

Conversation Contents

FW: 12-19-16 Endicott Den Update

/1. FW: 12-19-16 Endicott Den Update/1.1 12-19-16 FLIR.jpg
/1. FW: 12-19-16 Endicott Den Update/1.2 12-19-16 Photo.jpg
/1. FW: 12-19-16 Endicott Den Update/1.3 Den 3.jpg

Beth Sharp <esharp@hilcorp.com>

From: Beth Sharp <esharp@hilcorp.com>
Sent: Mon Dec 19 2016 20:21:19 GMT-0700 (MST)
To: "Putnam, Christopher" <christopher_putnam@fws.gov>, "Klein, Kimberly" <kimberly_klein@fws.gov>
Subject: FW: 12-19-16 Endicott Den Update
Attachments: 12-19-16 FLIR.jpg 12-19-16 Photo.jpg Den 3.jpg

Thank you Deb and Chuck for the update.

Christopher and Kimberly please see update below. All indications are that the bear is still in her den.

I asked security to start recording traffic along the road (day/time/type/purpose/duration). We'll be sending you regular updates of the traffic log. We've also made some updates to the snow mgmt. plan and traffic mitigation measures document but will make final edits after we receive your written comments.

Thank you for all your help navigation this challenging situation!

Beth Sharp
Wildlife and Habitat Specialist | Hilcorp Alaska, LLC
3800 Centerpoint Drive, Ste 1400 | Anchorage, Alaska 99503
Office: 907-777-8436 | Mobile: 907-242-5700

From: Deborah Heebner
Sent: Monday, December 19, 2016 3:45 PM
To: Beth Sharp
Cc: Alaska NS - Endicott - Enviro Tech - ACS; Alaska NS - Environmental Specialist
Subject: 12-19-16 Endicott Den Update

Beth,
Chuck, our ACS Lead Tech and I drove out to the Den Area in the same vehicle around 1:00 PM. We had Winds blowing at 10 mph and it was overcast with very flat light. The wind chill temperatures were -12 degrees F.

We did not observe any new tracks in the snow. As I indicated yesterday, the area of the den due to the new snow was covered with up to 4 feet of new snow. The holes that were visible before the new snow are now all covered with up to 4 feet of drifted new snow. The area as shown on the attached photo is fairly uniform drifted snow with no unusual features. We did observe both sides of the causeway and saw no new tracks.

Chuck and I both thought the FLIR appeared to pick up a small heat signature in the area of the hole visible on Den 3 Photo taken on 12/13/2016. As indicated previously the winds and drifted snow would also be affecting the heat signature.

Let me know if you have any questions.

Thanks,
Deborah Heebner | North Slope Environmental Specialist
PO Box 244027 | Anchorage, AK 99524-4027
dheebner@hilcorp.com, 907-670-3382 office | 907-782-7431 mobile
www.hilcorp.com

"Klein, Kimberly" <kimberly_klein@fws.gov>

From: "Klein, Kimberly" <kimberly_klein@fws.gov>
Sent: Tue Dec 20 2016 12:46:09 GMT-0700 (MST)
To: Beth Sharp <esharp@hilcorp.com>
Subject: Re: FW: 12-19-16 Endicott Den Update

Thank you for the update.

Kimberly Klein
Wildlife Biologist
U.S. Fish and Wildlife Service
(907) 786-3621
Kimberly_Klein@fws.gov

On Mon, Dec 19, 2016 at 6:21 PM, Beth Sharp <esharp@hilcorp.com> wrote:

Thank you Deb and Chuck for the update.

Christopher and Kimberly please see update below. All indications are that the bear is still in her den.

I asked security to start recording traffic along the road (day/time/type/purpose/duration). We'll be sending you regular updates of the traffic log. We've also made some updates to the snow mgmt. plan and traffic mitigation measures document but will make final edits after we receive your written comments.

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We did not observe any new tracks in the snow. As I indicated yesterday, the area of the den due to the new snow was covered with up to 4 feet of new snow. The holes that were visible before the new snow are now all covered with up to 4 feet of drifted new snow. The area as shown on the attached photo is fairly uniform drifted snow with no unusual features. We did observe both sides of the causeway and saw no new tracks.

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Let me know if you have any questions.

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dheebner@hilcorp.com, 907-670-3382 office | 907-782-7431 mobile
www.hilcorp.com

Conversation Contents

FW: 12-18-16 Endicott Den Update

Attachments:

/2. FW: 12-18-16 Endicott Den Update/1.1 12-18-16 Photo.jpg

Beth Sharp <esharp@hilcorp.com>

From: Beth Sharp <esharp@hilcorp.com>
Sent: Sun Dec 18 2016 17:57:12 GMT-0700 (MST)
To: "Putnam, Christopher" <christopher_putnam@fws.gov>, "Klein, Kimberly" <kimberly_klein@fws.gov>, Alaska NS - Endicott - Enviro Tech - ACS <AlaskaNS-Endicott-EnviroTech-ACS@hilcorp.com>, Alaska NS - Environmental Specialist <AlaskaNS-EnvironmentalSpecialist@hilcorp.com>, "Alaska NS - EHS - Specialist - Endicott & Northstar" <AlaskaNS-EHS-Specialist-EndicottNorthstar@hilcorp.com>, Alaska NS - Endicott - Security Desk <AlaskaNS-Endicott-SecurityDesk@hilcorp.com>, Alaska NS - Endicott - Field Foreman <AlaskaNS-Endicott-Field-Foreman@hilcorp.com>, Bo York <byork@hilcorp.com>
Subject: FW: 12-18-16 Endicott Den Update
Attachments: 12-18-16 Photo.jpg

Please see today's update from the field. Thank you Deb.

-Beth

From: Deborah Heebner
Sent: Sunday, December 18, 2016 3:38 PM
To: Beth Sharp
Cc: Alaska NS - Endicott - Enviro Tech - ACS; Alaska NS - Environmental Specialist
Subject: 12-18-16 Endicott Den Update

Beth,
Chuck, our ACS Lead Tech, Rob with Security and I drove out to the Den Area in the same vehicle around 1:00 PM. We had blowing snow today with the Winds blowing E 14 mph. The wind chill temperatures were -8 degrees F.

We did not observe any new tracks in the snow. As I indicated yesterday, the area of the den due to the blowing snow and new snow was covered with up to 4 feet of new snow. The holes that were visible before the new and blowing snow are now all covered with up to 4 feet of drifted new snow. The new cave-in along the ridge of snow in the area of the breathing hole that was visible yesterday was drifted over today. We did observe both sides of the causeway and saw no new tracks.

The FLIR was not picking up any visible heat signatures with all the new and drifted snow. The winds and blowing snow would also affecting the heat signature. We are using a Bullard T3 FLIR Thermal Imager.

Let me know if you have any questions.
Thanks,
Deborah Heebner | North Slope Environmental Specialist
PO Box 244027 | Anchorage, AK 99524-4027
dheebner@hilcorp.com, 907-670-3382 office | 907-782-7431 mobile
www.hilcorp.com

From: Alaska NS - Environmental Specialist
Sent: Friday, December 16, 2016 10:56 AM
To: Beth Sharp
Subject: 12-16-16 Endicott Den Update

Beth,
I went out with Security between 6:30 and 7:15 AM. We had the blowing snow yesterday and also got some new snow today. The temperatures also warmed up to 8 degrees F.

The area of the den due to the blowing snow and new snow was covered with up to 4 feet of new snow. The holes that were visible on the attached photo are now all covered with up to 4 feet of drifted new snow. There are no visible holes in the area and no new tracks. We did observe both sides of the causeway and saw no new tracks.

The FLIR was not picking up any visible heat signatures with all the new and drifted snow.

Let me know if you have any questions.
Thanks,
Deborah Heebner | North Slope Environmental Specialist
PO Box 244027 | Anchorage, AK 99524-4027
dheebner@hilcorp.com, 907-670-3382 office | 907-782-7431 mobile
www.hilcorp.com

From: Beth Sharp
Sent: Thursday, December 15, 2016 3:50 PM
To: "Putnam, Christopher"; Klein, Kimberly

Cc: Alaska NS - Endicott - Field Foreman; Bo York; Alaska NS - Environmental Specialist; Alaska NS - EHS - Specialist - Endicott & Northstar; Alaska NS - Endicott - Enviro Tech - ACS; Alaska NS - Endicott - Security Desk; Michelle Brown; Pohl, Christina HM
Subject: 12-15-16 Endicott Den Update

Hello Christopher and Kimberly,

Unfortunately due to blustery weather today we could not get a FLIR shot. At the end of the day yesterday there was no indication of any new tracks.

We will attempt to FLIR tomorrow after the wind dies down.

Beth Sharp
Wildlife and Habitat Specialist | Hilcorp Alaska, LLC
3800 Centerpoint Drive, Ste 1400 | Anchorage, Alaska 99503
Office: 907-777-8436 | Cell: 907-242-5700

Conversation Contents

Discuss Hilcorp Snow Management

Attachments:

/3. Discuss Hilcorp Snow Management/1.1 invite.ics

/3. Discuss Hilcorp Snow Management/1.2 Proposed Snow Management Mitigation Measures.docx

Beth Sharp <esharp@hilcorp.com>

From: Beth Sharp <esharp@hilcorp.com>
Sent: Sun Dec 18 2016 17:52:35 GMT-0700 (MST)
To: "Putnam, Christopher" <christopher_putnam@fws.gov>, "Klein, Kimberly" <kimberly_klein@fws.gov>, Deborah Heebner <dheebner@hilcorp.com>
Subject: Discuss Hilcorp Snow Management
Attachments: invite.ics Proposed Snow Management Mitigation Measures.docx

As mentioned in my previous email, this meeting is to review and discuss Hilcorp's proposed snow management mitigation measures. Attached is the proposed plan.

Please call: 907.777.8595, no code needed.

Thanks,

Beth Sharp
Wildlife and Habitat Specialist | Hilcorp Alaska, LLC
3800 Centerpoint Drive, Ste 1400 | Anchorage, Alaska 99503
Office: 907-777-8436 | Mobile: 907-242-5700

Conversation Contents

Snow management mitigation measures

Attachments:

/4. Snow management mitigation measures/1.1 Proposed Snow Management Mitigation Measures.docx

Beth Sharp <esharp@hilcorp.com>

From: Beth Sharp <esharp@hilcorp.com>
Sent: Sun Dec 18 2016 17:45:48 GMT-0700 (MST)
To: "Putnam, Christopher" <christopher_putnam@fws.gov>, "Klein, Kimberly" <kimberly_klein@fws.gov>
Subject: Snow management mitigation measures
Attachments: Proposed Snow Management Mitigation Measures.docx

Hello Christopher and Kimberly,

Deb Heebner worked with Tim Melville, the Roads and Pad Foreman, to create the attached snow management mitigation measures. A couple things to note - we included den checks 30 minute prior and 30 minutes post maintenance because FWS requested that of BP last year. However, we are concerned that the checks might just create more potential disturbance and may not be wise.

Also, we did not increase the 800m (400m each side of den) snow-pusher only zone for several reasons:

- the pusher's inefficiency means that for longer distances, many additional passes would be needed to get the road cleared (creating more sustained noise)
- The pusher leaves berms on the side of the road which promote more and increased drifting, thereby also resulting in much more required snow-clearing activity. The blade can make one pass to pile the snow in a row, then the blower shoots it out onto the tundra so that we don't have berms.

We are hoping you could be available tomorrow at 11:00 to review and discuss this plan. I will send out a meeting invite. If 11:00 doesn't work, Deb indicated she is available at 2:30. I am tied up after 3:30.

Thank you,
Beth

Conversation Contents

Re: Snow Removal

"Putnam, Christopher" <christopher_putnam@fws.gov>

From: "Putnam, Christopher" <christopher_putnam@fws.gov>
Sent: Fri Dec 16 2016 17:56:37 GMT-0700 (MST)
To: Beth Sharp <esharp@hilcorp.com>, "Klein, Kimberly" <kimberly_klein@fws.gov>
Subject: Re: Snow Removal

Hi Beth,

We have concerns about operating the more noisy equipment that close to the den. A distance of 400 ft is roughly 122 m. For comparison, the usual 1 mile no disturbance buffer is about 1,610 m or 5,280 ft. Keeping the back up alarm off and/or not backing up near the den is good, but we need to understand better how the snow management will actually be done. Using the snow push equipment closer the den and the other equipment farther away seems reasonable, under the circumstances. We need to discuss how far away that will be. How will the equipment travel past the den? In a convoy? Separately? How many trips?

Christopher Putnam
Supervisory Fish and Wildlife Biologist
Marine Mammals Management
U.S. Fish & Wildlife Service
1011 East Tudor Rd, MS 341
Anchorage, AK 99503-6199
907-786-3844 office
907-268-0577 mobile
907-786-3816 fax

"All that is gold does not glitter, not all those who wander are lost; the old that is strong does not wither, deep roots are not reached by the frost."
-- J.R.R. Tolkien

On Fri, Dec 16, 2016 at 2:56 PM, Beth Sharp <esharp@hilcorp.com> wrote:

Hello Christopher – See Deb's email below. Let me know if this is acceptable. I will be away from my office for the next hour.

Thank you,
Beth

From: Deborah Heebner
Sent: Friday, December 16, 2016 12:40 PM
To: Beth Sharp
Subject: RE: Photos of Snow Removal Equipment at Endicott

Beth,
I spoke with Tim Melville and he indicated they could turn the back-up alarm off or NOT back up in the area approaching the Polar Bear Den.

Tim also suggested they could use the quieter Snow Push Equipment in an area 400 feet on each side of the Polar Bear Den area. SO the total exclusion zone will be 800 feet in length along the roadway. He indicated that they would avoid cleaning snow in that area and only clean snow if they have big drifts that the security van cannot get through.

Let me know if you have any questions or additional followup.

Thanks,
Deborah Heebner | North Slope Environmental Specialist
PO Box 244027 | Anchorage, AK 99524-4027
dheebner@hilcorp.com, 907-670-3382 office | 907-782-7431 mobile
www.hilcorp.com

From: Deborah Heebner
Sent: Thursday, December 15, 2016 4:26 PM
To: Beth Sharp
Subject: Photos of Snow Removal Equipment at Endicott

Beth,
I talked to Tim Melville, the Lead with Roads and Pads at Endicott. He indicated that the Snow clearing equipment they propose to use to clear the approach to the bridges will sound like typical traffic on the bridge. The bridge is grated, so snow removal from the bridges is not necessary.

I have attached photos taken with my cell phone:

1. Endicott Snow Blower
2. Endicott CAT Blade
3. Endicott Volvo Snow Pusher.

They will not use the Endicott Snow Blower nor the Endicott CAT Blade for moving snow on the approaches to the bridge as they are the noisier pieces of equipment. The snow blower is a Mercedes engine. The Endicott Volvo Snow Pusher will push the snow drifts only from the existing snow packed road.

Let me know if you have any questions.

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Beth Sharp <esharp@hilcorp.com>

From: Beth Sharp <esharp@hilcorp.com>
Sent: Fri Dec 16 2016 19:27:16 GMT-0700 (MST)
To: "Putnam, Christopher" <christopher_putnam@fws.gov>, "Klein, Kimberly" <kimberly_klein@fws.gov>
Subject: RE: Snow Removal

Thanks Christopher. I will work with Deb and R&P on this and let you know what we come up with.
-Beth

From: Putnam, Christopher [mailto:christopher_putnam@fws.gov]
Sent: Friday, December 16, 2016 3:57 PM
To: Beth Sharp; Klein, Kimberly
Cc: Deborah Heebner
Subject: Re: Snow Removal

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Christopher Putnam
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Conversation Contents

FW: 12-16-16 Endicott Den Update

Attachments:

/6. FW: 12-16-16 Endicott Den Update/1.1 2016-12-11 den2.jpg
/6. FW: 12-16-16 Endicott Den Update/1.2 12-16-16 FLIR.jpg

Beth Sharp <esharp@hilcorp.com>

From: Beth Sharp <esharp@hilcorp.com>
Sent: Fri Dec 16 2016 13:06:29 GMT-0700 (MST)
To: "Putnam, Christopher" <christopher_putnam@fws.gov>, "Klein, Kimberly" <kimberly_klein@fws.gov>
Subject: FW: 12-16-16 Endicott Den Update
Attachments: 2016-12-11 den2.jpg 12-16-16 FLIR.jpg

Thank you Deb Heebner for providing the den update below.

Regardless of our negative FLIR shot, there is no other evidence that she left the den. Good news is we are a go on having Todd Brinkman with UAF conduct FLIR overflights with his UAS next week. I'm hoping a FLIR shot from directly overhead will be able to better pick up a heat signature.

Let me know if you have any questions.

Beth Sharp
Wildlife and Habitat Specialist | Hilcorp Alaska, LLC
3800 Centerpoint Drive, Ste 1400 | Anchorage, Alaska 99503
Office: 907-777-8436 | Cell: 907-242-5700

From: Alaska NS - Environmental Specialist
Sent: Friday, December 16, 2016 10:56 AM
To: Beth Sharp
Subject: 12-16-16 Endicott Den Update

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The area of the den due to the blowing snow and new snow was covered with up to 4 feet of new snow. The holes that were visible on the attached photo are now all covered with up to 4 feet of drifted new snow. There are no visible holes in the area and no new tracks. We did observe both sides of the causeway and saw no new tracks.

The FLIR was not picking up any visible heat signatures with all the new and drifted snow.

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FW: Photos of Snow Removal Equipment at Endicott

Attachments:

/7. FW: Photos of Snow Removal Equipment at Endicott/1.1 Endicott Snow Blower.jpg
/7. FW: Photos of Snow Removal Equipment at Endicott/1.2 Endicott CAT Blade.jpg
/7. FW: Photos of Snow Removal Equipment at Endicott/1.3 Endicott Volvo Snow Pusher.jpg

Beth Sharp <esharp@hilcorp.com>

From: Beth Sharp <esharp@hilcorp.com>
Sent: Fri Dec 16 2016 11:47:39 GMT-0700 (MST)
To: "Putnam, Christopher" <christopher_putnam@fws.gov>, "Klein, Kimberly" <kimberly_klein@fws.gov>
Subject: FW: Photos of Snow Removal Equipment at Endicott
Attachments: Endicott Snow Blower.jpg Endicott CAT Blade.jpg Endicott Volvo Snow Pusher.jpg

Hi Christopher – Below is Roads & Pads initial proposed snow management plan. Basically, they are proposing to use only the snow-pusher (3rd attached photo) on the approaches to the bridge. I'll call you in just a bit to discuss.

-Beth

From: Deborah Heebner
Sent: Thursday, December 15, 2016 4:27 PM
To: Beth Sharp
Subject: Photos of Snow Removal Equipment at Endicott

Beth,
I talked to Tim Melville, the Lead with Roads and Pads at Endicott. He indicated that the Snow clearing equipment they propose to use to clear the approach to the bridges will sound like typical traffic on the bridge. The bridge is grated, so snow removal from the bridges is not necessary.

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Thanks,

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PO Box 244027 | Anchorage, AK 99524-4027
dheebner@hilcorp.com, 907-670-3382 office | 907-782-7431 mobile
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Conversation Contents

snow management on Endicott Road

Beth Sharp <esharp@hilcorp.com>

From: Beth Sharp <esharp@hilcorp.com>
Sent: Thu Dec 15 2016 18:11:43 GMT-0700 (MST)
To: "Putnam, Christopher" <christopher_putnam@fws.gov>, "Klein, Kimberly" <kimberly_klein@fws.gov>
Subject: snow management on Endicott Road

Hi again – Would you have time tomorrow to talk about snow removal? With the windy weather up there I image we may end up with some drifts on the road. Deb Heebner is on shift now (NS Env Specialist – Stefan’s alternate). She is gathering data from our roads and pads guys on the equipment we have available. Let me know if there’s a time tomorrow that would work for you.

Thank you,

Beth Sharp
Wildlife and Habitat Specialist | Hilcorp Alaska, LLC
3800 Centerpoint Drive, Ste 1400 | Anchorage, Alaska 99503
Office: 907-777-8436 | Cell: 907-242-5700

Conversation Contents

revised mitigation plan and possible future monitoring

Attachments:

/10. revised mitigation plan and possible future monitoring/1.1 Hilcorp Den Disturbance Mitigation Plan_V2.docx
/10. revised mitigation plan and possible future monitoring/4.1
NorthSlope_Environmental_DIU_Endicott_Road_Polar_Bear_Den_Location_Figure2_11x17L_v01.pdf
/10. revised mitigation plan and possible future monitoring/4.2
NorthSlope_Environmental_DIU_Endicott_Road_Polar_Bear_Den_Vicinity_Figure1_11x17L_v01.pdf

Beth Sharp <esharp@hilcorp.com>

From: Beth Sharp <esharp@hilcorp.com>
Sent: Wed Dec 14 2016 12:50:49 GMT-0700 (MST)
To: "Putnam, Christopher" <christopher_putnam@fws.gov>, "Klein, Kimberly" <kimberly_klein@fws.gov>
Subject: revised mitigation plan and possible future monitoring
Attachments: Hilcorp Den Disturbance Mitigation Plan_V2.docx

Hi again – I wanted to send you a revised version of our mitigation plan. I highlighted the additions in yellow.

Also wanted to let you know I've made initial contact with Geoff York of PBI. Their preliminary plans are to come up in February. I asked him to give me call so we can discuss the particulars of the Endicott den location (might be challenging to get a clear shot from a distance) and what might be feasible for monitoring while minimizing disturbance. I'll let you know how that goes.

Todd Brinkman (UAF guy with drone) and I just talked and he will be sending me their protocols for operation of the UAV for den detection. We discussed risks and the sensitivity of the situation. They will be up next week and said if we give them permission to view the Endicott den that the activity would likely last only part of one day, including 6 passes of about 5 minutes each. We discussed UAV noise but they don't have data on how the noise potentially transfers into the den. Any input you have on this is appreciated.

Thanks,

Beth Sharp
Wildlife and Habitat Specialist | Hilcorp Alaska, LLC
3800 Centerpoint Drive, Ste 1400 | Anchorage, Alaska 99503
Office: 907-777-8436 | Cell: 907-242-5700

"Putnam, Christopher" <christopher_putnam@fws.gov>

From: "Putnam, Christopher" <christopher_putnam@fws.gov>
Sent: Thu Dec 15 2016 11:35:43 GMT-0700 (MST)
To: Beth Sharp <esharp@hilcorp.com>
Subject: Re: revised mitigation plan and possible future monitoring

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Christopher Putnam
Supervisory Fish and Wildlife Biologist
Marine Mammals Management
U.S. Fish & Wildlife Service
1011 East Tudor Rd, MS 341
Anchorage, AK 99503-6199
907-786-3844 office
907-268-0577 mobile
907-786-3816 fax

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On Wed, Dec 14, 2016 at 10:50 AM, Beth Sharp <esharp@hilcorp.com> wrote:

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Thanks,

Beth Sharp
Wildlife and Habitat Specialist | Hilcorp Alaska, LLC
3800 Centerpoint Drive, Ste 1400 | Anchorage, Alaska 99503
Office: 907-777-8436 | Cell: 907-242-5700

Beth Sharp <esharp@hilcorp.com>

From: Beth Sharp <esharp@hilcorp.com>
Sent: Thu Dec 15 2016 11:49:25 GMT-0700 (MST)
To: "Putnam, Christopher" <christopher_putnam@fws.gov>
Subject: RE: revised mitigation plan and possible future monitoring

Thanks Christopher. This is very helpful. I am all for supporting the research so I'll get with Todd and let him know it's a go. They will be up next week so it will happen soon!

Beth Sharp
Wildlife and Habitat Specialist | Hilcorp Alaska, LLC
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From: Putnam, Christopher [mailto:christopher_putnam@fws.gov]
Sent: Thursday, December 15, 2016 9:36 AM
To: Beth Sharp
Cc: Klein, Kimberly
Subject: Re: revised mitigation plan and possible future monitoring

Beth, the revised mitigation plan looks good. As far as the UAS issue is concerned, we are interested in the evaluation of the technology for locating and monitoring dens. Craig Perham from our office has been working with the UAF group on this issue. So, we support allowing access for the purpose of deploying the UAS. There isn't much information regarding how small UAS noise affects denning bears. That's part of our interest, not only to evaluate the technology, but also to evaluate how it does or doesn't affect the bear. The UAS that would be used in this instance is called the Ptarmigan. It's a small hexacopter based on a DJI S800 airframe. It doesn't produce much noise. Todd Brinkman is much better suited to explain their system than I am. Ultimately, we are okay with allowing this if you all are comfortable with it. I hope this was helpful. Let me know if you have other questions.

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From: Beth Sharp <esharp@hilcorp.com>
Sent: Thu Dec 15 2016 12:26:34 GMT-0700 (MST)
To: "Putnam, Christopher" <christopher_putnam@fws.gov>, "Klein, Kimberly" <kimberly_klein@fws.gov>
Subject: FW: revised mitigation plan and possible future monitoring
Attachments: NorthSlope_Environmental_DIU_Endicott_Road_Polar_Bear_Den_Location_Figure2_11x17L_v01.pdf
NorthSlope_Environmental_DIU_Endicott_Road_Polar_Bear_Den_Vicinity_Figure1_11x17L_v01.pdf

Forgot to attach the maps. Looks like on the southwest side we have the first 5mph sign at about 400m from the den. On the northeast side the 5 mph signs start much further out. Our environmental advisors are changing out today and I haven't had a chance to ask why the difference in distance of 5mph signs on either side of the den. Might be a visibility thing. Anyway, please let me know if you think we need to make any adjustments.

-Beth

From: Beth Sharp
Sent: Thursday, December 15, 2016 9:49 AM
To: 'Putnam, Christopher'
Cc: Klein, Kimberly
Subject: RE: revised mitigation plan and possible future monitoring

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Conversation Contents

12-14-16 Endicott Den Update

Attachments:

/11. 12-14-16 Endicott Den Update/1.1 12-14-16 FLIR.jpg

Beth Sharp <esharp@hilcorp.com>

From: Beth Sharp <esharp@hilcorp.com>
Sent: Wed Dec 14 2016 12:47:45 GMT-0700 (MST)
To: "Putnam, Christopher" <christopher_putnam@fws.gov>, "Klein, Kimberly" <kimberly_klein@fws.gov>
Subject: 12-14-16 Endicott Den Update
Attachments: 12-14-16 FLIR.jpg

Hello Christopher and Kimberly,

Attached is today's FLIR shot. Looks like momma bear is still in there. We're sending out a bulletin to Endicott workers outlining our disturbance mitigation measures (e.g., driving restrictions, etc.). The bulletin will be discussed in safety and tailgate meetings.

Sorry for the delay on the map I promised, our cartographer is quite busy these days! Hopefully will have it by the end of today.

Let me know if you have any questions.

Thanks,

Beth Sharp
Wildlife and Habitat Specialist | Hilcorp Alaska, LLC
3800 Centerpoint Drive, Ste 1400 | Anchorage, Alaska 99503
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Conversation Contents

12-13-16 Endicott Den Update

/12. 12-13-16 Endicott Den Update/1.1 12-13-16 FLIR.jpg
/12. 12-13-16 Endicott Den Update/1.2 road closed sign.jpg

Beth Sharp <esharp@hilcorp.com>

From: Beth Sharp <esharp@hilcorp.com>
Sent: Tue Dec 13 2016 13:33:56 GMT-0700 (MST)
To: "Putnam, Christopher" <christopher_putnam@fws.gov>, "Klein, Kimberly" <kimberly_klein@fws.gov>
Subject: 12-13-16 Endicott Den Update
Attachments: 12-13-16 FLIR.jpg road closed sign.jpg

Hello Christopher and Kimberly,

Stefan Gogosha, our environmental advisor, arranged to get another FLIR shot today opportunistically from a vehicle that was already going by. There's definitely still a bear in the den - see attached photo (apparently they can't send an image directly from the FLIR gun they are using). He said for future FLIR shots the vehicle can stop before the den location and the person can walk down the road to take the shot from the bridge, therefore not starting and stopping the vehicle in front of the den, and not walking as close to the den to get the FLIR shot.

There was a light snow last night which covered all old tracks and Stefan said there is no indication of any new tracks today.

I'm working with our cartographer to update our map with locations of the speed limit signs and restricted access signs. I'll send that to you later today or early tomorrow. I also attached a photo of our restricted access sign.

I have sent a message to BJ and Geoff of PBI asking to discuss options for long-term monitoring.

Please call or email if you have any questions.

Thank you,

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"Klein, Kimberly" <kimberly_klein@fws.gov>

From: "Klein, Kimberly" <kimberly_klein@fws.gov>
Sent: Tue Dec 13 2016 13:46:45 GMT-0700 (MST)
To: Beth Sharp <esharp@hilcorp.com>
Subject: Re: 12-13-16 Endicott Den Update

Thanks for the update Beth.

Kimberly Klein
Wildlife Biologist
U.S. Fish and Wildlife Service
(907) 786-3621
Kimberly_Klein@fws.gov

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"Putnam, Christopher" <christopher_putnam@fws.gov>

From: "Putnam, Christopher" <christopher_putnam@fws.gov>
Sent: Tue Dec 13 2016 13:49:48 GMT-0700 (MST)
To: Beth Sharp <esharp@hilcorp.com>
Subject: Re: 12-13-16 Endicott Den Update

Hi Beth,

Thanks for the update. I appreciate that everyone is doing their best to minimize disturbance to this bear. I'd like remind everyone that human safety is still our first priority. Stopping the truck and walking down the road to obtain a FLIR image of the den does reduce potential disturbance. However, there is a polar bear in that hole, so let's not forget safety. I don't have a problem with a truck pausing briefly on the road near the den so a FLIR image can be obtained if it keeps people safe. I trust the judgement of the folks on the ground on what will work best. But, no one's safety should be at risk.

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From: Beth Sharp <esharp@hilcorp.com>
Sent: Tue Dec 13 2016 13:52:09 GMT-0700 (MST)
To: "Putnam, Christopher" <christopher_putnam@fws.gov>

Subject: RE: 12-13-16 Endicott Den Update

Thank you Christopher.

From: Putnam, Christopher [mailto:christopher_putnam@fws.gov]
Sent: Tuesday, December 13, 2016 11:50 AM
To: Beth Sharp
Cc: Klein, Kimberly; Jeff Staley; Paul Boots; Bo York; Alaska NS - Environmental Specialist; Stefan Gogosha; Deborah Heebner
Subject: Re: 12-13-16 Endicott Den Update

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Endicott Road Polar Bear Den

/13. Endicott Road Polar Bear Den/1.1 81E7B835-C37F-43C7-92D8-2CA112F9EB80.jpg
/13. Endicott Road Polar Bear Den/1.2 IMG_0214.jpg
/13. Endicott Road Polar Bear Den/1.3 IMG_0212.jpg
/13. Endicott Road Polar Bear Den/1.4 IMG_0213.jpg
/13. Endicott Road Polar Bear Den/1.5 20161211_145212.jpg
/13. Endicott Road Polar Bear Den/1.6 Den Location.pdf
/13. Endicott Road Polar Bear Den/1.7 FLIR shot.jpg
/13. Endicott Road Polar Bear Den/5.1 Hilcorp Den Disturbance Mitigation Plan.docx
/13. Endicott Road Polar Bear Den/6.1 81E7B835-C37F-43C7-92D8-2CA112F9EB80.jpg
/13. Endicott Road Polar Bear Den/6.2 IMG_0214.jpg
/13. Endicott Road Polar Bear Den/6.3 IMG_0212.jpg
/13. Endicott Road Polar Bear Den/6.4 IMG_0213.jpg
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/13. Endicott Road Polar Bear Den/6.7 Den Location.pdf

Beth Sharp <esharp@hilcorp.com>

From: Beth Sharp <esharp@hilcorp.com>
Sent: Sun Dec 11 2016 18:18:07 GMT-0700 (MST)
To: Christopher Putnam_FWS <IMCEAEX-_o=Hilcorp+20Energy+20Company_ou=Exchange+20Administrative+20Group+20+28FYDIBOHF23SPDLT+29_cn=Recipients_cn: C@hilcorp.com>, "Klein, Kimberly" <kimberly_klein@fws.gov>
Subject: Endicott Road Polar Bear Den
Attachments: 81E7B835-C37F-43C7-92D8-2CA112F9EB80.jpg IMG_0214.jpg IMG_0212.jpg IMG_0213.jpg 20161211_145212.jpg Den Location

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As we discussed, for the rest of today/tonight we will have only essential traffic on the road (e.g., medical emergencies) and the road speed in the vicinity of the den will be reduced to 5 mph.

I and Stefan Gogosha will work with operations to come up with a plan for managing non-essential traffic for the rest of the denning season. In addition we will discuss planned O&M activities for the rest of the season and determine how best we can manage those activities while minimizing disturbance to the denning bear.

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"Klein, Kimberly" <kimberly_klein@fws.gov>

From: "Klein, Kimberly" <kimberly_klein@fws.gov>
Sent: Mon Dec 12 2016 12:56:49 GMT-0700 (MST)
To: Beth Sharp <esharp@hilcorp.com>
Subject: Re: Endicott Road Polar Bear Den

Beth, thank you for the info. We will look forward to speaking with you soon.

Kimberly Klein
Wildlife Biologist
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(907) 786-3621
[Kimberly_Klein@fws.gov](mailto:kimberly_klein@fws.gov)

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From: Beth Sharp <esharp@hilcorp.com>
Sent: Mon Dec 12 2016 14:13:19 GMT-0700 (MST)
To: "Klein, Kimberly" <kimberly_klein@fws.gov>
Subject: RE: Endicott Road Polar Bear Den

Hi Kimberly – We are finalizing our list of proposed mitigation measures and will send to you soon.

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From: Klein, Kimberly [mailto:kimberly_klein@fws.gov]
Sent: Monday, December 12, 2016 10:57 AM
To: Beth Sharp
Cc: Christopher Putnam_FWS; Stefan Gogosha; Jeff Staley
Subject: Re: Endicott Road Polar Bear Den

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From: "Klein, Kimberly" <kimberly_klein@fws.gov>
Sent: Mon Dec 12 2016 14:18:59 GMT-0700 (MST)

To: Beth Sharp <esharp@hilcorp.com>
Subject: Re: Endicott Road Polar Bear Den

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Beth Sharp <esharp@hilcorp.com>

From: Beth Sharp <esharp@hilcorp.com>
Sent: Mon Dec 12 2016 15:06:23 GMT-0700 (MST)
To: "Klein, Kimberly" <kimberly_klein@fws.gov>, "Putnam, Christopher" <christopher_putnam@fws.gov>
Subject: RE: Endicott Road Polar Bear Den
Attachments: Hilcorp Den Disturbance Mitigation Plan.docx

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Please call me to discuss when you get a chance.

Thanks,

Beth Sharp
Wildlife and Habitat Specialist | Hilcorp Alaska, LLC
3800 Centerpoint Drive, Ste 1400 | Anchorage, Alaska 99503

Office: 907-777-8436 | Cell: 907-242-5700

From: Klein, Kimberly [mailto:kimberly_klein@fws.gov]
Sent: Monday, December 12, 2016 12:19 PM
To: Beth Sharp
Cc: Stefan Gogosha; Jeff Staley; Putnam, Christopher
Subject: Re: Endicott Road Polar Bear Den

Thank you Beth.

Kimberly Klein
Wildlife Biologist
U.S. Fish and Wildlife Service
(907) 786-3621
Kimberly_Klein@fws.gov

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Hi Kimberly – We are finalizing our list of proposed mitigation measures and will send to you soon.

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Sent: Monday, December 12, 2016 10:57 AM
To: Beth Sharp
Cc: Christopher Putnam_FWS; Stefan Gogosha; Jeff Staley
Subject: Re: Endicott Road Polar Bear Den

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From: "Klein, Kimberly" <kimberly_klein@fws.gov>
Sent: Mon Dec 12 2016 15:59:48 GMT-0700 (MST)
To: Justin Blank <justin.blank@fairweather.com>
Subject: Fwd: Endicott Road Polar Bear Den
Attachments: 81E7B835-C37F-43C7-92D8-2CA112F9EB80.jpg IMG_0214.jpg IMG_0212.jpg IMG_0213.jpg 20161211_145212.jpg FLIR shot.jpg Den Location.pdf

Endicott rd. den site

"Klein, Kimberly" <kimberly_klein@fws.gov>

From: "Klein, Kimberly" <kimberly_klein@fws.gov>
Sent: Mon Dec 12 2016 16:05:37 GMT-0700 (MST)
To: Beth Sharp <esharp@hilcorp.com>
Subject: Re: Endicott Road Polar Bear Den

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From: "Klein, Kimberly" <kimberly_klein@fws.gov>
Sent: Mon Dec 12 2016 16:08:45 GMT-0700 (MST)
To: Justin Blank <justin.blank@fairweather.com>
Subject: Re: Endicott Road Polar Bear Den

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Sent: Mon Dec 12 2016 16:57:23 GMT-0700 (MST)
To: "Klein, Kimberly" <kimberly_klein@fws.gov>, "Putnam, Christopher" <christopher_putnam@fws.gov>
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Sent: Mon Dec 12 2016 17:10:41 GMT-0700 (MST)
To: "Putnam, Christopher" <christopher_putnam@fws.gov>
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Justin Blank <justin.blank@fairweather.com>

From: Justin Blank <justin.blank@fairweather.com>
Sent: Mon Dec 12 2016 17:40:33 GMT-0700 (MST)
To: "Klein, Kimberly" <kimberly_klein@fws.gov>
Subject: Re: Endicott Road Polar Bear Den

Hey Kim,
After review we went past the Endicott road but did not survey it. Sorry. Thanks.

Justin Blank
Senior Scientist
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Justin.Blank@fairweather.com
(907) 252-7826-cell
(907) 267-4612-direct

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| Endicott rd. den site

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Sent: Mon Dec 12 2016 18:21:48 GMT-0700 (MST)
To: Justin Blank <justin.blank@fairweather.com>
Subject: Re: Endicott Road Polar Bear Den

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From: "Klein, Kimberly" <kimberly_klein@fws.gov>
Sent: Mon Dec 12 2016 19:16:37 GMT-0700 (MST)
To: Justin Blank <justin.blank@fairweather.com>
Subject: Re: Endicott Road Polar Bear Den

Hi Justin, Can you do another spot check? Any hotspots around the NW corner of the Nuna drill site, N70.4187, W 150.2774 (WGS84)? A bear was seen digging around this area back in Nov. and I'm wondering if it settled in?

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To: "Klein, Kimberly" <kimberly_klein@fws.gov>
Subject: Re: Endicott Road Polar Bear Den

Here is the password for the link I just sent you.

jvxhqWLj

Thanks.

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