

**From:** [Dan Grout](#)  
**To:** [Pete Warzybok](#); [Russell Bradley](#); [Gerry McChesney@fws.gov](#)  
**Cc:** [Jaime Jahncke \(jjahncke@prbo.org\)](#); [Nick Holmes](#); [thad shelton](#); [Barbara Holzman](#)  
**Subject:** RE: Salamanders, Veg, Cricket monitoring  
**Date:** 09/28/2012 05:08 PM

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Pete/Russ:

Sorry to disappoint, but I will not be able to attend the meeting Tuesday in Petaluma as planned, as I'll be in Wisconsin at my dad's funeral.

Glad to hear Nick can call in for a couple hours to offer some IC comments, staff time and funding to assist in my absence.

I will likely be back in the office on Thursday Oct 4<sup>th</sup>. Hope the meeting goes well, and we can get the monitoring started on time!

Dan Grout

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**From:** Nick Holmes  
**Sent:** Friday, September 28, 2012 4:08 PM  
**To:** Pete Warzybok  
**Cc:** Dan Grout; Russell Bradley <[rbradley@prbo.org](mailto:rbradley@prbo.org)> ([rbradley@prbo.org](mailto:rbradley@prbo.org)); Jaime Jahncke ([jjahncke@prbo.org](mailto:jjahncke@prbo.org))  
**Subject:** RE: Salamanders, Veg, Cricket monitoring

Hi Pete

Great to hear from you and hope you are getting a break from your busy summer.

I'll be able to join for a couple of hours on Tuesday morning but then have to duck off for another meeting.

I'm looking forward to the call, per Dan's email the things we are interested in adding to the agenda are:

- Vegetation – status of plan development with Barbara Holzman, what baseline data can be collected realistically and interest / security of implementing this 2-5 years post of any eradication effort
- Crickets – status of this plan development / data collection effort (particularly given fall / winter is a good opportunity to access caves)
- Island Conservation's ability to contribute to these and other monitoring efforts, financially and with human resources.

Cheers

Nick

Nick Holmes, PhD  
Director of Science  
Island Conservation

100 Shaffer Road,  
Santa Cruz, California 95060, USA

Office 831-359-4787 x 121  
Cell 831.332.1781  
Skype holmes.nick  
[nick.holmes@islandconservation.org](mailto:nick.holmes@islandconservation.org)  
[www.islandconservation.org](http://www.islandconservation.org)



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**From:** Pete Warzybok [<mailto:pwarzybok@prbo.org>]  
**Sent:** Friday, September 21, 2012 10:35 AM  
**To:** Dan Grout; Nick Holmes  
**Subject:** RE: Salamanders, Veg, Cricket monitoring

Great Dan! I should be able to make the hazing trial meeting.

Nick, thanks for the input. I will set up a conference line and make sure to cc you on future emails.

Pete

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**From:** Dan Grout [<mailto:dan.grout@islandconservation.org>]  
**Sent:** Friday, September 21, 2012 10:31 AM  
**To:** Nick Holmes; Pete Warzybok  
**Subject:** FW: Salamanders, Veg, Cricket monitoring

Pete:

I will be there. Nick will not be able to make it but he will be able to call in for the morning session if you have a conference call # for him.

He and I went over some discussion items this morning, and we have a few suggestions for the agenda. He will send them to you soon (today?).

Please keep Nick Cc'd on emails regarding monitoring designs/review for the eradication.

Thanks for organizing this meeting!

*FYI -I'll be sending out a Gull Hazing Trial Planning Meeting announcement today for next Wednesday (Sept. 26, 2-3:30pm); hope you can make it.*

Dan

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**From:** Pete Warzybok [<mailto:pwarzybok@prbo.org>]  
**Sent:** Monday, September 17, 2012 10:22 AM  
**To:** Pete Warzybok; Dan Grout; Russell Bradley; Jaime Jahncke; Barbara A Holzman; thad shelton  
**Cc:** 'Gerry\_McChesney@fws.gov'; 'hbshaffer@ucdavis.edu'; 'James\_Bettaso@fws.gov'; 'Jonathan\_Shore@fws.gov'; [Joy\\_Albertson@fws.gov](mailto:Joy_Albertson@fws.gov); Jim Tietz; Ryan Berger  
**Subject:** RE: Salamanders, Veg, Cricket monitoring

Hi all,

It seems that Barbara is not available on Oct. 2<sup>nd</sup> and Thad has not responded. Since they would be necessary for any discussion of vegetation monitoring, I am looking for an alternate date for the meeting. We may still hold it on Oct. 2<sup>nd</sup> if that works for most people but I wanted to see if there was another date in early October that could include Barbara and Thad.

Please fill out this [doodle poll](#) to let me know what other date might work.

Thanks,  
Pete

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**From:** Pete Warzybok  
**Sent:** Tuesday, September 11, 2012 11:20 AM  
**To:** 'Dan Grout'; Russell Bradley; Jaime Jahncke; Barbara A Holzman; thad shelton; 'Ndirienzo@gmail.com'  
**Cc:** 'Gerry\_McChesney@fws.gov'; 'hbshaffer@ucdavis.edu'; 'James\_Bettaso@fws.gov'; 'Jonathan\_Shore@fws.gov'; [Joy\\_Albertson@fws.gov](mailto:Joy_Albertson@fws.gov); Jim Tietz; Ryan Berger; 'gary\_fellers@usgs.gov'  
**Subject:** RE: Salamanders, Veg, Cricket monitoring

Hi all,

I just wanted to follow up and check in with folks about our next meeting to discuss vegetation and cricket monitoring methods. After the August 20<sup>th</sup> salamander monitoring meeting, we tentatively scheduled this for Oct. 2<sup>nd</sup>. The purpose of this meeting will be to come up with a working design for monitoring vegetation changes and cricket populations pre and post eradication. Tentative agenda items to include:

For plants

- Review Thad's study proposal
- Finalize study plot locations and design
- Discuss the use of aerial photos and GPS to map island vegetation
- Determine how to incorporate historical veg data (from Malcom Coulter and FWS)

For crickets

Review of initial survey conducted by Russ and Nick DiRienzo in January 2012  
Establish repeatable study design  
Discuss use of pitfall traps, sticky-sticks and other sampling devices  
Discuss sampling inside and outside caves – How far from caves do we sample? Do we want to sample locations where crickets are not currently found?

For salamanders (if time allows)

Flesh out final details about monitoring methods  
Provide update on deployment of new cover boards and visual survey plots

We can host the meeting here at PRBO and should plan on a full day discussion (9 am to 3 pm). If Oct. 2<sup>nd</sup> does not work for you, please let me know ASAP and we can set up a doodle poll to explore other options.

Looking forward to seeing you all in October.

Thanks,  
Pete

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Pete Warzybok, *Farallon Program Biologist*  
PRBO Conservation Science  
3820 Cypress Drive, Suite 11, Petaluma, CA 94954  
707-781-2555 ext. 344

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**From:** Dan Grout [<mailto:dan.grout@islandconservation.org>]  
**Sent:** Wednesday, August 22, 2012 10:48 AM  
**To:** Russell Bradley; Jaime Jahncke; Barbara A Holzman; [gary\\_fellers@usgs.gov](mailto:gary_fellers@usgs.gov)  
**Cc:** 'Gerry\_McChesney@fws.gov'; 'hbshaffer@ucdavis.edu'; 'James\_Bettaso@fws.gov'; 'Jonathan\_Shore@fws.gov'; Derek Lee; [Joy\\_Albertson@fws.gov](mailto:Joy_Albertson@fws.gov); Jim Tietz; Nick Holmes; Pete Warzybok; Ryan Berger; thad shelton  
**Subject:** Salamanders, Veg, Cricket monitoring

**Sally Team:**

It was great reviewing the pre/post mouse eradication monitoring design strategies for salamanders with you all on Monday. I'll share my meeting notes with Nick Holmes, our Director of Science, and discuss ways we (IC) could assist in the review or development of the salamander survey protocols while Russ is on PTO this month. I will look into the loan of IC's camera equipment and funding. We will get back to Russ and Jaime on these issues.

**Gary:** Great to meet you....thanks much for your helpful advice. Please include me in any emails

regarding scheduling Pt. Reyes sally spotlighting training you might do with Russ and Pete in the next few months.... I've done a lot of herp surveys (mostly RLF) but would like to hone my sally spotting skills prior to spending time on the island this fall/winter.

**Barbara:** It was great to finally meet you. I will get you the mouse maps and data to you when I return from PTO next week. Nick can direct you to the UCSC CCAL lab who can assist in providing advice about how to best design veg studies to detect rapid post-rodent-eradication changes....we have done this on many islands before.

Russ and Gerry and I have tentatively scheduled an **Oct 2 meeting** to go over study design issues for the **vegetation and camel cricket monitoring** (pre-post eradication), so they are ready to go this fall...which is here already! *Perhaps at that meeting we could also review the final details of the Salamander methods?*

**Jonathan:** please keep me in the loop on any developments/field trips/meetings with respect to any monitoring design issues (veg or otherwise) that are linked to the proposed mouse eradication project. Thanks!

Dan Grout  
*Farallon Project Manager, Island Conservation*  
University of California, Santa Cruz  
Long Marine Lab - 100 Shaffer Rd  
Santa Cruz, California 95060 USA  
mobile: 831-420-7825  
skype: dan\_grout  
email: [dan.grout@islandconservation.org](mailto:dan.grout@islandconservation.org)

web: [www.islandconservation.org](http://www.islandconservation.org)



*"Island Conservation is the world's most effective organization in terms of species saved from extinction per dollar spent."*

- **Michael Soule, Cofounder, the Society for Conservation Biology**

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**From:** Jaime Jahncke [<mailto:jjahncke@prbo.org>]

**Sent:** Monday, August 20, 2012 1:16 PM

**To:** [James Bettaso@fws.gov](mailto:James_Bettaso@fws.gov); Dan Grout

**Cc:** 'Gerry\_McChesney@fws.gov'; 'hbshaffer@ucdavis.edu'; 'James\_Bettaso@fws.gov'; 'Jonathan\_Shore@fws.gov'; Derek Lee; Barbara A Holzman; [gary\\_fellers@usgs.gov](mailto:gary_fellers@usgs.gov); [Joy\\_Albertson@fws.gov](mailto:Joy_Albertson@fws.gov); Jim Tietz; Nick Holmes; Pete Warzybok; Ryan Berger; Russell Bradley; thad shelton

**Subject:** Modified Technique for Spotlighting Amphibians and Reptiles

FYI

From Gary Fellers.

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**From:** [James Bettaso@fws.gov](mailto:James_Bettaso@fws.gov) [[mailto:James\\_Bettaso@fws.gov](mailto:James_Bettaso@fws.gov)]

**Sent:** Monday, August 20, 2012 12:05 PM

**To:** Jaime Jahncke

**Cc:** 'Gerry\_McChesney@fws.gov'; 'hbshaffer@ucdavis.edu'; 'James\_Bettaso@fws.gov'; 'Jonathan\_Shore@fws.gov'; Derek Lee; Barbara A Holzman; [gary\\_fellers@usgs.gov](mailto:gary_fellers@usgs.gov); [Joy\\_Albertson@fws.gov](mailto:Joy_Albertson@fws.gov); Jim Tietz; Nick Holmes; Pete Warzybok; Ryan Berger; Russell Bradley; thad shelton

**Subject:** gene flow in black salamanders MS thesis from HSU

here is a MS thesis on black salamanders. Sean is at UC Berkeley now, and may be working to publish this.

(See attached file: *S.Reilly\_Thesis\_HSU.pdf*)

Jamie B. Bettaso  
Fish and Wildlife Biologist  
U. S. Fish and Wildlife Service  
East Lansing Field Office (ES)  
2951 Coolidge Road, Suite 101  
E. Lansing, MI 48823  
Phone: (517)-351-5293  
FAX: (517)-351-1443  
email: [james\\_bettaso@fws.gov](mailto:james_bettaso@fws.gov)

▼ Jaime Jahncke <[jjahncke@prbo.org](mailto:jjahncke@prbo.org)>

**Jaime Jahncke**  
<[jjahncke@prbo.org](mailto:jjahncke@prbo.org)>

08/08/2012 06:47 PM

To "hbshaffer@ucdavis.edu"  
<hbshaffer@ucdavis.edu>,  
"gary\_fellers@usgs.gov"  
<[gary\\_fellers@usgs.gov](mailto:gary_fellers@usgs.gov)>,  
"James\_Bettaso@fws.gov"  
<'James\_Bettaso@fws.gov'>, Derek Lee  
<[1dereklee@gmail.com](mailto:1dereklee@gmail.com)>, Nick Holmes  
<[nick.holmes@islandconservation.org](mailto:nick.holmes@islandconservation.org)>,  
Ryan Berger <[rberger@prbo.org](mailto:rberger@prbo.org)>, Pete  
Warzybok <[pwarzybok@prbo.org](mailto:pwarzybok@prbo.org)>, Jim  
Tietz <[jtietz@prbo.org](mailto:jtietz@prbo.org)>, Russell Bradley  
<[rbradley@prbo.org](mailto:rbradley@prbo.org)>,  
"Gerry\_McChesney@fws.gov"  
<'Gerry\_McChesney@fws.gov'>,  
"Jonathan\_Shore@fws.gov"  
<'Jonathan\_Shore@fws.gov'>, Barbara A  
Holzman <[bholzman@sfsu.edu](mailto:bholzman@sfsu.edu)>, thad

shelton <[thad.shelton@gmail.com](mailto:thad.shelton@gmail.com)>,  
"Joy Albertson@fws.gov"  
<[Joy\\_Albertson@fws.gov](mailto:Joy_Albertson@fws.gov)>

cc

SubjectAGENDA: ARBOREAL SALAMANDER  
MONITORING (Monday, August 20 @  
9:30AM)

Hi all:

Here is the agenda for the arboreal salamander planning meeting we scheduled for  
**Monday August 20 at PRBO.**

Thanks,

Jaime Jahncke, PhD  
*California Current Director*  
707-781-2555 ext. 335

**From:** Jaime Jahncke  
**Sent:** Monday, July 30, 2012 2:01 PM  
**To:** Jaime Jahncke  
**Subject:** ARBOREAL SALAMANDER MONITORING

Hi all:

Thank you for responding to the Doodle Poll.

We are planning on having the workshop on **Monday August 20 at PRBO.**

If this date didn't work for you... please try to see if you can move things around to be able to participate.

We will be e-mailing a draft agenda and specifics in the next few days.

Thanks,

Jaime Jahncke, PhD  
*California Current Director*  
707-781-2555 ext. 335

**From:** Jaime Jahncke  
**Sent:** Monday, July 23, 2012 3:42 PM  
**To:** Jaime Jahncke  
**Subject:** FW: ARBOREAL SALAMANADER MONITORING (DRAFT)

Hi all:

We are planning a meeting to gather advice on how to best expand existing arboreal salamander studies on the Farallon Islands to meet the following goals: 1) gain additional knowledge about the distribution and abundance of Farallon arboreal salamanders across island habitats, and 2) increase detect ability of juvenile salamanders, a key metric for assessing population impacts related to restoration efforts.

Please let us know your availability by selecting appropriate dates in the DOODLE link <http://doodle.com/mh84v5g8x2v7u3>

## DESIGNING AN ISLAND WIDE ARBOREAL SALAMANDER MONITORING ON SOUTHEAST FARALLON ISLAND

PRBO will design methods to monitor the abundance and distribution of arboreal salamanders across habitat throughout Southeast Farallon Island. The design will likely include a stratified sampling design driven by an appropriate habitat proxy (i.e., vegetation, substrate, soil moisture, etc) that would involve establishing additional sets of paired cover boards (or other comparable methods) across habitat types, providing a broad survey area and effort above and beyond current methods. Monitoring would be paired with basic habitat assessments that would help identify drivers that determine differences in distribution and abundance of salamanders across the island (i.e., soil moisture, substrate, prey, vegetation). These new cover boards would likely be surveyed once every month throughout the rainy season (November through May) – documenting numbers of salamanders detected by size class and reproductive state.

## BACKGROUND

The arboreal salamander, *Aneides lugubris*, is a California near-endemic, occurring from Humboldt County to northern Baja California. It is the only year-round native terrestrial vertebrate inhabiting the South Farallon Islands. Salamanders are active at the surface during the rainy season (approximately October-May yearly), but retreat into crevices, burrows and hibernacula during dry weather (approximately May-September yearly). Eggs are deposited in June/July in clusters of 12-18 with adult females standing guard over their eggs and recently hatched young for approximately 3 months. The young of each year can be first detected in the early fall. In 1974, Boekelheide area-searched along a transect from the marine terrace up to the lighthouse and found the greatest densities on the talus slope above PRBO house and on the cliff below the lighthouse. Beginning in 2005, a long term monitoring study utilizing biweekly surveys of cover boards (30cm x 30 cm) throughout the rainy season was initiated by PRBO Conservation Science to assess inter and intra annual trends in salamander populations, demography, and reproduction in a limited area of Southeast Farallon Island.



Localized management activities at the South Farallon Islands could impact salamanders, particularly if chemicals are used extensively. There may also be positive effects of mouse eradication due to removal of competitors for insect prey. Baseline data are critical to documenting effects of existing and future changes to salamander populations. While current monitoring methods for salamanders on Southeast Farallon have produced valuable data on metrics like adult survival, there are still data gaps relating to the distributional of animals across the entire refuge as well as low detectability of juveniles – a key bench mark for assessing changes in the salamander population.

Thanks,

Jaime Jahncke, PhD, *California Current Director*  
PRBO Conservation Science  
3820 Cypress Drive, Suite 11, Petaluma, CA 94954  
707-781-2555 ext. 335 | 707-338-1609 (cell)

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[attachment "Salamander Meeting Agenda.pdf" deleted by James Bettaso/R3/FWS/DOI]