

# Conversation Contents

## New/Old map request

### Attachments:

/1. New/Old map request/3.1 ANWR\_1002\_10\_17\_2017\_Plate1.jpg  
/1. New/Old map request/3.2 ANWR\_1002\_10\_17\_2017\_Plate2.jpg  
/1. New/Old map request/3.3 ANWR\_1002\_10\_17\_2017\_Plate2.jpg  
/1. New/Old map request/3.4 ANWR\_1002\_10\_17\_2017\_Plate1.jpg  
/1. New/Old map request/5.1 ANWR\_1002\_10\_17\_2017\_Plate2.jpg  
/1. New/Old map request/5.2 ANWR\_1002\_10\_17\_2017\_Plate1.jpg  
/1. New/Old map request/5.3 ANWR\_1002\_10\_17\_2017\_Plate1.jpg  
/1. New/Old map request/5.4 ANWR\_1002\_10\_17\_2017\_Plate2.jpg  
/1. New/Old map request/6.1 ANWR\_1002\_10\_23\_2017\_Plate2.jpg  
/1. New/Old map request/6.2 ANWR\_1002\_10\_23\_2017\_Plate1.jpg  
/1. New/Old map request/8.1 ANWR\_1002\_10\_24\_2017\_Plate2.jpg  
/1. New/Old map request/8.2 ANWR\_1002\_10\_24\_2017\_Plate1.jpg  
/1. New/Old map request/8.3 ANWR\_1002\_10\_24\_2017\_Plate1.jpg  
/1. New/Old map request/8.4 ANWR\_1002\_10\_24\_2017\_Plate2.jpg

**"Jester, Julia" <jjester@usgs.gov>**

---

**From:** "Jester, Julia" <jjester@usgs.gov>  
**Sent:** Mon Oct 16 2017 10:21:30 GMT-0600 (MDT)  
**To:** Christopher Garrity <cgarrity@usgs.gov>, "Houseknecht, David" <dhouse@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, Murray Hitzman <mhitzman@usgs.gov>  
**CC:** "Onizuk, Jeffrey" <jonizuk@usgs.gov>  
**Subject:** New/Old map request

Happy Monday!

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Energy program folks please let Chris know if you are ok with making these changes, and please let me know if you have any questions. I will also make sure DOI is aware of the new request.

Exasperated,

Julia  
x4300

Julia Jester, Ph.D.  
Congressional Liaison Officer  
U.S. Geological Survey  
o: 703-648-4300 c: 571-352-4677

**Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>**

---

**From:** Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>  
**Sent:** Mon Oct 16 2017 10:43:19 GMT-0600 (MDT)  
**To:** Julia Jester <[jjester@usgs.gov](mailto:jjester@usgs.gov)>, Christopher Garrity <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)>, David Houseknecht <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>, Murray Hitzman <[mhitzman@usgs.gov](mailto:mhitzman@usgs.gov)>  
**CC:** Jeffrey Onizuk <[jonizuk@usgs.gov](mailto:jonizuk@usgs.gov)>  
**Subject:** RE: New/Old map request

Fine by me

**From:** Jester, Julia [<mailto:jjester@usgs.gov>]  
**Sent:** Monday, October 16, 2017 12:22 PM  
**To:** Christopher Garrity <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)>; Houseknecht, David <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>; Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>; Murray Hitzman <[mhitzman@usgs.gov](mailto:mhitzman@usgs.gov)>  
**Cc:** Onizuk, Jeffrey <[jonizuk@usgs.gov](mailto:jonizuk@usgs.gov)>  
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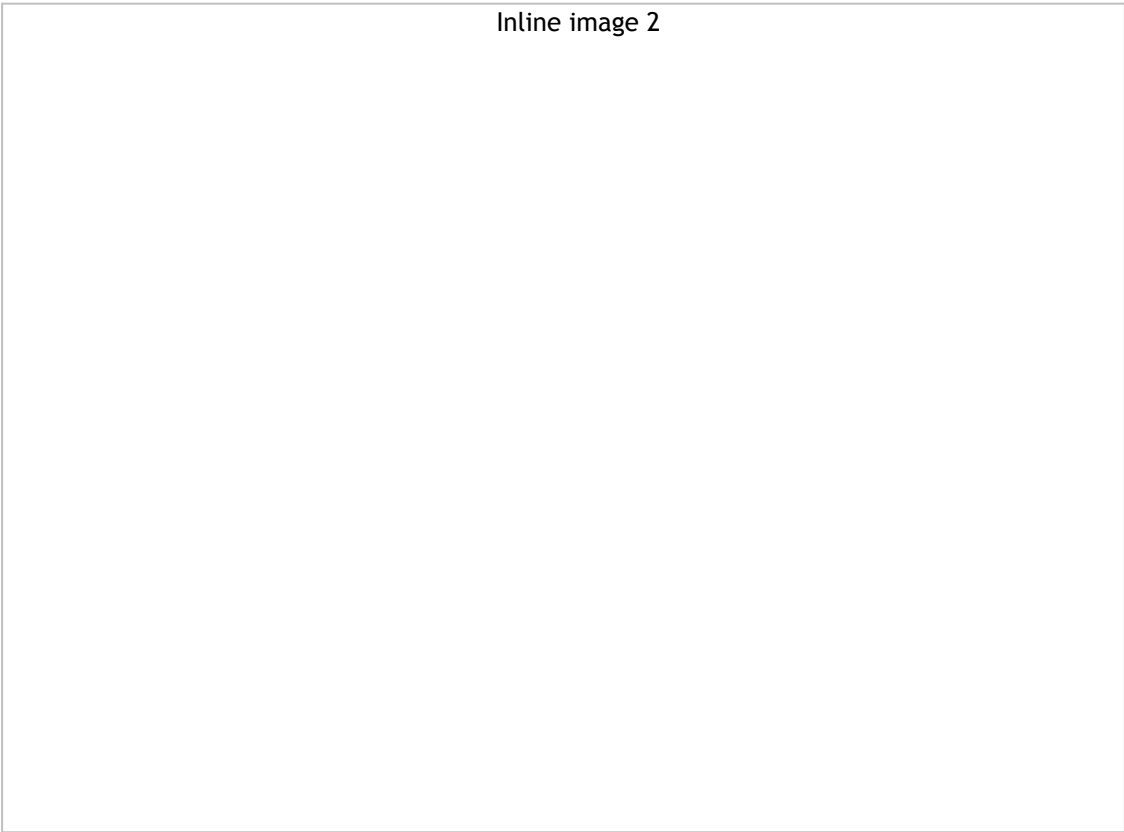
**"Garrity, Christopher" <cgarrity@usgs.gov>**

---

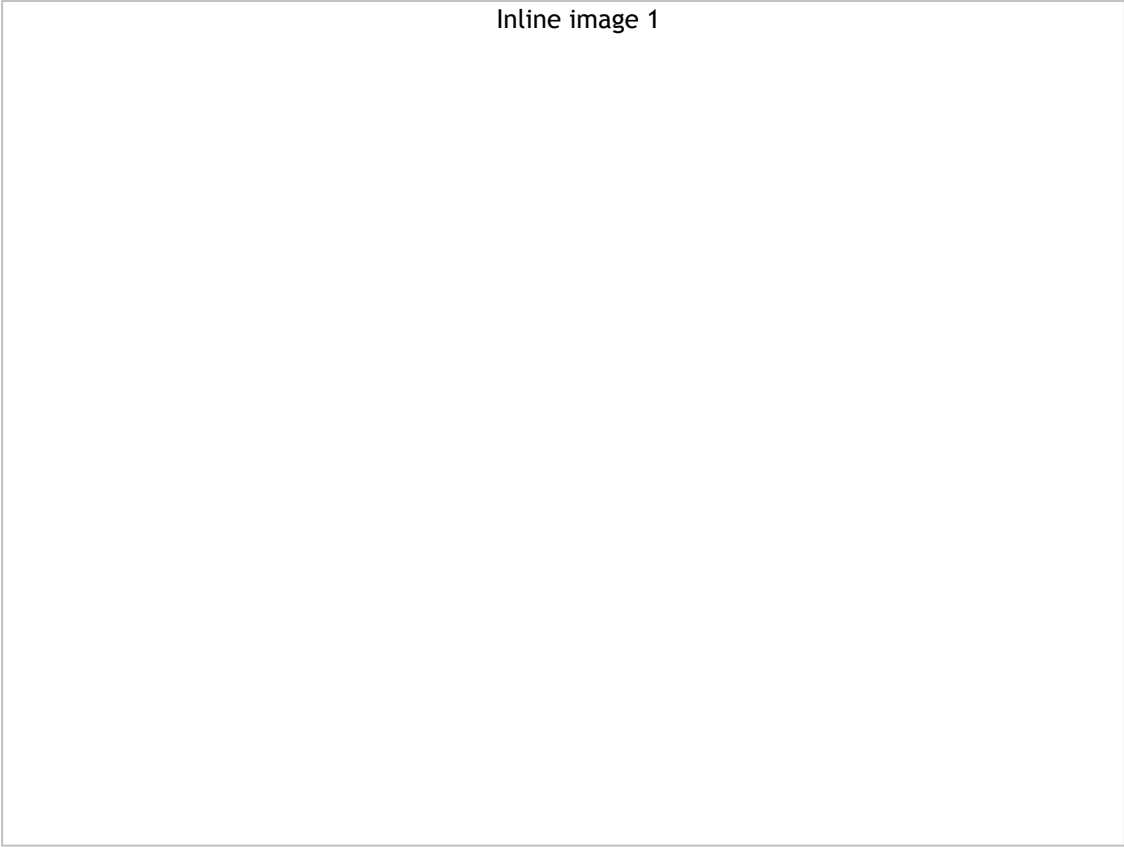
**From:** "Garrity, Christopher" <cgarrity@usgs.gov>  
**Sent:** Tue Oct 17 2017 06:51:19 GMT-0600 (MDT)  
**To:** "Jester, Julia" <jjester@usgs.gov>  
**CC:** "Houseknecht, David" <dhouse@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, Murray Hitzman <mhitzman@usgs.gov>, "Onizuk, Jeffrey" <jonizuk@usgs.gov>  
**Subject:** Re: New/Old map request  
ANWR\_1002\_10\_17\_2017\_Plate1.jpg  
ANWR\_1002\_10\_17\_2017\_Plate2.jpg  
**Attachments:** ANWR\_1002\_10\_17\_2017\_Plate2.jpg  
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Hi Julia,  
See attached...

Inline image 2



Inline image 1



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-Chris

**Christopher Garrity | GIScience**

USGS | 12201 Sunrise Valley Drive, Reston, VA 20192 | USA

T 703.648.6426 | F 703.648.6419 (Fax)

[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov) | [usgs.gov](http://usgs.gov)

**"Houseknecht, David" <dhouse@usgs.gov>**

---

**From:** "Houseknecht, David" <dhouse@usgs.gov>  
**Sent:** Wed Oct 18 2017 01:19:27 GMT-0600 (MDT)  
**To:** Julia Jester <jjester@usgs.gov>  
**CC:** "Garrity, Christopher" <cgarrity@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, Murray Hitzman <mhitzman@usgs.gov>, "Onizuk, Jeffrey" <jonizuk@usgs.gov>  
**Subject:** Re: New/Old map request

Seems they want to push this further and further towards the USGS being responsible for the boundaries shown. As long as the attribution to sources of data remains, I can live with it but I'm a bit uneasy.

Dave Houseknecht  
U.S. Geological Survey  
12201 Sunrise Valley Drive  
MS 956  
Reston, VA 20192  
(703) 648-6466

On Tue, Oct 17, 2017 at 8:53 PM, Julia Jester <[jjester@usgs.gov](mailto:jjester@usgs.gov)> wrote:  
Murray, Walter, Dave -

Not surprisingly, they have requested the removal of the disclaimer box ("USGS makes no warranty..."). Are we ok removing that from this version?

USGS Congressional  
571-352-4677

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See attached...

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<ANWR\_1002\_10\_17\_2017\_Plate2.jpg>

<ANWR\_1002\_10\_17\_2017\_Plate1.jpg>

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**"Garrity, Christopher" <cgarrity@usgs.gov>**

**From:** "Garrity, Christopher" <cgarrity@usgs.gov>  
**Sent:** Wed Oct 18 2017 08:45:01 GMT-0600 (MDT)  
**To:** "Hitzman, Murray" <mhitzman@usgs.gov>  
Julia Jester <jjester@usgs.gov>, "Houseknecht, David"

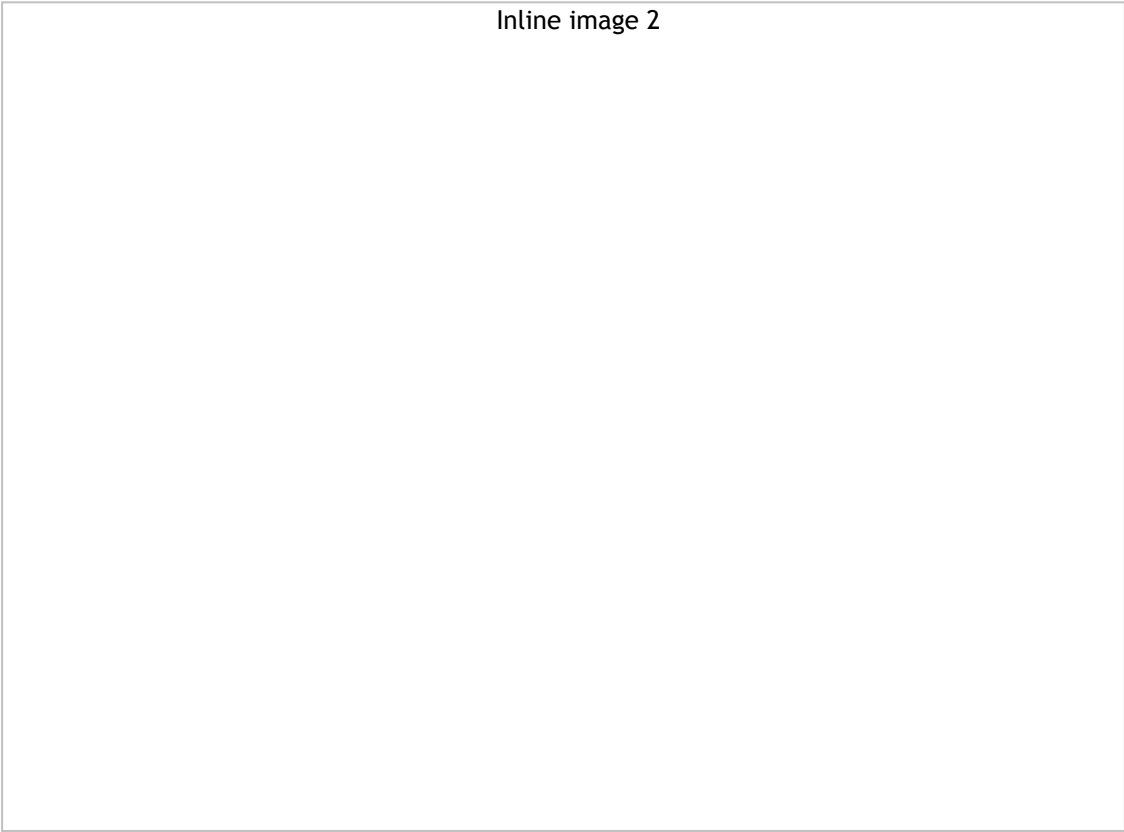
**CC:** <dhouse@usgs.gov>, Walter Guidroz <>wguidroz@usgs.gov>, "Onizuk, Jeffrey" <jonizuk@usgs.gov>

**Subject:** Re: New/Old map request

**Attachments:** ANWR\_1002\_10\_17\_2017\_Plate2.jpg  
ANWR\_1002\_10\_17\_2017\_Plate1.jpg  
ANWR\_1002\_10\_17\_2017\_Plate1.jpg  
ANWR\_1002\_10\_17\_2017\_Plate2.jpg

See attached...

Inline image 2



Inline image 1

On Wed, Oct 18, 2017 at 10:17 AM, Garrity, Christopher <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)> wrote:  
OK...will send shortly then.

On Wed, Oct 18, 2017 at 5:51 AM, Hitzman, Murray <[mhitzman@usgs.gov](mailto:mhitzman@usgs.gov)> wrote:  
assuming this is actually the boundary that we think is correct I believe we can remove the box

On Tue, Oct 17, 2017 at 8:53 PM, Julia Jester <[jjester@usgs.gov](mailto:jjester@usgs.gov)> wrote:  
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<ANWR\_1002\_10\_17\_2017\_Plate2.jpg>

<ANWR\_1002\_10\_17\_2017\_Plate1.jpg>

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Murray W. Hitzman  
U. S. Geological Survey  
Associate Director - Energy and Minerals  
12201 Sunrise Valley Dr., MS 102  
Reston, VA. 20192  
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**From:** "Garrity, Christopher" <cgarrity@usgs.gov>  
**Sent:** Mon Oct 23 2017 13:23:13 GMT-0600 (MDT)  
**To:** "Jester, Julia" <jjester@usgs.gov>  
"Houseknecht, David" <dhouse@usgs.gov>, "Hitzman, Murray" <mhitzman@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, "Onizuk, Jeffrey" <jonizuk@usgs.gov>  
**CC:**  
**Subject:** Re: New/Old map request  
**Attachments:** ANWR\_1002\_10\_23\_2017\_Plate2.jpg  
ANWR\_1002\_10\_23\_2017\_Plate1.jpg

Inline image 1

Inline image 3

On Mon, Oct 23, 2017 at 11:52 AM, Jester, Julia <[jjester@usgs.gov](mailto:jjester@usgs.gov)> wrote:  
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U.S. Geological Survey  
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On Mon, Oct 23, 2017 at 11:42 AM, Houseknecht, David <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)> wrote:  
Agree with Murray about the requested disclaimer.

Only challenge now is which of the multiple channels of the Canning River we should label - presumably the westernmost channel - will work with Garrity on that.

Dave Houseknecht  
U.S. Geological Survey  
[12201 Sunrise Valley Drive](#)  
MS 956  
Reston, VA 20192  
(703) 648-6466

On Mon, Oct 23, 2017 at 11:37 AM, Hitzman, Murray <[mhitzman@usgs.gov](mailto:mhitzman@usgs.gov)> wrote:  
I actually think that clarification works in our favor - will be interesting to see what DOI solicitor says.

On Mon, Oct 23, 2017 at 11:35 AM, Jester, Julia <[jjester@usgs.gov](mailto:jjester@usgs.gov)> wrote:  
Ok, in addition to the river images/labels they would also like to add a small box (similar to the disclaimer we used to have on there) that says:

*"This map is not intended to prejudice ongoing boundary litigation between the State of Alaska and the U.S. Department of the Interior, docketed IBLA 2016-109 and IBLA 2017-55 before the Office of Hearing and*

*Appeals, at the U.S. Department of the Interior."*

I have asked my contacts at DOI to see if the solicitor needs to clear the inclusion of this language. In the meantime, can Energy program folks ok the preparation of these revisions?

Thanks all,

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**Julia Jester <jjester@usgs.gov>**

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**Sent:** Mon Oct 23 2017 16:30:09 GMT-0600 (MDT)  
**To:** "Garrity, Christopher" <cgarrity@usgs.gov>  
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The request is now to remove the name of the Staines, keep the Canning, and remove the arrow. Houseknecht, please weigh in.

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Sorry all.

USGS Congressional  
571-352-4677

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[image: Inline image 1]

[image: Inline image 3]

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12201 Sunrise Valley Drive

<[https://maps.google.com/?  
q=12201+Sunrise+Valley+Drive&entry=gmail&source=g](https://maps.google.com/?q=12201+Sunrise+Valley+Drive&entry=gmail&source=g)>

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<<https://maps.google.com/?q=12201+Sunrise+Valley+Dr&entry=gmail&source=g>>.,

MS 102

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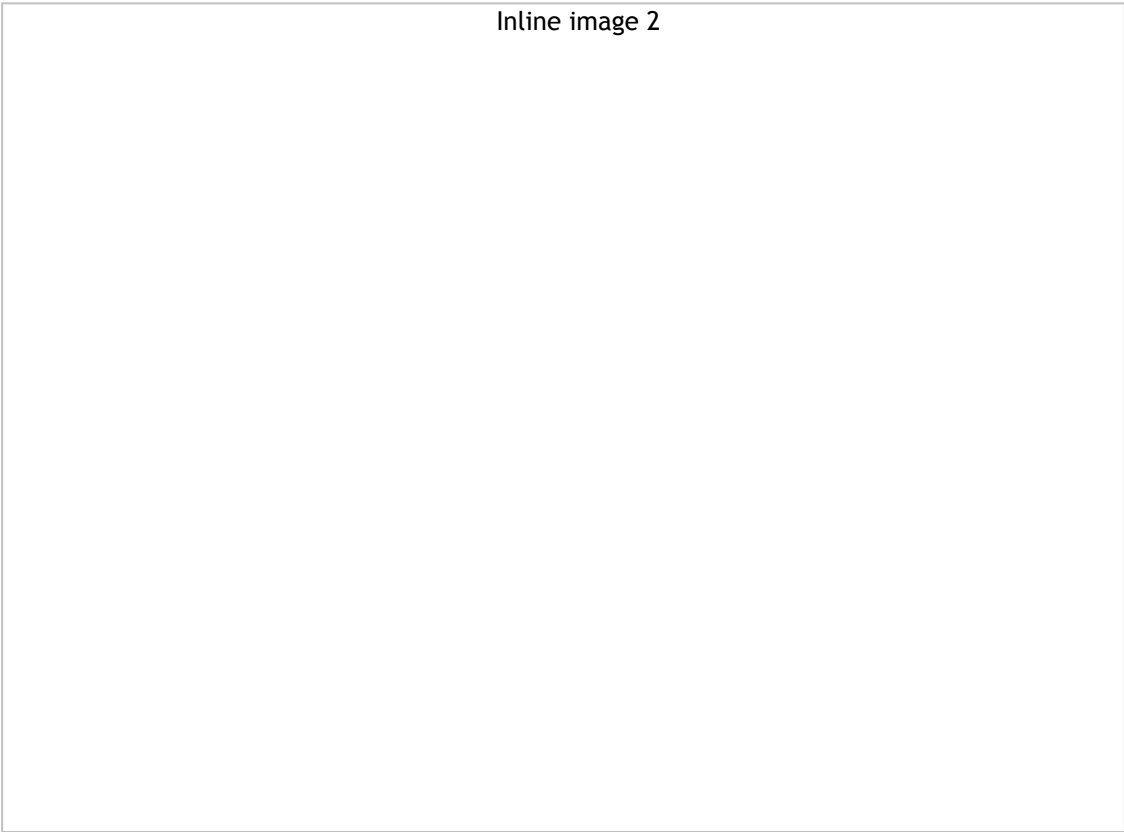
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Inline image 2





Inline image 1

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OK by me. Send.

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[12201 Sunrise Valley Drive](#)  
MS 956  
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On Tue, Oct 24, 2017 at 7:23 AM, Garrity, Christopher <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)> wrote:  
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\*Christopher Garrity | GIScience\*

USGS | [12201 Sunrise Valley Drive, Reston, VA 20192](#) | USA

T 703.648.6426 | F 703.648.6419 (Fax)

\*[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov) <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)>\* | \*[usgs.gov](http://usgs.gov) <<http://usgs.gov>>\*

<ANWR\_1002\_10\_23\_2017\_Plate1.jpg>

<ANWR\_1002\_10\_23\_2017\_Plate2.jpg>

--

-Chris

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--

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# Conversation Contents

## New map request - ANWR

### Attachments:

/2. New map request - ANWR/1.1 05.08.17 - ANWR Map vfinal.docx  
/2. New map request - ANWR/2.1 ANWR\_1002\_9\_26\_2017\_Plate1.jpg  
/2. New map request - ANWR/2.2 ANWR\_1002\_9\_26\_2017\_Plate3.jpg  
/2. New map request - ANWR/2.3 ANWR\_1002\_9\_26\_2017\_Plate2.jpg  
/2. New map request - ANWR/2.4 ANWR\_1002\_9\_26\_2017\_Plate3.jpg  
/2. New map request - ANWR/2.5 ANWR\_1002\_9\_26\_2017\_Plate2.jpg  
/2. New map request - ANWR/2.6 ANWR\_1002\_9\_26\_2017\_Plate1.jpg  
/2. New map request - ANWR/3.1 ANWR\_1002\_9\_26\_2017\_Plate3.jpg  
/2. New map request - ANWR/3.2 ANWR\_1002\_9\_26\_2017\_Plate2.jpg  
/2. New map request - ANWR/3.3 ANWR\_1002\_9\_26\_2017\_Plate1.jpg  
/2. New map request - ANWR/4.1 ANWR\_1002\_9\_26\_2017\_Plate3.jpg  
/2. New map request - ANWR/4.2 ANWR\_1002\_9\_26\_2017\_Plate2.jpg  
/2. New map request - ANWR/4.3 ANWR\_1002\_9\_26\_2017\_Plate1.jpg  
/2. New map request - ANWR/6.1 ANWR\_1002\_9\_26\_2017\_Plate1.jpg  
/2. New map request - ANWR/6.2 ANWR\_1002\_9\_26\_2017\_Plate2.jpg  
/2. New map request - ANWR/6.3 ANWR\_1002\_10\_3\_2017\_Plate3.jpg  
/2. New map request - ANWR/6.4 ANWR\_1002\_10\_3\_2017\_Plate2.jpg  
/2. New map request - ANWR/6.5 ANWR\_1002\_10\_3\_2017\_Plate1.jpg  
/2. New map request - ANWR/6.6 ANWR\_1002\_9\_26\_2017\_Plate3.jpg  
/2. New map request - ANWR/6.7 ANWR\_1002\_10\_3\_2017\_Plate3.jpg  
/2. New map request - ANWR/6.8 ANWR\_1002\_10\_3\_2017\_Plate2.jpg  
/2. New map request - ANWR/6.9 ANWR\_1002\_10\_3\_2017\_Plate1.jpg  
/2. New map request - ANWR/7.1 image.png  
/2. New map request - ANWR/8.1 image.png  
/2. New map request - ANWR/9.1 image.png  
/2. New map request - ANWR/10.1 image.png  
/2. New map request - ANWR/11.1 image.png  
/2. New map request - ANWR/12.1 image.png  
/2. New map request - ANWR/13.1 image.png  
/2. New map request - ANWR/13.2 ANWR\_1002\_10\_5\_2017\_AllOptions.zip  
/2. New map request - ANWR/14.1 image.png

**"Jester, Julia" <jjester@usgs.gov>**

---

**From:** "Jester, Julia" <jjester@usgs.gov>  
**Sent:** Tue Sep 26 2017 13:25:09 GMT-0600 (MDT)  
**To:** Christopher Garrity <cgarrity@usgs.gov>  
David Houseknecht <dhouse@usgs.gov>, Walter Guidroz  
<wguidroz@usgs.gov>, Murray Hitzman <mhitzman@usgs.gov>,  
**CC:** Christopher Trent <ctrent@usgs.gov>  
**Subject:** New map request - ANWR  
**Attachments:** 05.08.17 - ANWR Map vfinal.docx

Hi all,

Murkowski's office has requested a change to the maps we created for the Senator back in early May (three plates attached).

They would like to remove the reference to S. 49, as they are looking to use this map to reference something else (probably legislation yet to be introduced this Congress).

I talked with Bill W about this a few minutes ago so he is aware.

Would it be possible to make these?

Please call me with any questions...

Thank you,

Julia  
x4300

In each Title at the top of the page: remove "...Boundary as Referenced in S. 49 in the 115th Congress" so the new version reads **"ANWR map prepared at the request of Chairman Murkowski, 115th Congress"** and **"Plate X - [today's date]"**

In each Explanation change the ANWR reference from "ANWR Boundary as Referenced in S. 49, introduced in the 115th Congress" to **"ANWR Boundary as requested by Chairman Murkowski, [today's date]."**

Julia Jester, Ph.D.  
Congressional Liaison Officer  
U.S. Geological Survey  
o: 703-648-4300 c: 571-352-4677

**"Garrity, Christopher" <cgarrity@usgs.gov>**

---

**From:** "Garrity, Christopher" <cgarrity@usgs.gov>  
**Sent:** Tue Sep 26 2017 14:02:30 GMT-0600 (MDT)  
**To:** Walter Guidroz <wguidroz@usgs.gov>  
**CC:** Julia Jester <jjester@usgs.gov>, David Houseknecht <dhouse@usgs.gov>, Murray Hitzman <mhitzman@usgs.gov>, Christopher Trent <ctrent@usgs.gov>  
**Subject:** Re: New map request - ANWR  
ANWR\_1002\_9\_26\_2017\_Plate1.jpg  
ANWR\_1002\_9\_26\_2017\_Plate3.jpg  
ANWR\_1002\_9\_26\_2017\_Plate2.jpg  
ANWR\_1002\_9\_26\_2017\_Plate3.jpg  
ANWR\_1002\_9\_26\_2017\_Plate2.jpg  
ANWR\_1002\_9\_26\_2017\_Plate1.jpg

**Attachments:**

All,  
See attached.

Inline image 1

Inline image 2



Inline image 3

On Tue, Sep 26, 2017 at 3:28 PM, Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)> wrote:

Chris G, can you please make the requested changes?

**From:** Jester, Julia [mailto:[jjester@usgs.gov](mailto:jjester@usgs.gov)]

**Sent:** Tuesday, September 26, 2017 3:25 PM

**To:** Christopher Garrity <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)>

**Cc:** David Houseknecht <[dhhouse@usgs.gov](mailto:dhhouse@usgs.gov)>; Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>; Murray Hitzman <[mhitzman@usgs.gov](mailto:mhitzman@usgs.gov)>; Christopher Trent <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)>

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**Julia Jester <jjester@usgs.gov>**

---

**From:** Julia Jester <jjester@usgs.gov>  
**Sent:** Mon Oct 02 2017 16:35:15 GMT-0600 (MDT)  
**To:** wguidroz@usgs.gov, mhitzman@usgs.gov  
**Subject:** Fwd: New map request - ANWR  
ANWR\_1002\_9\_26\_2017\_Plate3.jpg

**Attachments:**

ANWR\_1002\_9\_26\_2017\_Plate2.jpg  
ANWR\_1002\_9\_26\_2017\_Plate1.jpg

Walter and Murray,

These maps have not been conveyed to Murkowski as I have been awaiting DOI clearance. Congressional at DOI has made an additional change request.

They would like to remove the heading from the map and just keep the "plate 1, plate 2, and plate 3 and date produced" - essentially move the first line and keep the second. And they would like to change the explanation to say "ANWR boundary as requested by the Alaska Congressional delegation in the 115th Congress, date."

Is there any issue with removing the header/title of the map? If not, can these changes be made?

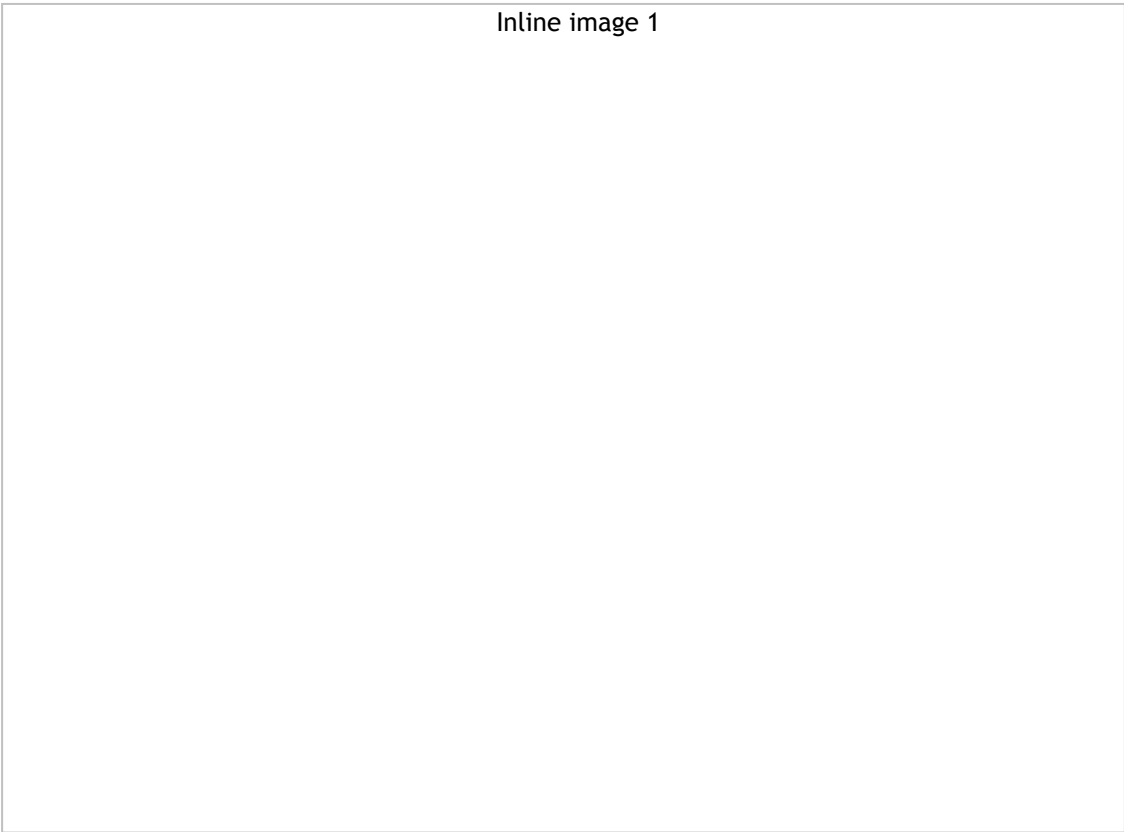
USGS Congressional  
571-352-4677

Begin forwarded message:

**From:** "Garritty, Christopher" <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)>  
**To:** Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>  
**Cc:** Julia Jester <[jjester@usgs.gov](mailto:jjester@usgs.gov)>, David Houseknecht <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>, Murray Hitzman <[mhitzman@usgs.gov](mailto:mhitzman@usgs.gov)>, Christopher Trent <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)>  
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**To:** Christopher Garrity <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)>

**Cc:** David Houseknecht <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>; Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>;

Murray Hitzman <[mhitzman@usgs.gov](mailto:mhitzman@usgs.gov)>; Christopher Trent <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)>  
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Congressional Liaison Officer  
U.S. Geological Survey  
o: 703-648-4300 c: 571-352-4677

--

-Chris

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**"Jester, Julia" <jjester@usgs.gov>**

---

**From:** "Jester, Julia" <jjester@usgs.gov>  
**Sent:** Tue Oct 03 2017 05:20:08 GMT-0600 (MDT)  
**To:** "Garrity, Christopher" <cgarrity@usgs.gov>  
**CC:** Walter Guidroz <wguidroz@usgs.gov>, David Houseknecht <dhouse@usgs.gov>, Murray Hitzman <mhitzman@usgs.gov>, Christopher Trent <ctrent@usgs.gov>  
**Subject:** Re: New map request - ANWR  
**Attachments:** ANWR\_1002\_9\_26\_2017\_Plate3.jpg  
ANWR\_1002\_9\_26\_2017\_Plate2.jpg  
ANWR\_1002\_9\_26\_2017\_Plate1.jpg

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Would it be possible for you to make these changes? And please let me know if anyone has concerns with removing the header/title of the map - 571-352-4677.

Thanks,

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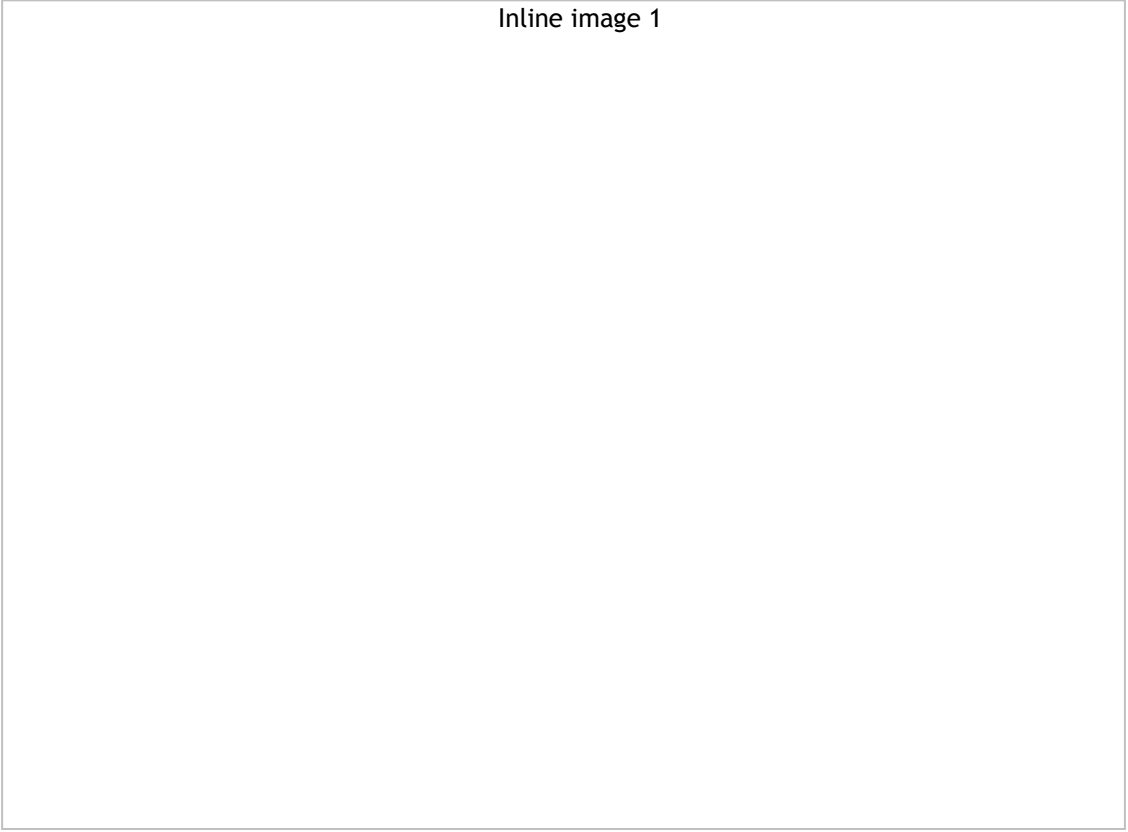
Julia Jester, Ph.D.  
Congressional Liaison Officer  
U.S. Geological Survey  
o: 703-648-4300 c: 571-352-4677

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U.S. Geological Survey  
o: 703-648-4300 c: 571-352-4677

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**Sent:** Tuesday, September 26, 2017 3:25 PM

**To:** Christopher Garrity <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)>

**Cc:** David Houseknecht <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>; Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>; Murray



Hitzman <[mhitzman@usgs.gov](mailto:mhitzman@usgs.gov)>; Christopher Trent <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)>  
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---

**Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>**

---

**From:** Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>  
**Sent:** Tue Oct 03 2017 07:21:35 GMT-0600 (MDT)  
**To:** "Houseknecht, David" <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>  
"Garrity, Christopher" <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)>, "Jester, Julia"  
<[jjester@usgs.gov](mailto:jjester@usgs.gov)>, Murray Hitzman <[mhitzman@usgs.gov](mailto:mhitzman@usgs.gov)>,  
Christopher Trent <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)>  
**CC:**  
**Subject:** Re: New map request - ANWR

I thought I replied yesterday but perhaps my reply went only to Julia. I see no issues with this; please proceed... Walter Sent from my iPhone > On Oct 3, 2017, at 11:17 AM, Houseknecht, David <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)> wrote: > > I see no problem with the revisions, so let's send them. > > Hopefully, the fact that the latest revisions in wording were requested by > DOI will be conveyed to Senator Murkowski's staff. > > Dave Houseknecht > U.S. Geological Survey > 12201 Sunrise Valley Drive > MS 956 > Reston, VA 20192 > (703) 648-6466 > > On Tue, Oct 3, 2017 at 9:05 AM, Garrity, Christopher <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)> > wrote: > > Julia- > > No problem. When I get the OK from Energy I'll send them along. > > > On Tue, Oct 3, 2017 at 7:20 AM, Jester, Julia <[jjester@usgs.gov](mailto:jjester@usgs.gov)> wrote: > > > Good morning Chris, > > > DOI has requested an additional change to the set of ANWR maps (these > > > have not been conveyed to the Hill yet as I have been awaiting clearance > > > downtown). > > > Specifically, they would like to remove the heading from the map and > > > just keep the "Plate 1, Plate 2, and Plate 3 and date" - essentially remove > > > the first line and keep the second. And they would like to change the > > > explanation to say "ANWR boundary as requested by the Alaska Congressional > > > delegation in the 115th Congress, date." > > > Would it be possible for you to make these changes? And please let me > > > know if anyone has concerns with removing the header/title of the map - > > > 571-352-4677. > > > Thanks, > > > Julia > > > Julia Jester, Ph.D. > > > Congressional Liaison Officer > > > U.S. Geological Survey > > > o: 703-648-4300 c: 571-352-4677 > > > > On Tue, Sep 26, 2017 at 4:10 PM, Jester, Julia <[jjester@usgs.gov](mailto:jjester@usgs.gov)> wrote: > > > > Thank you. > > > > Julia Jester, Ph.D. > > > > Congressional Liaison Officer > > > > U.S. Geological Survey > > > > o: 703-648-4300 c: 571-352-4677 > > > > On Tue, Sep 26, 2017 at 4:02 PM, Garrity, Christopher > > > > wrote: > > > > All, > > > > See attached. > > > > [image: Inline image 1] > > > > [image: Inline image 2] > > > > [image: Inline image 3] > > > > On Tue, Sep 26, 2017 at 3:28 PM, Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)> > > > > wrote: > > > > > Chris G, can you please make the requested changes? > > > > > > > > > > \*From:\* Jester, Julia [mailto:[jjester@usgs.gov](mailto:jjester@usgs.gov)] > > > > \*Sent:\* Tuesday, September 26, 2017 3:25 PM > > > > \*To:\* Christopher Garrity <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)> > > > > \*Cc:\* David Houseknecht <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>; Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>; Murray Hitzman

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## "Garrity, Christopher" <cgarrity@usgs.gov>

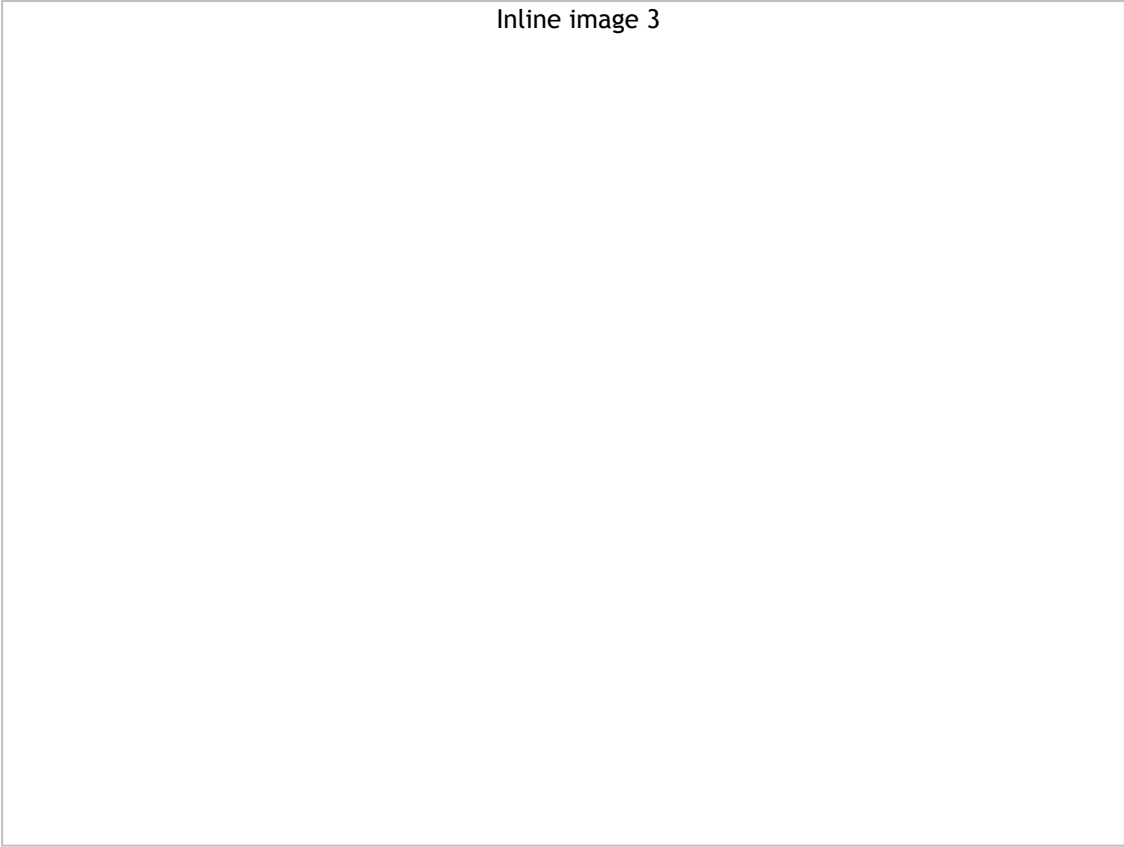
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**Sent:** Tuesday, September 26, 2017 3:25 PM

**To:** Christopher Garrity <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)>

**Cc:** David Houseknecht <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>; Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>; Murray Hitzman <[mhitzman@usgs.gov](mailto:mhitzman@usgs.gov)>; Christopher Trent <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)>

**Subject:** New map request - ANWR

Hi all,

Murkowski's office has requested a change to the maps we created for the Senator back in early May (three plates attached).

They would like to remove the reference to S. 49, as they are looking to use this map to reference something else (probably legislation yet to be introduced this Congress).

I talked with Bill W about this a few minutes ago so he is aware.

Would it be possible to make these?

Please call me with any questions...

Thank you,

Julia

x4300

In each Title at the top of the page: remove "...Boundary as Referenced in S. 49 in the 115th Congress" so the new version reads **"ANWR map prepared at the request of Chairman Murkowski, 115th Congress"** and **"Plate X - [today's date]"**

In each Explanation change the ANWR reference from "ANWR Boundary as Referenced in S. 49, introduced in the 115th Congress" to **"ANWR Boundary as requested by Chairman Murkowski, [today's date]."**

Julia Jester, Ph.D.  
Congressional Liaison Officer  
U.S. Geological Survey  
o: 703-648-4300 c: 571-352-4677

--

-Chris

**Christopher Garrity | GIScience**  
USGS | [12201 Sunrise Valley Drive, Reston, VA 20192 | USA](#)  
T 703.648.6426 | F 703.648.6419 (Fax)  
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**"Houseknecht, David" <dhouse@usgs.gov>**

---

**From:** "Houseknecht, David" <dhouse@usgs.gov>  
**Sent:** Wed Oct 04 2017 13:48:34 GMT-0600 (MDT)  
**To:** "Jester, Julia" <jjester@usgs.gov>  
**CC:** "Garrity, Christopher" <cgarrity@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, Murray Hitzman <mhitzman@usgs.gov>, Christopher Trent <ctrent@usgs.gov>  
**Subject:** Re: New map request - ANWR  
**Attachments:** image.png

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Dave Houseknecht  
U.S. Geological Survey  
12201 Sunrise Valley Drive  
MS 956  
Reston, VA 20192  
(703) 648-6466

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Line 2: **"Map prepared at the request of the Senate Energy and Natural Resources Committee 10/4/2017"**

Explanation:

- Strike the word "explanation"
- ANWR - strike all *after* the word "boundary" so it just reads: **"ANWR boundary"** (see attached picture)

I'm at 571-352-4677, thanks.

Inline image 1

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**"Jester, Julia" <jjester@usgs.gov>**

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**From:** "Jester, Julia" <jjester@usgs.gov>  
**Sent:** Wed Oct 04 2017 17:07:54 GMT-0600 (MDT)  
**To:** "Garrity, Christopher" <cgarrity@usgs.gov>  
**CC:** "Houseknecht, David" <dhouse@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, Murray Hitzman <mhitzman@usgs.gov>, Christopher Trent <ctrent@usgs.gov>  
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Julia Jester, Ph.D.  
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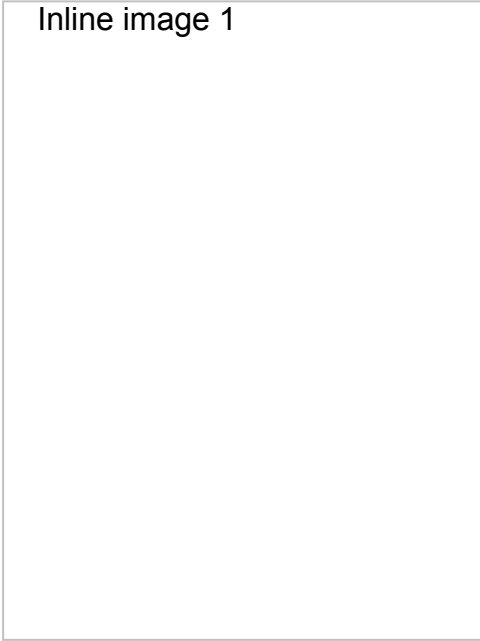
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**From:** "Houseknecht, David" <dhouse@usgs.gov>  
**Sent:** Thu Oct 05 2017 07:01:35 GMT-0600 (MDT)  
**To:** "Hitzman, Murray" <mhitzman@usgs.gov>

**CC:** "Jester, Julia" <jjester@usgs.gov>, "Garrity, Christopher" <cgarrity@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, Christopher Trent <ctrent@usgs.gov>  
**Subject:** Re: New map request - ANWR  
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Julia phoned me late yesterday - she and Bill W. came up with wording that they believe will be acceptable to DOI and not jeopardize USGS integrity. So, I have given Garrity the green light to make the revisions, but he is not in yet, so nothing has happened. However, the revisions will take only a few minutes, so the revisions will be done soon and map will be sent to everyone in this thread.

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o: 703-648-4300 c: 571-352-4677

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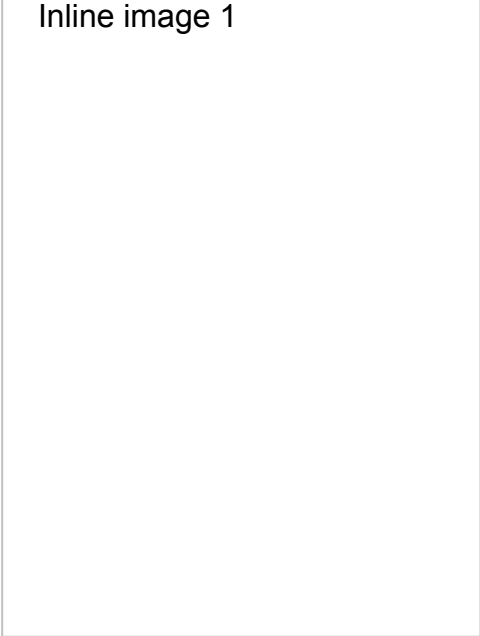
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Murray W. Hitzman  
U. S. Geological Survey  
Associate Director - Energy and Minerals  
12201 Sunrise Valley Dr., MS 102  
Reston, VA. 20192  
703-648-4576

## "Houseknecht, David" <dhouse@usgs.gov>

---

**From:** "Houseknecht, David" <dhouse@usgs.gov>  
**Sent:** Thu Oct 05 2017 07:18:04 GMT-0600 (MDT)  
**To:** "Hitzman, Murray" <mhitzman@usgs.gov>  
**CC:** "Jester, Julia" <jjester@usgs.gov>, "Garrity, Christopher" <cgarrity@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, Christopher Trent <ctrent@usgs.gov>  
**Subject:** Re: New map request - ANWR  
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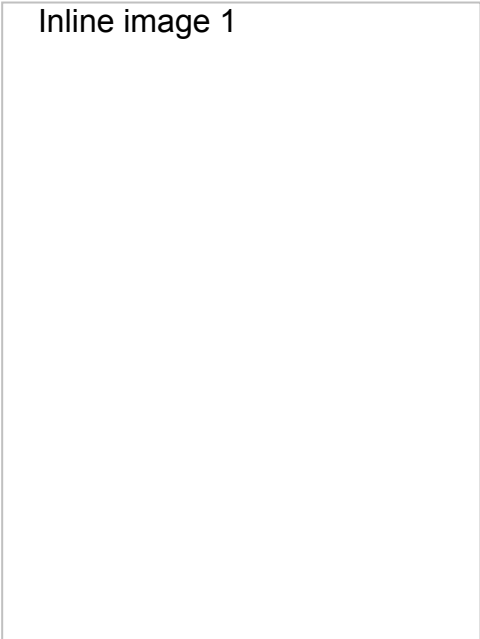
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## **"Houseknecht, David" <dhouse@usgs.gov>**

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**Sent:** Thu Oct 05 2017 07:24:25 GMT-0600 (MDT)  
**To:** "Jester, Julia" <jjester@usgs.gov>  
"Hitzman, Murray" <mhitzman@usgs.gov>, "Garrity, Christopher" <cgarrity@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, Christopher Trent <ctrent@usgs.gov>  
**CC:**  
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Yes, that is correct. The BLM data also were used for the Native boundaries.

Dave Houseknecht  
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On Thu, Oct 5, 2017 at 9:23 AM, Jester, Julia <[jjester@usgs.gov](mailto:jjester@usgs.gov)> wrote:

Thanks - is it accurate that we used the state data just for that disputed boundary area, and then federal data (from BLM and BOEM) for the rest of the AN

Julia Jester, Ph.D.  
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Sources:

State of Alaska shapefile > ANWR boundary (see dispute map here [http://dnr.alaska.gov/mlw/hottopics/pdfs/anwr/ANWR\\_2017-5-2\\_letter.pdf](http://dnr.alaska.gov/mlw/hottopics/pdfs/anwr/ANWR_2017-5-2_letter.pdf))

Bureau of Land Management > Native boundaries

Bureau of Ocean Energy Management > Seaward boundary

Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community > Satellite basemap

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Inline image 1

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**Sent:** Thu Oct 05 2017 07:38:49 GMT-0600 (MDT)  
**To:** "Jester, Julia" <[jjester@usgs.gov](mailto:jjester@usgs.gov)>  
**CC:** "Houseknecht, David" <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>, "Hitzman, Murray" <[mhitzman@usgs.gov](mailto:mhitzman@usgs.gov)>, Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>, Christopher Trent <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)>  
**Subject:** Re: New map request - ANWR  
**Attachments:** image.png ANWR\_1002\_10\_5\_2017\_AllOptions.zip

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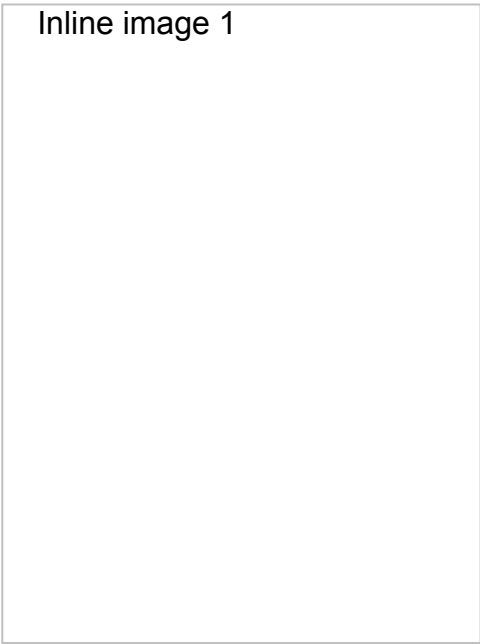
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**Subject:** Re: New map request - ANWR  
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Thank you everyone. A decision was reached and B version of plates were sent to the Senator's office.

-Julia  
x4300

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# Conversation Contents

[don't read til Mon!] Corrected State ANWR shapefile

## Attachments:

- /3. [don't read til Mon!] Corrected State ANWR shapefile/1.1 image.png
- /3. [don't read til Mon!] Corrected State ANWR shapefile/1.2 ANWR\_Alaska.zip
- /3. [don't read til Mon!] Corrected State ANWR shapefile/2.1 image.png

**"Trent, Christopher" <ctrent@usgs.gov>**

---

**From:** "Trent, Christopher" <ctrent@usgs.gov>  
**Sent:** Fri May 05 2017 14:34:21 GMT-0600 (MDT)  
**To:** Chris Garrity <cgarrity@usgs.gov>  
**CC:** "Houseknecht, David" <dhouse@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, Julia Jester <jjester@usgs.gov>  
**Subject:** [don't read til Mon!] Corrected State ANWR shapefile  
**Attachments:** image.png ANWR\_Alaska.zip

Hi Chris,

As the subject states, I hope you had an excellent weekend!

We got another request from the committee about the ANWR map. This should not be technically challenging, but I will ask you to independently confirm some things before hitting send.

The State apparently corrected their shapefile at the western boundary. Something about their interpretation of the public land order and a little nub of land at the barrier island. In any case, the committee has told me that AK DNR has updated the shapefile at their website, <http://dnr.alaska.gov/mlw/hottopics/index.cfm>. Right now, however, it doesn't indicate any correction.

Attached is a copy of the shapefile the State shared, but please download a copy from DNR's website yourself and check that they have indeed publicly shared their corrected version. (If they have not, of course, let me know.)

Inline image 1

*Our last version on the left. The state's corrected version on the right.*

Lastly, update the dates of all three plates. All other caveats should not need to be changed.

Thanks!

Chris Trent  
Congressional Affairs  
[USGS.gov](http://USGS.gov)  
703-648-4451 (office)  
571-524-1869 (mobile)

**"Houseknecht, David" <dhouse@usgs.gov>**

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**Sent:** Fri May 05 2017 15:07:20 GMT-0600 (MDT)  
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Hmm, that's not like the state to give up part of the land they're claiming!

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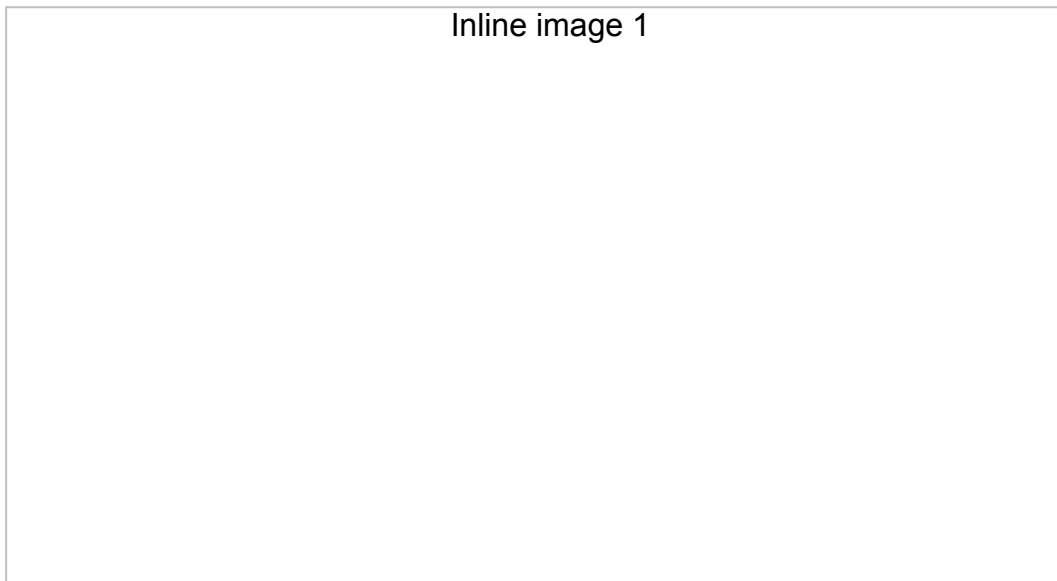
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The State apparently corrected their shapefile at the western boundary. Something about their interpretation of the public land order and a little nub of land at the barrier island. In any case, the committee has told me that AK DNR has updated the shapefile at their website, <http://dnr.alaska.gov/mlw/hottopics/index.cfm>. Right now, however, it doesn't indicate

any correction.

Attached is a copy of the shapefile the State shared, but please download a copy from DNR's website yourself and check that they have indeed publicly shared their corrected version. (If they have not, of course, let me know.)



*Our last version on the left. The state's corrected version on the right.*

Lastly, update the dates of all three plates. All other caveats should not need to be changed.

Thanks!

Chris Trent  
Congressional Affairs  
[USGS.gov](http://USGS.gov)  
703-648-4451 (office)  
571-524-1869 (mobile)

--

Dave Houseknecht  
U.S. Geological Survey  
12201 Sunrise Valley Drive  
MS 956  
Reston, VA 20192  
(703) 648-6466

# Conversation Contents

[FYI... and hopefully done!] ANWR maps

## Attachments:

/4. [FYI... and hopefully done!] ANWR maps/1.1 ANWR\_1002\_4\_10\_2017\_Plate2.jpg  
/4. [FYI... and hopefully done!] ANWR maps/1.2 ANWR\_1002\_4\_10\_2017\_Plate1.jpg  
/4. [FYI... and hopefully done!] ANWR maps/1.3 ANWR\_1002\_4\_10\_2017\_Plate3.jpg  
/4. [FYI... and hopefully done!] ANWR maps/2.1 ANWR\_1002\_4\_10\_2017\_Plate3.jpg  
/4. [FYI... and hopefully done!] ANWR maps/2.2 ANWR\_1002\_4\_10\_2017\_Plate1.jpg  
/4. [FYI... and hopefully done!] ANWR maps/2.3 ANWR\_1002\_4\_10\_2017\_Plate2.jpg  
/4. [FYI... and hopefully done!] ANWR maps/3.1 ANWR\_1002\_4\_10\_2017\_Plate2.jpg  
/4. [FYI... and hopefully done!] ANWR maps/3.2 ANWR\_1002\_4\_10\_2017\_Plate1.jpg  
/4. [FYI... and hopefully done!] ANWR maps/3.3 ANWR\_1002\_4\_10\_2017\_Plate3.jpg  
/4. [FYI... and hopefully done!] ANWR maps/3.4 ANWR\_1002\_4\_10\_2017\_Plate1.jpg  
/4. [FYI... and hopefully done!] ANWR maps/4.1 ANWR\_1002\_4\_10\_2017\_Plate2.jpg  
/4. [FYI... and hopefully done!] ANWR maps/4.2 ANWR\_1002\_4\_10\_2017\_Plate3.jpg  
/4. [FYI... and hopefully done!] ANWR maps/4.3 ANWR\_1002\_4\_10\_2017\_Plate1.jpg  
/4. [FYI... and hopefully done!] ANWR maps/4.4 ANWR\_1002\_4\_10\_2017\_Plate1.jpg

**"Trent, Christopher" <ctrent@usgs.gov>**

---

**From:** "Trent, Christopher" <ctrent@usgs.gov>  
**Sent:** Mon Apr 10 2017 12:03:36 GMT-0600 (MDT)  
**To:** Bill Werkheiser <whwerkhe@usgs.gov>, David Applegate <applegate@usgs.gov>, Judy Nowakowski <jnowakowski@usgs.gov>  
Julia Jester <jjester@usgs.gov>, Barbara Wainman <bwainman@usgs.gov>, Joanne Taylor <jctaylor@usgs.gov>,  
**CC:** Walter Guidroz <wguidroz@usgs.gov>, Murray Hitzman <mhitzman@usgs.gov>, "Houseknecht, David" <dhouse@usgs.gov>, Chris Garrity <cgarrity@usgs.gov>, Jeff Onizuk <jonizuk@usgs.gov>  
**Subject:** [FYI... and hopefully done!] ANWR maps  
ANWR\_1002\_4\_10\_2017\_Plate2.jpg  
**Attachments:** ANWR\_1002\_4\_10\_2017\_Plate1.jpg  
ANWR\_1002\_4\_10\_2017\_Plate3.jpg

FYI,

The below maps were sent to the Senate Energy Committee. (Note: Annie Hoefler's on vacation this week, so I don't expect to hear any confirmation from her soon.)

Verbally, I think this is done. All the additional changes since we brokered the decision on the use of the state's boundary data have been cosmetic and non-substantive. The most recent change confirmed the use of the State boundary in plate 3 (the detail of the native lands).

As a reminder, I've asked staff to keep me in the loop on when this map might be deployed by the committee, presumably when they consider Sen. Murkowski's ANWR legislation. Until that



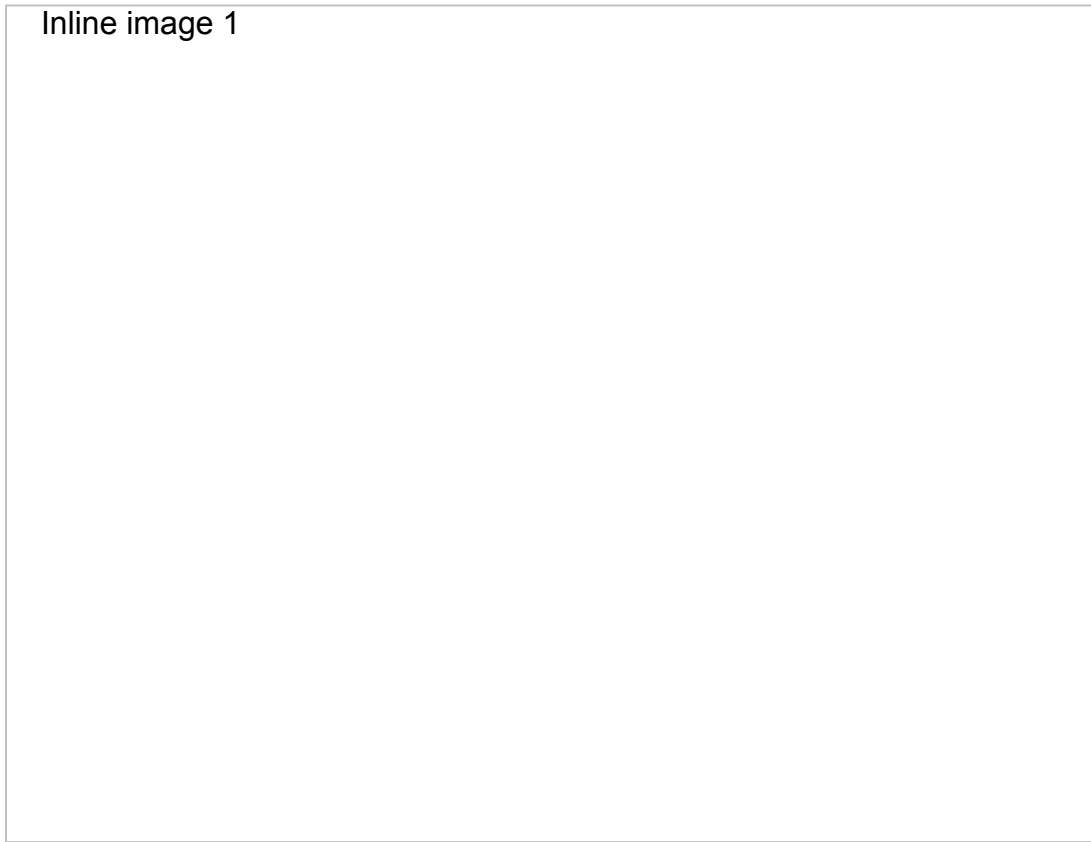
happens, these maps haven't been publicized. Like any other information we would provide, I recommend that these should be treated as the committee's to disclose.

I haven't cc'ed anyone outside of the USGSers who were involved in discussing and developing these maps. I'll leave it to Julia and Barbara to inform DOI and others.

Best,

Chris Trent  
Congressional Affairs  
[USGS.gov](http://USGS.gov)  
703-648-4451 (office)  
571-524-1869 (mobile)

Inline image 1



Inline image 2

Inline image 3

**"Trent, Christopher" <ctrent@usgs.gov>**

---

**From:** "Trent, Christopher" <ctrent@usgs.gov>  
**Sent:** Tue Apr 11 2017 08:10:26 GMT-0600 (MDT)

**To:** Chris Garrity <cgarrity@usgs.gov>  
**CC:** Walter Guidroz <wguidroz@usgs.gov>, "Houseknecht, David" <dhouse@usgs.gov>  
**Subject:** Fwd: ANWR maps  
**Attachments:** ANWR\_1002\_4\_10\_2017\_Plate3.jpg  
ANWR\_1002\_4\_10\_2017\_Plate1.jpg  
ANWR\_1002\_4\_10\_2017\_Plate2.jpg

Chris,

Minor edit: the 1002 hashmarks overlay we added to a subset of the native lands in plate 3 need to be included in plate 1, too, so they're presented the same.

(I thought we had done that already... maybe I'm misremembering.)

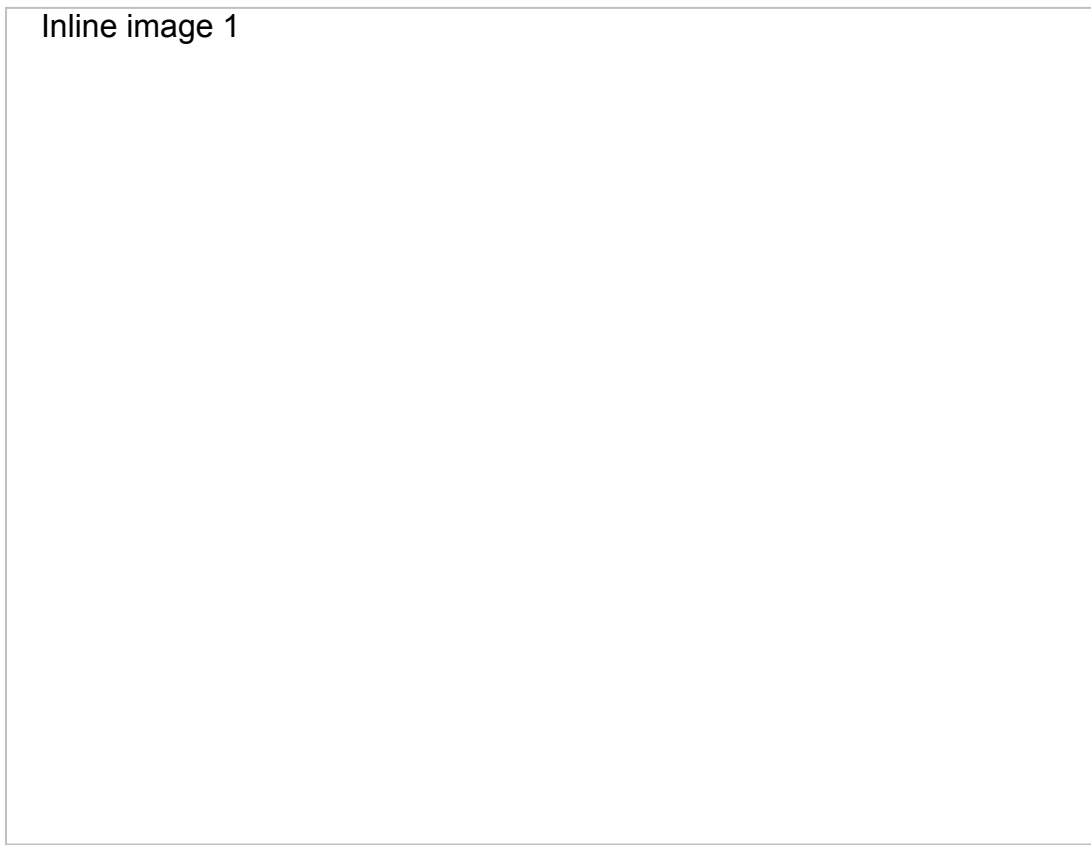
Chris Trent  
Congressional Affairs  
[USGS.gov](http://USGS.gov)  
703-648-4451 (office)  
571-524-1869 (mobile)

----- Forwarded message -----

From: **Trent, Christopher** <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)>  
Date: Mon, Apr 10, 2017 at 12:53 PM  
Subject: ANWR maps  
To: "Hoefler, Annie (Energy)" <[Annie\\_Hoefler@energy.senate.gov](mailto:Annie_Hoefler@energy.senate.gov)>

All three plates, dated to today. (If you're not at a computer, I can send this to Chuck, too.)

Inline image 1



Inline image 2

Inline image 3

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Congressional Affairs  
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703-648-4451 (office)  
571-524-1869 (mobile)


**"Garrity, Christopher" <cgarrity@usgs.gov>**

---

**From:** "Garrity, Christopher" <cgarrity@usgs.gov>  
**Sent:** Tue Apr 11 2017 08:42:39 GMT-0600 (MDT)  
**To:** "Trent, Christopher" <ctrent@usgs.gov>  
**CC:** Walter Guidroz <wguidroz@usgs.gov>, "Houseknecht, David" <dhouse@usgs.gov>  
**Subject:** Re: ANWR maps  
ANWR\_1002\_4\_10\_2017\_Plate2.jpg  
ANWR\_1002\_4\_10\_2017\_Plate1.jpg  
**Attachments:** ANWR\_1002\_4\_10\_2017\_Plate3.jpg  
ANWR\_1002\_4\_10\_2017\_Plate1.jpg

Strange...we do have them. See attached.

Inline image 1



On Tue, Apr 11, 2017 at 10:10 AM, Trent, Christopher <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)> wrote:  
Chris,

Minor edit: the 1002 hashmarks overlay we added to a subset of the native lands in plate 3 need to be included in plate 1, too, so they're presented the same.

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571-524-1869 (mobile)

----- Forwarded message -----

From: **Trent, Christopher** <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)>

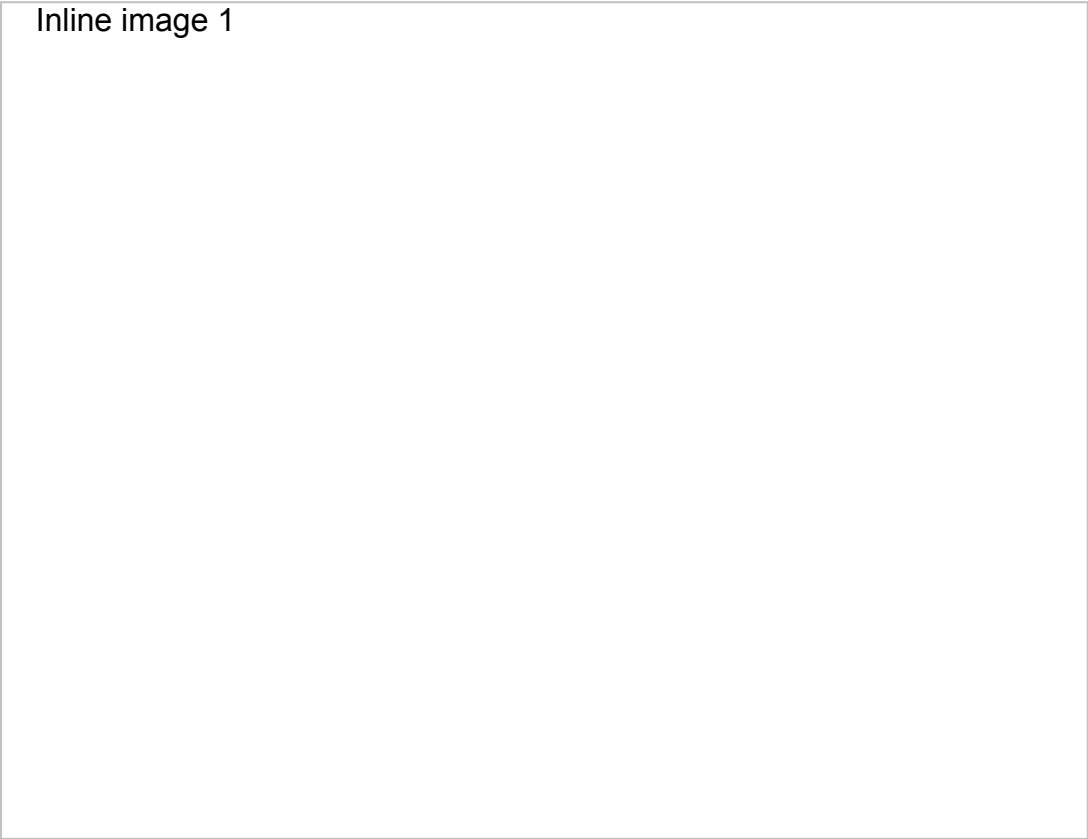
Date: Mon, Apr 10, 2017 at 12:53 PM

Subject: ANWR maps


To: "Hoefler, Annie (Energy)" <[Annie\\_Hoefler@energy.senate.gov](mailto:Annie_Hoefler@energy.senate.gov)>

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Inline image 1

A large rectangular placeholder box for an inline image, currently empty.

Inline image 2

A large rectangular placeholder box for an inline image, currently empty.

Inline image 3

Chris Trent  
Congressional Affairs  
[USGS.gov](http://USGS.gov)  
703-648-4451 (office)  
571-524-1869 (mobile)

--

-Chris

**Christopher Garrity | GIScience**  
USGS | 12201 Sunrise Valley Drive, Reston, VA 20192 | USA  
T 703.648.6426 | F 703.648.6419 (Fax)  
[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov) | [usgs.gov](http://usgs.gov)

**"Trent, Christopher" <ctrent@usgs.gov>**

---


**From:** "Trent, Christopher" <ctrent@usgs.gov>  
**Sent:** Tue Apr 11 2017 08:51:51 GMT-0600 (MDT)  
**To:** "Garrity, Christopher" <cgarrity@usgs.gov>  
**CC:** Walter Guidroz <wguidroz@usgs.gov>, "Houseknecht, David" <dhouse@usgs.gov>  
**Subject:** Re: ANWR maps  
ANWR\_1002\_4\_10\_2017\_Plate2.jpg  
ANWR\_1002\_4\_10\_2017\_Plate3.jpg  
ANWR\_1002\_4\_10\_2017\_Plate1.jpg  
ANWR\_1002\_4\_10\_2017\_Plate1.jpg  
**Attachments:**

I thought so! Thanks, Chris.

Chris Trent  
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571-524-1869 (mobile)

On Tue, Apr 11, 2017 at 10:42 AM, Garrity, Christopher <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)> wrote:  
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Inline image 1



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(I thought we had done that already... maybe I'm misremembering.)

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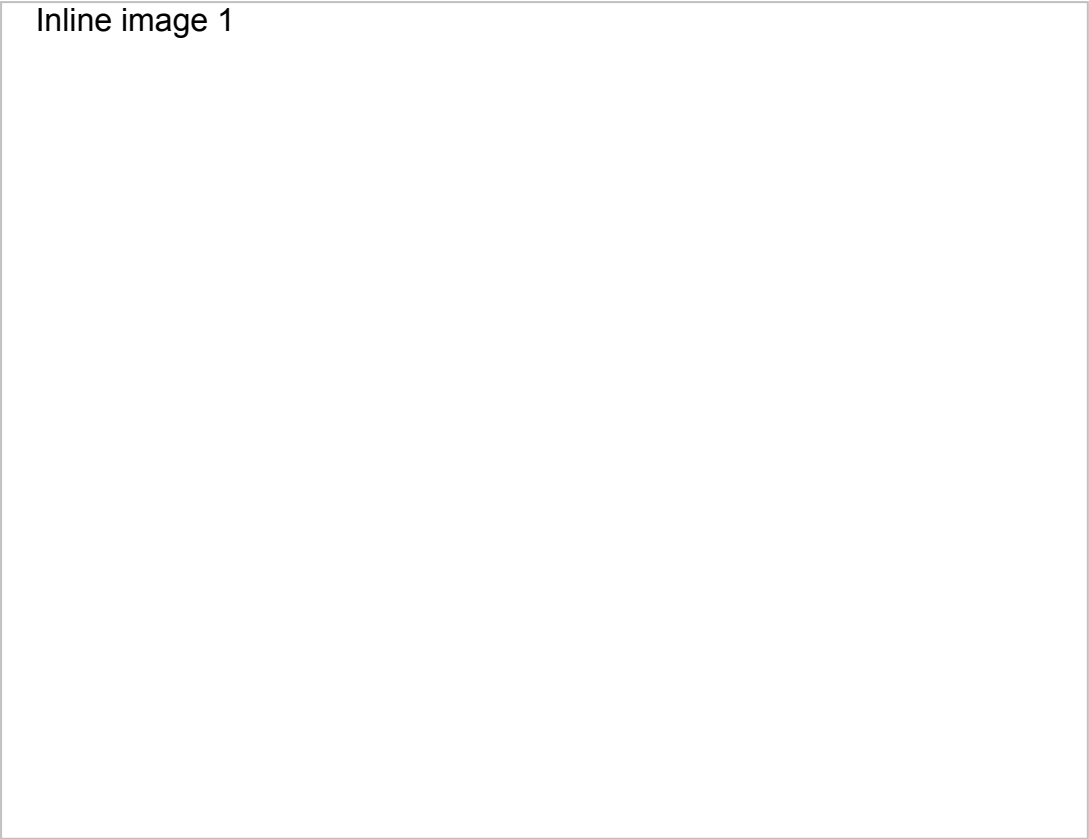
----- Forwarded message -----

From: **Trent, Christopher** <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)>  
Date: Mon, Apr 10, 2017 at 12:53 PM  
Subject: ANWR maps  
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All three plates, dated to today. (If you're not at a computer, I can send this to Chuck, too.)

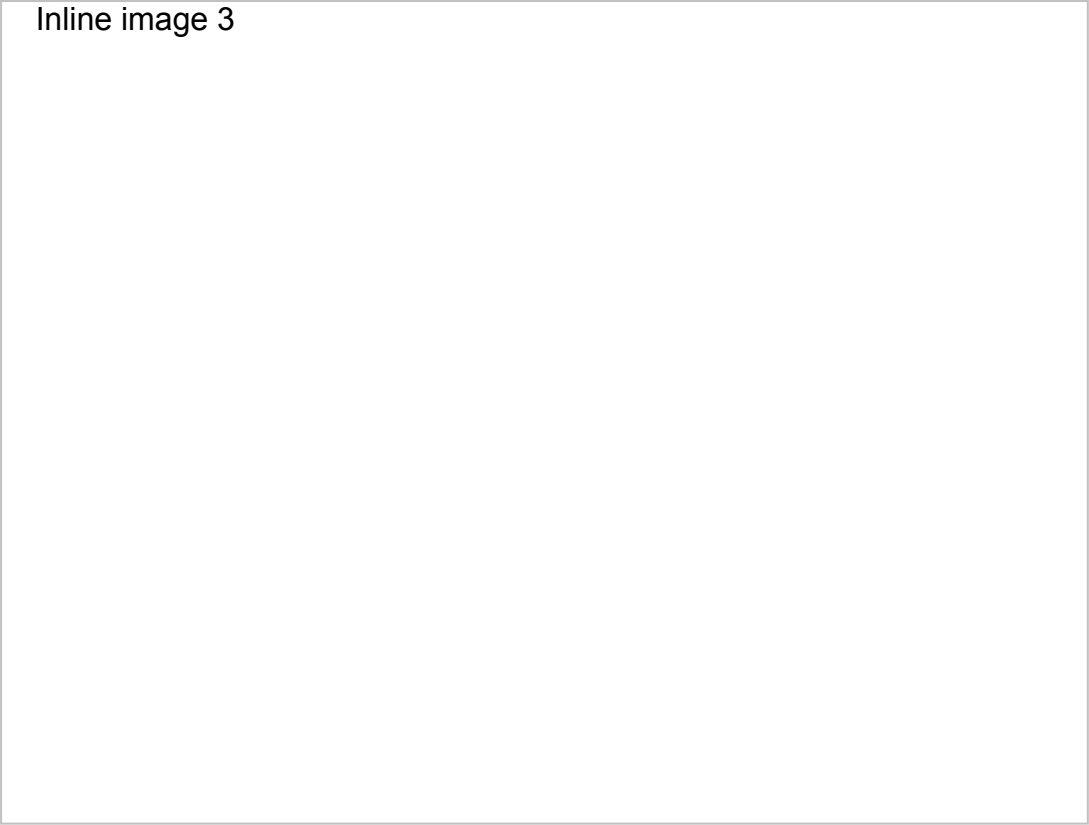
Inline image 1

A large, empty rectangular box with a thin black border, intended for an image.

Inline image 2

A large, empty rectangular box with a thin black border, intended for an image.

Inline image 3



Chris Trent  
Congressional Affairs  
[USGS.gov](http://USGS.gov)  
703-648-4451 (office)  
571-524-1869 (mobile)

--

-Chris

**Christopher Garrity | GIScience**  
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T 703.648.6426 | F 703.648.6419 (Fax)  
[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov) | [usgs.gov](http://usgs.gov)

# Conversation Contents

[status & update] ANWR map

## Attachments:

/5. [status & update] ANWR map/1.1 ANWR\_1002\_3\_20\_2017\_NATIVE.jpg  
/5. [status & update] ANWR map/2.1 ANWR\_1002\_3\_20\_2017\_NATIVE.jpg  
/5. [status & update] ANWR map/2.2 2007 Mars & Houseknecht Coastal-Erosion.pdf  
/5. [status & update] ANWR map/3.1 ANWR\_1002\_3\_20\_2017\_NATIVE.jpg  
/5. [status & update] ANWR map/4.1 ANWR\_1002\_3\_20\_2017\_NATIVE.jpg  
/5. [status & update] ANWR map/5.1 ANWR\_1002\_3\_20\_2017\_NATIVE.jpg  
/5. [status & update] ANWR map/6.1 ANWR\_1002\_3\_20\_2017\_NATIVE.jpg  
/5. [status & update] ANWR map/7.1 ANWR\_1002\_4\_10\_2017\_Plate1.jpg  
/5. [status & update] ANWR map/7.2 ANWR\_1002\_3\_20\_2017\_NATIVE.jpg  
/5. [status & update] ANWR map/7.3 ANWR\_1002\_4\_10\_2017\_Plate2.jpg  
/5. [status & update] ANWR map/7.4 ANWR\_1002\_4\_10\_2017\_Plate3.jpg  
/5. [status & update] ANWR map/8.1 ANWR\_1002\_3\_20\_2017\_NATIVE.jpg  
/5. [status & update] ANWR map/8.2 ANWR\_1002\_4\_10\_2017\_Plate2.jpg  
/5. [status & update] ANWR map/8.3 ANWR\_1002\_4\_10\_2017\_Plate3.jpg  
/5. [status & update] ANWR map/8.4 ANWR\_1002\_4\_10\_2017\_Plate1.jpg

**"Trent, Christopher" <ctrent@usgs.gov>**

---

**From:** "Trent, Christopher" <ctrent@usgs.gov>  
**Sent:** Fri Mar 31 2017 10:57:46 GMT-0600 (MDT)  
**To:** "Garrity, Christopher" <cgarrity@usgs.gov>  
Walter Guidroz <wguidroz@usgs.gov>, "Houseknecht, David"  
**CC:** <dhouse@usgs.gov>, USGS OCAP Congressional Affairs  
<cong\_liaison@usgs.gov>  
**Subject:** [status & update] ANWR map  
**Attachments:** ANWR\_1002\_3\_20\_2017\_NATIVE.jpg

Hi Chris,

I spoke with Senate Energy on Wednesday: there's still no feedback on the last request for an inset plate of the Alaska Native lands. So on that, we're still in a holding pattern...

Tangentially, however, all the imagery used in the maps has gotten the committee interested in a time-series of satellite imagery over the 1002 Area. I can check with EROS or Land Remote Sensing, of course, but I thought I would check with you first in case this might already be something you had at your disposal.

If not, no biggie. I'll pester EROS.

If so, however, don't go out of your way. They have no particular constraints or interests; I think they were just curious.

Thanks!

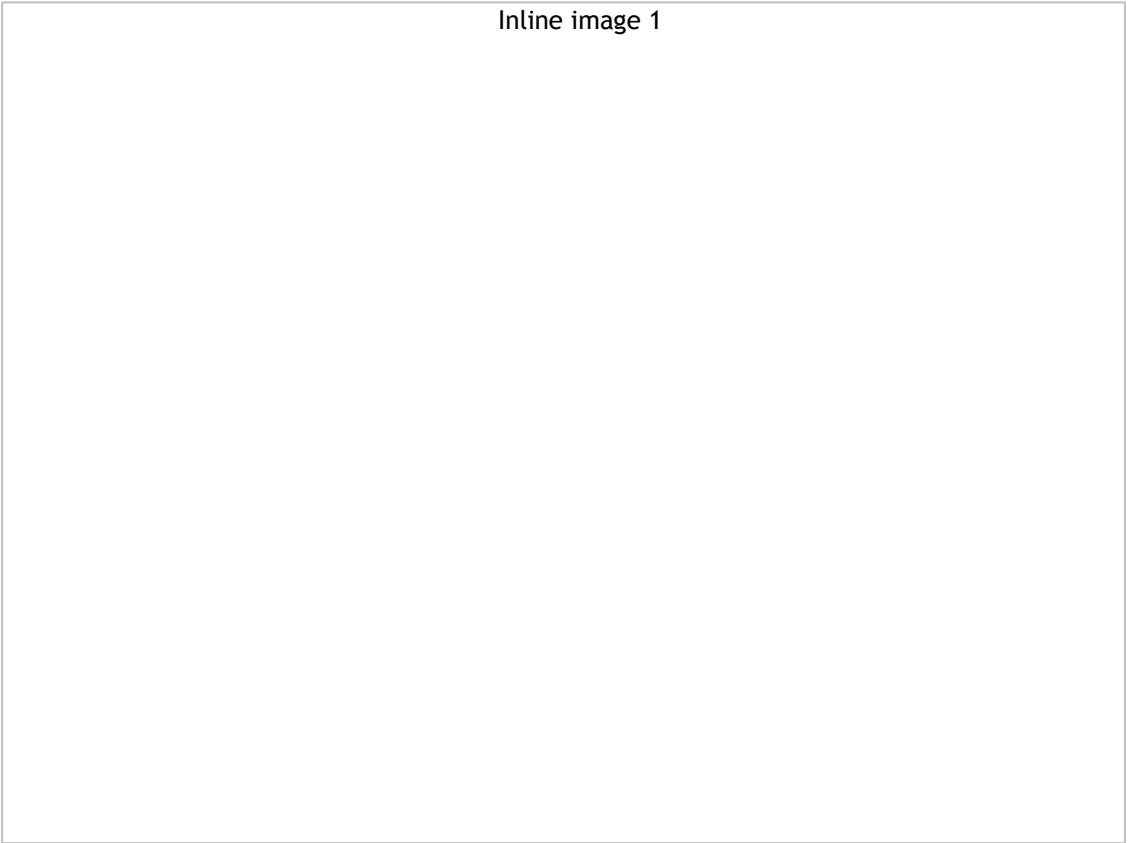
Chris Trent  
Congressional Affairs  
[USGS.gov](http://USGS.gov)  
703-648-4451 (office)  
571-524-1869 (mobile)

On Tue, Mar 21, 2017 at 4:46 PM, Houseknecht, David <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)> wrote:  
Thanks, Chris!

On Tue, Mar 21, 2017 at 8:58 AM, Garrity, Christopher <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)> wrote:  
Chris,

Attached is the first cut. Note that the ANWR boundary delivered to us by the State deviates from the BLM boundary in this area. The BLM boundary is coincident with the native land areas and was used for this inset map. I imagine the title will have to change to reflect this? Send me any edits...I'll be in all day.

Inline image 1



On Mon, Mar 20, 2017 at 2:34 PM, Trent, Christopher <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)> wrote:  
Another addition request to the ANWR map.

As discussed, they would like one additional inset plate focusing on the Alaska Native lands. All the data and representation should be identical to the main map, but using imagery as the underlying base (as in the other inset plate).

Crossing my fingers that the GIS data line up well enough with the imagery...

Thanks!

Chris Trent  
Congressional Affairs  
[USGS.gov](http://USGS.gov)  
703-648-4451 (office)  
571-524-1869 (mobile)

--

-Chris

**Christopher Garrity | GIScience**

USGS | 12201 Sunrise Valley Drive, Reston, VA 20192 | USA

T 703.648.6426 | F 703.648.6419 (Fax)

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--

Dave Houseknecht

U.S. Geological Survey

12201 Sunrise Valley Drive

MS 956

Reston, VA 20192

(703) 648-6466

## "Houseknecht, David" <dhouse@usgs.gov>

---

**From:** "Houseknecht, David" <dhouse@usgs.gov>  
**Sent:** Fri Mar 31 2017 11:04:57 GMT-0600 (MDT)  
**To:** "Trent, Christopher" <ctrent@usgs.gov>  
**CC:** "Garrity, Christopher" <cgarrity@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, USGS OCAP Congressional Affairs <cong\_liaison@usgs.gov>  
**Subject:** Re: [status & update] ANWR map  
**Attachments:** ANWR\_1002\_3\_20\_2017\_NATIVE.jpg 2007 Mars & Houseknecht Coastal-Erosion.pdf

I hope they understand that a time series will show them something they may not want to see - i.e., coastal erosion and a significant reduction in snow and ice cover! See, for example, Figs 2, 3, 4 in attached.

On Fri, Mar 31, 2017 at 12:57 PM, Trent, Christopher <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)> wrote:

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If so, however, don't go out of your way. They have no particular constraints or interests; I think they were just curious.

Thanks!

Chris Trent  
Congressional Affairs  
[USGS.gov](http://USGS.gov)  
703-648-4451 (office)  
571-524-1869 (mobile)

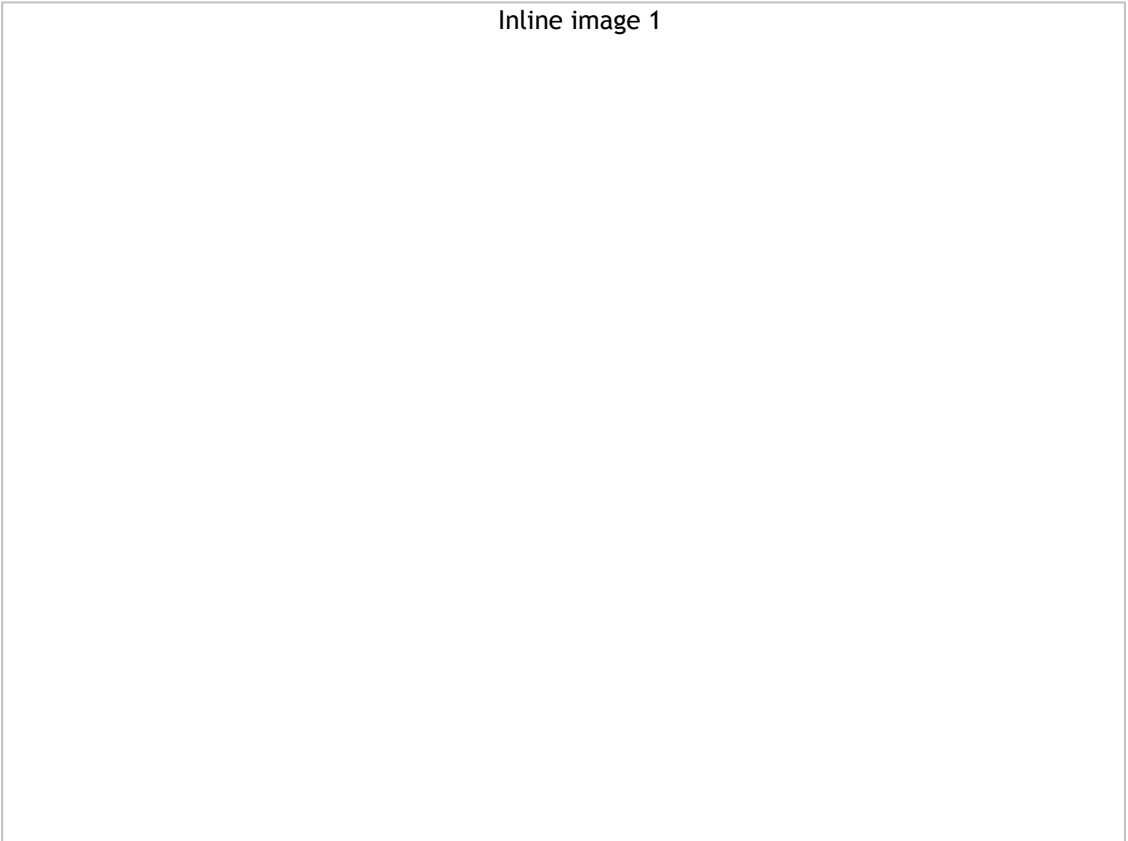
On Tue, Mar 21, 2017 at 4:46 PM, Houseknecht, David <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)> wrote:  
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Thanks!

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Congressional Affairs  
[USGS.gov](http://USGS.gov)  
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--

-Chris

**Christopher Garrity | GIScience**

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(703) 648-6466

--

Dave Houseknecht  
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12201 Sunrise Valley Drive  
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Reston, VA 20192  
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**"Trent, Christopher" <ctrent@usgs.gov>**

---

**From:** "Trent, Christopher" <ctrent@usgs.gov>  
**Sent:** Fri Mar 31 2017 11:22:10 GMT-0600 (MDT)  
**To:** "Houseknecht, David" <dhouse@usgs.gov>  
**CC:** "Garrity, Christopher" <cgarrity@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, USGS OCAP Congressional Affairs <cong\_liaison@usgs.gov>  
**Subject:** Re: [status & update] ANWR map  
**Attachments:** ANWR\_1002\_3\_20\_2017\_NATIVE.jpg

Yeah, I mean, they can't *not* know that, right?

These are definitely not folks who are skeptical or resistant to global change evidence, so seeing that coastal change shouldn't be problematic for them at all.

Disheartening, perhaps.

Chris Trent  
Congressional Affairs  
[USGS.gov](http://USGS.gov)  
703-648-4451 (office)

571-524-1869 (mobile)

On Fri, Mar 31, 2017 at 1:04 PM, Houseknecht, David <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)> wrote:

I hope they understand that a time series will show them something they may not want to see - i.e., coastal erosion and a significant reduction in snow and ice cover! See, for example, Figs 2, 3, 4 in attached.

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**From:** "Garrity, Christopher" <cgarrity@usgs.gov>  
**Sent:** Fri Mar 31 2017 14:42:41 GMT-0600 (MDT)  
**To:** "Trent, Christopher" <ctrent@usgs.gov>  
**CC:** "Houseknecht, David" <dhouse@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, USGS OCAP Congressional Affairs <cong\_liaison@usgs.gov>  
**Subject:** Re: [status & update] ANWR map  
**Attachments:** ANWR\_1002\_3\_20\_2017\_NATIVE.jpg

Chris-  
EROS would definitely be a good place to start. If you hit a wall with them for some reason I can grab a set of cloud free Landsat scenes over time and animate the temporal changes in the area. Cheers!

On Fri, Mar 31, 2017 at 1:22 PM, Trent, Christopher <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)> wrote:  
Yeah, I mean, they can't *not* know that, right?

These are definitely not folks who are skeptical or resistant to global change evidence, so seeing that coastal change shouldn't be problematic for them at all.

Disheartening, perhaps.

Chris Trent  
Congressional Affairs  
[USGS.gov](http://USGS.gov)  
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571-524-1869 (mobile)

On Fri, Mar 31, 2017 at 1:04 PM, Houseknecht, David <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)> wrote:  
I hope they understand that a time series will show them something they may not want to see - i.e., coastal erosion and a significant reduction in snow and ice cover! See, for example, Figs 2, 3, 4 in attached.

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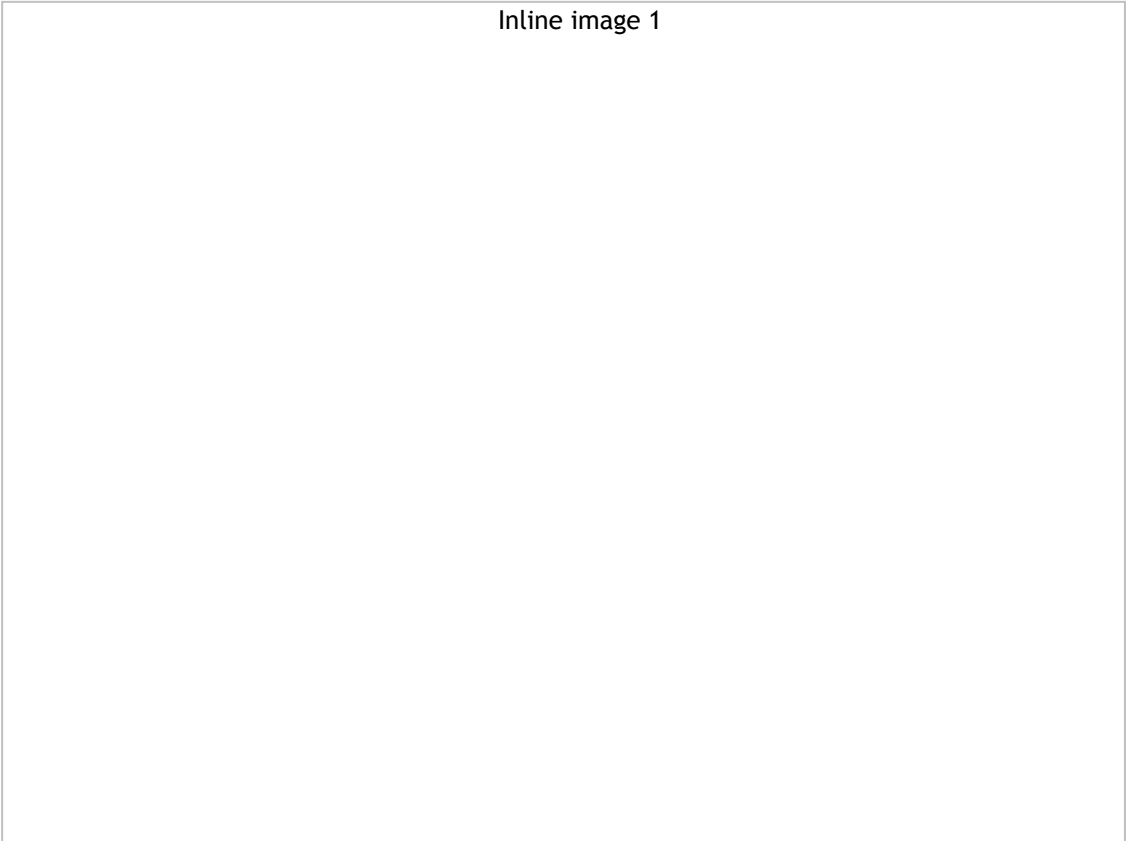
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**From:** "Trent, Christopher" <ctrent@usgs.gov>  
**Sent:** Fri Apr 07 2017 12:03:23 GMT-0600 (MDT)  
**To:** "Houseknecht, David" <dhouse@usgs.gov>  
**CC:** "Garrity, Christopher" <cgarrity@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, USGS OCAP Congressional Affairs <cong\_liaison@usgs.gov>  
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**Sent:** Fri Apr 07 2017 12:16:27 GMT-0600 (MDT)  
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**CC:** "Garrity, Christopher" <cgarrity@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, USGS OCAP Congressional Affairs <cong\_liaison@usgs.gov>  
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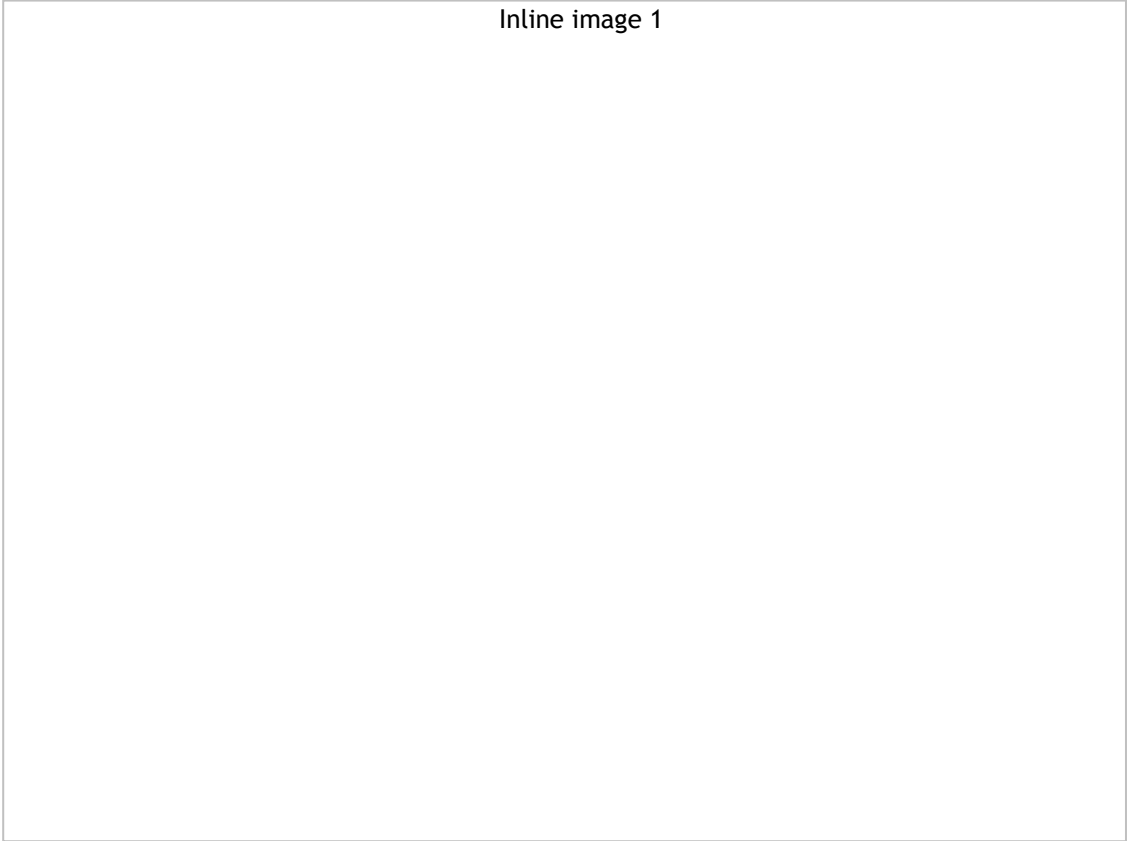
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**"Garrity, Christopher" <cgarrity@usgs.gov>**

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**From:** "Garrity, Christopher" <cgarrity@usgs.gov>  
**Sent:** Mon Apr 10 2017 10:15:55 GMT-0600 (MDT)  
**To:** "Houseknecht, David" <dhouse@usgs.gov>  
**CC:** Walter Guidroz <wguidroz@usgs.gov>  
**Subject:** Re: [status & update] ANWR map  
ANWR\_1002\_4\_10\_2017\_Plate1.jpg  
**Attachments:** ANWR\_1002\_3\_20\_2017\_NATIVE.jpg  
ANWR\_1002\_4\_10\_2017\_Plate2.jpg  
ANWR\_1002\_4\_10\_2017\_Plate3.jpg

See attached. If all looks OK I'll send the "final" 3 plates.

Inline image 2



Inline image 1

Inline image 3

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# Conversation Contents

## Map 2

### Attachments:

/6. Map 2/1.1 ANWR\_1002\_03\_08\_2017F\_2.pdf  
/6. Map 2/3.1 ANWR\_1002\_03\_08\_2017F\_2-01.jpg  
/6. Map 2/4.1 image.png  
/6. Map 2/5.1 image002.png  
/6. Map 2/6.1 image002.png  
/6. Map 2/7.1 image002.png  
/6. Map 2/8.1 image002.png  
/6. Map 2/8.2 ANWR\_1002\_17\_03\_08\_G2-01.jpg

## "Houseknecht, David" <dhouse@usgs.gov>

---

**From:** "Houseknecht, David" <dhouse@usgs.gov>  
**Sent:** Wed Mar 08 2017 09:09:41 GMT-0700 (MST)  
**To:** Christopher Trent <ctrent@usgs.gov>, Christopher Garrity <cgarrity@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, Julia Jester <jjester@usgs.gov>  
**Subject:** Map 2  
**Attachments:** ANWR\_1002\_03\_08\_2017F\_2.pdf

OK, I think this one does it. There is a thin black line around only those native lands that had been selected prior to definition of the 1002 area. Note that the BLM (Native selected) areas are now also shown as part of the 1002 area - that was a mistake we did not catch in all previous versions.

I believe the legend is correct with no revisions made.

--

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**To:** "Houseknecht, David" <dhouse@usgs.gov>  
**CC:** Christopher Garrity <cgarrity@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, Julia Jester <jjester@usgs.gov>

**Subject:**

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571-524-1869 (mobile)

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(703) 648-6466

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**From:** "Houseknecht, David" <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>  
**Sent:** Wed Mar 08 2017 09:47:54 GMT-0700 (MST)  
**To:** "Trent, Christopher" <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)>  
**CC:** Christopher Garrity <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)>, Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>, Julia Jester <[jjester@usgs.gov](mailto:jjester@usgs.gov)>  
**Subject:** Re: Map 2  
**Attachments:** ANWR\_1002\_03\_08\_2017F\_2-01.jpg

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**Sent:** Wed Mar 08 2017 09:50:26 GMT-0700 (MST)  
**To:** "Houseknecht, David" <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>  
**CC:** Christopher Garrity <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)>, Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>, Julia Jester <[jjester@usgs.gov](mailto:jjester@usgs.gov)>  
**Subject:** Re: Map 2  
**Attachments:** image.png

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**From:** Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>  
**Sent:** Wed Mar 08 2017 10:02:00 GMT-0700 (MST)  
**To:** Christopher Trent <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)>, David Houseknecht <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>  
**CC:** Christopher Garrity <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)>, Julia Jester <[jjester@usgs.gov](mailto:jjester@usgs.gov)>  
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**Attachments:** image002.png

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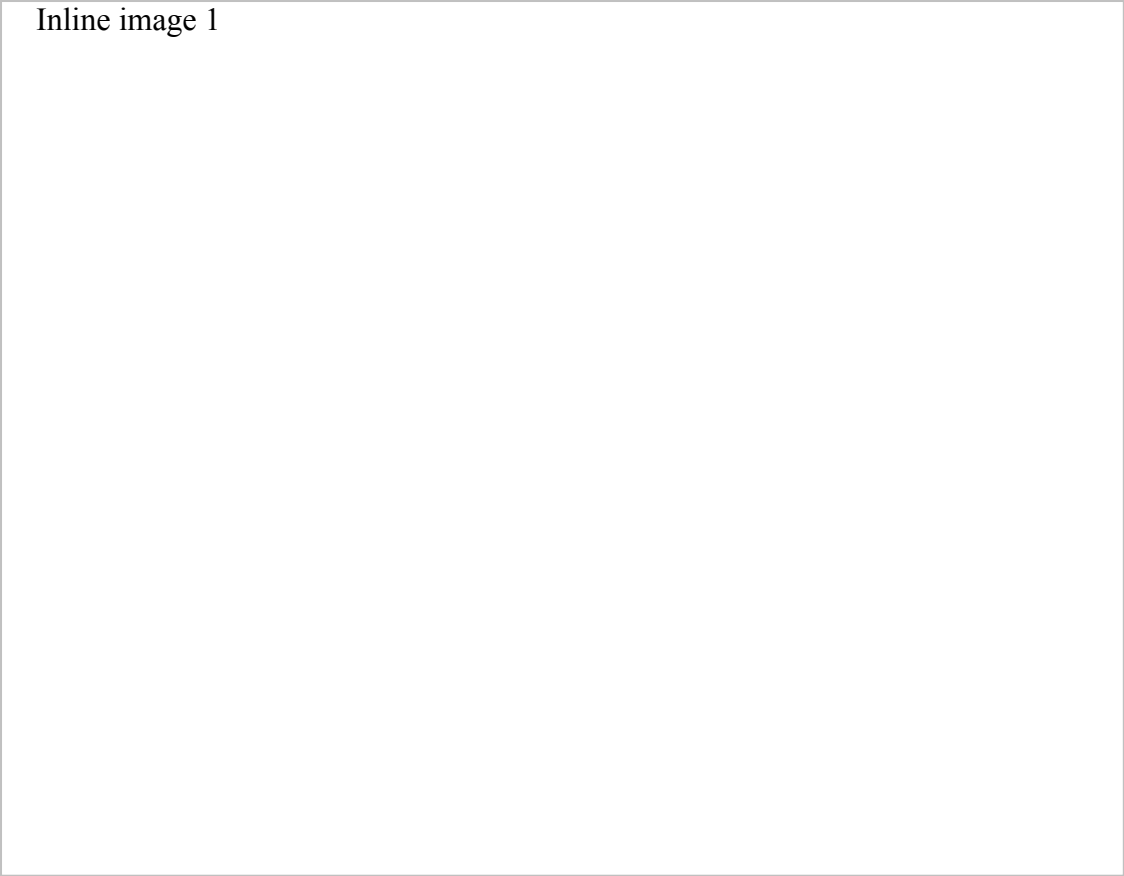
**From:** Trent, Christopher [mailto:[ctrent@usgs.gov](mailto:ctrent@usgs.gov)]  
**Sent:** Wednesday, March 08, 2017 11:50 AM  
**To:** Houseknecht, David  
**Cc:** Christopher Garrity; Walter Guidroz; Julia Jester  
**Subject:** Re: Map 2

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## **"Trent, Christopher" <ctrent@usgs.gov>**

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**From:** "Trent, Christopher" <ctrent@usgs.gov>  
**Sent:** Wed Mar 08 2017 10:05:16 GMT-0700 (MST)  
**To:** Walter Guidroz <wguidroz@usgs.gov>  
**CC:** David Houseknecht <dhouse@usgs.gov>, Christopher Garrity <cgarrity@usgs.gov>, Julia Jester <jjester@usgs.gov>  
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**Attachments:** image002.png

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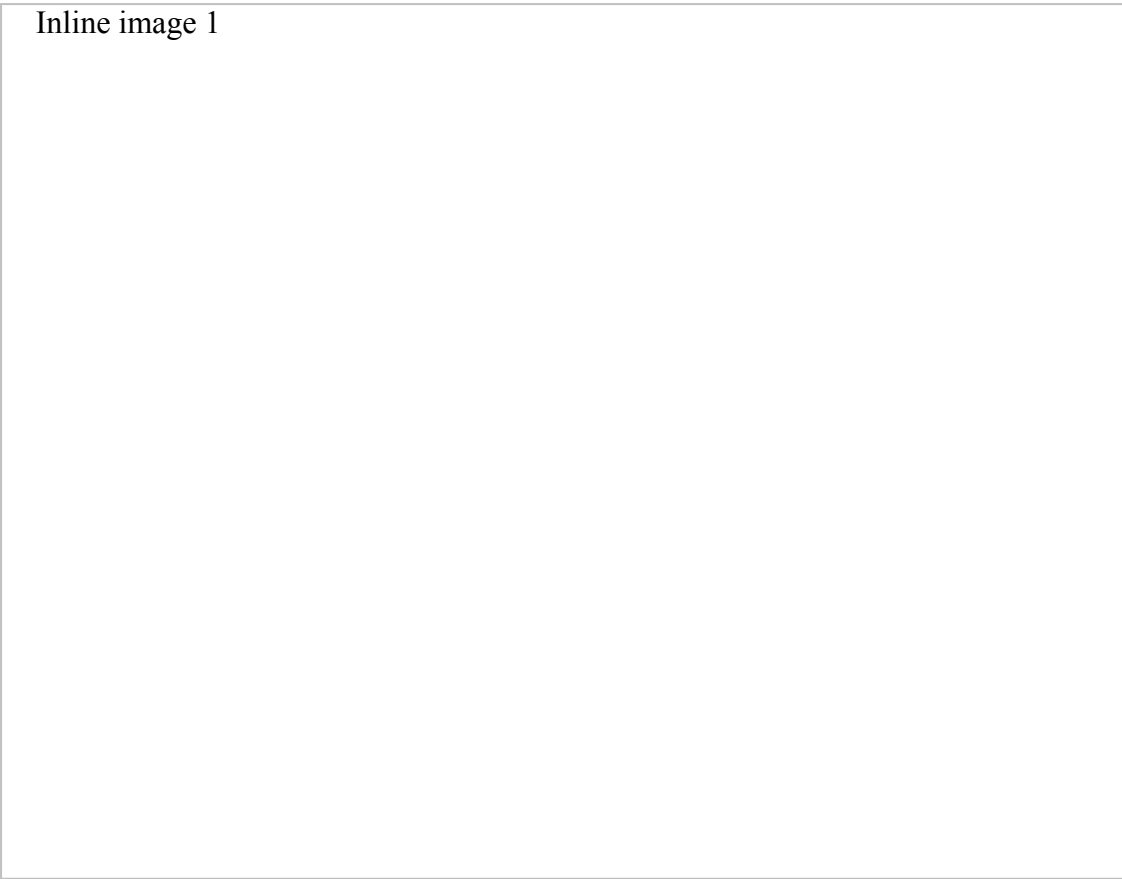
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**Sent:** Wednesday, March 08, 2017 11:50 AM  
**To:** Houseknecht, David  
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**From:** "Trent, Christopher" <ctrent@usgs.gov>  
**Sent:** Wed Mar 08 2017 12:49:04 GMT-0700 (MST)  
**To:** David Houseknecht <dhouse@usgs.gov>  
**CC:** Christopher Garrity <cgarrity@usgs.gov>, Julia Jester <jjester@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>  
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**Sent:** Wednesday, March 08, 2017 11:50 AM

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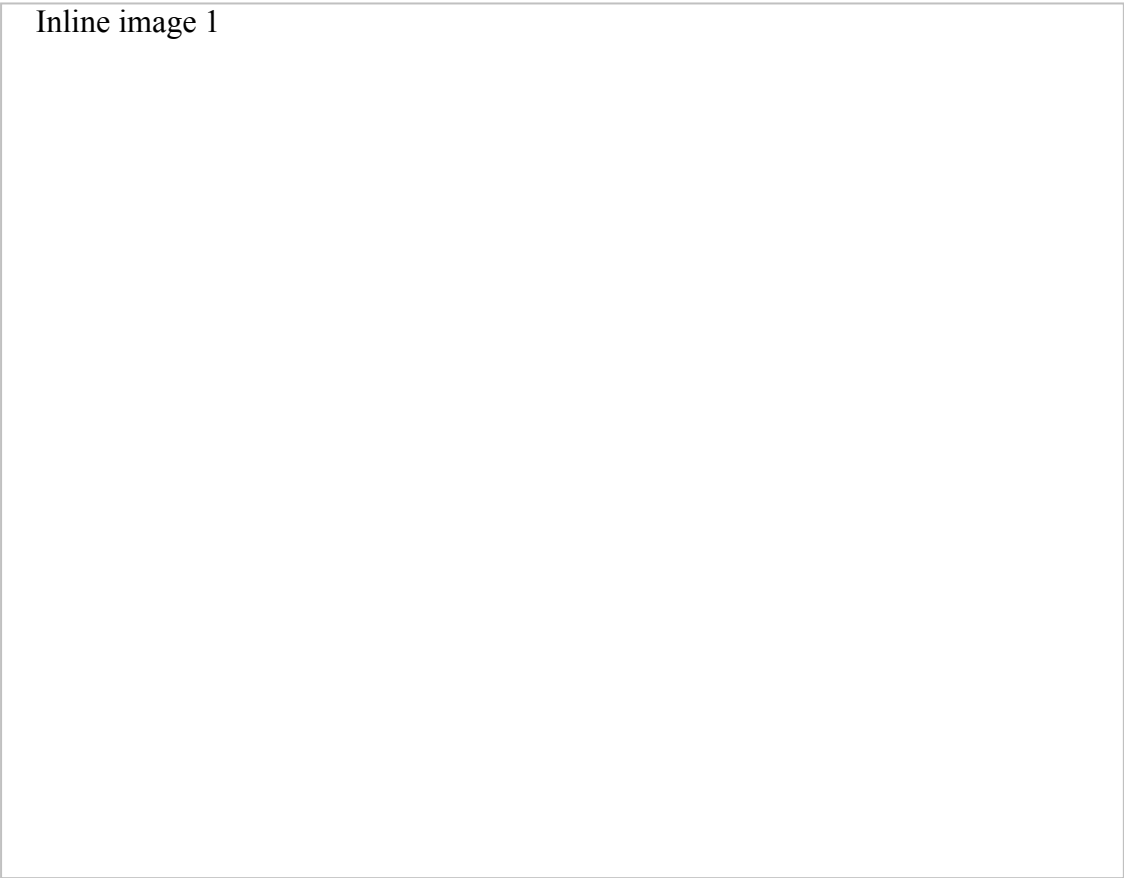
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**Subject:** Re: Map 2  
**Attachments:** image002.png ANWR\_1002\_17\_03\_08\_G2-01.jpg

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# Conversation Contents

More map revisions

**Attachments:**

17. More map revisions/5.1 original native lands.pdf

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**"Trent, Christopher" <ctrent@usgs.gov>**

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**From:** "Trent, Christopher" <ctrent@usgs.gov>  
**Sent:** Tue Mar 07 2017 11:23:43 GMT-0700 (MST)  
**To:** Christopher Garrity <cgarrity@usgs.gov>  
**CC:** Walter Guidroz <wguidroz@usgs.gov>, "Houseknecht, David" <dhouse@usgs.gov>, Julia Jester <jjester@usgs.gov>  
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(Walter, if Chris is out this week, just let me know. Thanks!)

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**Sent:** Tue Mar 07 2017 11:27:02 GMT-0700 (MST)  
**To:** "Trent, Christopher" <ctrent@usgs.gov>  
**CC:** Walter Guidroz <wguidroz@usgs.gov>, "Houseknecht, David" <dhouse@usgs.gov>, Julia Jester <jjester@usgs.gov>  
**Subject:** Re: More map revisions

Hi Chris-

I'm at a conference in Palm Springs (back in the office Friday AM) but if you let me know the changes I can have someone from Reston send me the latest version and make the changes offsite.

On Tue, Mar 7, 2017 at 1:23 PM, Trent, Christopher <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)> wrote:

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-Chris

**Christopher Garrity | GIScience**  
USGS | 12201 Sunrise Valley Drive, Reston, VA 20192 | USA  
T 703.648.6426 | F 703.648.6419 (Fax)  
[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov) | [usgs.gov](http://usgs.gov)

## **"Houseknecht, David" <dhouse@usgs.gov>**

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**Sent:** Tue Mar 07 2017 11:27:31 GMT-0700 (MST)  
**To:** "Trent, Christopher" <ctrent@usgs.gov>  
**CC:** Christopher Garrity <cgarrity@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, Julia Jester <jjester@usgs.gov>  
**Subject:** Re: More map revisions

Chris is on travel this week, but will be checking email and has his laptop with him. He should respond sometime today, but is 3 time zones away, so don't know when.

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**Sent:** Tue Mar 07 2017 11:41:10 GMT-0700 (MST)  
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**CC:** Walter Guidroz <wguidroz@usgs.gov>, "Houseknecht, David" <dhouse@usgs.gov>, Julia Jester <jjester@usgs.gov>  
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Well, maybe.

One change is cosmetic, but the other is substantive.

The committee correctly pointed out that the legal description of the Coastal Plain (i.e. the 1002 Area) expressly excludes most of the Native allotments... but not all of them. (The legal description is [here](#). You can see the various jogs that make up about two-thirds of the description.) They'd like that represented on the map and they suggested extending the hatchmarks we have indicating the 1002 Area over the portion of Native allotments not excluded, basically the boot at the southeast.

...but, do you know if the data behind the 1002 Area from BLM is a polygon that does reflect the legal description, or just an area created by the boundary between it and the wilderness? As earlier, asking you to present extant data is one thing; I want to avoid asking you to create new data.

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If you do think the substantive edit is easy enough, I'm happy to work with whomever is around to make sure it gets processed. But I defer to you on whether that edit is in fact easy.

Also, I'm pretty jealous that you're in Palm Springs.

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Congressional Affairs  
[USGS.gov](http://USGS.gov)  
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On Tue, Mar 7, 2017 at 1:27 PM, Garrity, Christopher <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)> wrote:

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## **"Houseknecht, David" <dhouse@usgs.gov>**

---

**From:** "Houseknecht, David" <dhouse@usgs.gov>  
**Sent:** Tue Mar 07 2017 12:33:50 GMT-0700 (MST)  
**To:** "Trent, Christopher" <ctrent@usgs.gov>  
**CC:** "Garrity, Christopher" <cgarrity@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, Julia Jester <jjester@usgs.gov>  
**Subject:** Re: More map revisions  
**Attachments:** original native lands.pdf

I had someone break into my office and scan a map from the DOI Rpt to Congress - attached. This shows the original Native selections prior to the additions made later.

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Dave Houseknecht  
U.S. Geological Survey  
12201 Sunrise Valley Drive  
MS 956  
Reston, VA 20192  
(703) 648-6466

# Conversation Contents

## Plate 1 & 2 drafts

### Attachments:

/8. Plate 1 & 2 drafts/1.1 ANWR\_1002\_2\_24\_2017B.jpg  
/8. Plate 1 & 2 drafts/1.2 ANWR\_1002\_2\_24\_2017A.jpg  
/8. Plate 1 & 2 drafts/1.3 ANWR\_1002\_2\_24\_2017B.jpg  
/8. Plate 1 & 2 drafts/1.4 ANWR\_1002\_2\_24\_2017A.jpg  
/8. Plate 1 & 2 drafts/2.1 ANWR\_1002\_2\_24\_2017A.jpg  
/8. Plate 1 & 2 drafts/2.2 ANWR\_1002\_2\_24\_2017B.jpg  
/8. Plate 1 & 2 drafts/3.1 ANWR\_1002\_2\_24\_2017A.jpg  
/8. Plate 1 & 2 drafts/3.2 ANWR\_1002\_2\_24\_2017B.jpg  
/8. Plate 1 & 2 drafts/4.1 image002.jpg  
/8. Plate 1 & 2 drafts/4.2 image004.jpg  
/8. Plate 1 & 2 drafts/5.1 image002.jpg  
/8. Plate 1 & 2 drafts/5.2 image004.jpg  
/8. Plate 1 & 2 drafts/6.1 image002.jpg  
/8. Plate 1 & 2 drafts/6.2 image004.jpg  
/8. Plate 1 & 2 drafts/7.1 stainesCanningNHD.jpg  
/8. Plate 1 & 2 drafts/7.2 ANWR\_1002\_2\_24\_2017A.jpg  
/8. Plate 1 & 2 drafts/7.3 ANWR\_1002\_2\_24\_2017B.jpg  
/8. Plate 1 & 2 drafts/8.1 ANWR\_1002\_2\_28\_2017\_PLATE1\_DRAFT.jpg  
/8. Plate 1 & 2 drafts/8.2 image004.jpg  
/8. Plate 1 & 2 drafts/8.3 ANWR\_1002\_2\_28\_2017\_PLATE2\_DRAFT.jpg  
/8. Plate 1 & 2 drafts/8.4 image002.jpg  
/8. Plate 1 & 2 drafts/8.5 ANWR\_1002\_2\_28\_2017\_PLATE1\_DRAFT.jpg  
/8. Plate 1 & 2 drafts/8.6 ANWR\_1002\_2\_28\_2017\_PLATE2\_DRAFT.jpg  
/8. Plate 1 & 2 drafts/9.1 ANWR\_1002\_2\_28\_2017\_PLATE1\_DRAFT.jpg  
/8. Plate 1 & 2 drafts/9.2 ANWR\_1002\_2\_28\_2017\_PLATE2\_DRAFT.jpg  
/8. Plate 1 & 2 drafts/9.3 image004.jpg  
/8. Plate 1 & 2 drafts/9.4 image002.jpg  
/8. Plate 1 & 2 drafts/10.1 ANWR\_1002\_2\_28\_2017\_PLATE2\_DRAFT.jpg  
/8. Plate 1 & 2 drafts/10.2 image002.jpg  
/8. Plate 1 & 2 drafts/10.3 image004.jpg  
/8. Plate 1 & 2 drafts/10.4 ANWR\_1002\_2\_28\_2017\_PLATE1\_DRAFT.jpg  
/8. Plate 1 & 2 drafts/11.1 ANWR\_1002\_2\_28\_2017\_PLATE1\_DRAFT.jpg  
/8. Plate 1 & 2 drafts/11.2 image002.jpg  
/8. Plate 1 & 2 drafts/11.3 image004.jpg  
/8. Plate 1 & 2 drafts/11.4 ANWR\_1002\_2\_28\_2017\_PLATE2\_DRAFT.jpg  
/8. Plate 1 & 2 drafts/12.1 image002.jpg  
/8. Plate 1 & 2 drafts/12.2 ANWR\_1002\_2\_28\_2017\_PLATE2\_DRAFT.jpg  
/8. Plate 1 & 2 drafts/12.3 ANWR\_1002\_2\_28\_2017\_PLATE1\_DRAFT.jpg  
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/8. Plate 1 & 2 drafts/13.3 image002.jpg  
/8. Plate 1 & 2 drafts/13.4 image004.jpg


**"Garrity, Christopher" <cgarrity@usgs.gov>**

---

**From:** "Garrity, Christopher" <cgarrity@usgs.gov>  
**Sent:** Fri Feb 24 2017 14:48:25 GMT-0700 (MST)  
**To:** "Trent, Christopher" <ctrent@usgs.gov>, David Houseknecht <dhouse@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>  
**Subject:** Plate 1 & 2 drafts  
**Attachments:** ANWR\_1002\_2\_24\_2017B.jpg ANWR\_1002\_2\_24\_2017A.jpg  
ANWR\_1002\_2\_24\_2017B.jpg ANWR\_1002\_2\_24\_2017A.jpg

Guys see attached. Send me any changes for Monday. Cheers!

Inline image 1





Inline image 2

--

-Chris

**Christopher Garrity | GIScience**

USGS | 12201 Sunrise Valley Drive, Reston, VA 20192 | [USA](#)

T 703.648.6426 | F 703.648.6419 (Fax)

[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov) | [usgs.gov](https://usgs.gov)

**"Trent, Christopher" <ctrent@usgs.gov>**

---

**From:** "Trent, Christopher" <ctrent@usgs.gov>  
**Sent:** Tue Feb 28 2017 08:47:19 GMT-0700 (MST)  
**To:** "Garrity, Christopher" <cgarrity@usgs.gov>  
**CC:** David Houseknecht <dhouse@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, Julia Jester <jjester@usgs.gov>  
**Subject:** Re: Plate 1 & 2 drafts  
**Attachments:** ANWR\_1002\_2\_24\_2017A.jpg ANWR\_1002\_2\_24\_2017B.jpg

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Second, possibly substantive

- Add labels for Canning and Staines rivers.

As we discussed, these probably only work aesthetically on the inset plate. Also, please verify that these two streams are indeed referenced in the NHD. Secondly, please verify whether in the NHD these two streams are connected. You may draft the map if you'd like, but I would actually like to discuss what you find first because what you find may require additional discussion with the Committee and other leadership. The stream lines are not actually what the Committee is looking for, but rather the two labels. If it's your opinion that this would be better addressed without reference to the NHD, let's discuss that.

Thanks!

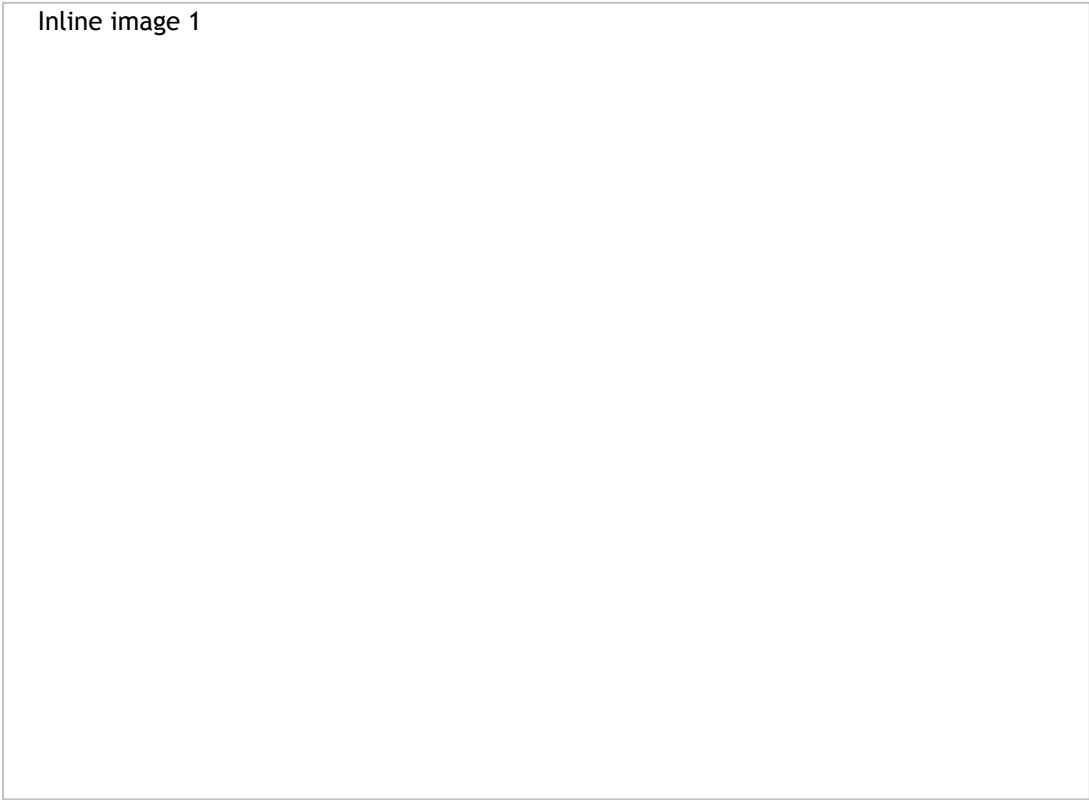
Chris Trent  
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[USGS.gov](http://USGS.gov)  
703-648-4451 (office)  
571-524-1869 (mobile)

On Fri, Feb 24, 2017 at 4:57 PM, Trent, Christopher <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)> wrote:  
Thanks Chris! Have a great weekend.


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**"Houseknecht, David" <dhouse@usgs.gov>**

**From:** "Houseknecht, David" <dhouse@usgs.gov>  
**Sent:** Tue Feb 28 2017 08:56:42 GMT-0700 (MST)  
**To:** "Trent, Christopher" <ctrent@usgs.gov>  
**CC:** "Garrity, Christopher" <cgarrity@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, Julia Jester <jjester@usgs.gov>  
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The latest request (before this email from Trent) for Garrity to label both the Staines and Canning Rivers again introduces an interesting issue. The USGS NHD coverage has the Staines River labeled as a discrete river (which is appropriate as it is mainly a single channel), but the label for the Canning River is an "artificial path" because of the river has multiple main courses, all of which are braided. If that artificial path label becomes part of the proposed legislation, the USGS may have some explaining to do. Therefore, I suggest that someone in an upper level of the Water Discipline be consulted on this before the map is delivered.

FYI, see here for definition of "artificial path" - <https://nhd.usgs.gov/FeatureDirectory.pdf>

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Reston, VA 20192  
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## **Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>**

---

**From:** Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>  
**Sent:** Tue Feb 28 2017 09:28:01 GMT-0700 (MST)  
**To:** Christopher Trent <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)>, Christopher Garrity <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)>  
**CC:** David Houseknecht <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>, Julia Jester <[jjester@usgs.gov](mailto:jjester@usgs.gov)>  
**Subject:** RE: Plate 1 & 2 drafts  
**Attachments:** image002.jpg image004.jpg

Chris,

We've received your request but there are consequences with this one as it's not clear-cut. The USGS NHD coverage labels the **Staines** River (to the west, present Federal boundary) as a discrete river (which is appropriate as it is mainly a single channel) but the label for the **Canning** River (to the east; boundary proposed by Alaska) is an "artificial path" because the river has multiple main courses, all of which are braided. If that artificial path label becomes part of the proposed legislation or is used by Senator Murkowski as a basis for the ANWR boundary, then the state would be taking a much larger chunk of the 1002 area than proposed by the map prepared by Alaska DNR.

Murray is in La Crosse, WI for meetings along with many of the other ADs, so therefore I've requested guidance from him as well as someone at an appropriate level in Water (likely also present in La Crosse with Murray) to weigh in prior to delivering the map. We'll get back to you as soon as we can. Sorry to be a pain but we have to be thoughtful here. Thanks...

Walter

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**Sent:** Tuesday, February 28, 2017 10:47 AM  
**To:** Garrity, Christopher  
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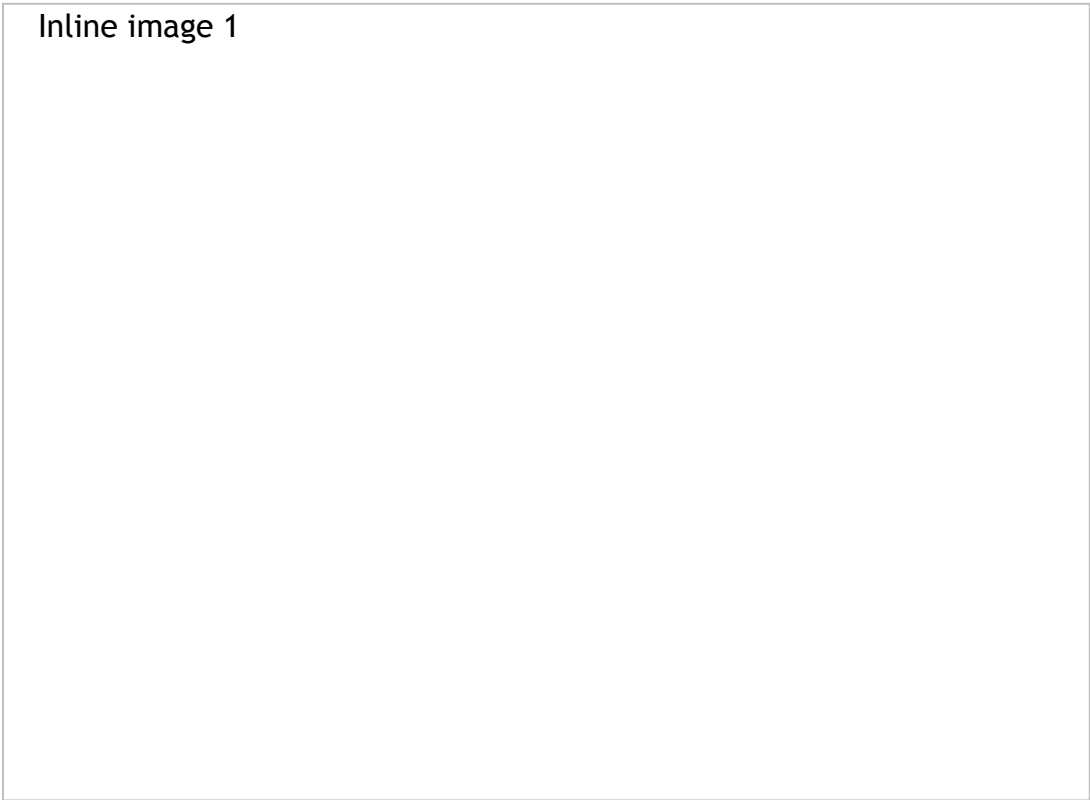
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## "Houseknecht, David" <dhouse@usgs.gov>

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**To:** Walter Guidroz <wguidroz@usgs.gov>  
**CC:** Christopher Trent <ctrent@usgs.gov>, Christopher Garrity <cgarrity@usgs.gov>, Julia Jester <jjester@usgs.gov>  
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Inline image 2

A large rectangular placeholder box for an inline image, currently empty.

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Dave Houseknecht  
U.S. Geological Survey  
12201 Sunrise Valley Drive  
MS 956  
Reston, VA 20192  
(703) 648-6466

**"Garrity, Christopher" <cgarrity@usgs.gov>**

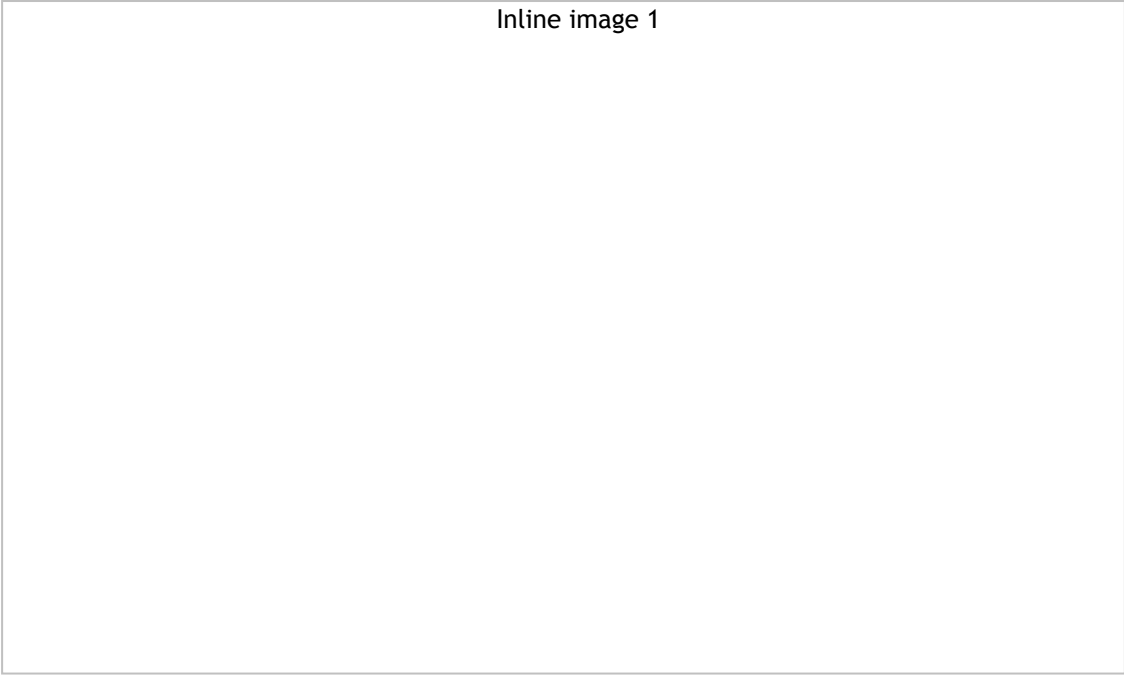
---

**From:** "Garrity, Christopher" <cgarrity@usgs.gov>  
**Sent:** Tue Feb 28 2017 12:24:22 GMT-0700 (MST)  
**To:** "Trent, Christopher" <ctrent@usgs.gov>  
**CC:** David Houseknecht <dhouse@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>, Julia Jester <jjester@usgs.gov>  
**Subject:** Re: Plate 1 & 2 drafts  
**Attachments:** stainesCanningNHD.jpg ANWR\_1002\_2\_24\_2017A.jpg  
ANWR\_1002\_2\_24\_2017B.jpg

Chris,

Attached is a graphic showing NHD data (publish date: 1-13-2017) for the area of interest. As you may have noted in the earlier thread, the Canning River linework is tagged as feature type "Artificial Path", and the Staines River is tagged as feature type StreamRiver. The NHD area unit for the Canning is tagged as "Area of Complex Channels" (see related links in previous messages for all NHD definitions). The NHD linework for the Staines and Canning River do connect (see below). Let me know how you want to proceed.

Inline image 1



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571-524-1869 (mobile)

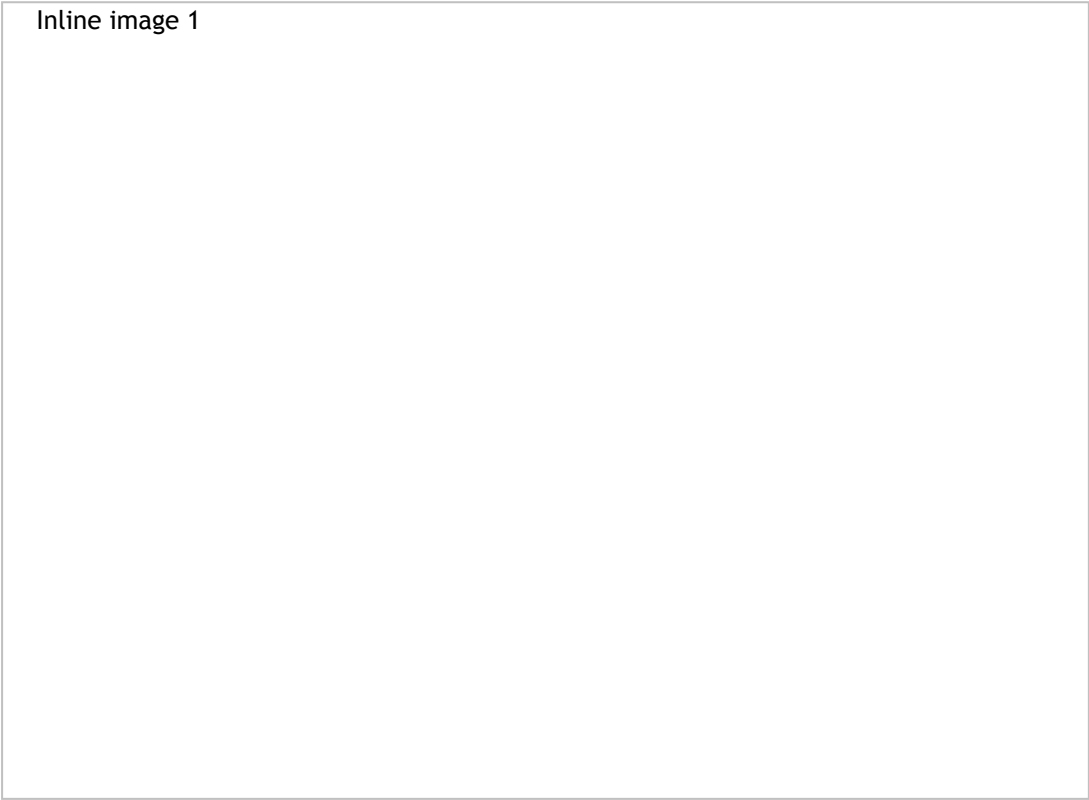
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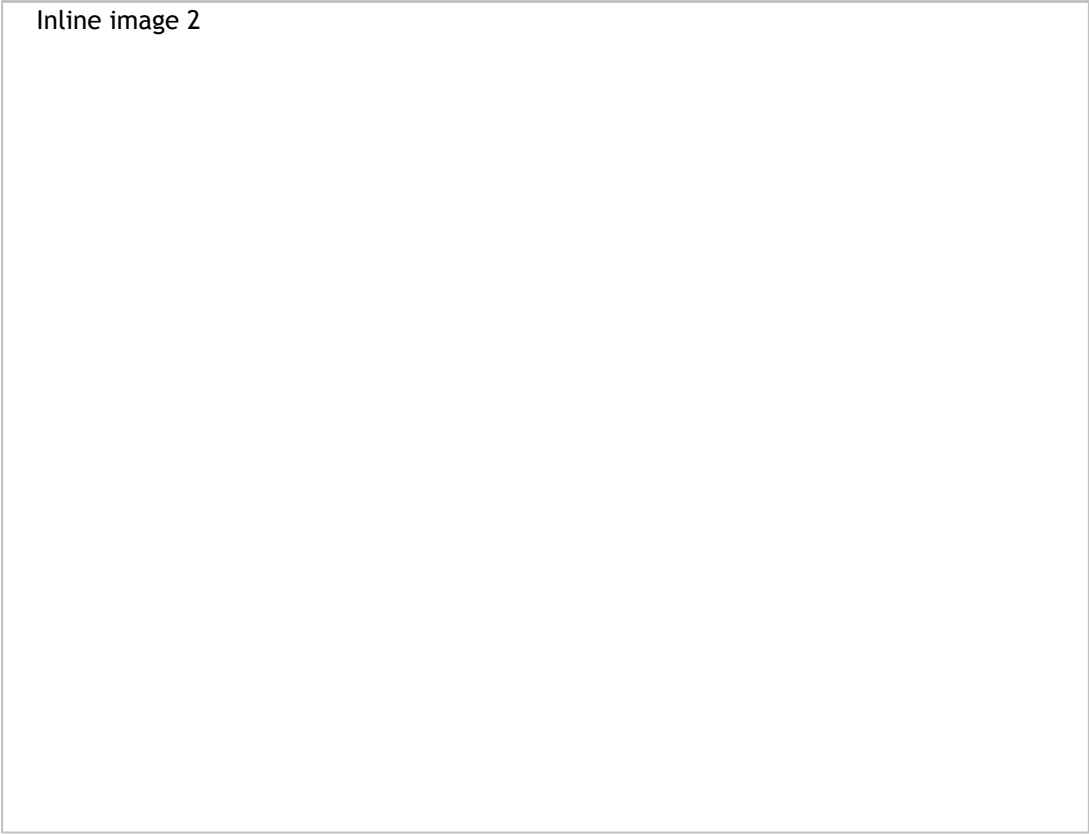
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Inline image 1



Inline image 2



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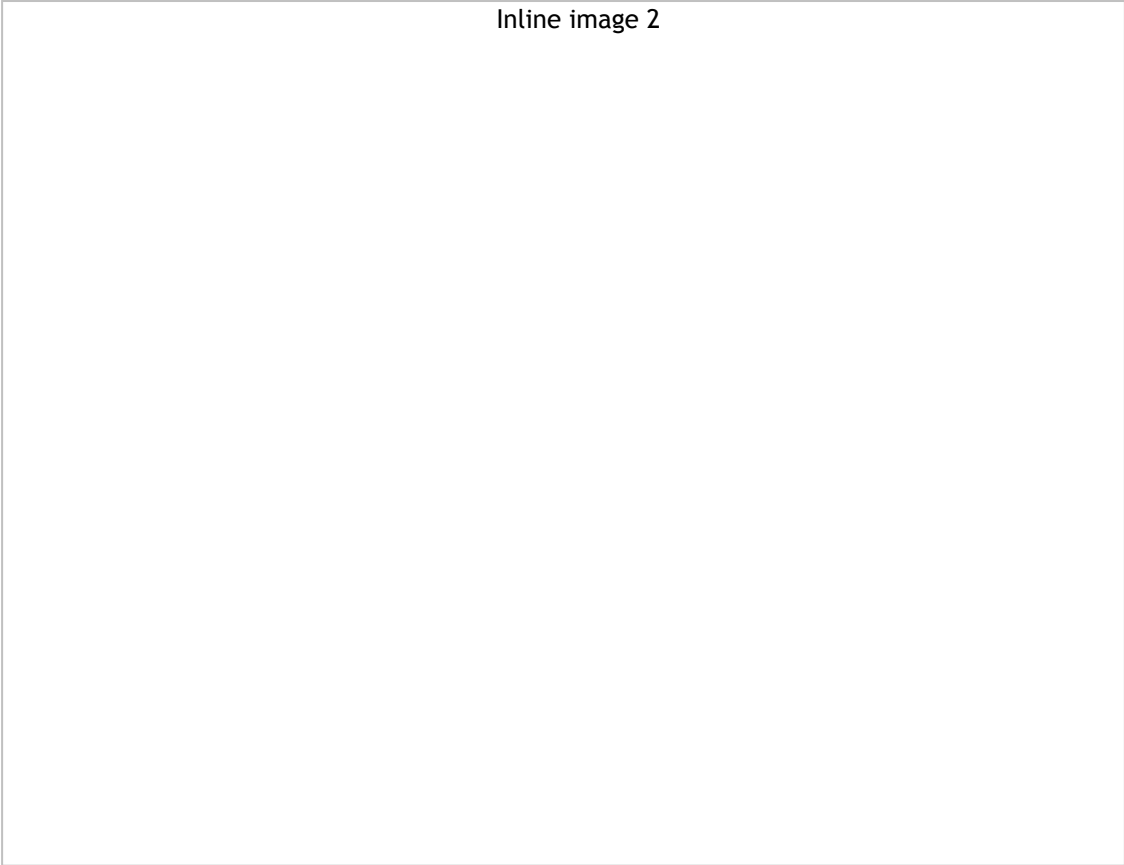
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**Subject:** Fwd: Plate 1 & 2 drafts  
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ANWR\_1002\_2\_28\_2017\_PLATE2\_DRAFT.jpg image002.jpg  
**Attachments:** ANWR\_1002\_2\_28\_2017\_PLATE1\_DRAFT.jpg  
ANWR\_1002\_2\_28\_2017\_PLATE2\_DRAFT.jpg

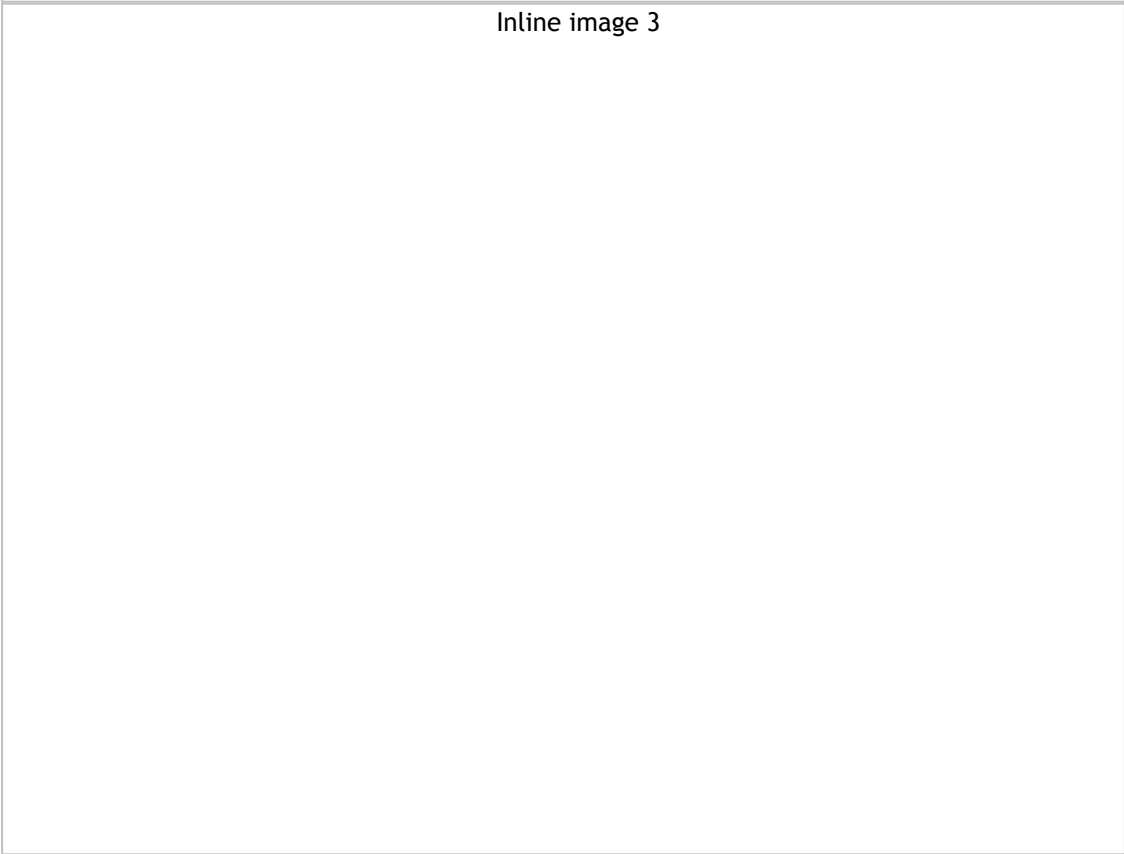
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**Attachments:** ANWR\_1002\_2\_28\_2017\_PLATE2\_DRAFT.jpg image004.jpg  
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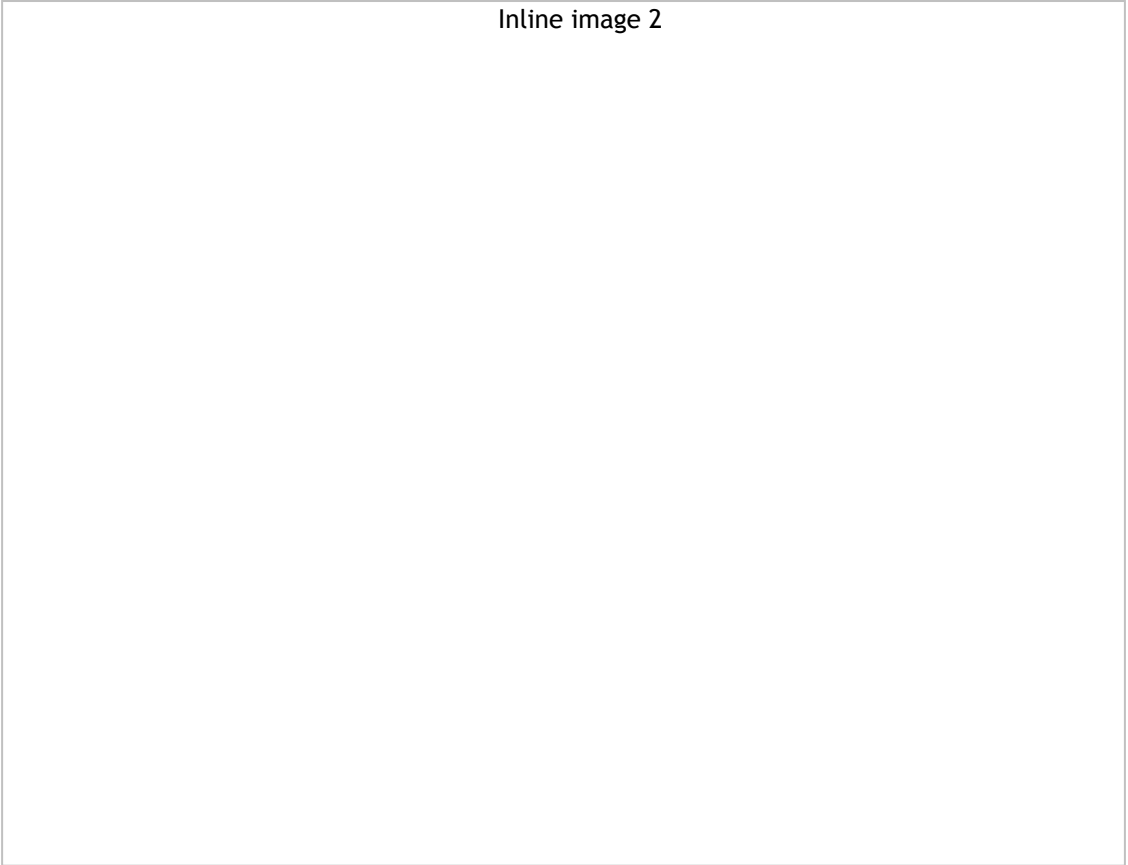
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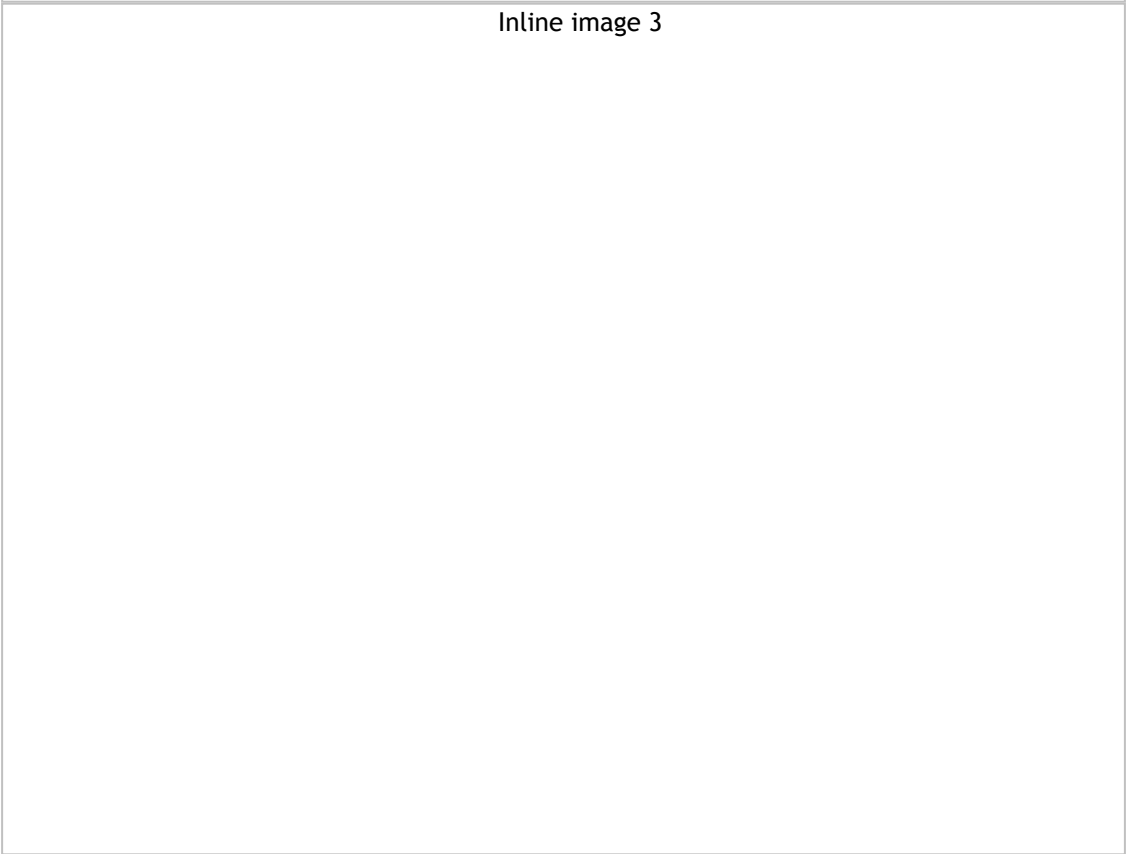
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**Subject:** Re: Plate 1 & 2 drafts  
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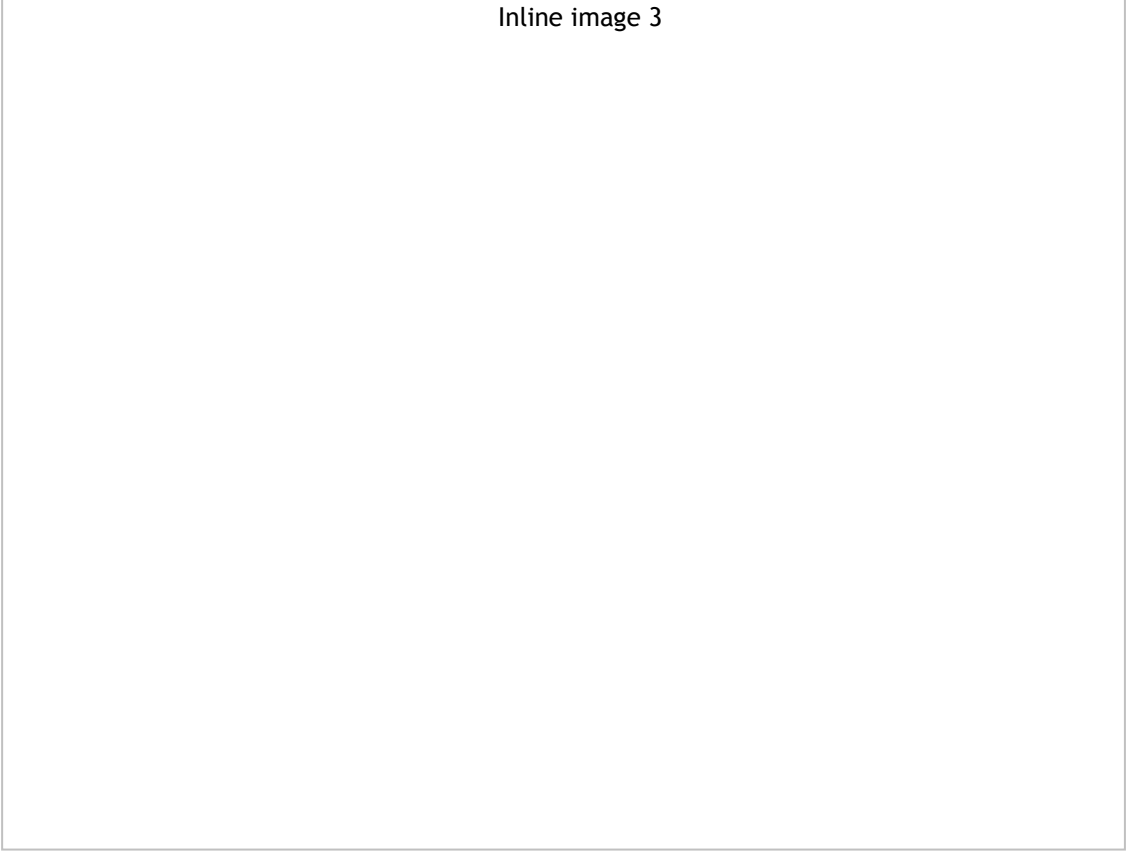
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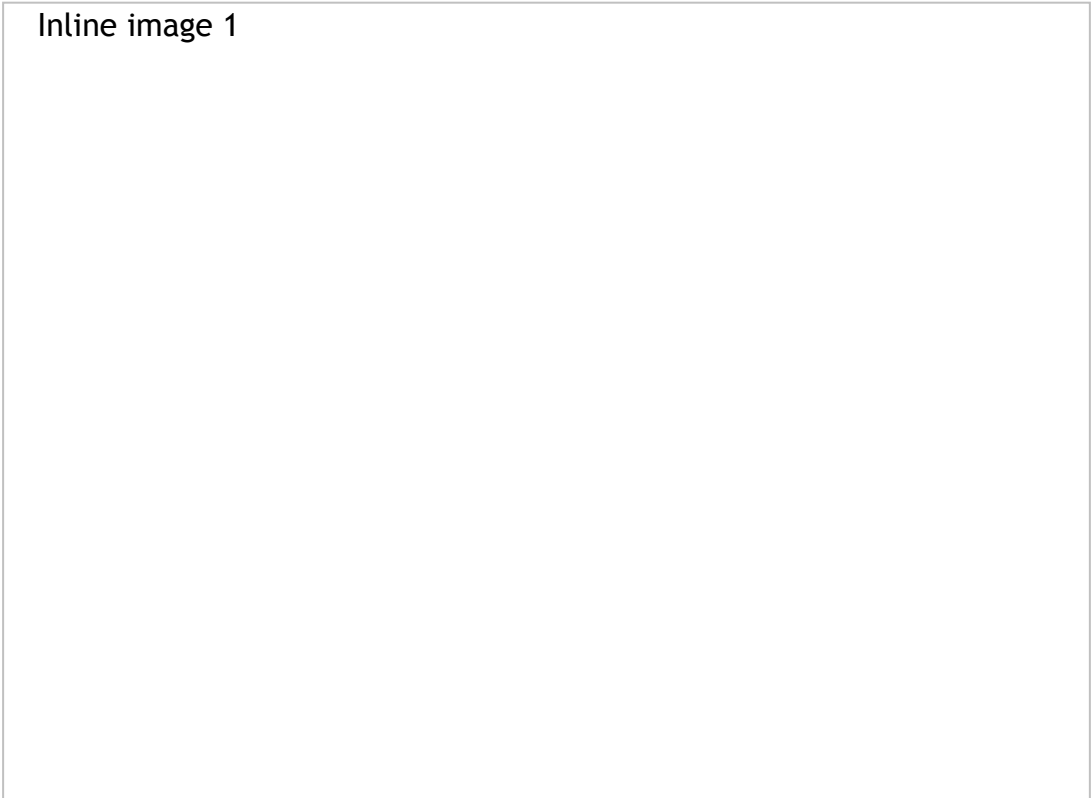
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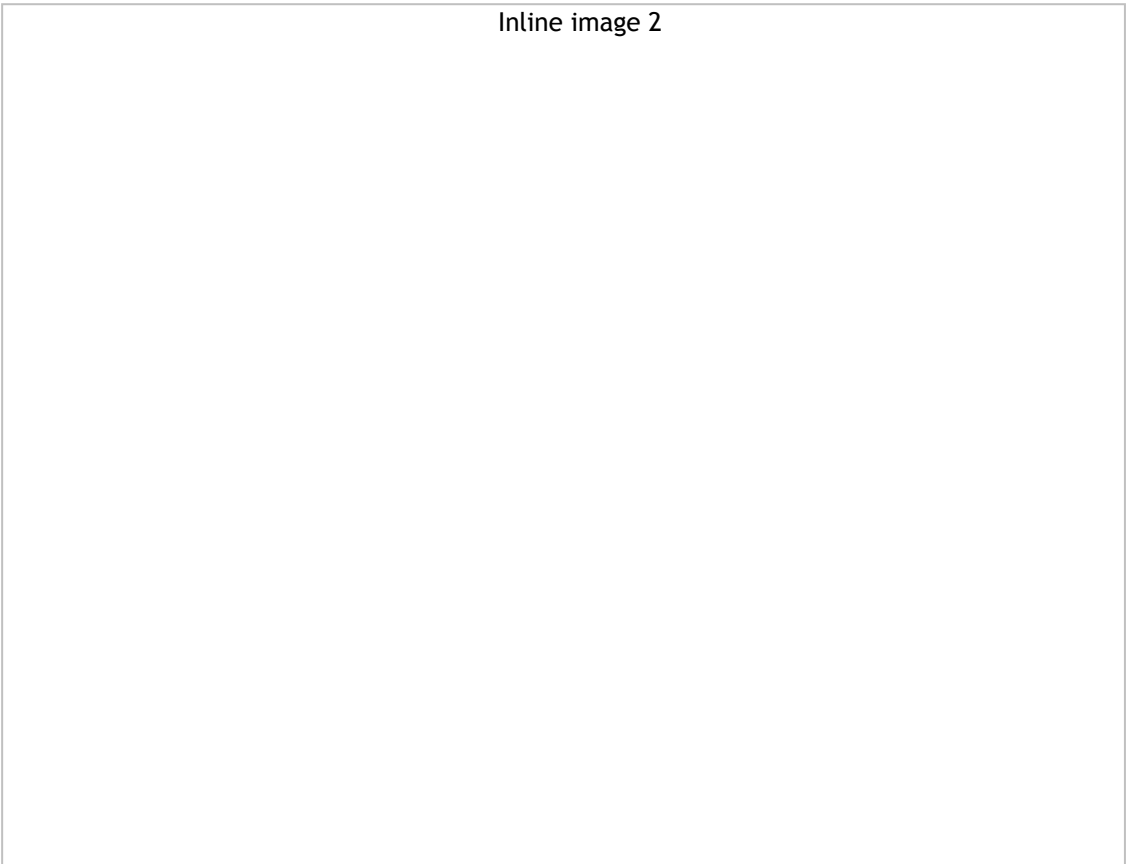
Congressional Affairs

[USGS.gov](http://USGS.gov)

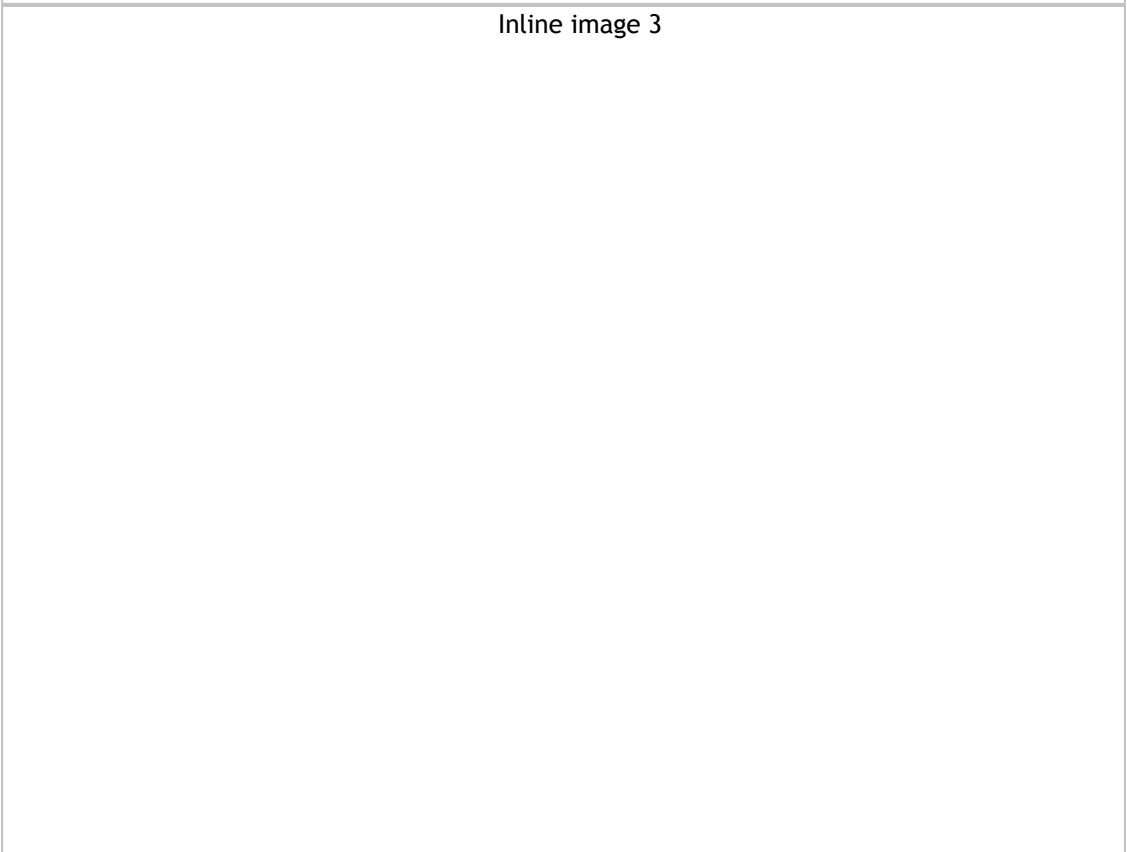
703-648-4451 (office)  
571-524-1869 (mobile)

On Tue, Feb 28, 2017 at 3:58 PM, Garrity, Christopher <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)> wrote:  
Chris-  
See attached.

Inline image 2



Inline image 3



On Tue, Feb 28, 2017 at 1:52 PM, Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)> wrote:

Dave and Chris,

We've just discussed this latest map request with Bill Werkheiser, Judy Nowakowski and Barbara Wainman, and it was agreed that you should proceed with what Chris outlines below. I'm happy to answer any questions. Thanks...

Walter

**From:** Trent, Christopher [mailto:[ctrent@usgs.gov](mailto:ctrent@usgs.gov)]  
**Sent:** Tuesday, February 28, 2017 10:47 AM  
**To:** Garrity, Christopher  
**Cc:** David Houseknecht; Walter Guidroz; Julia Jester  
**Subject:** Re: Plate 1 & 2 drafts

Hi Chris,

Two additional edits. First, the textual

- Title: change to "ANWR boundary as referenced in S. 49 introduced in the 115th Congress"
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- Add labels for Canning and Staines rivers.

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Thanks!

Chris Trent  
Congressional Affairs  
[USGS.gov](http://USGS.gov)  
703-648-4451 (office)  
571-524-1869 (mobile)

On Fri, Feb 24, 2017 at 4:57 PM, Trent, Christopher <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)> wrote:  
Thanks Chris! Have a great weekend.

Chris Trent  
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Inline image 1

Inline image 2

--

-Chris

**Christopher Garrity | GIScience**  
USGS | 12201 Sunrise Valley Drive, Reston, VA 20192 | USA  
T 703.648.6426 | F 703.648.6419 (Fax)  
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[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov) | [usgs.gov](http://usgs.gov)

**"Trent, Christopher" <ctrent@usgs.gov>**

---

**From:** "Trent, Christopher" <ctrent@usgs.gov>  
**Sent:** Wed Mar 01 2017 15:30:41 GMT-0700 (MST)  
**To:** "Garrity, Christopher" <cgarrity@usgs.gov>  
**CC:** David Houseknecht <dhouse@usgs.gov>, Walter Guidroz <wguidroz@usgs.gov>  
**Subject:** Re: Plate 1 & 2 drafts  
ANWR\_1002\_2\_28\_2017\_PLATE1\_DRAFT.jpg  
**Attachments:** ANWR\_1002\_2\_28\_2017\_PLATE2\_DRAFT.jpg image002.jpg  
image004.jpg

Thanks, Chris!

Chris Trent  
Congressional Affairs  
[USGS.gov](http://USGS.gov)  
703-648-4451 (office)  
571-524-1869 (mobile)

On Wed, Mar 1, 2017 at 3:08 PM, Garrity, Christopher <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)> wrote:

See attached. I've adjusted plate 1 and 2 accordingly. Let me know if you have any other changes.

On Wed, Mar 1, 2017 at 2:38 PM, Garrity, Christopher <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)> wrote:

Will do. I'll check both plates...it was rescaled and cropped when I was away a couple weeks back. Should only take a minute to check.

On Wed, Mar 1, 2017 at 2:23 PM, Trent, Christopher <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)> wrote:

Hi Chris,

I hope this is a minor thing: staff were not sure the scale bar in plate 2 is correct. Something about the different projections messing it up in ArcGIS.

If it's indeed fine, just let me know. I may need some further technical guidance from you so I understand what the deal is.

Thanks!

Chris Trent  
Congressional Affairs  
[USGS.gov](http://USGS.gov)  
703-648-4451 (office)  
571-524-1869 (mobile)

On Tue, Feb 28, 2017 at 4:28 PM, Trent, Christopher <[ctrent@usgs.gov](mailto:ctrent@usgs.gov)> wrote:

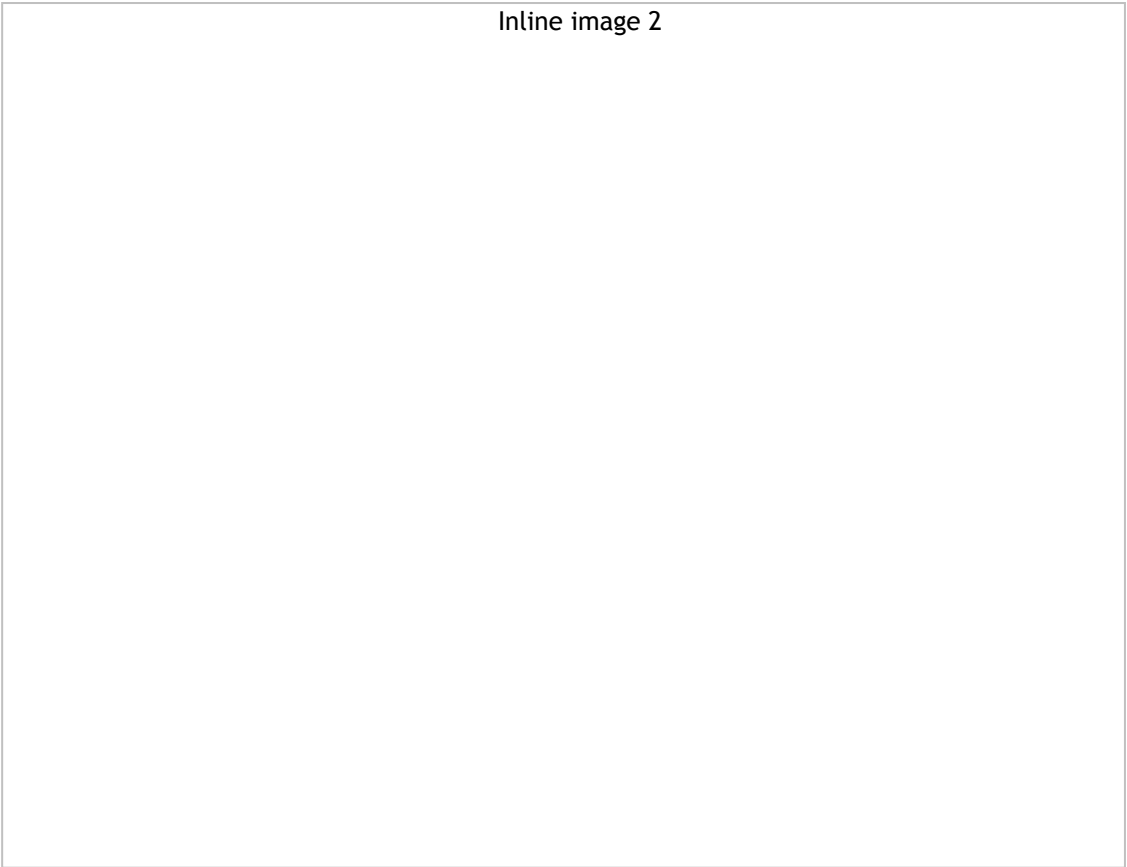
Thanks, Chris. I'll get feedback on these ASAP.

Chris Trent  
Congressional Affairs  
[USGS.gov](http://USGS.gov)  
703-648-4451 (office)  
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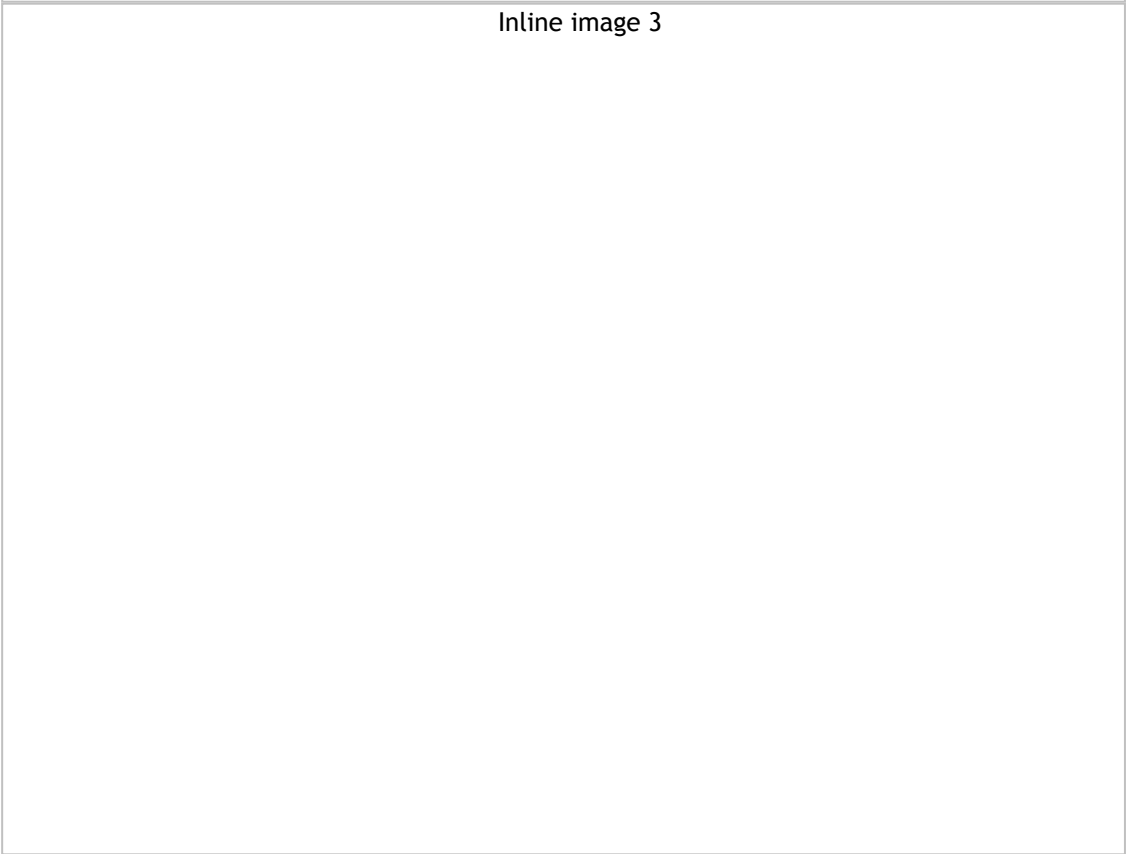
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Inline image 1

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-Chris

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# Conversation Contents

**Fwd: NHD Staines and Canning Rivers**

**Attachments:**

/9. Fwd: NHD Staines and Canning Rivers/1.1 image002.jpg  
/9. Fwd: NHD Staines and Canning Rivers/1.2 stainesCanning.jpg  
/9. Fwd: NHD Staines and Canning Rivers/1.3 image001.jpg  
/9. Fwd: NHD Staines and Canning Rivers/1.4 image004.jpg  
/9. Fwd: NHD Staines and Canning Rivers/1.5 image003.jpg  
/9. Fwd: NHD Staines and Canning Rivers/2.1 image001.jpg  
/9. Fwd: NHD Staines and Canning Rivers/2.2 image002.jpg  
/9. Fwd: NHD Staines and Canning Rivers/2.3 image003.jpg  
/9. Fwd: NHD Staines and Canning Rivers/2.4 image004.jpg  
/9. Fwd: NHD Staines and Canning Rivers/2.5 image005.jpg

**"Tischler, Michael" <mtischler@usgs.gov>**

---

**From:** "Tischler, Michael" <mtischler@usgs.gov>  
**Sent:** Tue Feb 28 2017 14:58:53 GMT-0700 (MST)  
**To:** Walter Guidroz <wguidroz@usgs.gov>, "Kari Craun (via Google Sheets)" <kcraun@usgs.gov>  
**Subject:** Fwd: NHD Staines and Canning Rivers  
**Attachments:** image002.jpg stainesCanning.jpg image001.jpg image004.jpg image003.jpg

Walter,

We've identified folks that can assist - how can we help?

Thanks,  
m

----- Forwarded message -----

From: **Kevin Gallagher** <[kgallagher@usgs.gov](mailto:kgallagher@usgs.gov)>  
Date: Tue, Feb 28, 2017 at 1:21 PM  
Subject: Fwd: NHD Staines and Canning Rivers  
To: [mnaftzge@usgs.gov](mailto:mnaftzge@usgs.gov), Michael Tischler <[mtischler@usgs.gov](mailto:mtischler@usgs.gov)>, Kari Craun <[kcraun@usgs.gov](mailto:kcraun@usgs.gov)>, [jnowakowski@usgs.gov](mailto:jnowakowski@usgs.gov)

I think it's always good to have a cartographic expert involved in these discussions as well.

Mark,

Can you please ensure that NGP/NGTOC has the chance to weigh-in.

Sent from my iPhone

Begin forwarded message:

**From:** Murray Hitzman <[mhitzman@usgs.gov](mailto:mhitzman@usgs.gov)>  
**Date:** February 28, 2017 at 11:45:08 AM CST  
**To:** [kgallagher@usgs.gov](mailto:kgallagher@usgs.gov)  
**Subject:** Fwd: NHD Staines and Canning Rivers

Kevin  
I think u need to row in too

Sent from my iPhone

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**To:** Murray Hitzman <[mhitzman@usgs.gov](mailto:mhitzman@usgs.gov)>, Lawrence Meinert <[lmeinert@usgs.gov](mailto:lmeinert@usgs.gov)>  
**Cc:** "Houseknecht, David" <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>  
**Subject:** FW: NHD Staines and Canning Rivers

Murray, we've received yet another request for an ANWR map change. However, this one is not clear cut – if we follow the proposed guidance and our product becomes part of proposed legislation, then USGS may be placed in an uncomfortable position.

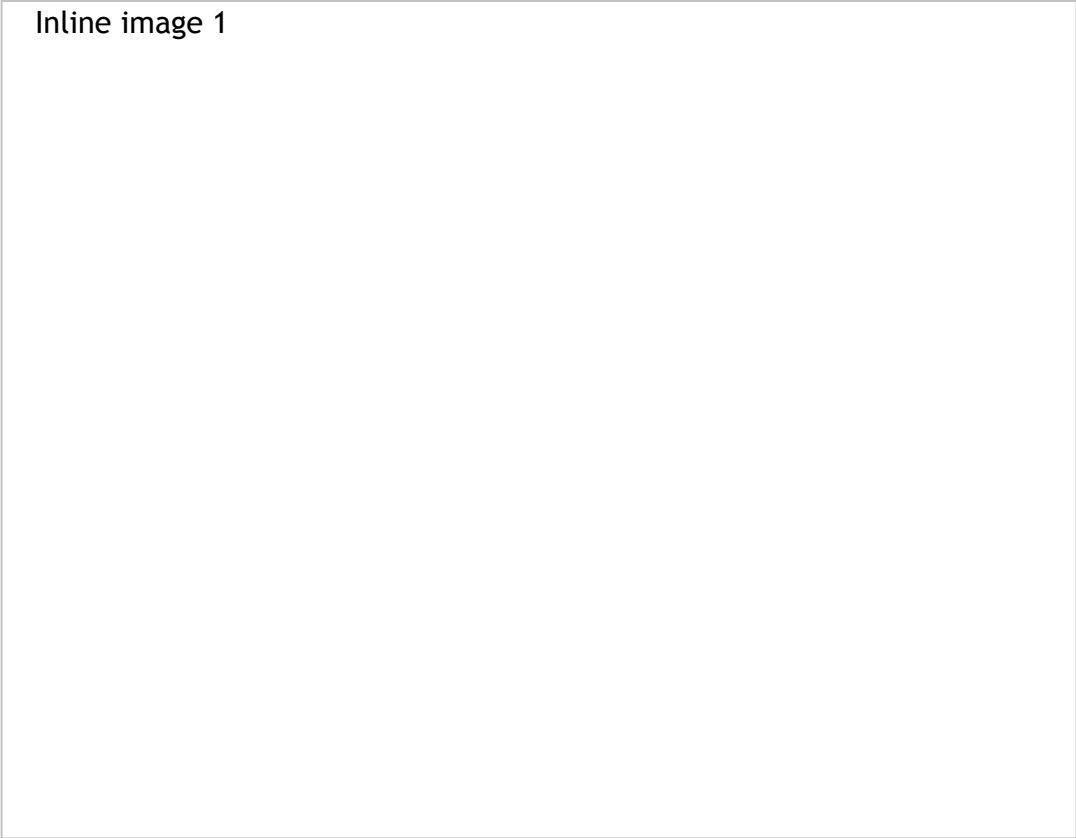
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Walter

**From:** Garrity, Christopher [mailto:[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)]  
**Sent:** Tuesday, February 28, 2017 10:57 AM  
**To:** David Houseknecht  
**Cc:** Walter Guidroz  
**Subject:** Re: NHD Staines and Canning

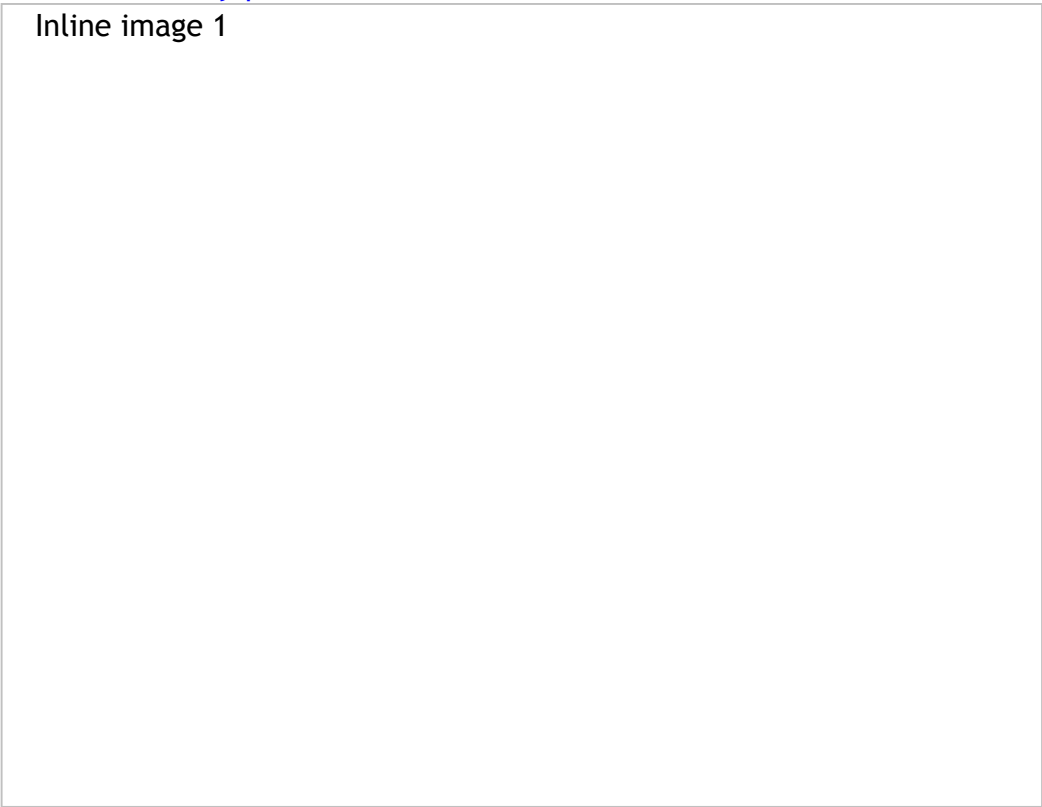
Here a better capture  
e

Inline image 1



On Tue, Feb 28, 2017 at 10:54 AM, Garrity, Christopher <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)> wrote:  
Staines River and Canning River selected from NHD. Attribute feature type for Canning River is "Artificial Path". Attribute feature type for Staines River is "StreamRiver". Abbreviated NHD definitions <https://nhd.usgs.gov/FeatureDirectory.pdf>:

Inline image 1



Canning River selected from NHD:

Inline image 2

Staines River selected from NHD:

Inline image 4

--

-Chris

USGS | 12201 Sunrise Valley Drive, Reston, VA 20192 | USA  
T 703.648.6426 | F 703.648.6419 (Fax)  
[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov) | [usgs.gov](http://usgs.gov)

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-Chris

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Michael Tischler, Ph.D

Director  
National Geospatial Program  
United States Geological Survey  
703-648-4725  
[mtischler@usgs.gov](mailto:mtischler@usgs.gov)  
12201 Sunrise Valley Dr.  
Reston, VA 20192

**[The National Map](#) - Your Source For Topographic Information**



**Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>**

---

**From:** Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>  
**Sent:** Tue Feb 28 2017 15:03:30 GMT-0700 (MST)  
**To:** Michael Tischler <[mtischler@usgs.gov](mailto:mtischler@usgs.gov)>, Kari Craun <[kcraun@usgs.gov](mailto:kcraun@usgs.gov)>  
**Subject:** RE: NHD Staines and Canning Rivers  
**Attachments:** image001.jpg image002.jpg image003.jpg image004.jpg image005.jpg

Mike, thanks for the offer to help. I think we ended up in a relatively good spot; we met with Bill, Judy and Barbara this afternoon and agreed that there would be no lines on the map, only depictions of the two rivers involved. Hopefully this gets us through what is fast becoming a very lengthy exercise. I'll definitely keep you in the loop should things change (and at this rate, I'm sure they will). Thanks again...

Walter

**From:** Tischler, Michael [mailto:[mtischler@usgs.gov](mailto:mtischler@usgs.gov)]  
**Sent:** Tuesday, February 28, 2017 4:59 PM  
**To:** Walter Guidroz; Kari Craun (via Google Sheets)  
**Subject:** Fwd: NHD Staines and Canning Rivers

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----- Forwarded message -----

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Date: Tue, Feb 28, 2017 at 1:21 PM

Subject: Fwd: NHD Staines and Canning Rivers

To: [mnaftzge@usgs.gov](mailto:mnaftzge@usgs.gov), Michael Tischler <[mtischler@usgs.gov](mailto:mtischler@usgs.gov)>, Kari Craun <[kcraun@usgs.gov](mailto:kcraun@usgs.gov)>, [jnowakowski@usgs.gov](mailto:jnowakowski@usgs.gov)

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**To:** [kgallagher@usgs.gov](mailto:kgallagher@usgs.gov)

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**Cc:** "Houseknecht, David" <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>

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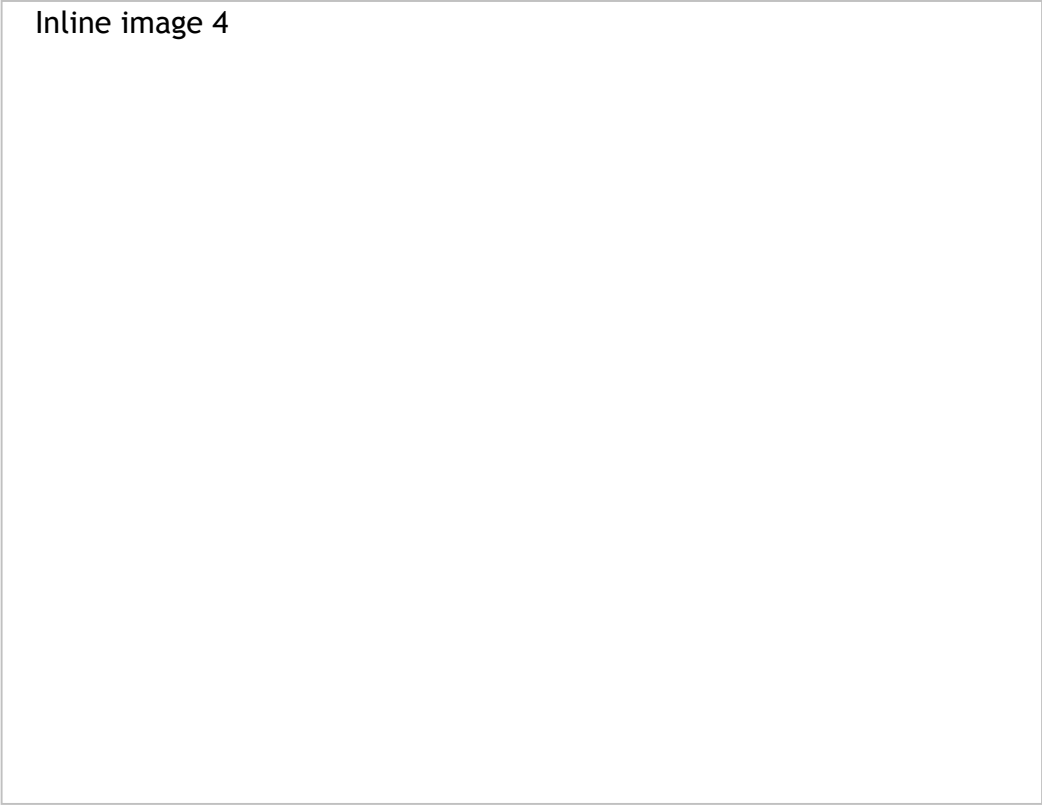
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# Conversation Contents

ANWR

**"Meinert, Lawrence" <lmeinert@usgs.gov>**

---

**From:** "Meinert, Lawrence" <lmeinert@usgs.gov>  
**Sent:** Tue Feb 28 2017 11:56:21 GMT-0700 (MST)  
**To:** "Hitzman, Murray" <mhitzman@usgs.gov>  
**CC:** Walter Guidroz <wguidroz@usgs.gov>  
**Subject:** ANWR

Murray,

Walter and I met with Judy, Bill, Dave, Barbara, Julia, and Chris Trent. Good news is that there will be no lines on map, just rivers, and the legend will say something like "as proposed by this legislation". That takes any onus off of USGS as showing anything other than a base map. That seems livable.

Larry

--

Larry Meinert  
Acting Deputy Associate Director - Energy & Minerals  
U.S. Geological Survey  
12201 Sunrise Valley Dr., MS 913  
Reston, VA 20192  
703-648-6100  
[lmeinert@usgs.gov](mailto:lmeinert@usgs.gov)

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**Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)>**

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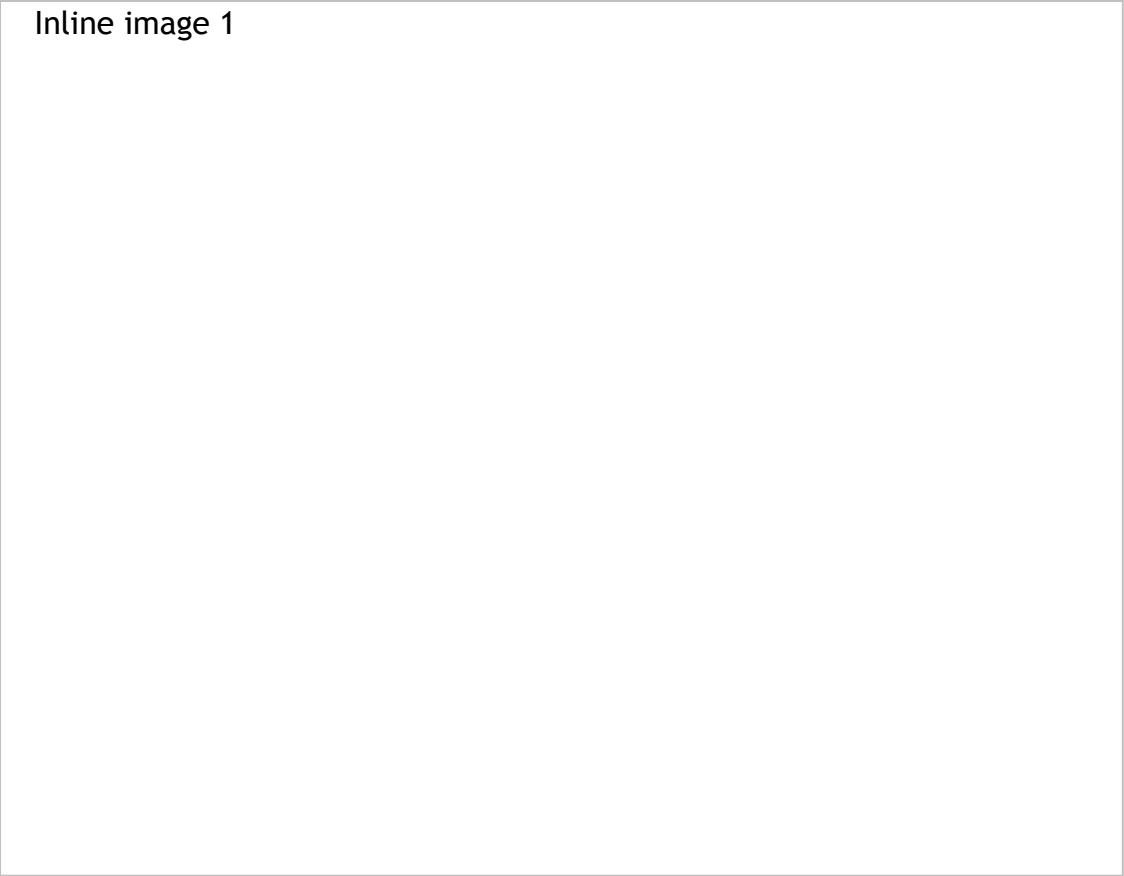
The USGS NHD coverage labels the Staines River (to the west, present Federal boundary) as a discrete river (which is appropriate as it is mainly a single channel) but the label for the Canning River (to the east; boundary proposed by Alaska) is an "artificial path" because the river has multiple main courses, all of which are braided. If that artificial path label becomes part of the proposed legislation or is used by Senator Murkowski as a basis for the ANWR boundary, then the state would be taking a much larger chunk of the 1002 area than proposed by the map prepared by Alaska DNR. Therefore, Dave and I suggest that you as well as someone in an upper level of the Water Discipline be consulted before the map is delivered. Is someone at an appropriate level from Water there at your meetings who could comment? Thanks...

Walter

**From:** Garrity, Christopher [mailto:[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)]  
**Sent:** Tuesday, February 28, 2017 10:57 AM  
**To:** David Houseknecht  
**Cc:** Walter Guidroz  
**Subject:** Re: NHD Staines and Canning

Here a better capture

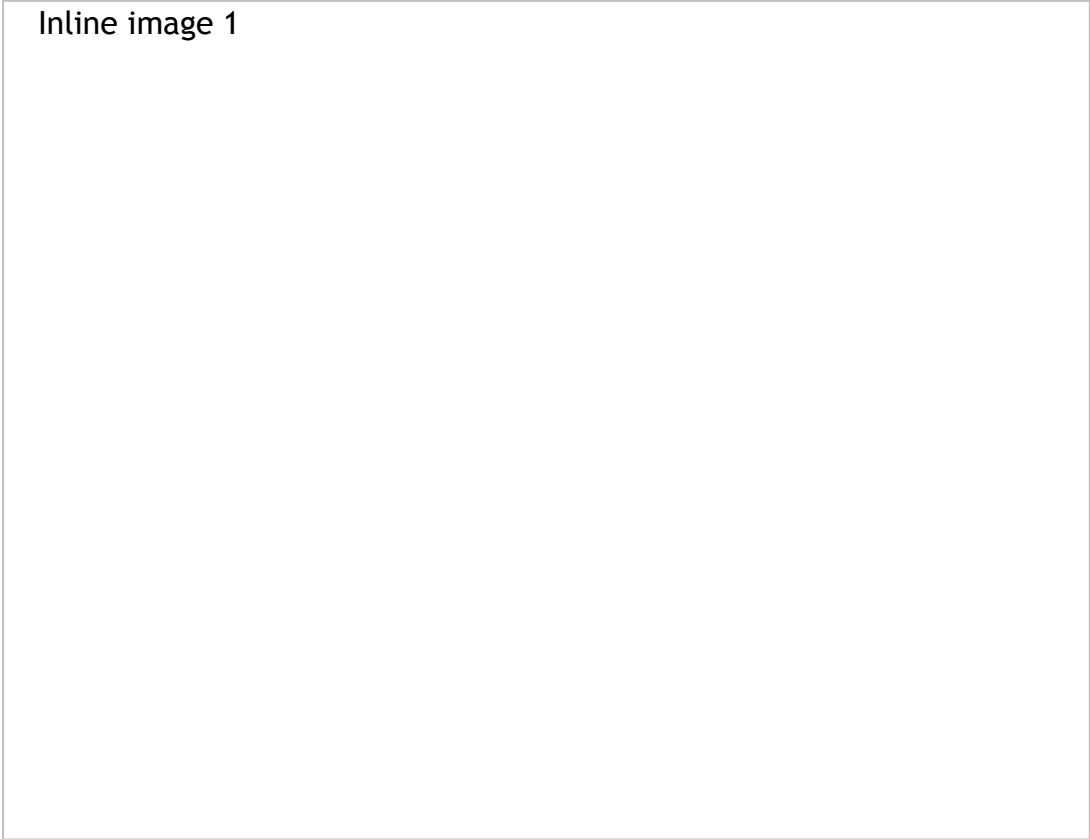
Inline image 1



e

On Tue, Feb 28, 2017 at 10:54 AM, Garrity, Christopher <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)> wrote:  
Staines River and Canning River selected from NHD. Attribute feature type for Canning River is "Artificial Path". Attribute feature type for Staines River is "StreamRiver". Abbreviated NHD definitions <https://nhd.usgs.gov/FeatureDirectory.pdf>:

Inline image 1



Canning River selected from NHD:

Inline image 2

Staines River selected from NHD:

Inline image 4

--

-Chris



**Christopher Garrity | GIScience**

USGS | 12201 Sunrise Valley Drive, Reston, VA 20192 | USA

T 703.648.6426 | F 703.648.6419 (Fax)

[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov) | [usgs.gov](http://usgs.gov)

--

-Chris

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**"Meinert, Lawrence" <lmeinert@usgs.gov>**

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**From:** "Meinert, Lawrence" <lmeinert@usgs.gov>  
**Sent:** Tue Feb 28 2017 09:52:35 GMT-0700 (MST)  
**To:** Walter Guidroz <wguidroz@usgs.gov>  
**CC:** Murray Hitzman <mhitzman@usgs.gov>, "Houseknecht, David" <dhouse@usgs.gov>  
**Subject:** Re: FW: NHD Staines and Canning Rivers  
**Attachments:** image002.jpg image004.jpg image003.jpg image001.jpg

Murray,

I brought this to the attention of Dave Applegate, following Director's Staff, and expressed my opinion that the USGS needs to take a stand that the science and classification of rivers, and resulting boundaries, cannot change to suit political whims.

Larry

On Tue, Feb 28, 2017 at 11:13 AM, Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)> wrote:

Murray, we've received yet another request for an ANWR map change. However, this one is not clear cut – if we follow the proposed guidance and our product becomes part of proposed legislation, then USGS may be placed in an uncomfortable position.

The USGS NHD coverage labels the **Staines** River (to the west, present Federal boundary) as a discrete river (which is appropriate as it is mainly a single channel) but the label for the **Canning** River (to the east; boundary proposed by Alaska) is an "artificial path" because the river has multiple main courses, all of which are braided. If that artificial path label becomes part of the proposed legislation or is used by Senator Murkowski as a basis for the ANWR boundary, then the state would be taking a much larger chunk of the 1002 area than proposed by the map prepared by Alaska DNR. Therefore, Dave and I suggest that you as well as someone in an upper level of the Water Discipline be consulted before the map is delivered. Is someone at an appropriate level from Water there at your meetings who could comment? Thanks...

Walter

**From:** Garrity, Christopher [mailto:[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)]

**Sent:** Tuesday, February 28, 2017 10:57 AM

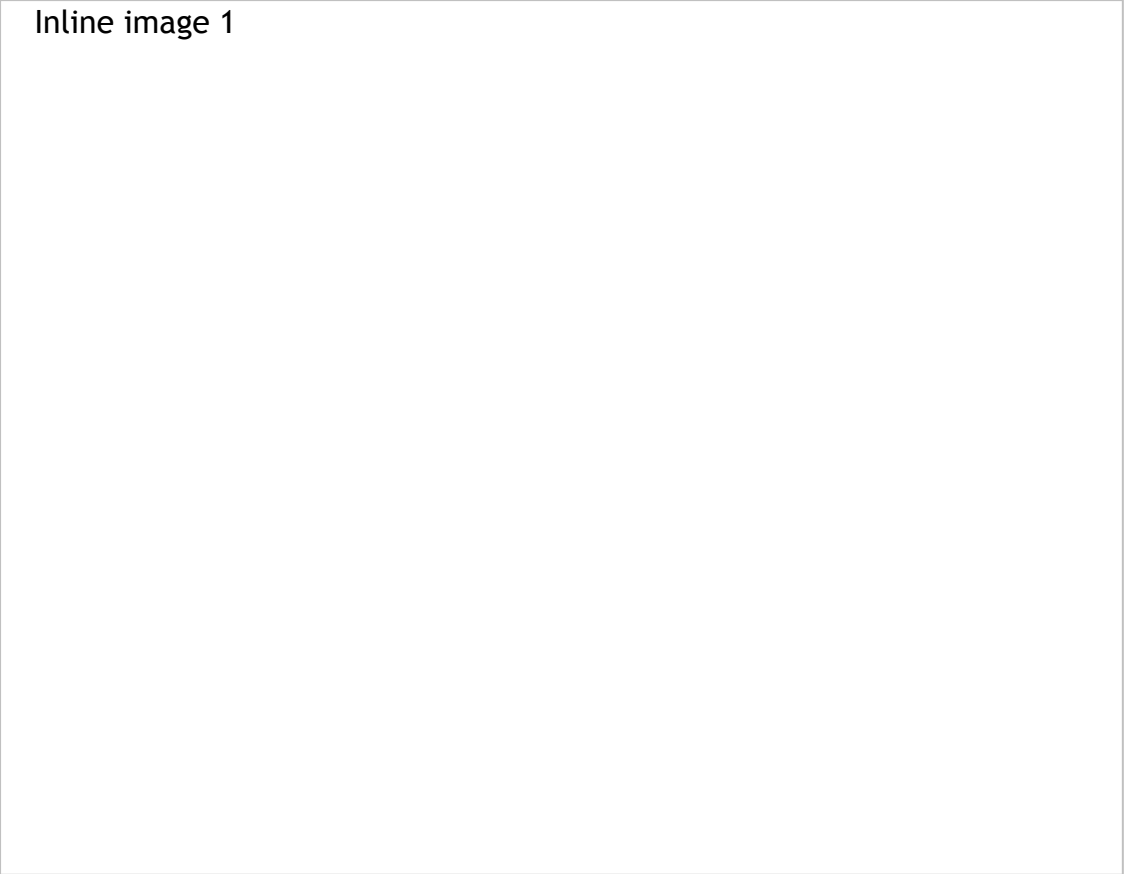
**To:** David Houseknecht

**Cc:** Walter Guidroz

**Subject:** Re: NHD Staines and Canning

Here a better capture

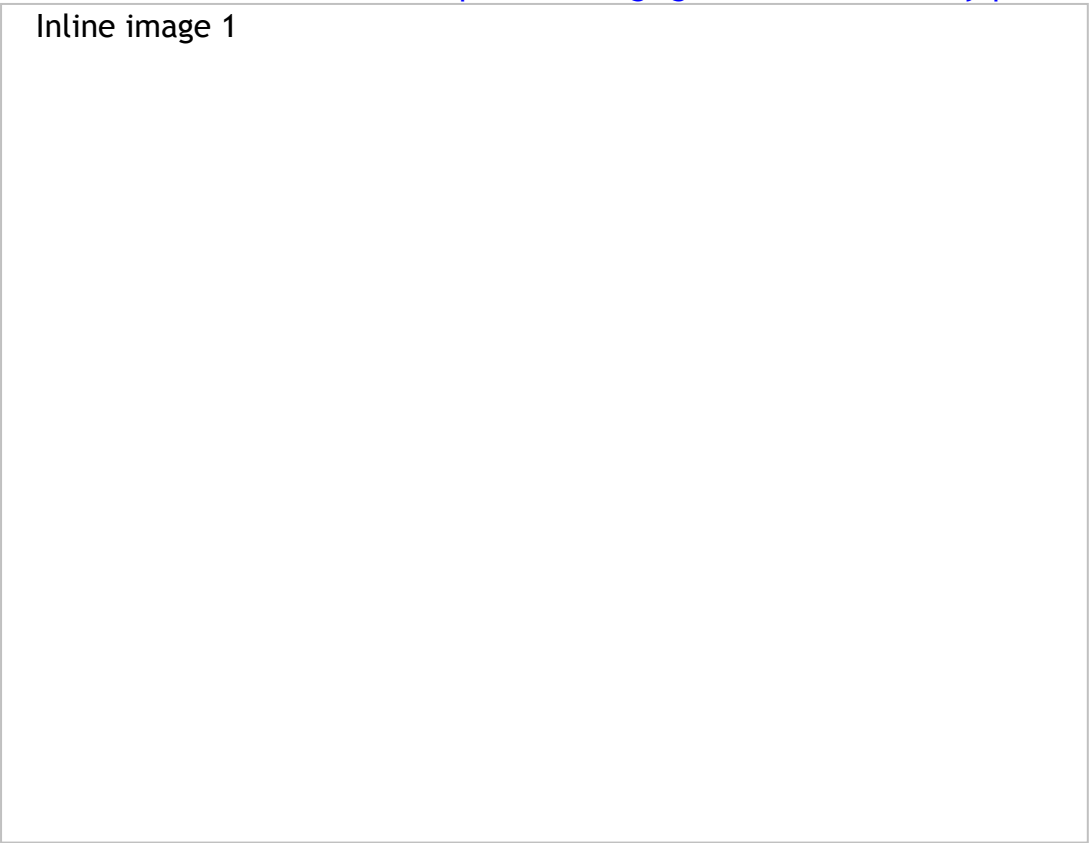
Inline image 1



e

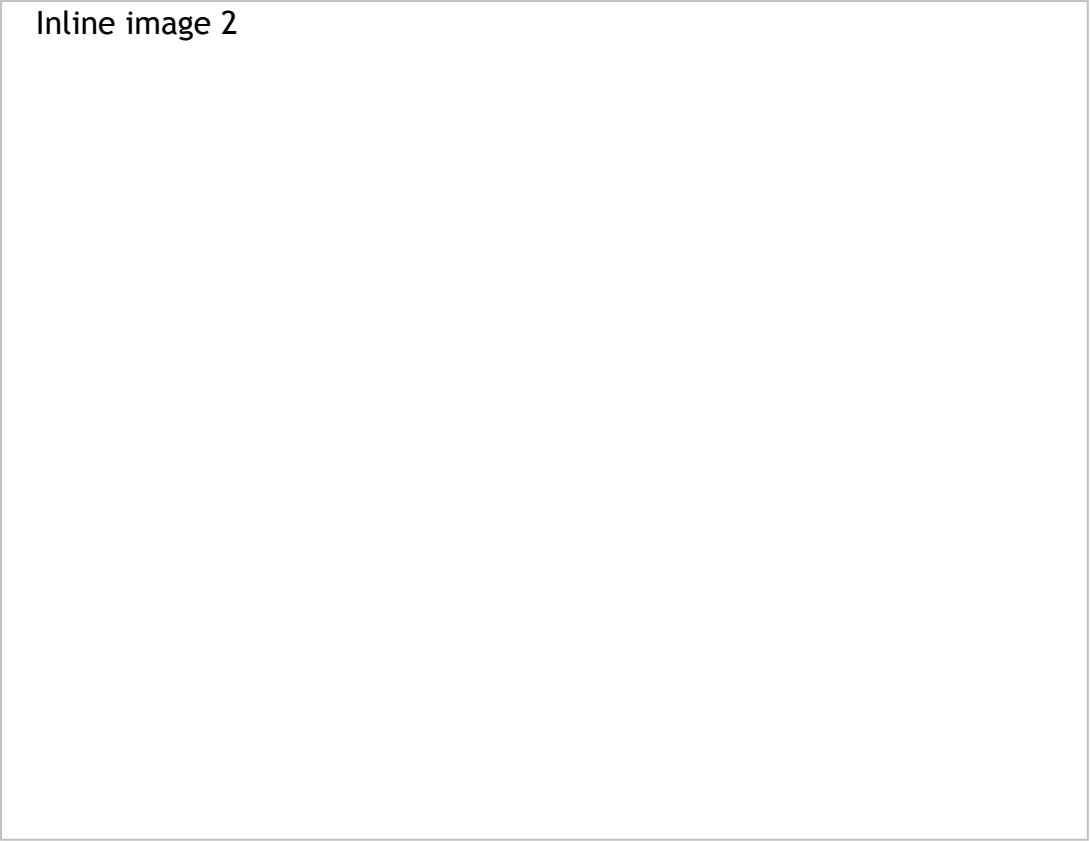
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Inline image 1



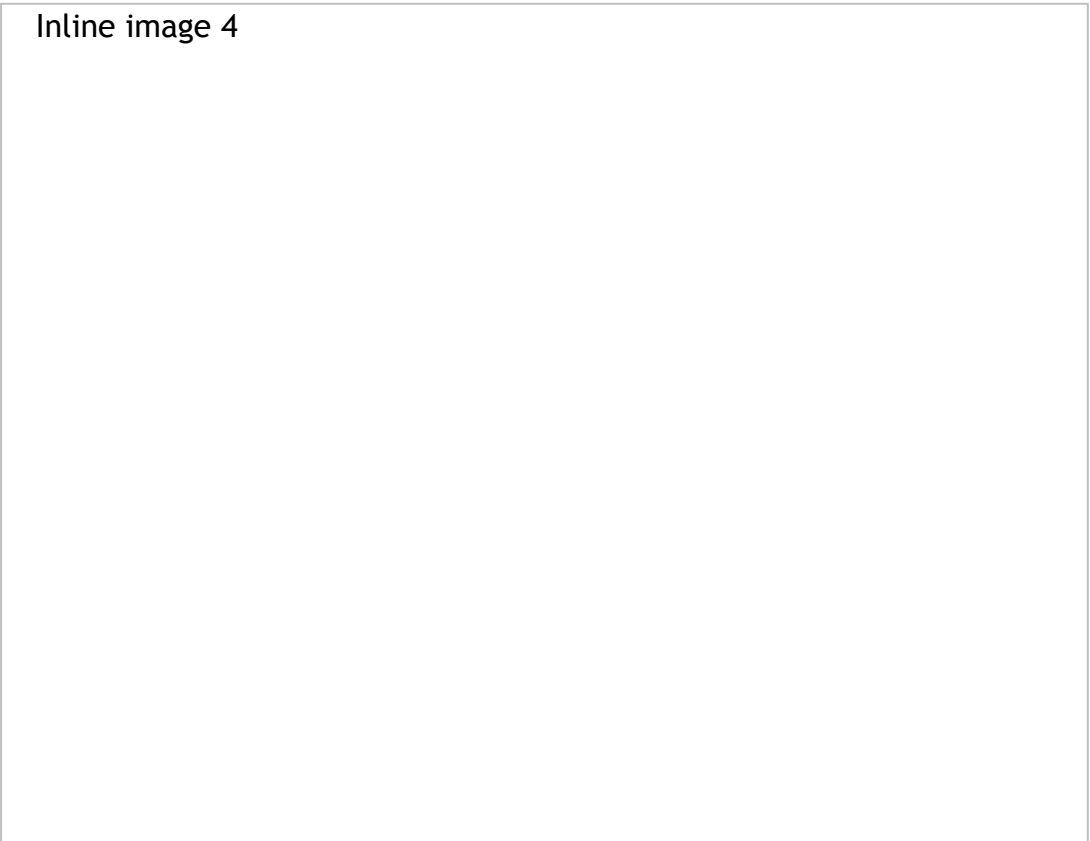
Canning River selected from NHD:

Inline image 2



Staines River selected from NHD:

Inline image 4



-Chris

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-Chris

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Larry Meinert

Acting Deputy Associate Director - Energy & Minerals

U.S. Geological Survey

12201 Sunrise Valley Dr., MS 913

Reston, VA 20192

703-648-6100

[Lmeinert@usgs.gov](mailto:Lmeinert@usgs.gov)

# Conversation Contents

map

## Attachments:

/12. map/3.1 example.jpg

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## "Houseknecht, David" <dhouse@usgs.gov>

**From:** "Houseknecht, David" <dhouse@usgs.gov>  
**Sent:** Tue Feb 28 2017 09:00:23 GMT-0700 (MST)  
**To:** Walter Guidroz <wguidroz@usgs.gov>, Christopher Garrity <cgarrity@usgs.gov>  
**Subject:** map

Walter:

You can see from CG's map drafts what the issue is. If the "artificial path" is used by the Senator as a basis for the ANWR boundary, then the state would be taking a much larger chunk of the 1002 area than proposed by the map prepared by the ADNR. I suggest both Murray and the AD for water needs to weigh in on this.

--

Dave Houseknecht  
U.S. Geological Survey  
12201 Sunrise Valley Drive  
MS 956  
Reston, VA 20192  
(703) 648-6466

---

## Walter Guidroz <wguidroz@usgs.gov>

**From:** Walter Guidroz <wguidroz@usgs.gov>  
**Sent:** Tue Feb 28 2017 09:03:15 GMT-0700 (MST)  
**To:** David Houseknecht <dhouse@usgs.gov>, Christopher Garrity <cgarrity@usgs.gov>  
**Subject:** RE: map

Agreed. Murray is in La Crosse, WI attending a meeting but he's on email; I'll forward the concerns to him. I believe many if not all of the other ADs are there as well. Thanks for highlighting the issue...

**From:** Houseknecht, David [mailto:[dhouse@usgs.gov](mailto:dhouse@usgs.gov)]  
**Sent:** Tuesday, February 28, 2017 11:00 AM  
**To:** Walter Guidroz; Christopher Garrity  
**Subject:** map

Walter:

You can see from CG's map drafts what the issue is. If the "artificial path" is used by the Senator as a basis for the ANWR boundary, then the state would be taking a much larger chunk of the 1002 area than proposed by the map prepared by the ADNR. I suggest both Murray and the AD for water needs to weigh in on this.

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## "Houseknecht, David" <dhouse@usgs.gov>

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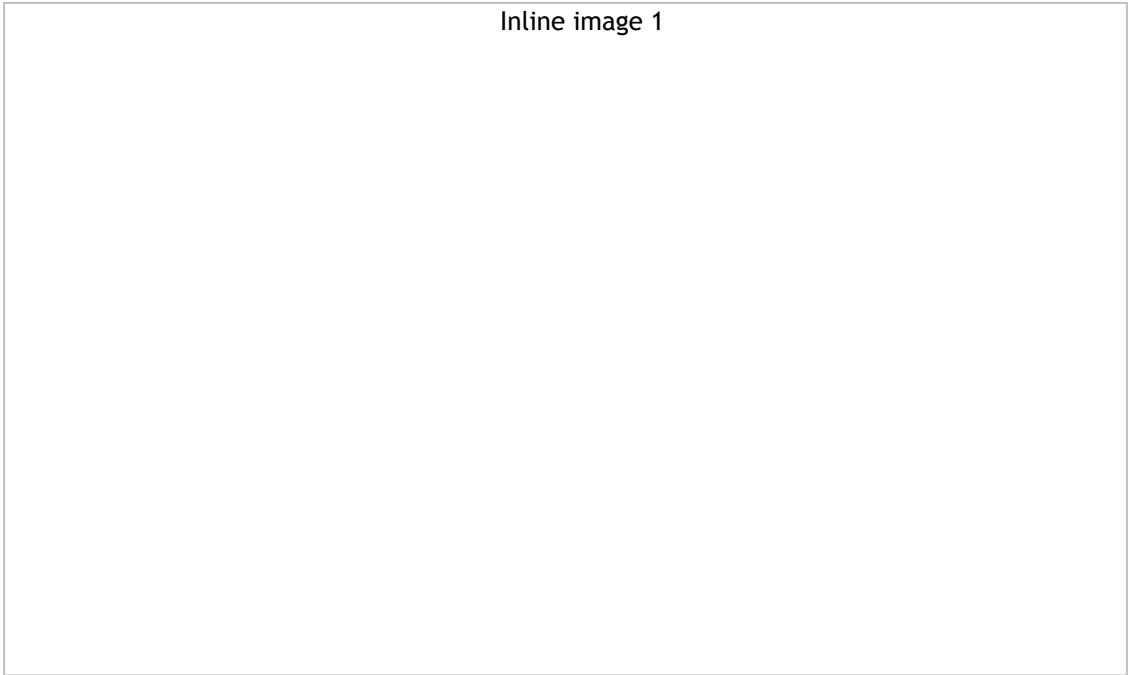
**From:** "Houseknecht, David" <dhouse@usgs.gov>  
**Sent:** Tue Feb 28 2017 09:27:39 GMT-0700 (MST)  
**To:** "Garrity, Christopher" <cgarrity@usgs.gov>  
**CC:** Walter Guidroz <wguidroz@usgs.gov>  
**Subject:** Re: map  
**Attachments:** example.jpg

Well, somebody in Water will need to do the explaining on this one.

On Tue, Feb 28, 2017 at 11:25 AM, Garrity, Christopher <[cgarrity@usgs.gov](mailto:cgarrity@usgs.gov)> wrote:

Note the area attribute for the Canning is "Area of Complex Channels". [https://nhd.usgs.gov/userGuide/Robohelpfiles/NHD\\_User\\_Guide/Feature\\_Catalog/Hydrography\\_Dataset/NHDArea/Area\\_of\\_Complex\\_Channels.htm](https://nhd.usgs.gov/userGuide/Robohelpfiles/NHD_User_Guide/Feature_Catalog/Hydrography_Dataset/NHDArea/Area_of_Complex_Channels.htm)

Inline image 1



On Tue, Feb 28, 2017 at 11:03 AM, Walter Guidroz <[wguidroz@usgs.gov](mailto:wguidroz@usgs.gov)> wrote:

Agreed. Murray is in La Crosse, WI attending a meeting but he's on email; I'll forward the concerns to him. I believe many if not all of the other ADs are there as well. Thanks for highlighting the issue...

**From:** Houseknecht, David [mailto:[dhouse@usgs.gov](mailto:dhouse@usgs.gov)]  
**Sent:** Tuesday, February 28, 2017 11:00 AM  
**To:** Walter Guidroz; Christopher Garrity  
**Subject:** map

Walter:

You can see from CG's map drafts what the issue is. If the "artificial path" is used by the Senator as a basis for the ANWR boundary, then the state would be taking a much larger chunk of the 1002 area than proposed by the map prepared by the ADNR. I suggest both Murray and the AD for water needs to weigh in on this.

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-Chris

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