

From: Goland, Kristen
Sent: Thursday, April 23, 2009 11:39 AM
To: Michael N Marchand
Cc: Gravel, Adam
Subject: Groton Raptor Survey Protocols
Hi Mike,

Stantec is conducting both Spring 2009 and Fall 2009 Raptor Surveys for the Proposed Groton Wind Farm. The following is a summary of the protocols Stantec is using at the site:

- Spring surveys will consist of sampling throughout the migration period and occur between late March and the end of May to encompass the time frame in which all raptor species in New Hampshire are known to migrate
- Fall surveys will consist of sampling throughout the migration period and occur between September and the end of October to encompass the time frame in which most raptor species in New Hampshire are known to migrate. Some sampling will occur in November to target gold and bald eagle migration.
- Each season will consist of 10 – 20 survey days.
- On most study days two concurrent surveys will occur for the East and West Ridge from high points within or adjacent to the project area (we just received access to the West ridge this week).
- Surveys will be conducted on days with optimal migration weather including fair days with thermal development and winds generally from a southeasterly direction in spring and a northerly direction in fall. These days are identified by closely watching the weather reports. The timing of sampling will occur based on optimal weather days and past timing of raptor migration as observed at other nearby established hawk watch sites in past seasons and years as well as recent data obtained from these sites.
- Surveys will follow HMANA protocols and will occur from 9am to 5pm on each day sampled. All observations will be recorded on both HMANA and project specific datasheets. Flight paths of raptors observed will also be recorded on topographic maps to note trends in flight paths.
- Researchers will use binoculars at all times and, when warranted, spotting scopes will be used aid in identification if necessary.
- In addition to numbers of migrants and the species passing through the project area, species flight heights and distances away from the observer and project area will be estimated and recorded using reference points such as maps and existing cellular and meteorological towers. Horizontal position codes will also be recorded to document use of migrating raptors of the project area ridgelines. This allows for the compilation of use of the summit, side slopes, and valleys throughout each season.
- All results will be compared with hawk migration data from the following nearby areas:

Carter Hill Observatory	Concord	N 43° 14' 4.2936", W 71° 36' 35.7762" (N 43.23453, W 71.60994)
Interlakes Elementary School	Meredith	N 43° 39' 19", W 71° 29' 57" (N 43.65528, W 71.49917)
Little Round Top Migration Observatory	Bristol	N 43° 34' 44.5", W 71° 43' 50.5" (N 43.57903, W 71.73069)
Pack Monadnock Raptor Migration Observatory	Peterborough	N 42° 51' 47", W 71° 52' 42" (N 42.86306, W 71.87833)
Peaked Hill		N 43° 36' 0", W 71° 40' 0" (N 43.6, W 71.66667)
Peter Wood Hill	Deering	N 43° 5' 44.52", W 71° 49' 1.2" (N 43.0957, W 71.817)

I believe this approach is consistent with many other migration studies at wind facilities in the east and that the sampling efforts are sufficiently abundant to ensure we capture the bulk of migration in each season. Should you have any comments please do not hesitate to contact me, I would like to avoid getting too far into the study season with this design if you have large concerns.

Thanks,
Kristen

Kristen Goland
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Audubon-Peregrine approval_060309.txt

From: Carol Foss [CFoss@NHAudubon.org]
Sent: Wednesday, June 03, 2009 10:46 AM
To: Goland, Kristen
Cc: Christian Martin; Michael Bartlett
Subject: RE: Audubon-Peregrine work plan

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Kristen,
There is enough lead time that I have no problem announcing this as an opportunity for the 6th, period.
How many people can you accommodate?

On another topic, Chris and I have reviewed the methodology and have no problems with it. We do feel that it will be important to involve multiple observers at a site each day, as maintaining focus for 8 hours straight is an unreasonable expectation. Let us know when you want to get together to discuss logistics.

Best,
Carol

Carol R. Foss, Ph.D.
Director of Conservation
New Hampshire Audubon

3 Silk Farm Road
Concord, NH 03301

603-224-9909 X331

>>> "Goland, Kristen" <Kristen.Goland@iberdrolausa.com> 06/03/2009 10:33
>>> AM >>>

Hi Carol,
Looks like the 7th is out and the 6th would work the best; just had a meeting crop up.

Please let me know if August 6th will work and we'll block off some time. I think it's best to get to the site between 9 and 10am then we'll head back to your shop for a brown bag lunch and presentation if that works...

Kristen Goland
508-397-6130

-----Original Message-----

From: Carol Foss [mailto:CFoss@NHAudubon.org]
Sent: Tuesday, June 02, 2009 3:29 PM
To: Goland, Kristen
Cc: Diane De Luca; L Sunderland; Christian Martin; Laura Deming; Pamela Hunt; Rebecca Suomala; Vanessa Jones
Subject: RE: Audubon-Peregrine work plan

I really like the idea of a field trip with your staff biologist! Let me work with those dates here and get back to you.

Carol R. Foss, Ph.D.

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>>> "Gol and, Kristen" <Kristen.Goland@iberdrolausa.com> 06/02/2009 2:18 PM >>>

I can do a field trip almost any time. WEST will be back on site beginning July 15 so I think it would be most interesting if we waited until at least mid July.

I'm available the weeks of July 20 and 27.

I happen to have our staff biologist, who is implementing our company ABPP with USFWS, on the east coast for a visit on August 6 and August 7. I was thinking of a TC meeting on one of those days but think that a Wind 101 for you guys may be good for the timeframe if one of those days would work.

Let me know you're thoughts.
-K

Kristen Goland
508-397-6130

-----Original Message-----

From: Carol Foss [mailto:CFoss@NHAudubon.org]
Sent: Tuesday, June 02, 2009 1:13 PM
To: Goland, Kristen
Cc: Michael Bartlett
Subject: RE: Audubon-Peregrine work plan

Hi Kristen,
Many thanks for the update on the BBS situation. As you know, time is getting pretty tight, and while I have made an effort to keep my June schedule flexible, now that the month is here I need to firm up my work plan. If the layout doesn't gel in time for BBS this year, please keep us in mind for 2010. Presumably there would be plenty of lead time for the next breeding season!

I appreciate the Lempster field trip offer. What sort of time frame do you have in mind?

Best,
Carol

Carol R. Foss, Ph.D.
Director of Conservation
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>>> "Gol and, Kristen" <Kristen.Goland@iberdrolausa.com> 06/02/2009 12:57 PM >>>
Hey Carol,

Thanks for the update on Chris. I'm in all week.

I haven't given up on BBS but, in all honesty, it will probably be within the next week me just telling stantec to get out there. I just got another iteration of the layout this morning and its still moving quite dramatically. I'm sorry, I really would have liked to bid it out but the development team is just not coming together with the layout. I will try to get in this year, because I know that development would like to permit beginning in 2010 but right now I'm not 100% positive. If it moves this year, we won't bid out. I'm very sorry about this.

On a completely unrelated note. I'm wondering if Audubon would like to take a field trip to Lempster and then have me come back to Concord for a brown bag lunch with your staff and presentation on the development process. Just a thought if you want to run it by Mike.
-K

Kristen Goland
508-397-6130

-----Original Message-----

From: Carol Foss [mailto:CFoss@NHAudubon.org]
Sent: Tuesday, June 02, 2009 12:53 PM
To: Goland, Kristen
Cc: Christian Martin
Subject: Re: Audubon-Peregrine work plan

Thanks, Kristen. Chris is in the field today, but I expect he will see and review this tonight. Have you given up on doing breeding bird surveys this year?
C

Carol R. Foss, Ph.D.
Director of Conservation
New Hampshire Audubon

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>>> "Gol and, Kristen" <Kristen.Goland@iberdrolausa.com> 06/02/2009 11:52 AM >>>
Hi Carol,

As promised, here is a revised 2009 work plan for the Peregrine Falcon observation work near the proposed Groton project site.

As I read this, I believe Stantec will provide two researchers and Audubon will also be providing two researchers during each of the 20 days.

Audubon-Peregrine approval_060309.txt

Stantec will be responsible for writing-up the survey results and will coordinate the review with Audubon.

Once I have Audubon's and Stantec's concurrence on the scope then I will work individually with each organization on budget and cost.

Thanks,

Kristen

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From: Goland, Kristen
Sent: Friday, August 14, 2009 3:19 PM
To: 'Susi_vonOettingen@fws.gov'
Cc: Maria_Tur@fws.gov
Subject: Groton Acoustic Work

Attachments: Groton acoustic proposal 080309.pdf

Hi Susi,

When Maria and I discussed the Groton avian and bat work plan earlier this year she passed on a few comments regarding our acoustic monitoring proposed for this year. At that time I indicated I would submit our final anabat placements once we know where met towers will be and I wanted to give you an update.

Unfortunately our met towers were not in place to get the summer season but we were able to get two new met towers up on the eastern ridge this summer. However, we were not able to get any met towers on the western ridge this summer. This pushes the majority of our acoustic monitoring into 2010 which I am not happy about so we're moving forward with acoustic monitoring this fall with the use of two portable towers on the west ridge and the three met towers on the East Ridge. Not having used a portable tower before I quickly called Ed Arnett to make sure that the placement of the anabat detectors on the towers were ok. Ed and Stantec came up with the proposal attached and I wanted to make sure you had a copy and wanted to run it by you. The only change I made to the scope is in the reporting, but that doesn't alter the study design, implementation or report date.

I will collect spring and summer data in 2010. We do have some supplemental data from the previous study but, as I indicated in the work plan, I wanted to get these three seasons. I just didn't want to loose this fall's data because we still hope to initiate our filing at the end of this year. When you have some time give me a shout and hopefully I can explain.

Thanks,
Kristen



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Stantec

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SENT VIA EMAIL

August 3, 2009

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Subject: Proposal to conduct passive acoustic bat surveys at the proposed Groton Wind Project in New Hampshire

Dear Kristen:

Stantec Consulting Services Inc. (Stantec) appreciates the opportunity to present this proposal to Iberdrola Renewables (Iberdrola) for acoustic bat surveys at the Groton Wind Project in New Hampshire (Project). Our understanding of the project and the described tasks are based on your communications with Adam Gravel in our office. This proposal is for passive acoustic bat surveys, which will be conducted from two locations, Tenney Mountain and Fletcher Mountain in the Project area. Survey elements contained in this proposal are based on direct recommendations by Ed Arnett of Bat Conservation International as well as Stantec's experience conducting these types of surveys for other similar projects in New Hampshire. If this approach does not meet your project needs, or if we have misunderstood your requirements, please contact us.

PROJECT UNDERSTANDING

In the past and recently, Stantec has conducted a variety of avian and bat surveys on behalf of the Project. These surveys include a fall 2007 and spring 2008 nocturnal radar survey, and a spring 2009 breeding bird survey and raptor migration study. Studies that are still ongoing include a summer 2009 peregrine falcon study and a fall 2009 raptor migration study. Under the Project's previous ownership, Wind Works, Stantec (formerly Woodlot Alternatives) also conducted an acoustic bat survey and peregrine falcon survey. The scope presented in this proposal is for passive acoustic bat surveys to supplement the data previously collected in 2006 at the site. The purpose of this survey will be to provide more comprehensive coverage of the Project site. The following scope of services outlines Stantec's proposed approach to conducting these surveys. For consistency, they are numbered to be sequential with previous

surveys associated with the Project, as described in other agreements between Iberdrola and Stantec.

SCOPE OF SERVICES

Task 4.0 – Fall 2009 and Spring/Summer 2010 Acoustic Bat Surveys

Stantec will conduct passive acoustic echolocation monitoring surveys for bats from August 15 to October 15, 2009. The passive sampling plan will be conducted by deploying a total of eight bat echolocation detectors in the Project area. Anabat II with CF storage ZCAIMS or SD1 detectors will be used to record bat echolocation calls. Three detectors will be deployed in each of the two on site meteorological (met) towers on Tenney Mountain, for a total of six detectors. Within each met tower, the detectors will be deployed at approximate heights of 2, 22, and 45 meters. To provide coverage of the Project area, an additional two detectors will be deployed on Fletcher Mountain, approximately 1.5 miles west of Tenney Mountain, in portable towers. Portable towers will be used at this location because no met towers have been installed in this portion of the Project area. One of the portable towers will be located near the northern end of the ridge and one near the southern end. One Anabat SD1 detector will be deployed at the top of each portable tower at heights of approximately 20 meters. The purpose of the portable towers will be to collect information of bat activity at heights near 20 meters from the Fletcher Mountain site that can be used to identify similarities in bat activity at the 22 meter detectors on Tenney Mountain to the east. Detectors will be deployed continuously through the fall migration period, be removed during the winter, and then redeployed in the spring of 2010 in the same configuration as during the fall 2009 survey. If met towers are installed on Fletcher Mountain in spring 2010, the detectors in the portable towers would be moved to the met towers. Detectors will remain in place, continuously recording, from April 15 through June 1 (spring migration period) and from June 1 through August 15, 2010 (to cover summer foraging).

Periodic visits to each detector will occur approximately every two weeks for data downloads and maintenance checks. Bat echolocation data will be digitally recorded and analyzed for species or species-group identification where possible. Calls will be identified to guild based on call characteristics and comparison to reference libraries. Weather information will also be recorded and compiled, including temperature, dew point, wind speed, and relative humidity. Costs for data analysis are contingent on the amount of data recorded, so may decrease or increase depending on the amount of time required. This proposal assumes a moderate amount of bat activity. We will not perform any work that would result in exceeding the estimated cost without your prior authorization.

This task includes time necessary to process data gathered during acoustic surveys and assumes that Stantec will incorporate survey results within the report being prepared for the concurrent raptor and peregrine surveys in fall 2009. Stantec will then produce an additional report to include data from the spring/summer 2010 survey period, which will be completed by October 1, 2010.

SCHEDULE

Stantec will begin working on Task 4 upon receipt of a signed contract.

