

**From:** [Mike Murray](#)  
**To:** [Britta Muiznieks](#)  
**Cc:** [Thayer Broili](#)  
**Subject:** Re: Fw: 2010 Solutions for 2010 Issues  
**Date:** 09/30/2010 11:05 AM

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Britta,

Would you please check with Matthew and Ted at your convenience to see if either are interested in communicating with Mr. Kaplan. My sense is that, because of the level of controversy and workload, we do not have the time or capacity to work with Mr. Kaplan on this or try out new technology unless it is already proven to be efficient and effective. If other entities, such as reputable researchers, WRC or other NPS sites, were to evaluate and field test the technology and prove it is capable under similar conditions as exist at CAHA, then we would be open to using such technology.

Mike Murray  
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▼ [Britta Muiznieks/CAHA/NPS](#)

**Britta  
Muiznieks/CAHA/NPS**

09/29/2010 12:26 PM

To: Mike Murray/CAHA/NPS@NPS  
cc: Cyndy Holda/CAHA/NPS@NPS, Darrell  
Echols/CAHA/NPS@NPS, Laura  
Pickens/CAHA/NPS@NPS, Paul  
Stevens/CAHA/NPS@NPS, Thayer  
Broili/CAHA/NPS@NPS

Subject: Re: Fw: 2010 Solutions for 2010 Issues 

There is a lot of new and emerging technology out there that could help us with managing the Seashore. It would be great if we could be in the forefront of some of it. I wish resource management had the luxury of spending more time conducting research but unfortunately all of our time is taken up as land managers. It would be great if we could figure out a way to determine if a turtle nest is still viable prior to installing the filter fence (without digging into it) or figuring out a more accurate way of determining when (or if) hatching is going to occur so that closures could be installed immediately prior to hatching.

We do utilize some newer technology but there is definitely room for improvement. We have some infrared cameras that help us ID some of our predator issues. It

would be great to use some of them on turtle nests but we have been hesitant to use expensive equipment in areas where people may tamper with them and risk losing them. Ted Simons is using geolocators on AMOY chicks but only one of them was deployed on one of our chicks last year. It is my opinion that some researchers would shy away from conducting work here because of all the controversy, especially when it comes to bird work. Why work here when other parks would be just as suitable and they wouldn't be under the microscope like they would be here. I would like to see the park involved in more research projects but unfortunately staff time is eaten up by access issues as well as other monitoring requirements.

I think some of Mr. Kaplan's ideas are good but that we should try to hook him up with a university and together they could come up with a proposal and look for funding. Professors are always looking for new funding sources for their graduate students. Most of my ties are with NC State and there may be some interest from folks there. Matthew Godfrey may have some ideas as to who to put him in touch with as well.

Britta Muiznieks  
Wildlife Biologist  
Cape Hatteras National Seashore

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▼ Mike Murray/CAHA/NPS

**Mike  
Murray/CAHA/NPS**

09/28/2010 04:41 PM

To Paul Stevens/CAHA/NPS@NPS, Britta Muiznieks/CAHA/NPS@NPS  
cc Thayer Broili/CAHA/NPS@NPS, Cyndy Holda/CAHA/NPS@NPS, Laura Pickens/CAHA/NPS@NPS, Darrell Echols/CAHA/NPS@NPS

Subject Fw: 2010 Solutions for 2010 Issues

Paul and Britta,

See below. Do you have any interest in following up with Mr. Kaplan?

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----- Forwarded by Mike Murray/CAHA/NPS on 09/28/2010 04:40 PM -----

"Eric Kaplan"  
<ekaplan@fte.com>

To <mike\_murray@nps.gov>  
cc

09/28/2010 04:23 PM

Subject 2010 Solutions for 2010 Issues

Hello Mike,

When I wrote to you recently I promised that I would be sending you some exciting new ideas about CHNSRA. Since that time I've had the chance to think more about my ideas and discuss them with others and now I'm even more convinced that the ideas I will discuss in this email could be extremely helpful. By way of background, I've spent my entire professional career (32+ years) involved with computers and software of all different types. For about the last 10 years I've been heavily involved with wireless communication technologies (if you query Google with ERIC KAPLAN BLUETOOTH or with ERIC KAPLAN ZIGBEE you'll get a decent number of references). In short I believe I am qualified to comment on the technical feasibility of the ideas mentioned below.

Before I get into the ideas, I want to acknowledge that I know that NPS already has a full plate with all the upcoming changes likely to happen at CHNSRA. Also, I know that funding is always an issue. I've got some thoughts on how to overcome these obstacles and will discuss them briefly towards the end of this email.

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About two weeks ago as I walking around an expanded turtle enclosure on an ORV-accessible portion of the beach I had a realization: It's 2010 and the techniques being used to manage wildlife at CHNSRA don't reflect this. The primary tools for wildlife management at CHNSRA are sticks, string, and signs. The contentious issues are 2010 issues, so wouldn't it make sense to apply 2010 solutions to 2010 issues? People say that CHNSRA can no longer be run the way it was in 1952 when Conrad Wirth wrote his letter to the people of Hatteras Island because it is no longer 1952 and Mr. Wirth never envisioned what CHNSRA would be like in 2010 when he wrote his letter. That makes sense. But if we are going to embrace the fact that this is 2010 it only makes sense to fully embrace 2010 and that means using 2010 Solutions for 2010 Issues. So now that we have a nice catchy name, let's take a look at what it

might mean to have 2010 solutions. Let's start with turtles because turtles are easier to manage than birds and people.

Today, when a new turtle nest is discovered the nest is dug up, some notes are made, and the area is marked with sticks, string, and signs. If all goes well, 50 days later, the size of enclosure is expanded using more sticks, more string, and more signs. Then there is more waiting. Maybe some eggs will eventually hatch, maybe they won't. Once enough time has gone by, the nest is excavated again and a bit more data is collected. Each and every day from the day that nest is first discovered until the day the nest has its final excavation NPS employees have to visit the nest to look for damage, signs of mischief, turtles hatching, etc.

Now imagine the possibilities if, when the nest was first discovered, instrumentation such as microphones, thermometers, motion sensors, and even closed-circuit TV cameras along with wireless communication technology were placed at the nest site.

- a) More data could be collected with less effort, allowing better science.
- b) Potentially, time spent by NPS employees getting to and from nests could be reduced because they wouldn't have to visit as often.
- c) The public could potentially get information about the nest they were looking at sent to their mobile phone thereby increasing the education of CHNSRA visitors.

Now, let's briefly turn to birds. For sure, it will be more complicated to apply technology to bird management, but this is still well within the reach of existing technology. When I first started thinking about this I did a Google query with using this phrase: WIRELESS COMMUNICATION WILDLIFE MANAGEMENT. The very first site I looked at ([http://www.ehow.com/list\\_6834532\\_radio-communication-its-uses.html](http://www.ehow.com/list_6834532_radio-communication-its-uses.html)) had the following text:

"Wildlife management teams track wild animals using radio telemetry, although it wasn't until 2005 that the Federal Communications Commission allowed it to be used for tracking birds. Animal tracking provides management teams with information about herd sizes and migration patterns."

So while the application at CHNSRA would be a bit different than that described above, the concept is already so widely accepted that even the FCC has ruled on it!

Now that we've covered turtles and birds, let's talk just a bit about people/ORVs.

There are four obvious uses to help manage people/ORVs that come to mind:

- 1) Electronic signs that could provide up-to-date information about the status of an area, the closest open ramp if the area were closed, etc.
- 2) Access control gates similar to gates found at tollbooths all across the United States.
- 3) Once a vehicle is on the beach radio transmissions could be used create appropriate buffer zones. Vehicles would have receivers that would alert them when they were too close to birds.
- 4) Since every vehicle would have to enter and leave through a controlled access gate NPS would know which vehicles were on the beach at all times.

By the way, if any of the vehicle control technology sounds far-fetched, think about E-Z Pass and the level of use and acceptance it now has throughout the northeast.

\*\*

Now I want to briefly address some of the potential funding issues.

- 1) I am willing to volunteer a lot of my time to help this effort. In addition to having a strong technology background, I also have a management background. I'm Founder and President of Frontline Test Equipment, Inc. Frontline has revenues in excess of \$5 million/year and more than 25 employees. So helping to manage the project that I envision is well within my level of experience and competence.
- 2) I have strong reasons to believe that NPS would be able to reach out to other federal agencies and make use of some of their work. Essentially what NPS needs to do is keep tabs on wildlife and people. There are federal intelligence agencies that also need to keep tabs on people and I know for a fact they are actively involved with wireless communication. I would be happy to use my contacts to help build bridges between NPS and other federal agencies.
- 3) I believe that it should be possible to get federal grants to at least get some pilot programs going. Once the pilots show "proof of concept" there should be other monies available from various places. Think about all the money that government will save on lawsuits with this program, the additional tax revenue to Dare County, the savings to NPS, etc.

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In closing, I want to clearly make some key points that I have implied above, but not explicitly called out. I asked an environmental scientist the following question: "If you had modern technology available while you were designing a wildlife management protocol is it likely that the protocol designed would be different than if the tools available were much more crude and limited to items such as sticks, string, and signs?" The answer was a resounding yes. So the key takeaway from this long email is that by using 2010 Solutions for 2010 Issues everybody wins:

- 1) Wildlife gets better protection.
- 2) NPS gets to do better science with less work.
- 3) The public gets enhanced access to CHNSRA that is only restricted when it truly needs to be.

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Mike, I greatly appreciate your taking time out of your busy schedule to read this email. I look forward to hearing what I can do to help move this forward. Because some aspects of what I am proposing will take much longer than a year to design and implement, I do believe it is important to get things moving now.

Respectfully,

Eric Kaplan ([ekaplan@fte.com](mailto:ekaplan@fte.com))  
(434) 466-3891