To: sarah.gaichas@noaa.gov[sarah.gaichas@noaa.gov]
Cc: Phil North/R10/USEPA/US@EPA[]
From: "Daniel Schindler"
Sent: Thur 12/31/2009 9:09:50 PM
Subject: Fw: Bristol Bay salmon role in North Pacific

Hi Sarah,
I intended for you to receive this message but mis-typed your email.
Daniel

----- Original Message -----
From: "Daniel Schindler" <deschind@u.washington.edu>
To: <wgpearcy@coas.oregonstate.edu>; <North.Phil@epamail.epa.gov>
Cc: "Kerim Aydin" <Kerim.Aydin@noaa.gov>; <sarah.gachias@noaa.gov>
Sent: Thursday, December 31, 2009 1:07 PM
Subject: Re: Bristol Bay salmon role in North Pacific

> Hi Phil,
>
> I suspect that at the scale of fish biomass in the North Pacific, or even
> Bering and Gulf of AK, that this number will end up being tiny. The person
> to get in touch with to put your estimate in perspective is Kerim Aydin at
> the Alaska Fisheries Science Center. His group has developed a bunch of
> Ecosim models for these ecosystems so they should be able to tell you who
> the main predators for salmon smolts are, and how much of their diets are
> smolts. Sarah Gachias also works with this group and certainly has the
> answer as well.
>
> Cheers and good luck - all data to show that the Pebble Mine is an
> environmental (and social) mistake are needed!
> Daniel
>
>
> ----- Original Message -----
> From: <North.Phil@epamail.epa.gov>
> To: <wgpearcy@coas.oregonstate.edu>; <deschind@u.washington.edu>
> Sent: Thursday, December 31, 2009 9:34 AM
> Subject: Fw: Bristol Bay salmon role in North Pacific
>
>
>>
>> Bill and Daniel,
>> As you can see in the message string below Bob Naiman gave me your
>> names. I am trying to describe the likely consequences of various
>> scenarios of impact should the Pebble Mine be developed in the Bristol
>> Bay watershed. As described below, based on ADFG data and assumptions I
>> have estimated that the Nushagak and Kvichak river systems produced
>> about 1.6 billion smolts from the 2008 salmon run. About 1.57 billion
>> of these fish will not return and so are forage for something in the
>> North Pacific and Bering Sea. But I have no sense of the significance
>> of that number of fish in the ocean ecosystem. I am trying to answer
>> the question "If there was a substantial loss from the out-migration of
>> Nushagak and Kvichak salmon what would be the effect on the North
>> Pacific and Bering Sea ecosystem(s)?"

>>
>> My background is in fresh water systems. Can you direct me to any
>> literature that might help answer the question or can you help me answer
>> this question?
>>
>> Phil
>>
>>
>>
>> Phillip North
>> Environmental Protection Agency
>> Kenai River Center
>> 514 Funny River Road
>> Soldotna, Alaska 99669
>> (907) 714-2483
>> fax 260-5992
>> north.phil@epa.gov
>>
>> "To protect your rivers, protect your mountains."
>> ----- Forwarded by Phil North/R10/USEPA/US on 12/31/2009 08:18 AM -----
>>
>> From: "Robert J. Naiman" <naiman@uw.edu>
>>
>> To: Phil North/R10/USEPA/US@EPA
>>
>> Date: 12/31/2009 06:20 AM
>>
>> Subject: Re: Bristol Bay salmon role in North Pacific
>>
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>>
>> Phil,
>>
>> You might try contacting Bill Pearcy (Oregon State University;
>> <wgpearcy@coas.oregonstate.edu>) or Daniel Schindler (UW;
>> <deschind@u.washington.edu>). If they cannot help then I suspect that
>> they will know someone who can.
>>
>> I hope your project goes well as there is a lot riding on the
>> development of the mine.
>>
>> Cheers, Bob
>>
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
>> Robert J. Naiman
>> Professor and UNESCO Chair in Sustainable Rivers
>> School of Aquatic and Fishery Sciences
>> University of Washington - 355020
>> Seattle, WA 98195-5020 USA
>> Phone (206) 685-2025
>> Fax: (206) 685-7471
>>
>> FOR DELIVERIES AND EXPRESS MAIL:

>> UW-Fishery Sciences Building
>> 1122 N.E. Boat Street
>> Seattle, WA 98105
>> <<<<<<<<<<<<<<<<<<<<<<<<<<
>>
>> On Wed, 30 Dec 2009 North.Phil@epamail.epa.gov wrote:
>>
>>>
>>> Hello Dr. Naiman,
>>> One of my duties is the review of environmental impacts of the Pebble
>>> Mine in the Bristol Bay watershed. In my attempt to determine likely
>>> outcomes of mine development I have tried to project the consequences
>> of
>>> various levels of upset at the mine, in various time frames. In doing
>>> so I estimated the number of smolts produced by the Nushagak and
>> Kvichak
>>> Rivers. I am not aware of any monitoring of smolts so I employed
>>> assumptions and estimates used by ADFG to manage the fishery. I
>>> projected that, based on 2008 escapement estimates (28 million) and
>>> smolt survival assumptions (10%), these two watersheds produced 1.6
>>> billion smolts.
>>>
>>> This seems like a big number. But now I am trying to figure out what
>>> this number means to the North Pacific ecosystem (including the Bering
>>> Sea). I don't know how this number of fish relates to the overall
>>> population of "forage fish". In turn I don't know the consequences of
>> a
>>> reduction of this number of fish migrating to food webs in the North
>>> Pacific.
>>>
>>> Can you recommend anyone I might contact who has this expertise?
>>>
>>> Phil
>>>
>>> Phillip North
>>> Environmental Protection Agency
>>> Kenai River Center
>>> 514 Funny River Road
>>> Soldotna, Alaska 99669
>>> (907) 714-2483
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