Justin S <justin_barrett@fws.gov>
Subject: Re: [EXTERNAL] genetics notes and ideas

I feel like drone footage would be cool but not necessary. And I am totally down to help her track resprouting in the Spring. I know it would be a little late because the SSA will already be written, but it would be nice to know if the species can come back from an event like this.

-Sophie

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Subject: Re: [EXTERNAL] genetics notes and ideas

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From: [Heston, Sophia M](#)
To: [Kulpa, Sarah](#); [Barrett, Justin S](#)
Subject: Re: [EXTERNAL] genetics notes and ideas
Date: Wednesday, October 7, 2020 9:03:32 AM
Attachments: [Outlook-puix3e0u.png](#)

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From: [Kulpa, Sarah](#)
To: [Jacqueline Grant](#)
Subject: Re: [EXTERNAL] quick update, formal report to follow
Date: Thursday, November 12, 2020 9:08:50 AM

Hi Jackie! Thanks for that quick update! I am so glad some data was able to be pulled from our collection effort!

Our network went down, but when it comes back up I can send you a summary from one of the folks that wrote to us in support of CBDs claims of humans. It had a comprehensive list of all small mammals in the area that may be helpful.

And braces! Those are really going to hinder you from chewing on plant roots

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From: Jacqueline Grant <jacquelinegrant@suu.edu>
Sent: Wednesday, November 11, 2020 1:23 PM
To: Kulpa, Sarah <sarah_kulpa@fws.gov>
Subject: [EXTERNAL] quick update, formal report to follow

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Hi Sarah,

The genetic data show that sciurid (squirrel) eDNA was present on some of the roots, along with cervid eDNA and a little human eDNA contamination.

In the soil there was a mix of sciurid, cervid, and hominid eDNA along with some unidentifiable DNA sequences.

The pellets were analyzed for vertebrate and plant eDNA, and we found sciurid eDNA and *Eriogonum* eDNA, which strongly indicates that a sciurid was eating buckwheat. A few other plant species were identified from eDNA in the scat and I'll include those in the full report.

All of the sciurid eDNA sequences most closely match members of Marmotini, a taxon that includes *Spermophilus* (ground squirrels), *Cynomys* (prairie-dogs), *Marmota* (marmots and woodchuck), *Ammospermophilus* (antelope ground squirrels), *Tamias* (chipmunks), and *Sciurotamias* (rock squirrels). A complete species ID is not possible with these data because there was so little DNA.

Note that skull size and incisor width are very similar between *Ammospermophilus* and *Dipodomys* (kangaroo rat), but we did not find any genetic evidence for *Dipodomys* in our samples.

I'll send a detailed report tomorrow. I hope you had a nice day off!

I got braces on my teeth

--

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From: [Kulpa, Sarah](#)
To: [Jacqueline Grant](#)
Subject: Re: [EXTERNAL] Re: genetics notes and ideas
Date: Wednesday, October 7, 2020 8:25:29 AM

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From: Jacqueline Grant <jacquelinegrant@suu.edu>
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Subject: [EXTERNAL] Re: genetics notes and ideas

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From: [Jacqualine Grant](#)
To: [Kulpa, Sarah](#)
Subject: Re: [EXTERNAL] Re: genetics notes and ideas
Date: Thursday, October 8, 2020 8:18:17 AM

Hi Sarah,

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Cheers,
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From: [Kulpa, Sarah](#)
To: [Jacqueline Grant](#)
Subject: Re: [EXTERNAL] Re: genetics notes and ideas
Date: Thursday, October 15, 2020 2:59:18 PM

Hi Jackie!

I think right now we are not going down the drone route, but thanks for the offer! I will let you know if that changes; we are kind of swamped dealing with other things in regards to this species right now. Were you able to get eDNA samples sent off last week? If so, have you been in communication with Mark Fabes of my office in terms of cost and payment? I just want to make sure everyone who needs to get paid, gets paid :) And is Jonah Ventures going to do a rush on sequencing? From what I am hearing from management, the sooner the better in terms of results :)

Thanks!

Sarah

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To: [Kulpa, Sarah](#)
Subject: Re: [EXTERNAL] Re: genetics notes and ideas
Date: Thursday, October 15, 2020 3:38:30 PM

Hi Sarah,

Yes, the samples were sent off to Jonah Ventures and I asked them to communicate directly with Mark for payment. Yes, Jonah Ventures is going to do a rush analysis on the samples. They are going to check the scat for the genetic signature of the *Eriogonum* genus as well as an ID on the major vertebrate associated with the scat.

No worries with the drones. The program is always looking for student opportunities, so if you ever have need for drone work let me know and I can ask them.

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Thanks!

Sarah

Sarah Kulp
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
Reno, Nevada 89521
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From: Jacqueline Grant <jacquelinegrant@suu.edu>
Sent: Thursday, October 8, 2020 8:17 AM
To: Kulpa, Sarah <sarah_kulpa@fws.gov>
Subject: Re: [EXTERNAL] Re: genetics notes and ideas

Hi Sarah,

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Sent: Wednesday, October 7, 2020 7:46 AM

To: Kulpa, Sarah <sarah_kulpa@fws.gov>

Subject: [EXTERNAL] Re: genetics notes and ideas

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From: [Kulpa, Sarah](#)
To: [Jacqueline Grant](#)
Subject: Re: [EXTERNAL] Re: genetics notes and ideas
Date: Thursday, October 15, 2020 4:05:53 PM

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From: [Jacqualine Grant](#)
To: [Kulpa, Sarah](#)
Subject: Re: [EXTERNAL] Re: genetics notes and ideas
Date: Thursday, October 15, 2020 4:58:02 PM

Hi Sarah,

OK, that will be great. I'll let you know as soon as Jonah Ventures sends the data from the analysis. I'm excited to see the results!

Jackie

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From: [Barrett, Justin S](#)
To: [Jacqueline Grant](#)
Cc: [Kulpa, Sarah](#)
Subject: Re: [EXTERNAL] Re: Tiehm's herbivory report
Date: Friday, December 4, 2020 1:09:23 PM
Attachments: [Outlook-1f2mgoz.png](#)
[Outlook-ko0itdlq.png](#)

Hi Jackie!

Thanks for letting me know and of course, thank you also for all your work on this.

While this clearly answered the primary questions in front of us, there sure are other intriguing questions left out there. Maybe we can work towards those in the future.

If you end up back in Nevada, we will find a way to send you home with some local beers!

Take care!

Have a great weekend!

Justin Barrett
Assistant Field Supervisor
U.S. Fish and Wildlife Service
Reno Field Office
Phone: 775-861-6338

<https://www.fws.gov/reno/>



From: Jacqueline Grant <jacquelinegrant@suu.edu>
Sent: Friday, December 4, 2020 1:03 PM
To: Barrett, Justin S <justin_barrett@fws.gov>
Subject: [EXTERNAL] Re: Tiehm's herbivory report

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Thanks Justin! I checked all the links and everything seems in order.

Stay well, and let me know if I can help answer any questions that may come in.

Jackie

On Fri, Dec 4, 2020 at 1:58 PM Barrett, Justin S <justin_barrett@fws.gov> wrote:

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Thank you!

Environmental DNA analysis supports conclusion that damage to rare Tiehm's buckwheat plants was caused by herbivory

December 4, 2020 - An environmental DNA (eDNA) analysis conducted on damaged Tiehm's buckwheat roots, nearby soils and rodent scat strongly links small mammal herbivory to the widespread damage and loss of Tiehm's buckwheat reported in September 2020. Tiehm's buckwheat is a rare plant found only near Rhyolite Ridge in Esmeralda County, Nevada.

To determine the cause of the damage, the U.S. Fish and Wildlife Service and the Bureau of Land Management contracted a researcher affiliated with Southern Utah University to conduct an independent review and analyze materials collected from the area for eDNA. The analysis found squirrel, deer and a small trace of human DNA on root samples and soils near damaged or dead plants.

Buckwheat DNA was detected in the scat, and the genetic signatures were a strong match (96.9-99.8 percent) to ground squirrels. This coupled with known white-tailed antelope ground squirrel populations at Rhyolite Ridge, burrowing at damaged plants, and rodent bite marks on plant roots strongly supports that ground squirrels were responsible for the damage. Current drought conditions likely motivated the rodents to seek moisture by consuming the shallow taproots of mature buckwheat plants. This is the first time herbivory was documented on Tiehm's buckwheat and its significance depends not only on its frequency and intensity, but whether damaged plants can recover and survive.

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Date: Tuesday, December 8, 2020 5:22:06 PM
Attachments: [Outlook-1f2mgoz.png](#)
[Outlook-ko0itdlq.png](#)

Sure thing Justin! Let me know if other research questions come that I could help with.

Below is some positive feedback from a retired Nevada botanist who has been following the controversy.

From Richard Duncan:
Hi Jackie-

I forwarded your report and blog link to two other biologists and discussed the findings with one of them. We are now pretty much convinced that ground squirrel herbivory is most likely the cause of the plant destruction, no matter how unlikely that seemed initially. We had never seen or heard of such widespread damage that seemed to be concentrated on a single plant species. It also seemed that a huge number of animals would be required to do so much damage so quickly. On the other hand, we could think of no reason why anyone associated with the proposed mine would take such action. It was sure to be a media disaster that would mobilize and enrage environmentalists and make listing all the more likely. Without being able to see for ourselves, we needed objective observations and data and that is what you provided. Let's hope that this fiasco is put to rest and that the agencies and mine can get back to finding a path forward.

Thanks again,
Richard

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From: [Kulpa, Sarah](#)
To: [Rebecca Sawyer](#)
Subject: Re: [EXTERNAL] Rhyolite Ridge Herbivory Event
Date: Monday, October 19, 2020 9:40:20 AM
Attachments: [image001.png](#)

Hi Rebecca!

I have a rush order on the eDNA so we should hear something in the next few weeks. I will share the report with everyone once I get it.

Cheers,

Sarah

Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
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From: Rebecca Sawyer <rsawyer@ioneer.com>
Sent: Monday, October 19, 2020 9:20 AM
To: Kulpa, Sarah <sarah_kulpa@fws.gov>
Subject: [EXTERNAL] Rhyolite Ridge Herbivory Event

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Sarah

Please let me know when you expect the DNA results from the ERTI samples sent to Utah State.

Kind regards



Rebecca A. Sawyer
Environmental and Community Relations Director

E: rsawyer@ioneer.com **C:** +1 520.368.1772
9460 Double R Boulevard, Suite 200 Reno, Nevada 89521 USA
W: ioneer.com

From: [Kulpa, Sarah](#)
To: [Jacqueline Grant](#)
Subject: Re: [EXTERNAL] Tiehm's eDNA study
Date: Friday, November 13, 2020 8:21:23 AM

Hey Jackie!

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Thanks again!

Sarah

Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
Reno, Nevada 89521
(775) 861-6340

From: Jacqueline Grant <jacquelinegrant@suu.edu>
Sent: Thursday, November 12, 2020 3:11 PM
To: Kulpa, Sarah <sarah_kulpa@fws.gov>
Subject: [EXTERNAL] Tiehm's eDNA study

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Hi Sarah,

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There is a lot of raw data that is not in the report. Please let me know if you'd like access to the spreadsheets, or if you would like me to add them to the report.

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ph: 435-865-8549
email: jacquelinegrant@suu.edu

[illegible]

From: [Kulpa, Sarah](#)
To: [Jacqueline Grant](#)
Subject: Re: [EXTERNAL] Tiehm's eDNA study
Date: Wednesday, December 2, 2020 8:38:32 AM

Thanks, Jackie! Kris emailed me yesterday and said she has been emailing the genetics folks too. She said they are notoriously difficult to get in touch with, but she is also trying. So maybe between the two of you, one of you will get a response.

Sarah Kulpa
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From: Jacqueline Grant <jacquelinegrant@suu.edu>
Sent: Tuesday, December 1, 2020 8:07 PM
To: Kulpa, Sarah <sarah_kulpa@fws.gov>
Subject: Re: [EXTERNAL] Tiehm's eDNA study

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PS - glad to hear that your husband can retire!

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From: Kulpa, Sarah <sarah_kulpa@fws.gov>
Sent: Wednesday, November 25, 2020 10:09 AM
To: Jacqueline Grant <jacquelinegrant@suu.edu>
Subject: Re: [EXTERNAL] Tiehm's eDNA study

Hi Jackie!

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From: [Jacqualine Grant](#)
To: [Kulpa, Sarah](#)
Subject: Re: [EXTERNAL] Tiehm's eDNA study
Date: Tuesday, December 1, 2020 8:10:36 PM
Attachments: [FWS Tiehms eDNA report 20201201.pdf](#)

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Date: Tuesday, December 1, 2020 1:04:47 PM

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From: [Jacqualine Grant](#)
To: [Kulpa, Sarah](#)
Subject: Re: [EXTERNAL] Tiehm's eDNA study
Date: Tuesday, December 1, 2020 2:16:20 PM

Hi Sarah,

I'm still working on the edits, but will have them done by this evening. The genetics folks have not responded. They may not have trnL barcodes, but it would be nice to know for sure.

Jackie

Jackie

On Tue, Dec 1, 2020 at 2:04 PM Kulpa, Sarah <sarah_kulpa@fws.gov> wrote:

Hi Jackie,

Just checking in to see if you were able to make the edits to the eDNA report. I think Joanna got in touch with you last week, but we are putting up a summary of the eDNA report on our website instead of doing a press release and wanted to also include the final report.

Thanks,

Sarah

Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
Reno, Nevada 89521
(775) 861-6340

From: Kulpa, Sarah <sarah_kulpa@fws.gov>
Sent: Wednesday, November 25, 2020 10:09 AM
To: Jacqualine Grant <jacqualinegrant@suu.edu>
Subject: Re: [EXTERNAL] Tiehm's eDNA study

Hi Jackie!

I totally thought I had responded to this, but obviously I didn't! Sorry about that! I have been working all sorts of random hours to get a draft species status assessment to our region for review as part of the process in making a listing determination. I didn't catch any other edits than what I forwarded you from Jim.

Let me know if you need any help navigating the payment stuff and feel free to reach out to Mark Fabes to figure it all out since he is the keeper of the \$ for our office :) Have you heard anything yet from Texas A&M? If not, I can reach out or have the contractor with loneer do it. Let me know if you need anything else related to the report!

Have a Happy Thanksgiving!

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From: Jacqueline Grant <jacquelinegrant@suu.edu>
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To: Kulpa, Sarah <sarah_kulpa@fws.gov>
Subject: Re: [EXTERNAL] Tiehm's eDNA study

Hi Sarah,

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I'll run those plant barcodes through GenBank and provide a list of matches down to 90% or so. I have some other stuff that has to get done today, so if it can wait then I'll finish these tweaks early next week and I'll send all the raw data then too.

Have a good weekend!

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Subject: Re: [EXTERNAL] Tiehm's eDNA study
Date: Friday, November 13, 2020 9:15:45 AM

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From: [Barrett, Justin S](#)
To: [Gilkeson, Joanna C](#); [Kulpa, Sarah](#)
Subject: Re: Draft Final Tiehm's buckwheat briefing paper
Date: Wednesday, October 7, 2020 3:51:25 PM
Attachments: [Outlook-rkodmd5.png](#)
[Outlook-u424n5jg.png](#)
[Outlook-b0hyszaa.png](#)
[FWS-FWP_INFORMATION_MEMO_2020_V1_TB_20201005_clean.docx](#)
[Outlook-ajtd3hwhf.png](#)

Joanna,

Mike Fris asked for a little more detail related to what we are currently working on to address the damage to Tiehm's. I think we had it pretty well covered but I made a few additions to the BP.

I'm probably breaking a rule here but I dropped this down to 10.5 font to keep it to a page.

Please review and let me know if either of you have issues or any suggested changes.

I would like to get this back to Marc later today if possible.

Thanks!

Justin Barrett
Assistant Field Supervisor
U.S. Fish and Wildlife Service
Reno Field Office
Phone: 775-861-6338

<https://www.fws.gov/reno/>



From: Barrett, Justin S <justin_barrett@fws.gov>
Sent: Tuesday, October 6, 2020 4:40 PM
To: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>; Jackson, Marc A <marc_jackson@fws.gov>
Cc: Kulpa, Sarah <sarah_kulpa@fws.gov>
Subject: Re: Draft Final Tiehm's buckwheat briefing paper

I just realized that version still had tracked changes. Here is a clean version.

Thanks all!

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Sent: Tuesday, October 6, 2020 4:38 PM
To: Barrett, Justin S <justin_barrett@fws.gov>; Jackson, Marc A <marc_jackson@fws.gov>
Cc: Kulpa, Sarah <sarah_kulpa@fws.gov>
Subject: Re: Draft Final Tiehm's buckwheat briefing paper

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Thank you everyone!

Joanna

Joanna Gilkeson (she/her)
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Date: Tuesday, October 6, 2020 4:40:14 PM
Attachments: [Outlook-rkodmd5.png](#)
[Outlook-u424n5jq.png](#)
[Outlook-b0hyszaa.png](#)

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When you're both done reviewing, can you send to Marc for final review and to send up to the RO?

Thanks!
Joanna

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: [Gilkeson, Joanna C](#)
To: [Barrett, Justin S](#); [Jackson, Marc A](#)
Cc: [Kulpa, Sarah](#)
Subject: Re: Draft Final Tiehm's buckwheat briefing paper
Date: Tuesday, October 6, 2020 4:38:54 PM
Attachments: [Outlook-rkodomd5.png](#)
[Outlook-u424n5jq.png](#)
[FWS-FWP INFORMATION MEMO 2020 V1_TB 20201005_JG_JB_JG.docx](#)

Justin, nice work getting it onto one page!!!

I made one minor edit in the attached in section III changing the word "claims" to "states", otherwise its good by me.

Thank you everyone!

Joanna

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: Barrett, Justin S <justin_barrett@fws.gov>
Sent: Tuesday, October 6, 2020 4:32 PM
To: Jackson, Marc A <marc_jackson@fws.gov>
Cc: Kulpa, Sarah <sarah_kulpa@fws.gov>; Gilkeson, Joanna C <joanna_gilkeson@fws.gov>
Subject: Re: Draft Final Tiehm's buckwheat briefing paper

Hello Marc,

I've attached the briefing paper for Tiehm's buckwheat. It sounds like Joanna is comfortable with you forwarding this to the Regional Office when you're ready.

Let me know if there's anything else we can do.

Thanks!

Justin

Justin Barrett
Assistant Field Supervisor
U.S. Fish and Wildlife Service
Reno Field Office

RO?

Thanks!

Joanna

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: [Kris Kuyper](#)
To: [Kulpa, Sarah](#); [James Morefield](#)
Subject: RE: EXTERNAL: Fw: [EXTERNAL] Tiehm's eDNA study
Date: Friday, November 13, 2020 3:09:09 PM
Attachments: [image003.png](#)

Hi Jim and Sarah,

I will contact Dr. Davis at Texas A&M. I think it would be better if one of you contacted Dr. Grady if you think it appropriate.



Kris Kuyper, CPESC, CESSWI
Biology Program Manager
T: 775.826.8822 (Reno) | 775.753.9496 (Elko)
C: 530.448.9098 | F: 775.826.8857
kris@emstrats.com | www.emstrats.com
1650 Meadow Wood Lane
Reno, Nevada 89502

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From: Kulpa, Sarah <sarah_kulpa@fws.gov>
Sent: Friday, November 13, 2020 10:16 AM
To: James Morefield <jdmore@heritage.nv.gov>; Kris Kuyper <kris@emstrats.com>
Subject: EXTERNAL: Fw: [EXTERNAL] Tiehm's eDNA study

[EXTERNAL EMAIL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Jim and Kris,

I emailed Jackie with your comments, Jim and your knowledge of the DNA for Tiehms, Kris. See Jackie's response below.

Sarah Kulpa

Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
Reno, Nevada 89521
(775) 861-6340

From: Jacqueline Grant <jacquelinegrant@suu.edu>

Sent: Friday, November 13, 2020 9:13 AM

To: Kulpa, Sarah <sarah_kulpa@fws.gov>

Subject: Re: [EXTERNAL] Tiehm's eDNA study

Hi Sarah,

Thanks!

Yes, I can make those adjustments to the document. I put it together pretty quickly, so let me know of any edits for sure.

I'm still figuring out payment. If I accept payment then I can't have anything on the report associated with my position at the university, but on the other hand, my position at the university lends credence to the validity of my work on the report. I might just forgo any payment except the travel (which I'm also getting around to).

I emailed the Texas A&M people a month ago, but didn't get a response. Maybe you can ask the loneer person to ask Grady, Davis, or Wolf to upload the trnl barcode to BOLD or GenBank? If they plan on publishing the ERTI genome then they will most likely end up submitting the genome to GenBank where it will be publicly available. So, one thing to consider is that the matches are based on what's in GenBank now. If the sequences were to be run again in the future the matches might come up a little differently because of the addition of new sequence data.

It may not be possible to get a perfect match because DNA barcodes are small stretches of sequence that sometimes do not differ enough between species to make a perfect species identification. This means that the DNA barcode could be a 99.75% match for both *A. leucurus* and *A. harrisii* even when we have both barcodes in the database. Given the length of time between when we sampled and when the depredation occurred, the eDNA performed really well!

I'll run those plant barcodes through GenBank and provide a list of matches down to 90% or so. I have some other stuff that has to get done today, so if it can wait then I'll finish these tweaks early next week and I'll send all the raw data then too.

Have a good weekend!
Jackie

From: [Jacqualine Grant](#)
To: [Kulpa, Sarah](#)
Subject: Re: Fw: [EXTERNAL] Report of surveys for small mammals among buckwheat on Rhyolite Ridge_201024.V1
Date: Wednesday, October 28, 2020 11:15:32 AM
Attachments: [image003.png](#)

Great, I won't share it, but am excited to see how the eDNA matches up with this.

Jackie

On Wed, Oct 28, 2020 at 10:58 AM Kulpa, Sarah <sarah_kulpa@fws.gov> wrote:

Hi Jackie,

Please do not share, but wanted to provide this to you as we await eDNA results. I will be curious to see what our data might show compared to this.

Cheers,

Sarah

Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
Reno, Nevada 89521
(775) 861-6340

From: Kris Kuyper <kris@emstrats.com>
Sent: Tuesday, October 27, 2020 5:04 PM
To: Kulpa, Sarah <sarah_kulpa@fws.gov>; James Morefield <jdmore@heritage.nv.gov>; Wickham, Perry B <pwickham@blm.gov>; Elizabeth Leger <ealeger@gmail.com>; jchrist@forestry.nv.gov <jchrist@forestry.nv.gov>
Cc: Matt Weaver <mweaver@ioneer.com>; 'Rebecca Sawyer' <rsawyer@ioneer.com>
Subject: [EXTERNAL] Report of surveys for small mammals among buckwheat on Rhyolite Ridge_201024.V1

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hi,

Attached is a summary of the results of a small mammal survey performed at Rhyolite Ridge on

October 12-14 by Dr. Mike Morrison, a subconsultant to EM Strategies, for your information. The purpose of the survey was to investigate herbivory at the Tiehm's buckwheat population.

Thank you,



Kris Kuyper, CPESC, CESSWI

Biology Program Manager

T: 775.826.8822 (Reno) | 775.753.9496 (Elko)

C: 530.448.9098 | F: 775.826.8857

kris@emstrats.com | www.emstrats.com

1650 Meadow Wood Lane

Reno, Nevada 89502

E-MAIL CONFIDENTIALITY NOTICE: The contents of this e-mail message and any attachments are intended solely for the addressee(s) and may contain confidential and/or legally privileged information. If you are not the intended recipient of this message or if this message has been addressed to you in error, please immediately alert the sender by reply e-mail and then delete this message and any attachments. If you are not the intended recipient, you are notified that any use, dissemination, distribution, copying, or storage of this message or any attachment is strictly prohibited.

--

Dr. Jacqueline Grant

Associate Professor of Biology

Museum Curator (SCA 105A)

[Garth and Jerri Frehner Museum of Natural History](#)

Southern Utah University

Cedar City, UT 84720

USA

<http://suu.edu/cose/museum/>

<http://suu.edu/faculty/jacquelinegrant/>

ph: 435-865-8549

email: jacquelinegrant@suu.edu

From: [Gilkeson, Joanna C](#)
To: [Maciel, Martha L](#); [Jackson, Marc A](#); [Barrett, Justin S](#); [Kulpa, Sarah](#); [Meredith, Lauren K](#); [Bierce, Pamela](#); [Heil, John C](#); [Heston, Sophia M](#)
Subject: Re: Tiehm's buckwheat eDNA Final Outreach Plan - Website Link
Date: Friday, December 4, 2020 8:38:44 AM

Hi everyone,

The summary is posted on the website! It shows up as a "highlight" on our home page.

Here is the direct link to the summary of the report: <https://www.fws.gov/reno/news/environmental-dna-analysis-supports-conclusion-damage-rare-tiehms-buckwheat-plants-was-caused>

Here is the direct link to the report: https://fws-reno-prod.opengov.ibmcloud.com/reno/sites/default/files/2020-12/FINAL_Tiehms_eDNA_report_20201201.pdf

Thank you all. Have a great Friday and weekend.

Best,
Joanna

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: Maciel, Martha L <martha_maciel@fws.gov>
Sent: Thursday, December 3, 2020 5:02 PM
To: Jackson, Marc A <marc_jackson@fws.gov>; Gilkeson, Joanna C <joanna_gilkeson@fws.gov>; Barrett, Justin S <justin_barrett@fws.gov>; Kulpa, Sarah <sarah_kulpa@fws.gov>; Meredith, Lauren K <lauren_meredith@fws.gov>; Bierce, Pamela <pamela_bierce@fws.gov>; Heil, John C <john_heil@fws.gov>; Heston, Sophia M <sophia_heston@fws.gov>
Subject: Re: Tiehm's buckwheat eDNA Final Outreach Plan

Great summary! Thanks for the re-cap and for all your efforts in coordinating the release.

As part of our roll out plan, I will share the link with SOL and John will share with RD/DRD and BLM communications.

I think that covers it.
Martha

From: Jackson, Marc A <marc_jackson@fws.gov>
Sent: Thursday, December 3, 2020 4:24:02 PM
To: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>; Barrett, Justin S <justin_barrett@fws.gov>; Kulpa, Sarah <sarah_kulpa@fws.gov>; Meredith, Lauren K <lauren_meredith@fws.gov>; Bierce, Pamela <pamela_bierce@fws.gov>; Heil, John C <john_heil@fws.gov>; Maciel, Martha L <martha_maciel@fws.gov>; Heston, Sophia M <sophia_heston@fws.gov>
Subject: Re: Tiehm's buckwheat eDNA Final Outreach Plan

You are so awesome!!

Thanks Joanna and everyone else who is helping!

Marc Jackson
Field Supervisor
Reno Fish and Wildlife Office
U.S. Fish and Wildlife Service
1340 Financial Boulevard, Suite 234
Reno, NV 89502
Phone: 775-861-6337
Fax: 775-861-6301

From: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>
Sent: Thursday, December 3, 2020 4:06 PM
To: Jackson, Marc A <marc_jackson@fws.gov>; Barrett, Justin S <justin_barrett@fws.gov>; Kulpa, Sarah <sarah_kulpa@fws.gov>; Meredith, Lauren K <lauren_meredith@fws.gov>; Bierce, Pamela <pamela_bierce@fws.gov>; Heil, John C <john_heil@fws.gov>; Maciel, Martha L <martha_maciel@fws.gov>; Heston, Sophia M <sophia_heston@fws.gov>
Subject: Tiehm's buckwheat eDNA Final Outreach Plan

Hi all,

I just connected with the regional office and here is the plan for tomorrow!

1) **Website posting:** We will post the report and the final approved summary on our website first thing tomorrow morning. I will send the link to this group when it is live.

2) **Public Affairs coverage for 12/4:** I will be out of the office after I post this on the website. John Heil has graciously agreed to cover me (thank you John!) with assistance from Martha and Pam who are also on leave (thank you Martha and Pam). My out of office message will redirect people to John.

3) **Main POC in Reno:** Sarah Kulpa will be your main contact, with Justin available when and if needed.

4) **Sharing with Partners:** Justin will send to our partners, and notify this group after he is done so Pam can send to E&E news. Justin will also send to CBD.

5) **Media statement:** We are developed an "if asked media statement" that we can use tomorrow if we get media inquiries. This will be a shorter version of the website summary. E&E news inquired earlier this week, so Pam will send them the link after we disseminate to partners.

6) **Notifying congressionals:** Lauren Meredith will send Congressional notifications in the morning.

Order of notifications:

- Partners/ Congressionals - Justin/Lauren
- Select media - Pam
- CBD - Justin

I really hope this covers it all! Please let me know if you have any questions or if I missed any important details. I plan to work for an hour or two in the morning. Reach out if you need *anything*.

Thank you everyone!

Joanna

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

Sent: Thursday, November 19, 2020 8:22 AM
To: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>
Subject: Fw: Tiehm's buckwheat eDNA news release for review

Good morning, Joanna,
Here's the latest from BLM... no joint release. I'll connect with Paul and let you know where we go from here. Plan B - FWS news release?

From: Bush, Christopher I <cbush@blm.gov>
Sent: Thursday, November 19, 2020 8:15 AM
To: Maciel, Martha L <martha_maciel@fws.gov>
Subject: Re: Tiehm's buckwheat eDNA news release for review

Martha,

I had a discussion with Jon yesterday afternoon on this and he is not convinced a joint release is the best tactic at this time - we are satisfied with the current state of the media/information space with regard to this issue. Sending out a release may just kick up dust and bring in queries we can't answer while facing litigation.

I told him that your boss may be reaching out directly to him to discuss and he's more than happy to have that discussion.

Apologies for the news release "whiplash" on this.

I'm heading into several meetings this morning but clear late this afternoon if you want to discuss some more.

Best,
Chris

Christopher Bush
Director of Communications
Bureau of Land Management - Nevada
Office: 775-861-6629
Cell: 775-225-9532
cbush@blm.gov
www.blm.gov/nv

From: Maciel, Martha L <martha_maciel@fws.gov>
Sent: Wednesday, November 18, 2020 12:39:03 PM
To: Bush, Christopher I <cbush@blm.gov>
Subject: Re: Tiehm's buckwheat eDNA news release for review

Hi Chris,
I totally understand, busy times. Can we try 8:30 am tmrw? We'd like to move the NR to our regional leadership tmrw morning so we can move to HQ before Monday. Holiday week will

create possible delays.

I'll see if I can articulate below:

Will BLM leave the LE statement in the NR or should we just focus on eDNA? As currently written, the LE statement seems a bit confusing and raises more questions.

Martha Maciel

Assistant Regional Director, External Affairs

U.S. Fish and Wildlife Service | DOI California-Great Basin Region

(279) 900-5264 | martha_maciel@fws.gov

www.fws.gov/cno | [@USFWS_PSW](https://twitter.com/USFWS_PSW) | [@USFWS](https://twitter.com/USFWS)

From: Bush, Christopher I <cbush@blm.gov>

Sent: Wednesday, November 18, 2020 11:49 AM

To: Maciel, Martha L <martha_maciel@fws.gov>

Subject: Re: Tiehm's buckwheat eDNA news release for review

Martha,

Any chance we can shift this conversation to tomorrow at some time? I have just had something pop up and won't be available this afternoon. My apologies.

Chris

Christopher Bush

Chief, Communications

Bureau of Land Management - Nevada

Office: 775-861-6629

Cell: 775-225-9532

cbush@blm.gov

www.blm.gov/nv

From: Maciel, Martha L <martha_maciel@fws.gov>

Sent: Wednesday, November 18, 2020 8:48 AM

To: Bush, Christopher I <cbush@blm.gov>

Subject: Re: Tiehm's buckwheat eDNA news release for review

12:30 works. I have interviews from 1-5pm. Thanks Chris!

Martha Maciel

Assistant Regional Director, External Affairs

U.S. Fish and Wildlife Service | DOI California-Great Basin Region
(279) 900-5264 | martha_maciel@fws.gov
www.fws.gov/cno | [@USFWS_PSW](https://twitter.com/USFWS_PSW) | [@USFWS](https://twitter.com/USFWS)

From: Bush, Christopher I <cbush@blm.gov>
Sent: Wednesday, November 18, 2020 8:43 AM
To: Maciel, Martha L <martha_maciel@fws.gov>
Subject: Re: Tiehm's buckwheat eDNA news release for review

Martha,

My apologies, but it seems my response last night was not sent to you (iphone glitch, I guess). I am in meetings for most of the morning today and could be available in the early afternoon after a 1230 awards ceremony, if that works?

Christopher Bush
Chief, Communications
Bureau of Land Management - Nevada
Office: 775-861-6629
Cell: 775-225-9532
cbush@blm.gov
www.blm.gov/nv

From: Maciel, Martha L <martha_maciel@fws.gov>
Sent: Tuesday, November 17, 2020 4:51 PM
To: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>; Harvey, Jess D <jharvey@blm.gov>
Cc: Anderson, Erica L <erica.anderson@sol.doi.gov>; Rose, Christopher S <crose@blm.gov>; Bush, Christopher I <cbush@blm.gov>; Furtado, Douglas W <dfurtado@blm.gov>
Subject: Re: Tiehm's buckwheat eDNA news release for review

Thank you Jess and Joanna for your work on the news release. I think it looks good and adding a brief statement about next steps is a good approach.

Chris - I have a few questions about the LE investigation and the statement provided in the news release. Do you have time in the morning for a quick call?

Martha Maciel

Assistant Regional Director, External Affairs
U.S. Fish and Wildlife Service | DOI California-Great Basin Region
(279) 900-5264 | martha_maciel@fws.gov

From: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>
Sent: Tuesday, November 17, 2020 11:59 AM
To: Harvey, Jess D <jharvey@blm.gov>
Cc: Maciel, Martha L <martha_maciel@fws.gov>; Anderson, Erica L <erica.anderson@sol.doi.gov>; Rose, Christopher S <crose@blm.gov>; Bush, Christopher I <cbush@blm.gov>; Furtado, Douglas W <dfurtado@blm.gov>
Subject: Re: Tiehm's buckwheat eDNA news release for review

Hi Jess,

Thank you for the quick review!

I agree about the next steps approach. I'll add a sentence about the 12-month finding and say we're working with partners to come up with solutions. If BLM could add a sentence about what they're doing that would be great.

~ Joanna

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: Harvey, Jess D <jharvey@blm.gov>
Sent: Tuesday, November 17, 2020 11:51 AM
To: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>
Cc: Maciel, Martha L <martha_maciel@fws.gov>; Anderson, Erica L <erica.anderson@sol.doi.gov>; Rose, Christopher S <crose@blm.gov>; Bush, Christopher I <cbush@blm.gov>; Furtado, Douglas W <dfurtado@blm.gov>
Subject: RE: Tiehm's buckwheat eDNA news release for review

Joanna,

This looks good to me and the verbiage is that which was previously approved.

I think the BLM will probably want to keep the investigation part in, but I will defer to leadership for the final answer on that.

In my opinion, I think it might be good to add the sentence at the end that talks about the next steps. That way it shows that we are continuing to address the issue even after we have these answers.

Respectfully,

Jess D. Harvey
Public Affairs Specialist
Battle Mountain District Office
50 Bastian Road
Battle Mountain, Nevada 89820
Work: 775.635.4054

From: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>
Sent: Tuesday, November 17, 2020 11:28 AM
To: Harvey, Jess D <jharvey@blm.gov>; Rose, Christopher S <crose@blm.gov>; Bush, Christopher I <cbush@blm.gov>
Cc: Maciel, Martha L <martha_maciel@fws.gov>
Subject: Tiehm's buckwheat eDNA news release for review

Hi BLM colleagues,

Please see the attached news release regarding Tiehm's buckwheat. I have added several paragraphs about the eDNA analysis, but did not leave them in track changes as the document would have been disaster! For your information, I modified the subtitle and opening paragraph but did not change subsequent statements about the BLM investigations.

Next steps:

1. BLM, would you like to keep the language about the investigations in this release or strictly limit it to information about the eDNA?
2. Do we want to add a section about next steps? FWS is currently conducting the 12-month finding for Tiehm's and we can add a sentence about that.
3. Send your edits to me as soon as possible, and I will update the document. We are hoping to be able to send this out just after Thanksgiving.
4. Once the document is updated, Martha and Chris will route through our respective channels for review.

Please let me know if you have any questions or concerns about the document. Thank you in advance for the coordination!

Thank you,
Joanna

Joanna Gilkeson (she/her)

Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: [Kulpa, Sarah](#)
To: [Crosby, Brandon J](#)
Cc: [Kris Kuyper](#); [James Morefield](#)
Subject: Re: Tiehms Resprouting
Date: Tuesday, November 3, 2020 8:36:19 AM
Attachments: (b) (5)

Hi Brandon and Kris!

I saw two plants re-sprouting from the roots at subpop 4. I attached a photo of one of them. I couldn't get a photo of the other without it being blurry bc the leaves were too small. I cc'ed Jim because I think he said he saw resprouting at subpop 1. I haven't been involved with other species that have been this herbivorized before. The only other species I have worked on that I can think of that have experienced extreme herbivory are some of the listed plant species at Ash Meadows - specifically *Astragalus phoenix* & *Mentzelia leucophylla*. However, that was fruit herbivory - developing fruits were getting eaten by jackrabbits, impacting reproductive output. I would think that based on the degree of damage to each *Eriogonum tiehmii* plants, some would have a higher likelihood of resprouting than others. They do have extensive root systems and that might help give them the energy needed to resprout. Other species with extensive taproots are able to resprout after fire - *Balsamorhiza sagittata*, *Phlox hoodii*, *Lupinus* sp., alot of our native grasses - *Elymus elymoides*, *Poa secunda*, etc., so I don't think its crazy to think that *E. tiehmii* could resprout. I have had some buckwheat plants in my yard (some *E. ovalifolium* variety) that looked completely dead with gray dead leaves and I thought I was going to have to pull it out and plant something else, but it grew new leaves this spring and you can't even tell it once looked dead. Maybe folks within the *Eriogonum* society have observations or could give a better answer than my anecdotal observations.

In other good news, the researcher with SUU should have raw eDNA by the end of this week from the sequencing company, and have an analysis of that to me by the end of next week. I will share once I get it!

Cheers,

Sarah

Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
Reno, Nevada 89521
(775) 861-6340

From: Crosby, Brandon J <bcrosby@blm.gov>
Sent: Monday, November 2, 2020 4:00 PM
To: Kulpa, Sarah <sarah_kulpa@fws.gov>
Cc: Kris Kuyper <kris@emstrats.com>
Subject: Tiehms Resprouting

Hi Sarah,

I hope your hanging in their. Would you be able to send Kris and I photo's of the roots resprouting if you have any? Have you observed this kind of response in similar taproots before?

Cheers,

Brandon Crosby
Wildlife Biologist
Tonopah Field Office
P.O. Box 911
Tonopah, NV 89049
Office: (775) 482-7832

From: [Jackson, Marc A](#)
To: [Gilkeson, Joanna C](#); [Barrett, Justin S](#); [Kulpa, Sarah](#); [Heston, Sophia M](#)
Subject: Re: Update: eDNA draft summary
Date: Monday, November 23, 2020 1:47:18 PM

I think it looks ready. Nothing to add from my end. Thanks, Joanna!

Marc Jackson
Field Supervisor
Reno Fish and Wildlife Office
U.S. Fish and Wildlife Service
1340 Financial Boulevard, Suite 234
Reno, NV 89502
Phone: 775-861-6337
Fax: 775-861-6301

From: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>
Sent: Monday, November 23, 2020 9:17 AM
To: Barrett, Justin S <justin_barrett@fws.gov>; Kulpa, Sarah <sarah_kulpa@fws.gov>; Heston, Sophia M <sophia_heston@fws.gov>; Jackson, Marc A <marc_jackson@fws.gov>
Subject: Fw: Update: eDNA draft summary

FYI see below email chain for summary of where we're at in this request.

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: Maciel, Martha L <martha_maciel@fws.gov>
Sent: Friday, November 20, 2020 4:27 PM
To: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>
Subject: Fw: Update: eDNA draft summary

Hi Joanna,
I hope you're not reading this until Monday

Below is the message I sent to Paul this afternoon. No action needed on your end at this point but wanted you to see where we are in the process. I have a call in to Chris Bush but it's been so hard to connect.

Once I hear from Paul, I'll reach out to Chris and SOL. Paul wants us to ensure that BLM is comfortable with this approach.

Thanks for all your work and for sticking with me on this one. Feels like a rollercoaster and I have a feeling it's just the beginning.

Martha Maciel

Assistant Regional Director, External Affairs
U.S. Fish and Wildlife Service | DOI California-Great Basin Region
(279) 900-5264 | martha_maciel@fws.gov
www.fws.gov/cno | [@USFWS_PSW](#) | [@USFWS](#)

From: Maciel, Martha L <martha_maciel@fws.gov>
Sent: Friday, November 20, 2020 4:22 PM
To: Souza, Paul <paul_souza@fws.gov>; Holzworth, Jody K <jody_holzworth@fws.gov>; Fris, Michael <michael_fris@fws.gov>
Cc: Heil, John C <john_heil@fws.gov>
Subject: Update: eDNA draft summary

Paul,
Here is the draft eDNA statement that would accompany the report on the Reno FO webpage. Sharing an early draft with you that has been cleared by the field office to get your initial thoughts and ensure we're on track.

If you approve, we'll route through the BLM and our SOL.

Our target timeframe for posting on the Reno FO webpage is the first week of Dec.

Happy to adjust as needed.

Martha

Martha Maciel

Assistant Regional Director, External Affairs
U.S. Fish and Wildlife Service | DOI California-Great Basin Region
(279) 900-5264 | martha_maciel@fws.gov
www.fws.gov/cno | [@USFWS_PSW](#) | [@USFWS](#)

From: [Gilkeson, Joanna C](#)
To: [Maciel, Martha L](#)
Cc: [Heil, John C](#); [Kulpa, Sarah](#); [Barrett, Justin S](#)
Subject: Re: Updated eDNA report
Date: Wednesday, December 2, 2020 11:21:07 AM

Hi Martha,

Yay! This sounds great, however, I plan to be on leave this Friday with limited cell service. If the Friday date holds, Sarah and Justin (CC'd here) will be in the "office" if you need anything. Sarah is lead on the SSA for Tiehm's and is our botanist/restoration ecologist and Justin is her supervisor, one of our Asst. Field Supervisors.

~ Joanna

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: Maciel, Martha L <martha_maciel@fws.gov>
Sent: Wednesday, December 2, 2020 10:57 AM
To: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>
Cc: Heil, John C <john_heil@fws.gov>
Subject: Re: Updated eDNA report

Excellent! I have shared the final report and statement with SOL. Waiting to hear back. Paul will make a few calls.

We should plan to post on Friday, Dec 4 morning. Does that work for you?

I also had a good chat with Chris Bush, BLM yesterday. I agreed to share the final report and he'll share with LE. He's aware of the EE News inquiry and we agreed to coordinate on any future media inquiries. I confirmed that you would keep Jess in the loop and ensure local coordination.

Martha Maciel

Assistant Regional Director, External Affairs
U.S. Fish and Wildlife Service | DOI California-Great Basin Region
(279) 900-5264 | martha_maciel@fws.gov
www.fws.gov/cno | [@USEWS PSW](#) | [@USEWS](#)

From: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>

Sent: Wednesday, December 2, 2020 8:56 AM

To: Maciel, Martha L <martha_maciel@fws.gov>

Cc: Heil, John C <john_heil@fws.gov>

Subject: Fw: Updated eDNA report

Martha,

We have the final report! See Sarah's email below about another pending update but we can always replace the file on the website if these are changes are made.

Thank you so much.

Best,
Joanna

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: Kulpa, Sarah <sarah_kulpa@fws.gov>

Sent: Wednesday, December 2, 2020 8:51 AM

To: James Morefield <jdmore@heritage.nv.gov>; Kris Kuyper <kris@emstrats.com>; Beth Leger <ealeger@gmail.com>; Jamey Wilcher <jdwilcher13@gmail.com>; Crosby, Brandon J <bcrosby@blm.gov>; Distel, Scott J <sdistel@blm.gov>; Wickham, Perry B <pwickham@blm.gov>; jchrist@forestry.nv.gov <jchrist@forestry.nv.gov>; Kacey KC <kaceykc@forestry.nv.gov>; Rebecca Sawyer <rsawyer@ioneer.com>; Heston, Sophia M <sophia_heston@fws.gov>; Barrett, Justin S <justin_barrett@fws.gov>; Jackson, Marc A <marc_jackson@fws.gov>

Cc: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>

Subject: Updated eDNA report

Hi all,

Jackie updated the eDNA report and I am sharing that version for your files. Nothing has changed in terms of analyses and results; she made minor edits and included her contact info and lit cited. Jackie and Kris have been trying to get in touch with the researchers at Texas A&M to have them upload the Tiehm's trnl barcodes to BOLD or GenBank. If that happens, Jackie will most likely update this report again with that information. Let me know if you have any questions.

Cheers,

Sarah

Sarah Kulpa

Restoration Ecologist/Botanist

Reno Fish and Wildlife Office

1340 Financial Blvd. Suite 234

Reno, Nevada 89521

(775) 861-6340

From: [Kulpa, Sarah](#)
To: [Gilkeson, Joanna C](#); [Barrett, Justin S](#)
Subject: Re: Updated eDNA write-up
Date:
Attachments: (b) (5)

Edits in track changes. Once we are happy with the paragraph, we can email to Jackie for review too.

Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
Reno, Nevada 89521
(775) 861-6340

From: Gilkeson, Joanna C <joanna_gilkeson@fws.gov>
Sent: Friday, November 20, 2020 11:19 AM
To: Barrett, Justin S <justin_barrett@fws.gov>; Kulpa, Sarah <sarah_kulpa@fws.gov>
Subject: Updated eDNA write-up

Hi Justin and Sarah,

If one or both of you can look at this today, I would super appreciate it! Ignore the previous version as this one is better!

P.s. Marc already reviewed!

Thanks,
Joanna

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: [Barrett, Justin S](#)
To: [Crosby, Brandon J](#)
Cc: [Kulpa, Sarah](#)
Subject: Recent monitoring
Date: Tuesday, December 8, 2020 7:02:02 AM
Attachments: [Outlook-j2dttwj1.png](#)

Good morning Brandon!

On a call a few weeks back, we discuss the potential for BLM to install vehicle counters at Rhyolite Ridge. I was wondering if this has been done and, if so, has any data been collected yet?

Also, CBD had reported tracks from an OHV that had gone into occupied habitat (subpop 1?). Have you or anyone from the Tonopah office been able to verify the tracks and/or estimate the damage done to plants? Have you noticed any sign of other vehicles in occupied habitat?

Thank you for any information you have!

Hope you're doing well!

Justin

Justin Barrett
Assistant Field Supervisor
U.S. Fish and Wildlife Service
Reno Field Office
Phone: 775-861-6338

<https://www.fws.gov/reno/>



From: [Gilkerson, Joanna C](#)
To: [Jackson, Marc A](#); [Barrett, Justin S](#); [Kulpa, Sarah](#); [Meredith, Lauren K](#); [Bierce, Pamela](#); [Heil, John C](#); [Maciel, Martha L](#); [Heston, Sophia M](#)
Subject: Tiehm's buckwheat eDNA Final Outreach Plan
Date: Thursday, December 3, 2020 4:06:09 PM

Hi all,

I just connected with the regional office and here is the plan for tomorrow!

- 1) **Website posting:** We will post the report and the final approved summary on our website first thing tomorrow morning. I will send the link to this group when it is live.
- 2) **Public Affairs coverage for 12/4:** I will be out of the office after I post this on the website. John Heil has graciously agreed to cover me (thank you John!) with assistance from Martha and Pam who are also on leave (thank you Martha and Pam). My out of office message will redirect people to John.
- 3) **Main POC in Reno:** Sarah Kulpa will be your main contact, with Justin available when and if needed.
- 4) **Sharing with Partners:** Justin will send to our partners, and notify this group after he is done so Pam can send to E&E news. Justin will also send to CBD.
- 5) **Media statement:** We have developed an "if asked media statement" that we can use tomorrow if we get media inquiries. This will be a shorter version of the website summary. E&E news inquired earlier this week, so Pam will send them the link after we disseminate to partners.
- 6) **Notifying congressionals:** Lauren Meredith will send Congressional notifications in the morning.

Order of notifications:

- Partners/ Congressionals - Justin/Lauren
- Select media - Pam
- CBD - Justin

I really hope this covers it all! Please let me know if you have any questions or if I missed any important details. I plan to work for an hour or two in the morning. Reach out if you need *anything*.

Thank you everyone!

Joanna

Joanna Gilkeson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>

From: [Crosby, Brandon J](#)
To: [Kulpa, Sarah](#)
Cc: [Kris Kuyper](#)
Subject: Tiehms Resprouting
Date: Monday, November 2, 2020 4:01:00 PM

Hi Sarah,

I hope your hanging in their. Would you be able to send Kris and I photo's of the roots resprouting if you have any? Have you observed this kind of response in similar taproots before?

Cheers,

Brandon Crosby
Wildlife Biologist
Tonopah Field Office
P.O. Box 911
Tonopah, NV 89049
Office: (775) 482-7832

From: [Barrett, Justin S](#)
To: [Jackson, Marc A](#)
Cc: [Kulpa, Sarah](#); [Gilkeson, Joanna C](#)
Subject: Updated BP
Date: Wednesday, October 7, 2020 5:26:42 PM
Attachments: [FWS-FWP INFORMATION MEMO 2020 V1_TB 20201005_clean.docx](#)
[Outlook-dutfbhwz.png](#)

Hi Marc,

I think we got all the additional requested items here. Please look at the last paragraph (next steps) to make sure I've characterized emergency listing correctly.

I'm working for a bit longer so please let me know if I can help any further.

Thank you!

Justin Barrett
Assistant Field Supervisor
U.S. Fish and Wildlife Service
Reno Field Office
Phone: 775-861-6338

<https://www.fws.gov/reno/>



From: [Kulpa, Sarah](#)
To: [James Morefield](#); [Kris Kuyper](#); [Beth Leger](#); [Jamey Wilcher](#); [Crosby, Brandon J](#); [Distel, Scott J](#); [Wickham, Perry B](#); jchrist@forestry.nv.gov; [Kacey KC](#); [Rebecca Sawyer](#); [Heston, Sophia M](#); [Barrett, Justin S](#); [Jackson, Marc A](#)
Cc: [Gilkeson, Joanna C](#)
Subject: Updated eDNA report
Date: Wednesday, December 2, 2020 8:51:14 AM
Attachments: [Grant FINAL FWS Tiehms eDNA report 20201201.pdf](#)

Hi all,

Jackie updated the eDNA report and I am sharing that version for your files. Nothing has changed in terms of analyses and results; she made minor edits and included her contact info and lit cited. Jackie and Kris have been trying to get in touch with the researchers at Texas A&M to have then upload the Tiehm's trnl barcodes to BOLD or GenBank. If that happens, Jackie will most likely update this report again with that information. Let me know if you have any questions.

Cheers,

Sarah

Sarah Kulpa
Restoration Ecologist/Botanist
Reno Fish and Wildlife Office
1340 Financial Blvd. Suite 234
Reno, Nevada 89521
(775) 861-6340

From: [Gilkesson, Joanna C](#)
To: [Barrett, Justin S](#); [Kulpa, Sarah](#)
Subject: Updated eDNA write-up
Date: Friday, November 20, 2020 11:19:05 AM
Attachments: [eDNA paragraph for website.docx](#)

Hi Justin and Sarah,

If one or both of you can look at this today, I would super appreciate it! Ignore the previous version as this one is better!

P.s. Marc already reviewed!

Thanks,
Joanna

Joanna Gilkesson (she/her)
Public Affairs Specialist
Reno, Nevada
U.S. Fish and Wildlife Service
Office: 775/861-6336
Cell: 760/473-3954
<https://www.fws.gov/reno/>