Subject: RE: QUICK TURN DARPA REQUEST - Press Release

From: Heath Packard <heath.packard@islandconservation.org>

Date: 7/16/2017 4:46 AM

To: David Threadgill <dwthreadgill@tamu.edu>, "jrgodwinnc@gmail.com" <godwin@ncsu.edu>, Sally Esposito <sally.esposito@islandconservation.org>, Claudio Uribe <claudio.uribe@islandconservation.org> CC: "Eisemann, John D - APHIS" <John.D.Eisemann@aphis.usda.gov>, Jason Delborne <jadelbor@ncsu.edu>, "Piaggio, Antoinette J - APHIS" <Toni.J.Piaggio@aphis.usda.gov>, Paul Thomas <paul.thomas@adelaide.edu.au>, "<Keith.Hayes@data61.csiro.au>" <Keith.Hayes@data61.csiro.au>, Karl Campbell <karl.campbell@islandconservation.org>, Royden Saah <royden.saah@islandconservation.org>, Alun Lloyd <alun_lloyd@ncsu.edu>, "Shiels, Aaron B - APHIS" <Aaron.B.Shiels@aphis.usda.gov>, "Keirn, Gail M - APHIS" <Gail.M.Keirn@aphis.usda.gov>, "Clark, Larry - APHIS" <Larry.Clark@aphis.usda.gov>, Sally Esposito <sally.esposito@islandconservation.org>

Draft press statement attached; recommended strategy and talking points follows (and embedded in attached word doc). Good luck next week!

The following is **NOT FOR CIRCULATION – INTERNAL GBIRd Communique** only.

Recommended Strategy (from Heath)

GBIRd Steering Committee & friends – I have just landed in Barcelona and will be on holiday for the next two weeks. As promised, I've drafted a starting point for a press statement regarding the DARPA Safe Genes announcement anticipated next week. Sally.esposito@islanconservation.org M +1.831.359.4787 will be serving you all in my stead...I am available for consultation and coaching if we find ourselves under attack in the Media by detractors concerned about the 'color' of the DARPA funding. I think that is unlikely, and propose this measured response to help ensure proper framing of the issue.

- 1. Post the press statement on www.geneticbiocontrol.org as soon as the DARPA announcement is released (Claudio and our team will set up a blog on the www.geneticbiocontrol.org on Monday, if at all humanly possible.)
 - Provide the URL to all inquiring reporters
 - Respond promptly with interviews at least from John and Karl, but offer anyone else who is interested in getting in this news cycle.
 - I do not recommend promoting this proactively unless your organization has professional capacity to do the media outreach; reporters will come to us, and we have limited capacity to do effective and strategic media outreach
 - Promote the <u>Audubon Story</u> to reporters for context...it is one of our best, most objective coverage to date;
 Megan Serr's Scientific American blog is also an ideal story...l'm asking Claudio to set these up on the new blog as well and provide links to you all...
- 2. Add all willing Steering Committee Members as "Contacts" but include their PIOs so that they are buffered from being put on the spot and PIO's can assist with interview prep.
 - Sally.esposito@islandconservation.org is available as a surrogate media engagement prep coach
- 3. If you all can shorten this statement to 2 pages or less, that'd be ideal...always harder to shorten things, but maybe you can move the background into a postscript position or something.
- 4. I recommend the following **key messages** for all interviewers:
 - This is a principled, step-wise investigation designed to evaluate the suitability of gene-drive modified mammals to control introduced, damaging (invasive) mammals...particularly on islands
 - We are cautiously optimistic, but recognize that the investigation could prove that this tool is not suitable.
 - Regardless we have an obligation to evaluate this tool's feasibility, potential, and if it can be safely deployed for good.

- We are delighted to have a new donor and research partner investing in the risk assessments, social engagement, and very importantly in the development of the safety mechanisms that may prove to be requisites for safe deployment.
- Today's research by GBIRd partners uses, as minimum standards, the biocontainment protocols, standards, and best practices to ensure current research is highly contained and safe; this partnership will help evaluate and if and help develop additional safety measures for future stages of this investigation.
- This is a big step forward for GBIRd, but current budget estimates for the life of this investigation tell us we may need an additional ~\$12M US.
- Obviously, add any other specifics about your work as is warranted...
- Whenever in doubt, you can answer questions with a value statement or a principled reponse like "Those are the excact types of questions we endeavor to answer in this investigation."
- 5. I'd recommend the following responses to questions, if asked...but I wouldn't volunteer/lead with these unless you know that the reporter will be reporting detractor points of view...

Qs: How can you possibly pursue this technology knowing that the US Dept. of Defense has obviously concluded that it will be used for nefarious (dual-use) purposes, maybe against our own people? How can you fund most your project with DOD funds?

As:

- We are all in this for the interests of society and nature. Like you, we want to save lives, support livelihoods, and preserve our natural world for generations to come.
- Our guiding principles help ensure that our work will not make any direct contributions to dual uses; which certainly wouldn't be stopped if we shuttered our research.
- This project will determine if this is suitable, and under what conditions. Our faith in our own mission to do good, transparency, and willingness to share our findings with other benevolent causes, along with the potential of this tool to prevent extinctions without using toxicants, far outweighs any potential that we have to contribute to any dual uses.
- In fact, our open approach and deep investment in safety mechanisms might just deter or prevent dual uses (which certainly wouldn't be developed in plain sight).
- Don't forget that DARPA brought us the internet and GPS...both tools that are critical to our work today to prevent extinctions on islands by removing invasive speices.
- Whenever in doubt, you can answer questions with a value statement or a principled reponse like "Those are the excact types of questions we endeavor to answer in this investigation."

Best,

Heath Packard

Director of Marketing & Communications

Island Conservation

360.584.3051 (mobile)

heath.packard1 (skype)

From: David Threadgill [mailto:dwthreadgill@tamu.edu]

Sent: Thursday, July 13, 2017 9:01 AM

To: jrgodwinnc@gmail.com <godwin@ncsu.edu>

Cc: Eisemann, John D - APHIS < John.D. Eisemann@aphis.usda.gov>; Heath Packard

<heath.packard@islandconservation.org>; Jason Delborne <jadelbor@ncsu.edu>; Piaggio, Antoinette J - APHIS

<Toni.J.Piaggio@aphis.usda.gov>; Paul Thomas <paul.thomas@adelaide.edu.au>; <Keith.Hayes@data61.csiro.au>

<Keith.Hayes@data61.csiro.au>; Karl Campbell <karl.campbell@islandconservation.org>; Royden Saah

<royden.saah@islandconservation.org>; Alun Lloyd <alun_lloyd@ncsu.edu>; Shiels, Aaron B - APHIS

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<Aaron.B.Shiels@aphis.usda.gov>; Keirn, Gail M - APHIS <Gail.M.Keirn@aphis.usda.gov>; Clark, Larry - APHIS <Larry.Clark@aphis.usda.gov>; Sally Esposito <sally.esposito@islandconservation.org>
Subject: Re: QUICK TURN DARPA REQUEST - Press Release

my comments added into Heath's.

"An international, multi-institution and interdisciplinary team led by Dr. John Godwin of North Carolina State University aims to develop and test mammalian gene drive systems in rodents. The genetic technique targets population-specific alleles, that work on "private alleles" in the target population- that is, the a unique forms of a gene that are specific to found only in a particular invasive populations. If successful, the work will expand the tools available to manage invasive species that threaten biodiversity and human food security, and that serve as potential reservoirs of infectious diseases affecting native animals and humans populations. The team plans to develop mathematical models of how drives would function in mice, and then perform highly-contained, biosecure live testing in biosecure and contained simulated natural environments that mimic real-world conditions to gauge the robustness, spatial limitation, and reversibility of the drives. The team's plans also include rigorous social engagement efforts and risk assessments to further assess the suitability of these potential tools."

David Threadgill, PhD
Director, Texas A&M Institute for Genome Sciences and Society
University Distinguished Professor
Tom and Jean McMullin Chair of Genetics
Department of Veterinary Pathobiology, College of Veterinary Medicine & Biomedical Sciences
Department of Molecular and Cellular Medicine, College of Medicine
Reynolds Medical Building 428
Texas A&M University
College Station, TX 77843
979-436-0850

On Jul 13, 2017, at 10:16 AM, Heath Packard heath.packard@islandconservation.org wrote:

Some thoughts for you, John et al.

"An international, multi-institution and interdisciplinary team led by Dr. John Godwin of North Carolina State University aims to develop and test mammalian gene drive systems in rodents. The genetic technique targets population-specific alleles, that work on "private alleles" in the target population - that is, the a unique forms of a gene that are specific to found only in a particular invasive populations. If successful, the work will expand the tools available to manage invasive species that threaten biodiversity and human food security, and serve as potential reservoirs of infectious diseases affecting native animals and humans populations. The team plans to develop mathematical models of how drives would function in mice, and then perform highly-contained, biosecure live testing in biosecure and contained simulated natural environments that mimic real-world conditions to gauge the robustness, spatial limitation, and reversibility of the drives. The team's plans also include rigorous social engagement efforts and risk assessments to further assess the suitability of these potential tools."

Sally cc'd here.

Best,

Heath Packard

Director of Marketing & Communications

Island Conservation

360.584.3051 (mobile)

heath.packard1 (skype)

From: Eisemann, John D - APHIS [mailto:John.D.Eisemann@aphis.usda.gov]

Sent: Thursday, July 13, 2017 6:58 AM

To: Jason Delborne < jadelbor@ncsu.edu >; Piaggio, Antoinette J - APHIS < Toni.J.Piaggio@aphis.usda.gov >

Cc: jrgodwinnc@gmail.com <godwin@ncsu.edu>; Paul Thomas <paul.thomas@adelaide.edu.au>; David Threadgill <dwthreadgill@tamu.edu>; <Keith.Hayes@data61.csiro.au> <Keith.Hayes@data61.csiro.au>; Karl Campbell <karl.campbell@islandconservation.org>; Royden Saah <royden.saah@islandconservation.org>; Alun Lloyd <alun lloyd@ncsu.edu>; Shiels, Aaron B - APHIS <alun lloyd@ncsu.edu>; Shiels, Aaron B - APHIS <alun lloyd@ncsu.edu>; Clark, Larry - APHIS <alun lloyd@ncsu.edu>; Keirn, Gail M - APHIS <alun lloyd@ncsu.edu>; Clark, Larry - APHIS <alun lloyd@ncsu.edu>; Clark@aphis.usda.gov>

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I might also add 'international' to the list of institutions. Also, do we want to add a word (or 2) to the last sentence that mentions the concept of detecting the gene in the population. I know that is not the focus of the work, but detectability and surveillance are the concepts/buzz words of the day.

John D. Eisemann

Fax: 970-266-6156

Manager, Technology Transfer Program USDA APHIS Wildlife Services National Wildlife Research Center 4101 Laporte Avenue Fort Collins, CO 80521 T: 970-266-6158 C: 970-672-6207

From: Jason Delborne [mailto:jadelbor@ncsu.edu]

Sent: Thursday, July 13, 2017 7:51 AM

To: Piaggio, Antoinette J - APHIS < Toni.J.Piaggio@aphis.usda.gov

Cc: John Godwin <godwin@ncsu.edu>; Paul Thomas <paul.thomas@adelaide.edu.au>; David Threadgill <dwthreadgill@tamu.edu>; <Keith.Hayes@data61.csiro.au> <Keith.Hayes@data61.csiro.au>; Karl Campbell <karl.campbell@islandconservation.org>; J Royden Saah <royden.saah@islandconservation.org>; Alun Lloyd <alun lloyd@ncsu.edu>; Shiels, Aaron B - APHIS <alun lloyd@ncsu.edu>; Shiels, Aaron B - APHIS <alun lloyd@ncsu.edu>; Shiels, Aaron B - APHIS <alun lloyd@ncsu.edu>; Keirn, Gail M - APHIS <alun lloyd@ncsu.edu>; Keirn, Gail M - APHIS <alun lloyd@ncsu.edu>; Clark, Larry - APHIS <alun lloyd@ncsu.edu>; Keirn, Gail M - APHIS <alun lloyd@ncsu.edu>; Clark, Larry - APHIS <alun lloyd@ncsu.edu.edu>; Keirn, Gail M - APHIS <alun lloyd@ncsu.edu.edu>; Keirn, Gail M - APHIS <alun lloyd@ncsu.edu.edu>; Clark, Larry - APHIS <alun lloyd@ncsu.edu.edu>; David Threadgill

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John,

It's disappointing to see no mention of risk assessment explicitly or any social science activities whatsoever in the description. I know that most of the latter are planned for Phase 2, which is not yet funded, but it's a missed opportunity. Alternatively, maybe you could check with Renee about whether they are including a separate paragraph about LEEDR activities that go across the projects?

I assume you will work with Patti (GES) and an NCSU communications person to coordinate. At the NCSU level, let's make sure that community and stakeholder engagement get mentioned as part of the project.

Jason

<u>Jason Delborne</u> | <u>Associate Professor of Science, Policy, and Society</u> | <u>North Carolina State</u> <u>University</u> | <u>Forestry & Environmental Resources</u> | <u>Genetic Engineering & Society Center</u> | <u>Jordan Hall Addition 5221, Campus Box 8008</u> | <u>Raleigh, NC 27695</u> | <u>office: 919.515.0106</u> | <u>cell: 919.980.2867</u> | <u>jason_delborne@ncsu.edu</u>

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On Jul 13, 2017, at 9:03 AM, Piaggio, Antoinette J - APHIS < Toni.J.Piaggio@aphis.usda.gov > wrote:

Hi John,

Your edits are much appreciated. I have three comments and have included our public affairs person, Gail Keirn for her expertise.

- 1) Should we change "private alleles" to "locally fixed alleles" or "local alleles" or "population specific alleles"
- 2) Yes to adding biosecure please
- 3) Do you want to be specific that the live testing is with target-island wild mice or no?

Thank you!

Toni Piaggio, Ph.D.
Research Scientist, Wildlife Genetics
National Wildlife Research Center
4101 LaPorte Ave.
Fort Collins, CO 80521
(970)266-6142
toni.j.piaggio@aphis.usda.gov

From: John Godwin [mailto:godwin@ncsu.edu]

Sent: Thursday, July 13, 2017 5:22 AM

To: Paul Thomas <paul.thomas@adelaide.edu.au>; David Threadgill dwthreadgill@tamu.edu>;

< "> Keith.Hayes@data61.csiro.au; Karl Campbell

< karl.campbell@islandconservation.org >; Royden Saah < royden.saah@islandconservation.org >; Lean Dalle and Conservation.org >; Actoring the Management of the Conservation of the Management of the Conservation of the Conserva

Jason Delborne < <u>jadelbor@ncsu.edu</u>>; Alun Lloyd < <u>alun_lloyd@ncsu.edu</u>>; Piaggio, Antoinette J

- APHIS < Toni.J.Piaggio@aphis.usda.gov >; Shiels, Aaron B - APHIS

<<u>Aaron.B.Shiels@aphis.usda.gov</u>>; Eisemann, John D - APHIS

<John.D.Eisemann@aphis.usda.gov>; Heath Packard < heath.packard@islandconservation.org>

Subject: Fwd: QUICK TURN DARPA REQUEST - Press Release

Hi All,

Please see the message from the DARPA program officer Renee Wegrzyn I'm forwarding below here. This is a heads-up, but also wanted to hit on a couple of other important things here.

The first key point is her request to embargo any press releases until after the DARPA announcement (this point in all caps).

Second, I have had a first stab at edits from what Renee sent me and have included that below (my edits to this point in red) - will continue on that, but wanted to get it out to you folks. They would like this back to them by COB Thursday (EST), so please send me suggestions if you have them at your earliest convenience. It's a really short blurb and so difficult to pack too much into it, but will try to incorporate what I can.

One other note: As noted before, we have the signed, 'executed' agreement in hand and are working on the subcontracting now.

Thanks, John

"A multi-institution and interdisciplinary team led by Dr. John Godwin of North Carolina State University aims to develop and test mammalian gene drive systems in rodents that work on "private alleles" in the target population - that is, a unique forms of a gene specific to invasive populations. If successful, the work will expand the tools available to manage invasive species that threaten biodiversity and serve as potential reservoirs of infectious diseases affecting native animal and human populations. The team plans to develop mathematical models of how drives would function in mice, and then perform live testing in (add 'biosecure' here?) simulated natural environments that mimic real-world conditions to gauge the robustness, spatial limitation, and reversibility of the drives."

On Wed, Jul 12, 2017 at 10:44 PM, Wegrzyn, Renee < renee.wegrzyn@darpa.mil > wrote:

Dear John,

We are getting close to public announcement of the teams that are funded under the Safe Genes program - hopefully within about a week. If you plan to send out a press release to coincide with that announcement, now is the time to start preparing. However, PLEASE EMBARGO ALL PRESS RELEASES UNTIL DARPA IS READY TO ANNOUNCE. We will send follow-on emails to coordinate shortly.

For now, it would be helpful if you would review the following blurb for accuracy and content. It is difficult to summarize a 4-year effort in a few sentences so we appreciate any feedback that you have (preferably by COB Thursday).

* A North Carolina State University (NCSU) team led by Dr. John Godwin aims to develop and test a mammalian gene drive system in rodents that works on "private alleles" in the target species-that is, a unique form of a gene specific to a species. If successful, the work will expand the tools available to manage invasive species that threaten biodiversity and serve as potential reservoirs of infectious diseases affecting native animal and human populations. The team plans to develop mathematical models of how drives would function in mice, and then perform live testing in simulated natural environments that mimic real-world conditions to gauge the robustness of the drives.

We are excited to announce the efforts more broadly and are glad to have you as a part of it.

Please let me know if you have any questions or concerns.

Best regards,

Renee

Renee D Wegrzyn, PhD

Program Manager DARPA Biological Technologies Office renee.wegrzyn@darpa.mil

John Godwin

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- Attachments: -----

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