

EXHIBIT 7-2 AGENCY CORRESPONDENCE

From: [Lin, Mao](#)
To: [Stratton, Robert D](#); [Beyer, Jim R](#); [Perry, John](#); [Settele, Rebecca](#); shawn.b.mahaney@usace.army.mil; Mark_McCollough@fws.gov
Cc: [Todd Presson](#); jkennedy@jaycashman.com; [Parker Hadlock](#); [Cassida, Jim](#); [Lauren Walsh](#); [Hengstenberg, Derek](#)
Subject: RE: Notes from Patriot Renewables Moscow Project Agency Meeting 2019-12-10
Date: Friday, December 20, 2019 11:14:00 AM
Attachments: [Patriot_Moscow_AgencyConsultation_Notes_2019-12-10_Revised_2019-12-20.docx](#)
[image001.png](#)
[image002.png](#)
[image003.png](#)



Thanks, Bob, for taking the time to review and edit the notes.

I have attached the revised notes and I'm happy to make any additional edits, should the need arise.

Happy holidays everyone!

Mao

From: Stratton, Robert D <Robert.D.Stratton@maine.gov>
Sent: Monday, December 16, 2019 3:07 PM
To: Lin, Mao <Mao.Lin@tetrattech.com>; Beyer, Jim R <Jim.R.Beyer@maine.gov>; Perry, John <John.Perry@maine.gov>; Settele, Rebecca <Rebecca.Settele@maine.gov>; shawn.b.mahaney@usace.army.mil; Mark_McCollough@fws.gov
Cc: Todd Presson <TPresson@jaycashman.com>; jkennedy@jaycashman.com; Parker Hadlock <PHADLOCK@cianbro.com>; Cassida, Jim <Jim.Cassida@tetrattech.com>; Lauren Walsh <LLOHN@cianbro.com>; Hengstenberg, Derek <Derek.Hengstenberg@tetrattech.com>
Subject: RE: Notes from Patriot Renewables Moscow Project Agency Meeting 2019-12-10

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Mao,

Thank you for providing draft meeting minutes. You performed one of the more difficult challenges of the day! Please find attached, some recommended edits.

Thank you again to Patriot Renewables, Cianbro, and Tetra Tech for meeting and updating us on the potential plans for this site. Bob.

Bob Stratton
Wildlife Biologist
Environmental Program Manager
Maine Department of Inland Fisheries & Wildlife
284 State Street; 41 State House Station
Augusta, Maine 04333-0041
Tel: (207) 287-5659

mefishwildlife.com

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From: Lin, Mao <Mao.Lin@tetrattech.com>

Sent: Friday, December 13, 2019 3:50 PM

To: Beyer, Jim R <Jim.R.Beyer@maine.gov>; Stratton, Robert D <Robert.D.Stratton@maine.gov>; Perry, John <John.Perry@maine.gov>; Settele, Rebecca <Rebecca.Settele@maine.gov>; shawn.b.mahaney@usace.army.mil; Mark_McCollough@fws.gov

Cc: Todd Presson <TPresson@jaycashman.com>; jkennedy@jaycashman.com; Parker Hadlock <PHADLOCK@cianbro.com>; Cassida, Jim <Jim.Cassida@tetrattech.com>; Lauren Walsh <LLOHN@cianbro.com>; Hengstenberg, Derek <Derek.Hengstenberg@tetrattech.com>

Subject: Notes from Patriot Renewables Moscow Project Agency Meeting 2019-12-10

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Good afternoon,

For your records, I have attached notes from Tuesday's meeting in Bangor regarding Patriot Renewables' proposed Moscow Renewable Energy Project. Please let me know if you have any edits or comments.

Thanks, and have a great weekend.

Mao

Mao Lin | Wildlife Biologist

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**Moscow Renewable Energy Project
Exploratory Agency Consultation
Meeting Minutes**

Date/Time: December 10, 2019 10:30 AM–12:00 PM

Purpose: Preliminary Project Discussion with State and Federal Agencies

Agency Representatives: Jim Beyer (DEP), Bob Stratton (MDIFW), John Perry (MDIFW), Becca Settele (MDIFW), Shawn Mahaney (USACE)

Participants: Todd Presson (Patriot), John Kennedy (Patriot), Lauren Walsh (Cianbro), Parker Hadlock (Cianbro), Jim Cassida (Tetra Tech), Derek Hengstenberg (Tetra Tech), Mao Lin (Tetra Tech)

Notes:

Project Overview

- Todd provided an overview and history of the project. Bob Stratton said he appreciated the review.
- Todd said that Patriot is still exploring the interconnect. Patriot is looking at a 70MW project with both wind and solar, but it might be anywhere from 20 MW to 80MW. Patriot would like to begin environmental studies ASAP while concurrently working on the interconnect.
- Jim Beyer asked if Patriot has looked into the possibility of finding a user for the electricity rather than tying the Project into the grid. Todd said that the generation that Patriot is hoping for with the Project would likely be too big, but that the company might consider it if they had to scale the Project back to 5MW or less.
- Bob said he recalled participating in a site visit with Tetra Tech a few years ago. Co-location of the transmission line was explored by Patriot, but the wind project did not proceed at the time for reasons relating to the cost of interconnection. Another developer then optioned the site for development of a solar project, but that project also did not proceed.
- Derek said that Tetra Tech has an administrative record of past consultations with agencies re: the Project Area.
- Jim Beyer added that Caratunk has a wind ordinance. Todd explained that that portion of the Project Area could be developed for solar. Also, separating the solar part of the Project from the wind turbines would avoid winter damage to the solar panels from ice throw.
- Todd said that Patriot does not own the land between the fields, but Patriot is reasonably certain that the paper company that does own the land will grant permission to use it.
- Jim Beyer said that he is in the process of transitioning his office to Augusta and he is not sure if he will be DEP's project manager for this project. However, he will serve as the POC for the Project for the time being.

- Jim Beyer said that DEP's position is that this is a great site for a renewable energy development and that the only similar site in in Columbia Falls.
- Jim Beyer also said that if solar panels are included, DEP will request a decommissioning plan. DEP is asking for decommissioning plans for all wind and solar projects that require a site law permit, and that one plan can cover the entire project.
- Shawn said he probably won't be USACE's project manager for this project either, but he will serve as the POC for project for now.

Natural Resources

- Becca noted that there was a rare plant (long-leaved bluet) documented near Wyman Dam and the interconnect corridor.
- Derek summarized the studies conducted by Tetra Tech 2012–2013. Jim said that Tetra Tech was also the consultant for NextEra, but those 2016–2017 studies are proprietary until Patriot gets permission from NextEra to use that information.
- Jim said that the wetland delineation and wildlife studies need to be refreshed. Studies would be conducted over the next year concurrent with compiling the Project's permit application.
- Bob said that developers need to avoid/minimize impacts to wildlife and fisheries species and habitats.
- Bob said that because of the reduced bat population in Maine and the inaccuracies of post-construction fatality monitoring, MDIFW's 2018 guidelines are geared towards avoiding/minimizing impacts to current populations. Despite Evidence of Absence statistical methods, it is difficult to quantify impacts to Endangered and Threatened species with low numbers that may be killed but not found. Bob said that MDIFW is recommending to DEP/LUPC "...that turbines operate only at cut-in wind speeds exceeding approximately 6.0 meters per second each night (from at least ½ hour before sunset to at least ½ hour after sunrise) April 15–September 30, whenever the ambient air temperature is at or above 32 degrees Fahrenheit, measured at both ground level and nacelle hub height."
- Bob added that most activity and fatalities occur July 15–September 15 so MDIFW is looking at a bump in curtailment in that timeframe.
- Weaver Wind (<https://www.maine.gov/dep/land/projects/weaver-wind/index.html>) went from 6.0 to 6.5 in that timeframe and then back town to 6.0 afterwards. No incidental take permit was issued.
- RoxWind (<https://www.maine.gov/dep/land/projects/roxwind/index.html>) went from 6.0 to 6.9 in that timeframe, and MDIFW did issue an ITP, but that project also had a hibernacula within 5 miles.
- Bob said that MDIFW is finding increased evidence of bats living in rocky habitats. Thus, for wind projects, MDIFW will ask developers to search for potential hibernacula—to include talus fields and rocky outcrops ½ acre-or greater or cliffs visible from remote imagery—within

- 3 miles of their project areas. The presence of such features may result in expanded curtailment recommendations. John said that this can be done as a desktop survey, and if the features are not on the landscape then the curtailment discussion would still need to occur.
- Bob added that nacelle-mounted bat deterrent systems are promising, but they are not yet effective at the tips of blades for high-frequency calls. He said that the manufacturer does not expect deterrent systems to replace curtailment, but when it is a proven technology for Maine species and conditions, MDIFW might reduce curtailment requirements. Jim Beyer/Bob indicated, if deterrent systems are ready after the permit for this Project has already been issued, it would require a minor permit amendment and/or an amendment to the incidental take permit.
 - Todd said that Patriot's intent for the interconnect is to replace the existing line with a heavier line, perhaps using the same poles, if possible. Patriot does not think they will need to widen the corridor. Bob commented that it would be great if there was no additional clearing and added that there could be mitigation possibilities from restoring existing impacted resources.
 - Later, there was a discussion about how installing taller poles over some of the streams would reduce the need for canopy maintenance. Todd added that maintenance of the interconnect would be CMP's responsibility.
 - From the federal perspective, Shawn said that there is no critical habitat for Atlantic salmon or Canada lynx, so it's likely that no additional work will be required. He recommended contacting Mark McCollough directly (and ASAP as he will be departing for Denmark soon) to find out if there is anything specific he would like Patriot to do. He also said that eagles are now handled out of the USFWS Regional Office in Hadley, Massachusetts and that there is a form for bats available online that can be filled out.
 - Derek added that Tetra Tech's eagle surveys were completed before the USFWS guidelines were available.
 - Jim asked if Patriot can use the wetland data that Tetra Tech collected back in 2014. Shawn said that is fine as long as they were completed with the Northeast supplement. Jim said that Tetra Tech will delineate the areas that have not already been covered. Jim indicated that wetlands, vernal pools, and significant vernal pools would be refreshed.
 - Jim added that there will likely be some wetland impacts off of the developed areas and roads, but the previously developed areas are not a concern. Most of the turbines are currently proposed to be close to roads.
 - Jim said that a full wetland delineation will not be complete until Spring 2020, but Tetra Tech will do some preliminary site work for planning purposes and can send those results to Shawn for review.
 - Bob said that Becca's review of MDIFW maps of known resources indicate a significant vernal pool along the transmission corridor and added that intermittent streams would also be a concern. Bob agreed that previous surveys (5 years) of vernal pools should be refreshed (April-May) because they change.

- For nocturnal radar, Bob said that MDIFW is seeing higher fatality numbers in areas like the downeast coastal plain where there are high migration numbers with low flight heights. MDIFW is also looking at wind projects within a mile of riparian corridors. For this project, he said he would want to know if the proposed higher turbines situated on a high plateau would present a unique issue for bird fatalities i.e. not ruling out nocturnal radar until he sees an analysis of turbine height in relation to surrounding areas.
- Derek said that fatalities typically occur when there is a migration event during nights with low visibility and a low cloud ceiling. Derek indicated that Tetra Tech has 1.5 years of nocturnal radar and concurrent fatality monitoring from Canton Wind. Bob requested copies.
- Bob/John asked Tetra Tech for a refresher on what has been done with raptors and eagles.
- Bob did not think MDIFW could review the completed and proposed wildlife studies and respond before the end of the year.
 - Lauren suggested putting together a table to facilitate MDIFW's review.
 - Todd asked if MDIFW could at least review the studies that need to start this winter and approve that before the end of the year so that Tetra Tech can get started with the work.
- Derek said that a great blue heron study was completed in conjunction with the eagle nest study. Bob/John said that incidental observations should be recorded during other studies i.e. wetland delineation.
- Bob also said to look within 250 feet of the Project boundary during wetland delineation to cover any SVP critical terrestrial habitat.
- Bob said that Roaring Brook mayfly, northern spring salamander, and northern bog lemming should be looked at. They probably won't be in the fields, but could be in the transmission line corridor.
- John said that upland sandpiper might show up in the back scatter radar fields, but he would check with Charlie Todd to see if that would be harassment if they are disturbed. Derek indicated that upland sandpipers forage in the area but that Tom Hodgman didn't think that they bred on site. John said they will not require specific upland sandpiper surveys, but asked that Tetra Tech document any incidental observations. Tetra Tech will definitely need to address streams, bats, and birds. If there are talus slopes, rocky outcrops, etc., work with Shevenell Webb and Sarah Boyden regarding possible acoustics. If not, it will likely be curtailment only.
- Todd wanted to know about the timing of survey reports with the permitting process. Jim said that he envisions Tetra Tech will submit a complete permitting package but then send any necessary updates and supplements.

Visual Resources/Noise

- Todd and Jim emphasized that the visualizations provided at the meeting were rough and that the current siting of the turbines were preliminary and subject to micro-siting.

- Todd said that the visualizations are of the turbines located just over 8 miles and based on the highest tower height (126 meters) but currently GE is recommending 107 meters. He thinks that Patriot will probably end up at the lower height.
- Jim Beyer wanted to know if there any scenic resources other than the Appalachian Trail. He also added that if there is a scenic resource within 8 miles of both the new project and Bingham Wind then cumulative impacts would need to be assessed.
- Bob said that, based on his calculations, the tip of the blade would be at approximately 186 meters. He also said that this project has the highest MW per tower.
 - Parker said that the highest turbines in Maine have a hub height of 117 meters, and that Cianbro just installed 131-meter turbines in Pennsylvania.
 - Todd/Parker added that the taller turbines are more efficient and allow sites with lower wind resources more viable for wind energy development.
 - Derek added that the larger turbines rotate more slowly to keep tip speed down; Todd added that the longer blades have more surface area per turbine, but there are fewer turbines.
- Jim Beyer said that intercept surveys are not required, but it's the applicant's burden to demonstrate how the Project will affect scenic resources for visitors.
 - Todd said that Patriot will probably do them anyway.
- Jim Beyer said that radar lighting will be required unless the Project is 8 miles from any scenic resource. Bob added that MDIFW generally makes the same recommendation regardless of distance because regular lighting is an attractant for wildlife. There was discussion about whether lights should be installed on separate poles because of ice damage. Jim Beyer said not to use whatever system is on Bingham because it's not working.
- Todd/Jim said that Patriot will conduct an assessment for dwellings, but noise impacts are not expected to be a problem for the Project.
- Tetra Tech will provide MDIFW with information on studies previously done and plans for refreshing.
- MDIFW will review and advise first on winter survey needs, as they are time sensitive.

From: [Stratton, Robert D](#)
To: [Lin, Mao](#); [IFWEnvironmentalreview](#)
Cc: [Mark_McCollough@fws.gov](#); [Todd Presson](#); [John Kennedy](#); [Cassida, Jim](#); [Hengstenberg, Derek](#); [Todd, Charlie](#); [Perry, John](#)
Subject: RE: Patriot Renewables - Moscow Renewable Energy Project - Completed and Proposed Studies
Date: Friday, February 21, 2020 4:34:00 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)

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Good afternoon Mao,

We will provide a more comprehensive reply to your inquiries soon but, given that this reply is later than we desired and with an awareness of your seasonal needs, I wanted to provide some time-sensitive input now.

- MDIFW recommends one year of golden eagle surveys to be conducted between February 15 – June 15 and August 1 – December 15 following the raptor migration protocol as described in MDIFW's [Maine Wind Power Preconstruction Recommendations](#) (March 5, 2018). A second year may be requested pending results. This request is considering: 1) raptor migration surveys that were already conducted at the site (fall 2012 [August 27 – December 14, 2012] and spring 2013 [March 10 – May 6, 2013]), 2) [Maine Wind Power Preconstruction Recommendations](#) for golden eagles, and 3) telemetry documentation of golden eagle activity within the project area.

- No peregrine pairs have been documented in the project vicinity, therefore no peregrine surveys are requested.

- Following the 2018 guidance, no additional raptor migration surveys are requested, however data would be welcome considering golden eagle surveys will be conducted.

As requested at our December 10, 2019 meeting, for any turbines proposed to be located on the elevated former radar sites, please provide information on the heights of the proposed turbines at tip of blade in reference to nearby natural terrain. Also, please provide a copy of the 1.5 years of nocturnal radar and concurrent fatality monitoring report from Canton Wind that Derek Hengstenberg referenced.

My apologies for the delay in providing this information. As referenced above, we will address the remaining questions of study recommendations for the Moscow project and reply as soon as possible. Please let me know of any questions or concerns. Thank you, Bob.

Bob Stratton
Wildlife Biologist
Environmental Program Manager
Maine Department of Inland Fisheries & Wildlife

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Augusta, Maine 04333-0041
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From: Lin, Mao <Mao.Lin@tetrattech.com>
Sent: Monday, February 17, 2020 2:30 PM
To: Stratton, Robert D <Robert.D.Stratton@maine.gov>; IFWEnvironmentalreview <IFWEnvironmentalreview@maine.gov>
Cc: Mark_McCollough@fws.gov; Todd Presson <TPresson@jaycashman.com>; John Kennedy <jkennedy@jaycashman.com>; Cassida, Jim <Jim.Cassida@tetrattech.com>; Hengstenberg, Derek <Derek.Hengstenberg@tetrattech.com>
Subject: RE: Patriot Renewables - Moscow Renewable Energy Project - Completed and Proposed Studies

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Hi Bob,

We wanted to follow-up with you and find out if you and John have reviewed our Completed and Proposed Studies for the proposed Moscow Renewable Energy Project, and if you have any comments. Tetra Tech is currently developing a comprehensive scope of work to submit to Patriot, and it would be very helpful to have your feedback so that we do not propose any unnecessary studies or miss any important studies.



We look forward to hearing any feedback you might have about our proposed studies.

Thanks,

Mao

From: Stratton, Robert D [<mailto:Robert.D.Stratton@maine.gov>]
Sent: Tuesday, January 14, 2020 7:50 AM
To: Lin, Mao <Mao.Lin@tetrattech.com>; IFWEnvironmentalreview <IFWEnvironmentalreview@maine.gov>
Cc: Mark_McCollough@fws.gov; Todd Presson <TPresson@jaycashman.com>; John Kennedy <jkennedy@jaycashman.com>; Cassida, Jim <Jim.Cassida@tetrattech.com>; Hengstenberg, Derek <Derek.Hengstenberg@tetrattech.com>
Subject: Re: Patriot Renewables - Moscow Renewable Energy Project - Completed and Proposed

Studies

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Mao,

Thank you for the information. John and I are both away this week but, we are reviewing it and will get back to you as soon as we can.

Bob Stratton
MDIFW

via cellphone

From: Lin, Mao <Mao.Lin@tetratech.com>

Sent: Monday, January 13, 2020 1:22:44 PM

To: IFWEnvironmentalreview <IFWEnvironmentalreview@maine.gov>; Stratton, Robert D <Robert.D.Stratton@maine.gov>

Cc: Mark_McCollough@fws.gov <Mark_McCollough@fws.gov>; Todd Presson <TPresson@jaycashman.com>; John Kennedy <jkennedy@jaycashman.com>; Cassida, Jim <Jim.Cassida@tetratech.com>; Hengstenberg, Derek <Derek.Hengstenberg@tetratech.com>

Subject: Patriot Renewables - Moscow Renewable Energy Project - Completed and Proposed Studies

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Dear MDIFW –

On behalf of Patriot Renewables, Tetra Tech is following up on MDIFW's request for a summary of studies completed by Tetra Tech at the Moscow Renewable Energy Project Area from 2012–2014. Tetra Tech created the attached document that includes those summaries along with a fillable table for MDIFW input (please use as much space as you need) and a list of proposed studies for the 2020 field season.

For MDIFW's reference, we have also attached the comprehensive 2012-2013 Bird and Bat survey report produced by Tetra Tech, and the recently published evaluation of GE bat deterrent systems that was referenced at our December 10, 2019 meeting.

It is our understanding that the email address ifwenvironmentalreview@maine.gov is monitored by both John Perry and Becca Settele. If that is not the case, we would appreciate it if you could forward this message and the attached documents to them.

Tetra Tech appreciates your time and looks forward to your review and comments.

For questions or additional information, please contact Tetra Tech's Project Manager, Jim Cassida, at jim.cassida@tetratech.com or via phone at 207-879-9496.

Thanks,

Mao

Mao Lin | Wildlife Biologist

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From: [Stratton, Robert D](#)
To: [Cassida, Jim](#)
Cc: [Beyer, Jim R](#); shawn.b.mahaney@usace.army.mil; [Mark McCollough](#); [Mahaney, Wende](#); [Todd Presson](#); jkennedy@jaycashman.com; [Parker Hadlock](#); [Lauren Walsh](#); [Hengstenberg, Derek](#); [Lin, Mao](#); [Perry, John](#); [Todd, Charlie](#); [Settele, Rebecca](#); [Boyd, Sarah](#); [Thorndike, Elizabeth](#)
Subject: Moscow Renewable Energy Project
Date: Tuesday, March 10, 2020 8:53:55 AM
Attachments: [Moscow Renewable Energy Project 10Mar2020.pdf](#)
[MDIFW Solar Project Guidance 05March2020.pdf](#)
[2018 Preconstruction Study & Curtailment Recommendations 05Mar2018.pdf](#)
[2018 Coastal Plain 05Mar2018.pdf](#)

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Good morning Jim,

Per your request, please find attached, MDIFW's recommendations related to resource surveys for the proposed Moscow Renewable Energy Project, as well as copies of current Department guidance documents referenced within. If you have any questions, please feel free to contact me. Thank you, Bob.

Bob Stratton

Wildlife Biologist

Environmental Program Manager

Maine Department of Inland Fisheries & Wildlife

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From: [Lin, Mao](#)
To: [Stratton, Robert D](#)
Cc: [Beyer, Jim R](#); shawn.b.mahaney@usace.army.mil; Mark_McCollough@fws.gov; [Mahaney, Wende](#); [Todd Presson](#); [John Kennedy](#); [Parker Hadlock](#); LLOHN@cianbro.com; [Cassida, Jim](#); [Hengstenberg, Derek](#); [Todd, Charlie](#); [Perry, John](#); [Settele, Rebecca](#); [Sarah Boyden \(sarah.boyden@maine.gov\)](mailto:sarah.boyden@maine.gov); Elizabeth.Thorndike@maine.gov
Subject: Moscow Renewable Energy Project (FW: Canton Mountain Wind Project Post-Construction Monitoring Report: Year 2 (2019) #L-255558-24-A-N/L-25558-TB-B-N/L-25558-24-K-B)
Date: Friday, April 17, 2020 3:16:00 PM
Attachments: [CantonPCM_2019_Final.pdf](#)
[CantonRadar_Spring2019.pdf](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)
[CantonPCM_Radar_2018_Final.pdf](#)

Hi Bob,

As per your request at our December 10, 2019 meeting and in your March 10, 2020 correspondence re: Moscow Renewable Energy Project Preliminary Resource Survey Recommendations, I am forwarding a copy of the 2019 fatality monitoring report at Canton Mountain Wind and the associated radar report for Spring 2019. I am also attaching the combined 2018 Canton PCM and radar report.

Please note that the 2019 reports have already been submitted to the IFWEnvironmentalreview@maine.gov address, but we would be more than happy to submit them elsewhere if that makes more sense.

For questions or additional information, please contact Tetra Tech's Project Manager, Jim Cassida, at jim.cassida@tetrattech.com or via phone at 207-879-9496.

Thanks, and have a great weekend.

Mao

From: Lin, Mao
Sent: Friday, April 17, 2020 2:11 PM
To: Hallowell, Dawn <Dawn.Hallowell@maine.gov>; [IFWEnvironmentalreview <IFWEnvironmentalreview@maine.gov>](mailto:IFWEnvironmentalreview@maine.gov); Rodney.A.Howe@usace.army.mil; jay.l.clement@usace.army.mil
Cc: Lindsay Galbraith <lgalbraith@jaycashman.com>; Susan Owens <Sowens@jaycashman.com>; Michael Dionne <mdionne@jaycashman.com>; Todd Presson <TPresson@jaycashman.com>; John Kennedy <jkennedy@jaycashman.com>; Hengstenberg, Derek <Derek.Hengstenberg@tetrattech.com>
Subject: Canton Mountain Wind Project Post-Construction Monitoring Report: Year 2 (2019) #L-255558-24-A-N/L-25558-TB-B-N/L-25558-24-K-B

Good Afternoon –

On behalf of Canton Mountain Wind, LLC and Patriot Renewables, LLC, Tetra Tech is submitting the attached *Post-construction Monitoring Report: Year 2 (2019)* for the Canton Mountain Wind Project located in the towns of Canton and Dixfield, Maine. This report complies with the Site Location of Development Act and Natural Resources Protection Act permits issued for the project in June 2014 by the Maine Department of Environmental Protection (#L-255558-24-A-N/L-25558-TB-B-N).

As you are aware, the DEP permit for the project was amended in July 2019 to eliminate the avian radar survey from the post-construction monitoring protocol (#L-25558-24-K-B), thus radar was discontinued after the Spring 2019 season. We have attached the Spring 2019 avian radar report that was completed prior to the permit amendment.

Please let me know if you have any questions.

Thanks,

Mao

Mobile: 917-687-5838

Mao Lin | Wildlife Biologist

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From: [Lin, Mao](#)
To: [Swartz, Beth](#)
Cc: [Hengstenberg, Derek](#); [Cassida, Jim](#); [Stratton, Robert D](#); [deMaynadier, Phillip](#); [Yorks, Derek](#)
Subject: Re: Moscow Renewable Energy Project
Date: Tuesday, April 21, 2020 6:54:30 PM
Attachments: [image006.png](#)
[image007.png](#)
[image008.png](#)

Great, Beth, thank you for the additional information. I have forwarded the revised protocol to Lotic.

Thanks,

Mao

Sent from my iPad

On Apr 21, 2020, at 6:37 PM, Swartz, Beth <Beth.Swartz@maine.gov> wrote:

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Mao,

Yes, MDIFW requires that final species determinations of all *Epeorus* specimens collected be conducted by Dr. Burian. His rate is \$80/hour and how much time it will take depends on the number, quality and larval stage/difficulty of specimens submitted. Considering you are surveying just two streams - and as long as the protocol is adhered to and only mature *Epeorus* larvae are collected - I would not expect the number of specimens submitted to Steve to be that many or take more than a few to several hours at most to determine. My guess is the total cost won't be more than a few hundred dollars, but could be less or slightly more – again, depending on number of specimens.

beth

~~~~~  
**Beth I. Swartz, Wildlife Biologist**  
Reptile, Amphibian and Invertebrate Group  
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650 State Street, Bangor, ME 04401  
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**From:** Lin, Mao <Mao.Lin@tetratech.com>  
**Sent:** Friday, April 17, 2020 5:22 PM  
**To:** Swartz, Beth <Beth.Swartz@maine.gov>  
**Cc:** Hengstenberg, Derek <Derek.Hengstenberg@tetratech.com>; Cassida, Jim <Jim.Cassida@tetratech.com>; Stratton, Robert D <Robert.D.Stratton@maine.gov>; deMaynadier, Phillip <Phillip.deMaynadier@maine.gov>; Yorks, Derek <Derek.Yorks@maine.gov>  
**Subject:** RE: Moscow Renewable Energy Project

Thanks, Beth.

We are subcontracting the Roaring Brook mayfly work to John Tipping at Lotic. John indicated that he will be identifying to species (provided late instars are collected) and then the samples will be provided to Tetra Tech. Can you clarify: once we receive our identified samples back from Lotic, will we then need to send them to MDIFW for further verification with Steve Burian?



If so, can you give us a ballpark estimate of how much we can expect that service/reimbursement to MDIFW to cost?

Thanks – and have a great weekend!

Mao  
917-687-5838

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**From:** Swartz, Beth <[Beth.Swartz@maine.gov](mailto:Beth.Swartz@maine.gov)>  
**Sent:** Friday, April 17, 2020 4:55 PM  
**To:** Lin, Mao <[Mao.Lin@tetratech.com](mailto:Mao.Lin@tetratech.com)>  
**Cc:** Hengstenberg, Derek <[Derek.Hengstenberg@tetratech.com](mailto:Derek.Hengstenberg@tetratech.com)>; Cassida, Jim <[Jim.Cassida@tetratech.com](mailto:Jim.Cassida@tetratech.com)>; Stratton, Robert D <[Robert.D.Stratton@maine.gov](mailto:Robert.D.Stratton@maine.gov)>; deMaynadier, Phillip <[Phillip.deMaynadier@maine.gov](mailto:Phillip.deMaynadier@maine.gov)>; Yorks, Derek <[Derek.Yorks@maine.gov](mailto:Derek.Yorks@maine.gov)>  
**Subject:** RE: Moscow Renewable Energy Project

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Hi Mao,

I'm sorry to take so long in getting back to you. Your email reminded me that the Roaring Brook Mayfly Survey Protocol needed some updating, so I wanted to complete that process before responding.

Attached are MDIFW's survey guidelines for both Roaring Brook Mayfly and Northern Spring Salamander. Please note that the Spring Salamander guidelines have also been recently updated. Older versions of both should be discarded and these current versions followed during any upcoming field surveys. Please also note that final species identifications for mayfly specimens collected during the surveys are now to be conducted by MDIFW through a contract with Dr. Steve Burian. The applicant is then responsible for reimbursing the Department for the cost of Dr. Burian's services.

Yes, I recall that TetraTech surveyed both Mink Brook and Chase Stream for Roaring Brook Mayfly (not sure about Northern Spring Salamander?) during the previous application process in 2016. Although there were no Roaring Brook Mayfly nymphs identified in the samples collected, MDIFW had several concerns regarding how the surveys were conducted, as well as the qualifications of the surveyors. Consequently, we recommend these two streams be resurveyed for the current project, carefully following the attached protocol. I've summarized below the questions and concerns raised by MDIFW in 2016, which we hope will guide TetraTech in planning their surveys for the current project.

Please feel free to contact me if you have any questions,  
beth

### **Summary of 2016 Questions and Concerns:**

- 1. Are field staff conducting Roaring Brook Mayfly (*Epeorus frisoni*) surveys qualified to do the work?** Of the 35 specimens submitted by TetraTech in 2016, only two were actually *Epeorus* species. Of the remaining 33 specimens, about half were other mayfly genera and the other half were actually stonefly larvae. This raised concerns for MDIFW regarding the qualifications of survey personnel. Field staff conducting surveys for *Epeorus frisoni* should be able to distinguish mayfly nymphs from stonefly nymphs, or any other aquatic insect larvae. They should further be able to distinguish *Epeorus* from all other mayfly genera. If they can't do this reliably, they should not be doing the surveys and the work should be sub-contracted to an experienced aquatic insect biologist. MDIFW can provide recommendations of qualified individuals if needed.
- 2. Is MDIFW's recommended survey protocol being followed?** In order to effectively sample for the target species, MDIFW's recommended survey protocol specifically instructs surveyors to process samples in the field to determine if *Epeorus* spp. are present and then to increase survey effort at sites where nymphs of this genus are detected. Increasing effort based on the presence of one or more *Epeorus* nymphs in a sample improves the odds of detecting *Epeorus frisoni*, which typically occurs in very low densities, and it also increases the chances of finding pre-emergent males, which are the most reliable for identification. If surveyors are unable or unwilling to determine if *Epeorus* nymphs are present in their samples, in the field, then they may

be failing to adequately sample at sites where *Epeorus frisoni* could be present.

MDIFW's recommended survey protocol also instructs field staff to sort out and submit only *Epeorus* spp. for identification. This requires some skill but fortunately the genus is very easy to distinguish from all other mayfly genera in Maine. As long as MDIFW's guidelines are carefully followed, there is no need for other mayfly taxa to be submitted for species determinations. While Dr. Burian is amenable to reviewing samples that come in with other mayfly genera, this should be kept to a minimum in order to not overburden his time or the applicant's budget.

- 3. The numbers and diversity of mayfly larvae submitted are unusually low.** Subtracting the stonefly larvae that were submitted as part of the 2016 sample, only ~18 mayfly nymphs were collected in what should have been a minimum of 18 net sweeps (6 survey sites/minimum of 3 sweeps per site). This averages just one mayfly larvae per sweep. While mayfly abundance and diversity can vary with habitat characteristics, time of year, and stream conditions, these samples were markedly depauperate if - as was acknowledged by TetraTech at the time - all mayfly specimens of all genera were submitted. This suggests that these sites may not have been effectively surveyed. [In comparison, MDIFW surveys at just one site on Mink Brook in June 2009 yielded 28 mayfly nymphs of six different genera, including 10 *Epeorus* spp.]

~~~~~  
Beth I. Swartz
Wildlife Biologist

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From: Lin, Mao <Mao.Lin@tetrattech.com>
Sent: Thursday, March 26, 2020 3:09 PM
To: Swartz, Beth <Beth.Swartz@maine.gov>; Yorks, Derek <Derek.Yorks@maine.gov>
Cc: Hengstenberg, Derek <Derek.Hengstenberg@tetrattech.com>; Cassida, Jim <Jim.Cassida@tetrattech.com>
Subject: Moscow Renewable Energy Project

Hi Beth and Derek,

I wanted to reach out on behalf of Patriot Renewables regarding survey guidance for a proposed renewable energy project in Maine. The proposed project will take place in the former radar fields and adjacent areas at the decommissioned US Air Force radar site in Moscow and Caratunk and will consist of approximately 60 megawatts of wind energy (11 5.5-megawatt turbines) and 20 megawatts of solar. Patriot is proposing to replace an existing 115-kilovolt transmission line, so they do not anticipate a need to expand or create a new transmission line corridor to direct generated electricity to the substation at Wyman Dam. However, that transmission line does cross Chase Stream and Mink Brook.

We have initiated agency consultation and recently received MDIFW's biological survey recommendations for the project (attached, for your reference). According to MDIFW, both Roaring Brook mayfly and northern spring salamander have the potential to exist in the area, thus MDIFW recommends that we characterize habitat suitability and conduct surveys on likely habitat. Based on our desktop review and our knowledge of the site, Chase Stream and Mink Brook are the only two streams that are within 250 feet of potential areas where work, including forest clearing, may take place (see attached maps).

I would greatly appreciate it if you could provide me with the latest survey protocols for Roaring Brook mayfly and northern spring salamander surveys and let me know if you have any project-specific guidance. We will be contracting the mayfly work to Lotic and plan to use our experienced staff to conduct the salamander work. This request is somewhat time-sensitive, as we do need to send a SOW to Patriot for these surveys. Please let me know if you anticipate a delay in your response.

Finally, you might recall that Tetra Tech conducted surveys of both Chase Stream and Mink Brook back in 2016. However, that was for a different client, and that client has chosen not to share their results and natural resource reports with Patriot Renewables.

Thanks in advance for your feedback! Please let me know if you have any questions.

Mao
917-687-5838

Mao Lin | Wildlife Biologist

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From: [D'Auria, Danielle](#)
To: [Hengstenberg, Derek](#)
Cc: [Lin, Mao](#); [Stratton, Robert D](#); [Cassida, Jim](#)
Subject: RE: Moscow Renewable Energy Great Blue Heron/Eagle Flight
Date: Wednesday, May 6, 2020 1:39:03 PM
Attachments: [AerialSurveyImages.pdf](#)

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Thank you for the invitation, Derek. I don't think I would be permitted to fly given our social distancing requirements right now. Let me know if you need anything or have any questions. I have attached a pdf with images of heron colonies taken during aerial surveys, in case that is helpful to get the search image down.

I look forward to hearing what you find.

Thank you,
Danielle

~~~~~  
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Website: <http://www.maine.gov/ifw/>  
Blog: <https://www1.maine.gov/wordpress/ifwheron/>  
Facebook: <https://www.facebook.com/maineheron>  
~~~~~

From: Hengstenberg, Derek <Derek.Hengstenberg@tetrattech.com>
Sent: Tuesday, May 05, 2020 2:55 PM
To: D'Auria, Danielle <Danielle.Dauria@maine.gov>
Cc: Lin, Mao <Mao.Lin@tetrattech.com>; Stratton, Robert D <Robert.D.Stratton@maine.gov>; Cassida, Jim <Jim.Cassida@tetrattech.com>
Subject: Moscow Renewable Energy Great Blue Heron/Eagle Flight

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Hello Danielle-

I just wanted to reach out and let you know that Tetra Tech on behalf of Patriot Renewables will be conducting a joint eagle/great blue heron survey for the Moscow Renewable Energy project. We will be flying a 4 mile radius of the project site with the goal of documenting any great blue heron rookeries or any eagle nests following MDIFW guidelines. We have been coordinating with USFWS about this flight regarding the eagle side of things. As it currently stands, we still have one spot open in the helicopter if you have any interest in joining. We are planning on flying on May 14th or May

21.

Let us know if you have any questions.

Thanks

Derek

Derek Hengstenberg, CWB® | Senior Ecologist/ Project Manager

Direct **207-358-2401** | Business **207-358-2400** | Mobile **908-616-0436** | derek.hengstenberg@tetrattech.com

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