
Saint George Harbor Feasibility Study

Appendix E – Environmental

Saint George, Alaska

Tentatively Selected Plan

August 17, 2018



**U.S. Army Corps
of Engineers**

Alaska District

From: Rouse, Michael B CIV USARMY CEPOA (US)
To: ["douglass_cooper@fws.gov"](mailto:douglass_cooper@fws.gov)
Subject: FWCA Coordination Request Letter for St. George Navigation Improvements Feasibility Assessment
Date: Wednesday, February 14, 2018 4:38:00 PM
Attachments: [Saint George FWCA Letter-signed.pdf](#)

Good Afternoon, Doug,

As promised per our phone conversation earlier today, here is a FWCA coordination request letter for a USACE feasibility assessment at St. George Island. USACE is evaluating harbor placement, orientation, and various geometries in order to alleviate navigational inefficiencies for the St. George community, which is in dire need of some form of economic improvement, this may just be it.

Although USACE does not anticipate significant impacts to the human or natural environment, we do envision implementing this project under strict timing windows to avoid impacts to marine mammals and sea birds.

Please review the attached letter and provide thoughts and concerns for moving forward.

Sincerely,

Mike Rouse
Fisheries Biologist / NEPA Coordinator
Alaska District US Army Corps of Engineers
(907) 753-2743



DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 6898
JOINT BASE ELMENDORF-RICHARDSON, AK 99506-0898

Douglass Cooper
Conservation Planning Assistance
Anchorage Fish & Wildlife Field Office
4700 BLM Road
Anchorage, AK 99507

Dear Mr. Cooper,

The U.S. Army Corps of Engineers (USACE) respectfully requests your formal collaboration under the Fish and Wildlife Coordination Act in the identification, characterization, or development of either alternatives or mitigation strategies associated with a USACE feasibility assessment of potential navigation improvements at St. George Harbor, Alaska.

USACE's feasibility study is being conducted under authority granted by Section 4010 of the Water Resources Development Act of 2007 (P.L. 110-114):

SEC. 4010. ST. GEORGE HARBOR, ALASKA.

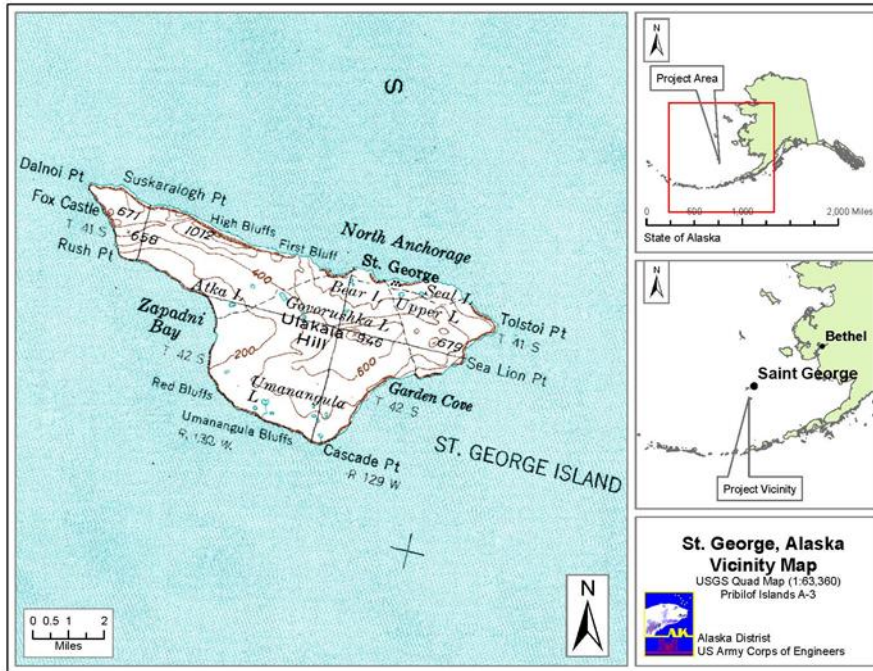
The Secretary shall conduct a study to determine the feasibility of providing navigation improvements at St. George Harbor, Alaska.

St. George Harbor, located on the southeast side of Zapadni Bay, along the western-central edge of St. George Island, was constructed by the City of St. George in 1987. Since then, two separate USACE contracted dredging attempts occurring in 1989 and 1995, failed to reach proper project depths required for safe navigation within the harbor and its entrance channel. Because project depths at the entrance channel were never fully attained, an omnipresent wave break at the harbor entrance channel generates dangerous rafting conditions for vessels attempting to maneuver into the harbor basin. Once inside the breakwater entrance, a one-meter seiche (an oscillating, standing wave) commonly occurs within the inner mooring basin, rendering shoreside facilities and services difficult for vessels to utilize.

Compounding efforts to implement a safe navigational climate at St. George Harbor are the harbor's specific geometry and southwestern orientation that subjects its rubble mound breakwaters to the majority direction of the Bering Sea's wave climate. Shoreline erosion following a six-day major storm event in October of 2004 along the north margin of the harbor facility threatened Delta Western's fuel tank storage facility and simultaneously degraded the functionality of the harbor's south breakwater arm. The Federal Emergency Management Agency (FEMA) along with the Alaska Division of Homeland Security & Emergency Management funded and coordinated repairs to the damaged portions of the breakwaters. In 2015, the south breakwater suffered similar reductions in structural integrity when an unusually intense and long-lived winter storm pummeled it with overtopping waves estimated by eye witnesses at 35-40 feet. FEMA was again engaged for emergency repair funding and coordination. FEMA contractors concluded south breakwater repairs in July of 2017.

As a result of these aforementioned circumstances, opportunities to develop a sustainable marine resources-based economy for the population of St. George have not been realized. Currently, the economy

on St. George Island languishes as it is beset by inefficiencies in its fuel and durable goods deliveries, reduced subsistence and commercial fisheries opportunities, and relative lack of immigration. It is critically important for the viability of the St. George community that improvements to navigation are implemented.

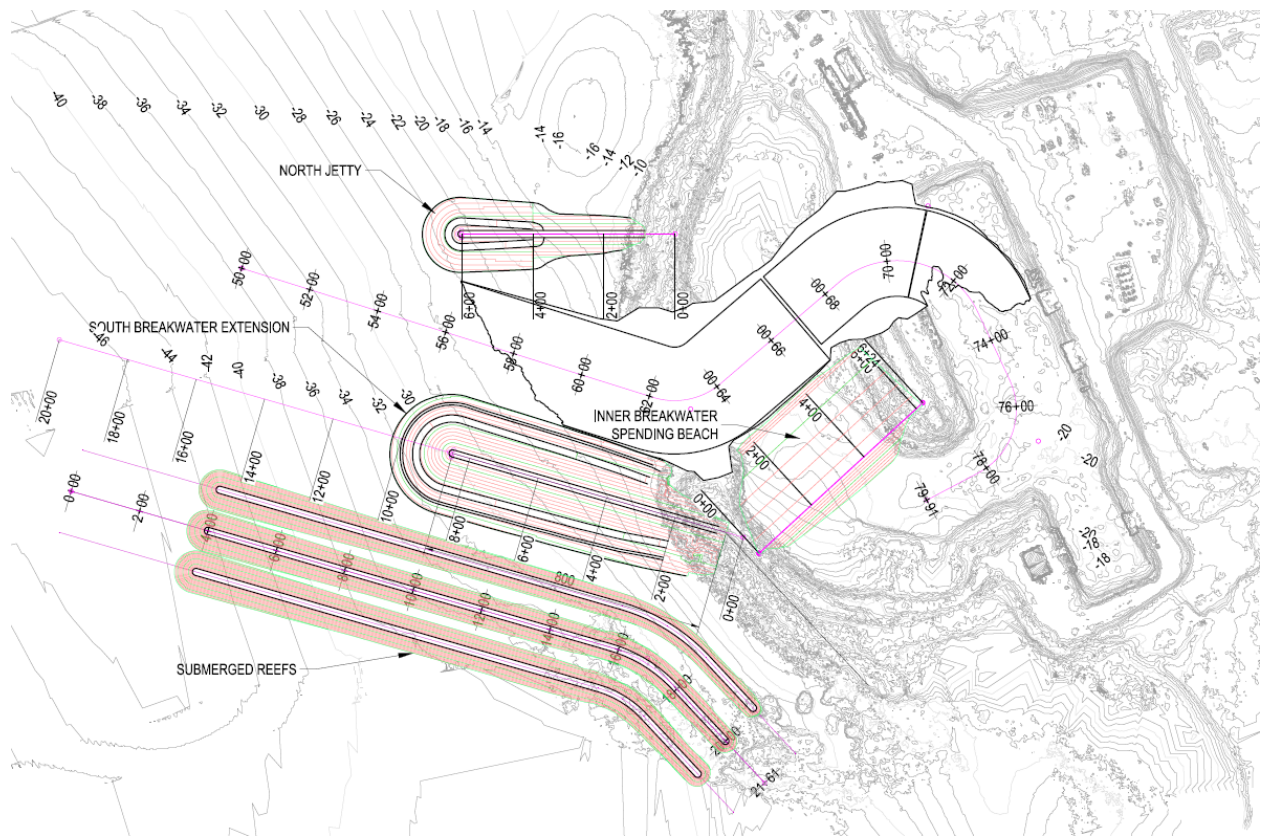


Over the course of a three-day planning charette held January of 2016, USACE, the City of St. George, St. George Traditional Council, St. George Tanaq Corporation, Aleutian Pribilof Island Community Development Association, and various federal and state regulatory agencies agreed that the focus of USACE’s feasibility study should evaluate enhancements to the existing harbor and breakwater structures located at Zapadni Bay. More specifically, whether a different harbor geometry was capable of reducing the navigational hazards associated with its use.

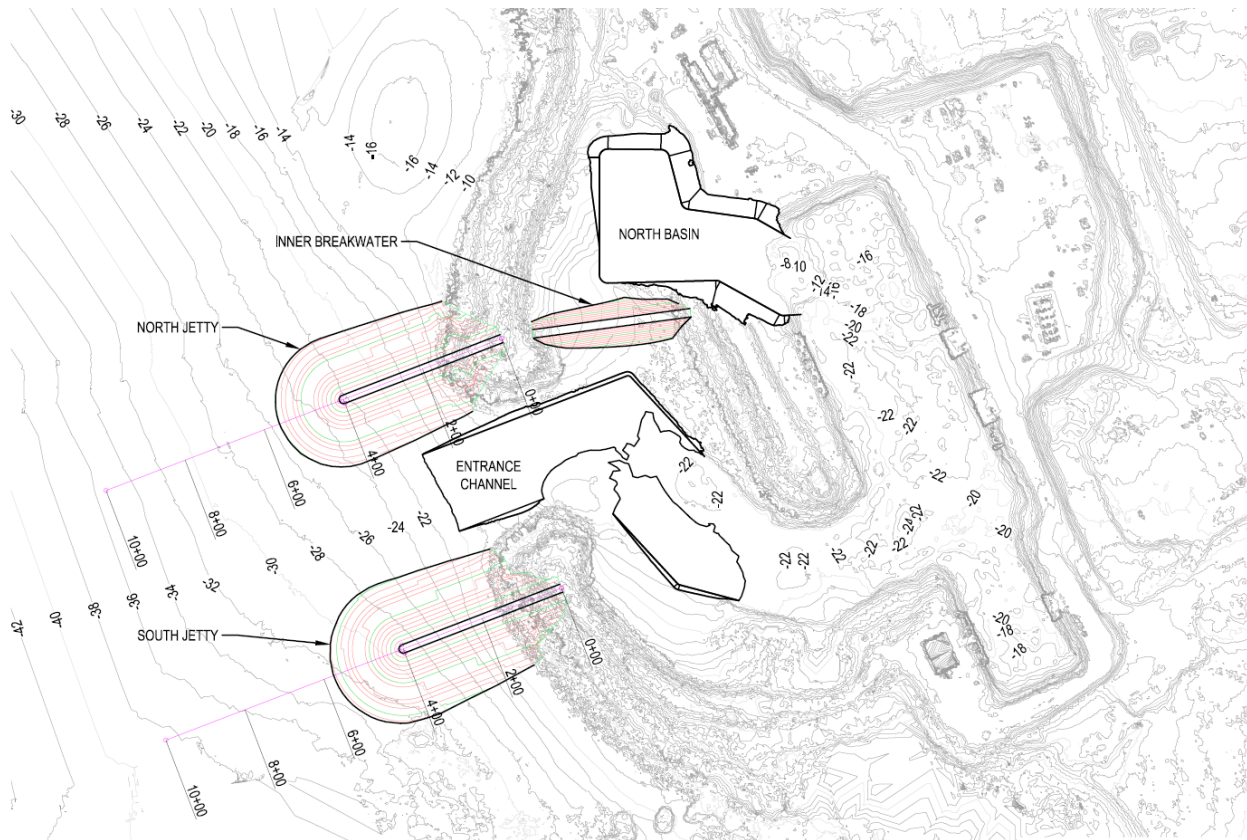


St. George Harbor at Zapadni Ba

USACE economists and hydraulic engineers identified fuel barges and crabbing vessels as the project accommodation design vessels, drafting 10ft and 16ft, respectively. Months of wave and current profiling data collection from the nearshore and existing harbor basin ensued. These data were incorporated into a three stage nested model that predicted wave activity from the open ocean, the nearshore zone, and within the harbor basin itself. Once validated, USACE hydraulic engineers then utilized the predictive model to evaluate an array of different breakwater and harbor geometries. In all, eight different harbor geometries were evaluated by the model, including the existing harbor design.



Example of an alternate harbor geometry tested by USACE's nested model



Example of an alternate harbor geometry tested by USACE's nested model

Despite an inventive array of breakwater geometries and harbor configurations, many that were modeled after existing structures operating in similar wave environments, USACE's modeling efforts consistently identified St. George harbor's orientation to the majority wave climate of the south Bering Sea to be the primary culprit of model run failures. That being said, only practical alternatives were utilized in these model runs; some theoretical geometries that may have satisfied USACE's parameters for safe navigation would have been so expensive as to never have been seriously considered for implementation.

USACE's realization that revitalization or redesign of St. George's Zapadni Bay harbor was impractical led its engineers to reevaluate the St. George Village Cove site as a means of alleviating navigational inefficiencies for the community. Village Cove, located immediately west of St. George Village, served as a natural harbor during the height of the Island's fur sealing enterprise. Skin boats would lighter barrels of salted fur seal pelts from shore to waiting ships. There exists a small but dilapidated dock face at the end of the road that terminates at Village Cove that helped facilitate the transfer of furs and supplies to and from small vessels during calm conditions.



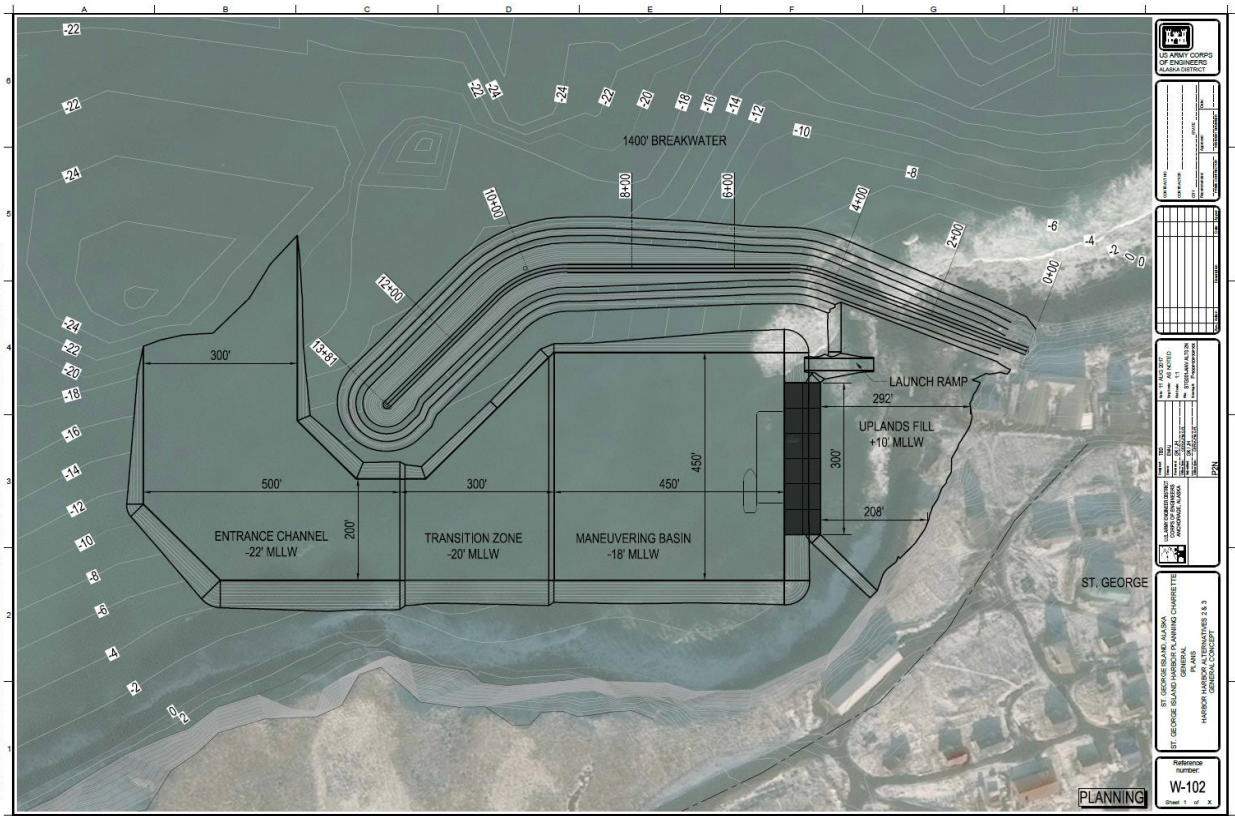
Village Cove site

During the January 2016 planning charette, Village Cove was eliminated from consideration as a viable project site, specifically because of the existing infrastructure at the Zapadni Bay harbor made it a much more probable project location. Building upon the existing breakwater and harbor structures was originally expected to recognize the greatest cost savings and represented the least environmentally damaging alternative. Upon receipt of USACE's harbor geometry modeling results, the St. George City Council held a vote and granted USACE authorization to investigate the previously discounted Village Cove site for its capacity to alleviate St. George's navigation problems. Conceivably, Village Cove is suitable for investigation, its immediately adjacent waters are deep, it is more proximally located to the village, and because it is located on the north side of St. George Island, Village Cove is not subject to the same wave climate that the Zapadni Bay harbor is.

Conversely, the cliffs that surround and naturally define Village Cove serve as nesting habitat for a great diversity of seabirds: thick-billed and common murres, red-faced cormorants, horned and tufted puffins, and black and red-legged kittiwakes are commonly observed at the Village Cove cliffs. From the dilapidated dock face, large groups of least and parakeet auklets can be observed flying overhead as they depart for and return from their foraging locations in the nearshore waters.

A northern fur seal rookery exists approximately 2.5 kilometers to the west of Village Cove where the coastal cliffs give way to rocky beaches. During the summer months, the waters of Village Cove are teeming with northern fur seals as they make their foraging rounds to and from the rookery grounds. Federally endangered western Distinct Population Segment (DPS) Steller sea lions are commonly observed in the waters of Village cove, although in greatly diminished numbers compared to their historical contingent. Northern sea otter are not frequently observed in Village Cove or its immediately adjoining waters. Transient killer whales are known to take northern fur seals and Steller sea lions in Village Cove's nearshore waters. Similarly, during summer months, a variety of other whales and porpoises are known to be present in, or transiting through St. George's nearshore waters.

The waters surrounding St. George Island, to include those of Village Cove, are designated as Essential Fish Habitat (EFH). Both the Fishery Management Plans for the Salmon Fisheries in the Exclusive Economic Zone off Alaska and the Groundfish of the Bering Sea Aleutian Island management area define the attributes of species specific critical habitat elements that are encapsulated in the overall designation of EFH for the nearshore waters of St. George Island. The substrate at Village Cove is primarily composed of biologically encrusted igneous cobbles and boulders with very few areas of fines and sand. Kelp stands are present at Village Cove's northern margin and to the east of the northern point that defines the cove itself.



Alternative developed for wave modeling at Village Cove site



Village Cove, as viewed from the east

Currently, USACE's hydraulic engineers are modeling potential Village Cove harbor geometries that would satisfy the navigational requirements of the aforementioned project design vessels. USACE biologists have been coordinating with National Marine Fisheries Service's office of protected resources and division of fish habitat, and also with USFWS' Alaska Maritime National Wildlife Refuge personnel concerning the potential impacts to the physical and biological resources at the Village Cove site. Under its NEPA and project planning guidance, USACE is preparing an Environmental Assessment for this feasibility assessment and seeks to include USFWS coordination in the identification, characterization, or development of either alternatives or mitigation strategies. Precision data and schematics of proposed alternatives do not exist at this stage of the project development process. However, USACE is resolved to share all existing and pertinent data related to its navigational improvement feasibility assessment at St. George with USFWS in the spirit of satisfying the precepts of the Fish and Wildlife Coordination Act.

Please direct any questions or considerations that you may have to Mr. Michael Rouse, Fisheries Biologist / NEPA Coordinator, U.S. Army Corps of Engineers, Alaska District, 907-753-2743, or at Michael.B.Rouse@usace.army.mil

Michael Rouse
Fisheries Biologist / NEPA Coordinator
U.S. Army Corps of Engineers

From: [Rouse, Michael B CIV USARMY CEPOA \(US\)](#)
To: [Romano, Marc](#)
Subject: RE: [Non-DoD Source] Re: [EXTERNAL] Re: Trip to Saint George
Date: Tuesday, July 25, 2017 9:13:00 AM

Hey Marc,

I'm just back in the office after a week in Kotzebue. I'll have a look for that report today, I can't guarantee that it would be available electronically.

Mike

Mike Rouse
Fisheries Biologist / NEPA Coordinator
Alaska District US Army Corps of Engineers
(907) 753-2743

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

From: Romano, Marc [mailto:marc_romano@fws.gov]
Sent: Wednesday, July 19, 2017 2:18 PM
To: Rouse, Michael B CIV USARMY CEPOA (US) <Michael.B.Rouse@usace.army.mil>
Subject: Re: [Non-DoD Source] Re: [EXTERNAL] Re: Trip to Saint George

Hello Mike,

Would you happen to have a copy of the USACE Harbor Dredging Report for St. George from 1988 that you could share?

Cheers,
Marc

~~~~~  
Marc Romano - Wildlife Biologist  
Alaska Maritime NWR  
Bering Sea Unit  
95 Sterling Hwy., Suite 1  
Homer, AK 99603  
(907) 226-4608 - phone; (907) 235-7783 - fax  
[Marc\\_Romano@fws.gov](mailto:Marc_Romano@fws.gov) <[mailto:Marc\\_Romano@fws.gov](mailto:Marc_Romano@fws.gov)>  
~~~~~

On Fri, Jun 16, 2017 at 11:41 AM, Rouse, Michael B CIV USARMY CEPOA (US) <Michael.B.Rouse@usace.army.mil> <<mailto:Michael.B.Rouse@usace.army.mil>> wrote:

Thanks for the introduction, Marc.

It is very much appreciated.

Hello Emily,

If everything goes according to plan, our Army Corps team will be on St George the afternoon of Wednesday,

the 21st. Our intent is to give a presentation to the community concerning the progress of our feasibility study to make navigational improvements to St. George's harbor and breakwater jetties. The presentation is scheduled for Thursday evening, and the rest of my time will be spent conducting site visits, taking photographs, and recording biological observations that will help me to characterize the ecological processes at work as we move forward with our project. I would be grateful if you could spare some of your valuable time and impart some of your first-hand knowledge on me.

I won't be in the office on Monday or Tuesday, so if you wouldn't mind responding to my civilian email: Ragingbull261@yahoo.com <<mailto:Ragingbull261@yahoo.com>> or calling (if possible) my cell is 907-782-5088.

Thanks a bunch,

Mike Rouse
Fisheries Biologist / NEPA Coordinator
Alaska District US Army Corps of Engineers
(907) 753-2743

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

From: Romano, Marc [mailto:marc_romano@fws.gov <mailto:marc_romano@fws.gov>]
Sent: Friday, June 16, 2017 11:12 AM
To: Rouse, Michael B CIV USARMY CEPOA (US) <Michael.B.Rouse@usace.army.mil
<<mailto:Michael.B.Rouse@usace.army.mil>> >; Emily Pollom <EMILY.POLLOM@gmail.com
<<mailto:EMILY.POLLOM@gmail.com>> >
Subject: Re: [Non-DoD Source] Re: [EXTERNAL] Re: Trip to Saint George

Hello Mike and Emily,

Mike, I'll let you explain your work to Emily and arrange a time for her to show you around.

Emily, Mike is working on a potential project for the Army Corps of Engineers and he is going to be conducting a site visit to get acquainted with the biological resources on St. George. It would be great if you could spend some time with him while he is on-island.

Cheers,
Marc

~~~~~  
Marc Romano - Wildlife Biologist  
Alaska Maritime NWR  
Bering Sea Unit  
95 Sterling Hwy., Suite 1  
Homer, AK 99603  
(907) 226-4608 - phone; (907) 235-7783 - fax  
Marc\_Romano@fws.gov <[mailto:Marc\\_Romano@fws.gov](mailto:Marc_Romano@fws.gov)> <[mailto:Marc\\_Romano@fws.gov](mailto:Marc_Romano@fws.gov)>>  
~~~~~

On Mon, Jun 12, 2017 at 4:12 PM, Michael Williams - NOAA Federal <michael.williams@noaa.gov> <<mailto:michael.williams@noaa.gov>> >> wrote:

dennis lekanof can be reached via email: dj_lekanof@hotmail.com <mailto:dj_lekanof@hotmail.com> <mailto:dj_lekanof@hotmail.com>>
His office number is 859-2447

The FWS will have their seasonal folks on island. I'm not sure how valuable they will be to your needs. Marc Romano is my counterpart over at the Maritime Refuge: marc_romano@fws.gov

mailto:marc_romano@fws.gov <Blockedhttp://fws.gov <Blockedhttp://fws.gov> > . He was on St. George recently, but I am not sure how long he will be there, or if he is still there.

m...

On Mon, Jun 12, 2017 at 4:02 PM, Rouse, Michael B CIV USARMY CEPOA (US) <Michael.B.Rouse@usace.army.mil <<mailto:Michael.B.Rouse@usace.army.mil>>> > wrote:

Absolutely, sir. When it is ready, I'll get it to you.

Do you by chance have some contact info for Dennis Lekanof?

Also, do you know if there will there be any USFWS bird folks out there that I could maybe meet up with?

Mike Rouse
Fisheries Biologist / NEPA Coordinator
Alaska District US Army Corps of Engineers
(907) 753-2743 <tel:%28907%29%20753-2743>

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

From: Michael Williams - NOAA Federal [<mailto:michael.williams@noaa.gov> <<mailto:michael.williams@noaa.gov>> <<mailto:michael.williams@noaa.gov>> >]
Sent: Monday, June 05, 2017 9:26 AM
To: Rouse, Michael B CIV USARMY CEPOA (US) <Michael.B.Rouse@usace.army.mil <<mailto:Michael.B.Rouse@usace.army.mil>>> > >
Subject: Re: [Non-DoD Source] Re: [EXTERNAL] Re: Trip to Saint George

Mike,

If there is an opportunity, I would be very interested in seeing the presentation at some point.
Second I would make sure that you visit with Dennis Lekanof and that you walk towards Zapadni rookery from the harbor along the beach until you encounter seals, and also visit the end of the Zapadni rookery road. I would encourage you to hike up around the rookery to the hill that is between Zapadni and South rookeries. These two rookeries represent about 1/3 of all the fur seals breeding and resting on St. George.

Good luck on your trip. I will touch base with Dennis so that he knows.

m...

On Fri, Jun 2, 2017 at 8:43 AM, Rouse, Michael B CIV USARMY CEPOA (US) <Michael.B.Rouse@usace.army.mil <<mailto:Michael.B.Rouse@usace.army.mil>>> > > <<mailto:Michael.B.Rouse@usace.army.mil>> <<mailto:Michael.B.Rouse@usace.army.mil>> > > > wrote:

Mike,

I've already locked in some travel plans that have me headed out to St George with a few more folks from our Project Development Team, we are planning on giving some presentations to the community on the progress of our project.

We've got some good modeling completed on some of the breakwater structure alternatives. Our travel dates are 21-23 June, so I'll just miss you by a bit.

If there's anything you think I ought to see please pass it along and I'll do my best to check it out.

Mike Rouse
Fisheries Biologist / NEPA Coordinator
Alaska District US Army Corps of Engineers
(907) 753-2743 <tel:%28907%29%20753-2743> <tel:%28907%29%20753-2743>

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

From: Michael Williams - NOAA Federal [mailto:michael.williams@noaa.gov <mailto:michael.williams@noaa.gov> <mailto:michael.williams@noaa.gov> <mailto:michael.williams@noaa.gov>>>]
Sent: Thursday, June 01, 2017 4:39 PM
To: Rouse, Michael B CIV USARMY CEPOA (US) <Michael.B.Rouse@usace.army.mil <mailto:Michael.B.Rouse@usace.army.mil> <mailto:Michael.B.Rouse@usace.army.mil>>>>
Subject: [Non-DoD Source] Re: [EXTERNAL] Re: Trip to Saint George

Hi Mike,

I'm currently planning to be on St. George starting on July 5 through 12, but may delay until the 7th depending on a few things that I hope to hear about by next week.

lets chat next week about what is happening...if anything...I'm off tomorrow M...

On Thu, Mar 30, 2017 at 3:26 PM, Rouse, Michael B CIV USARMY CEPOA (US) <Michael.B.Rouse@usace.army.mil <mailto:Michael.B.Rouse@usace.army.mil> <mailto:Michael.B.Rouse@usace.army.mil>> <mailto:Michael.B.Rouse@usace.army.mil> <mailto:Michael.B.Rouse@usace.army.mil>>>>
<mailto:Michael.B.Rouse@usace.army.mil> <mailto:Michael.B.Rouse@usace.army.mil>>>>
<mailto:Michael.B.Rouse@usace.army.mil> <mailto:Michael.B.Rouse@usace.army.mil>>>>
<mailto:Michael.B.Rouse@usace.army.mil> <mailto:Michael.B.Rouse@usace.army.mil>>>>
>>
wrote:

Mike,

If it's not too much trouble for you I'd like to coordinate my travel plans with your intended dates (perhaps only 4 days, and not all 10). Please give me a ring when you get back from leave so we can discuss some of the logistics.

Thanks,

Mike Rouse
Fisheries Biologist / NEPA Coordinator
Alaska District US Army Corps of Engineers

(907) 753-2743 <tel:%28907%29%20753-2743> <tel:%28907%29%20753-2743>
<tel:%28907%29%20753-2743>

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

From: Michael Williams - NOAA Federal

[mailto:michael.williams@noaa.gov <mailto:michael.williams@noaa.gov>
<mailto:michael.williams@noaa.gov >> <mailto:michael.williams@noaa.gov >
<mailto:michael.williams@noaa.gov >>>

<mailto:michael.williams@noaa.gov > <mailto:michael.williams@noaa.gov >>
<mailto:michael.williams@noaa.gov > <mailto:michael.williams@noaa.gov >>>>]

Sent: Friday, March 17, 2017 9:07 AM

To: Rouse, Michael B CIV USARMY CEPOA (US)

<Michael.B.Rouse@usace.army.mil <mailto:Michael.B.Rouse@usace.army.mil>
<mailto:Michael.B.Rouse@usace.army.mil >> <mailto:Michael.B.Rouse@usace.army.mil >
<mailto:Michael.B.Rouse@usace.army.mil >>>

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<mailto:Michael.B.Rouse@usace.army.mil > <mailto:Michael.B.Rouse@usace.army.mil >>>>

Subject: [EXTERNAL] Re: Trip to Saint George

Hi Mike,

I am currently planning a July trip, right after the 4th for the
start of the
subsistence harvest for about 10 days. That time is optimal for
animals, but
is challenging with Fog. So be prepared to be stuck in Anchorage or
on St.
George for a week of canceled. If you want to go sooner, then we
should
discuss, because I don't likely have budget to go twice in the early
summer.

I had our folks scan the doc so I could review it and get it back to
you. I
have not looked at it yet, but intend to. I am in Seattle at the
moment, and
will be back in Anchorage on Monday, then leave for vacation on
Thursday,
back
April 1.

cheers,

m...

On Thu, Mar 16, 2017 at 4:05 PM, Rouse, Michael B CIV USARMY CEPOA
(US)

<Michael.B.Rouse@usace.army.mil <mailto:Michael.B.Rouse@usace.army.mil>
<mailto:Michael.B.Rouse@usace.army.mil >>

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<mailto:Michael.B.Rouse@usace.army.mil > <mailto:Michael.B.Rouse@usace.army.mil >>>

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>>

wrote:

_____ Mike,

_____ Our project development team is looking at potential dates

_____ for a trip

_____ out to

_____ St. George. I'd like to know when you are planning on being

_____ out there

_____ so

_____ that you might be able to familiarize me with the marine and

_____ avian

_____ resources. I can't imagine that we'd be out there for more

_____ than three

_____ or

_____ four days, maybe less.

_____ Have those St. Paul harbor docs been of any use to you?

_____ Thoughts?

_____ Mike Rouse

_____ Fisheries Biologist / NEPA Coordinator

_____ Alaska District US Army Corps of Engineers

_____ (907) 753-2743 <tel:%28907%29%20753-2743> <tel:%28907%29%20753-2743>

_____ <tel:%28907%29%20753-2743> <tel:%28907%29%20753-2743>
