EMAIL OF TRANSMITTAL AND U S EPA REGION IV COMMENTS ON THIRD BATTALION POND FISH STUDY FACT SHEET FOR SITE 3 CAUSEWAY LANDFILL MCRD PARRIS ISLAND SC
1/14/2011
U S EPA REGION IV

From:	Llamas.Lila@epamail.epa.gov
To:	Forrest, Sarah M. (CIV)
Cc:	Forrest, Sarah M. (CIV); Meredith Amick; Stacey French; Annie Gerry; Kent Krieg; Corack, Jennifer (CIV); charles.cook2@navy.mil; mmcrae@TechLawInc.com; Claggett, Libby; Churchill, Peggy; Smith, Preston; Sladic, Mark; lisa.donohoe@usmc.mil; timothy.j.harrington@usmc.mil
Subject:	Draft Risk Communication materials - EPA comments
Date:	Friday, January 14, 2011 3:16:00 PM
Attachments:	2010 12 14 3rd Battalion Pond Fact SheetlisaDCMT -- Highlights & EPA comments.doc paris island seafood study fact sheet 3 jan 2011 - EPAredline.pdf
Importance:	High

Hi Melissa (and others),

Attached you will find EPA's comments on the two versions of the fact sheet. I have included both because it is easier to see comments in the Word version. However, since the Word version is different from the pdf version, I have also included a redline for it. The redline is pretty much the same in each, so you can use the Word version to help you make sure you see all the changes in the pdf version. Maybe it is just my tiny laptop that makes it difficult, or my version of Adobe, or whatever. You may not have problems where you are viewing. We can discuss these at the meeting. Just wanted to get it to you ahead of time, in case it helps.

Don't have a redline for the Q&A's, but will be ready to discuss them at the meeting.

I have not seen any other materials provided in advance. Let me know if I missed something.

Thanks,
Lila
-----"Forrest, Sarah M. (CIV)" <Sarah.Forrest@med.navy.mil> wrote: -----

> To: "Forrest, Sarah M. (CIV)" <Sarah.Forrest@med.navy.mil>, "Meredith Amick" <amickms@dhec.sc.gov>, "Stacey French" <FRENCHSL@dhec.sc.gov>, "Annie Gerry" <GerryAM@dhec.sc.gov>, "Kent Krieg" <KRIEGKM@dhec.sc.gov>, Lila Llamas/R4/USEPA/US@EPA, Lila Llamas/R4/USEPA/US@EPA, "Corack, Jennifer (CIV)" <Jennifer.Corack@med.navy.mil>, <charles.cook2@navy.mil>, <mmcrae@TechLawInc.com>, <Libby.Claggett@tetratech.com>, <Peggy.Churchill@tetratech.com>, <Preston.Smith@tetratech.com>, <mark.sladic@ttnus.com>, <lisa.donohoe@usmc.mil>, <timothy.j.harrington@usmc.mil>
> From: "Forrest, Sarah M. (CIV)" <Sarah.Forrest@med.navy.mil>
> Date: 01/04/2011 10:42AM
> Cc: "Forrest, Sarah M. (CIV)" <Sarah.Forrest@med.navy.mil>
> Subject: RE: January 25th proposed date for public meeting - potential conflicts, and other Site 3 stuff
>
> Most recent version - still needs some photos and graphics...Melissa
>
> -----Original Message-----
> From: Forrest, Sarah M. (CIV)
> Sent: Tuesday, January 04, 2011 8:59 AM
> To: 'Meredith Amick'; Stacey French; Annie Gerry; Kent Krieg; llamas.lila@epa.gov; Llamas.Lila@epamail.epa.gov; Corack, Jennifer (CIV); charles.cook2@navy.mil; mmcrae@TechLawInc.com; Libby.Claggett@tetratech.com; Peggy.Churchill@tetratech.com; Preston.Smith@tetratech.com; mark.sladic@ttnus.com; lisa.donohoe@usmc.mil; timothy.j.harrington@usmc.mil
> Cc: Forrest, Sarah M. (CIV)
> Subject: RE: January 25th proposed date for public meeting - potential conflicts, and other Site 3 stuff
>
> Hi Everyone,
>
> It will be tight to get the materials all done and finalized before the

nearly all fish and shellfish contain traces of mercury and PCBs. As a result, the fish you are eating from 3rd Battalion Pond are likely not the only source of these contaminants in your diet if you eat fish or shellfish caught in other locations.

The risks from eating mercury and PCBs in fish and shellfish depend on the amount of fish and shellfish eaten and the levels of mercury in the fish and shellfish. For most people, the risk from eating mercury or PCBs in fish and shellfish is not a health concern because the quantities they consume are very low and the health benefits from eating fish and shellfish are very high.

Health experts do not recommend eliminating all fish and shellfish from your diet because they provide many health benefits. They contain high-quality protein and other essential nutrients, are low in saturated fat, and contain omega-3 fatty acids. A well-balanced diet that includes a variety of fish and shellfish can contribute to heart health and children's proper growth and development. These health benefits outweigh the risks of exposure to mercury and PCBs provided you do not consume too much.

FDA and EPA Fish Consumption Guidelines

The Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA) have developed the following guidelines to help you reduce your exposure to mercury and PCBs and still keep fish and shellfish part of a healthy diet:

- **Check and follow all local advisories** about the safety of fish caught by family and friends in your local lakes, rivers, and coastal areas. If no advice is available, eat up to 6 ounces (one average meal) per week of fish you catch from local waters, but don't consume any other fish during that week.
- **Do not eat Shark, Swordfish, King Mackerel, or Tilefish because they typically contain high levels of mercury.**
- **Eat up to 12 ounces (2 average meals) a week of a variety of fish and shellfish that are lower in mercury.**
  - Five of the most commonly eaten fish that are low in mercury are shrimp, canned light tuna, salmon, pollock, and catfish.
  - Another commonly eaten fish, albacore ("white") tuna has more mercury than canned light tuna. So, when choosing your two meals of fish and shellfish, you may eat up to 6 ounces (one average meal) of albacore tuna per week.
- **You can reduce your exposure to contaminants such as PCBs by the way you prepare the fish.**
  - Before cooking or smoking, remove the head, skin, fat (found along the back, sides and belly), guts, tomalley of lobster and the mustard of crabs,
  - Don't panfry or deep fry because this seals in contaminants. Broil, bake, poach or boil your fish so the fatty juices drip away.
  - Don't eat or use any of the juices or cooking liquids.

For More Information

For more detailed information, please consult the Administrative Record File located in the information repository at the Beaufort County Public Library Headquarters (311 Scott Street, Beaufort, South Carolina 29902). If you have questions, please contact the MCRD Parris Island Natural Resources and Environmental Affairs Office at (843) 228-2779.

Marine Corps Recruit Depot Parris Island

3rd Battalion Pond Fish Study

Introduction

A ~~fish~~ study and risk assessment was conducted in 2010 by the Department of the Navy ~~in the 3rd Battalion Pond~~. The study focused on chemical contaminants known to be present in the 3rd Battalion Causeway ~~(Site 3)~~ from past disposal practices. The findings indicate that fish from the pond might not be safe to eat due to concentrations of mercury and polychlorinated biphenyls (PCBs).

The Marine Corps Recruit Depot (MCRD) Parris Island has posted signs around the pond stating that fishing is not allowed. This fact sheet provides a history of 3rd Battalion Causeway, a summary of the fish study and risk assessment, and general information on mercury and PCBs and ways to reduce exposure in the fish you eat.

Photo new no-fishing signs

3rd Battalion Causeway

The 3rd Battalion Causeway is located in the northwestern portion of Marine Corps Recruit Depot (MCRD) Parris Island and connects Horse Island to Parris Island. The causeway was constructed across a tidal marsh of the Broad River by filling in the marsh. When land filling at the site was discontinued in 1972, the causeway covered approximately 10 acres and was 4,000 feet long, 100 feet wide, and 10 feet high (above the water surface). The causeway currently separates a ponded area (north of the causeway) from a marshy area (south of the causeway).

3rd Batallion Pond Fish Study

The 3rd Battalion Causeway became part of the Navy and Marine Corps Installation Restoration Program in ???. The site officially includes the original landfill, the causeway constructed over the landfill, and sediments within 200 feet of the northeastern side of the causeway (within the 3rd Battalion Pond).

Various investigations of soil, groundwater, surface water, sediment, and limited fish tissue sampling occurred between 1986 and 2000. Results of these investigations indicated cleanup action was needed to reduce risks to human health and the environment~~al~~ from elevated levels of polycyclic aromatic hydrocarbons (PAHs), PCBs, pesticides, and metals in the surface soil and sediment.

Insert Map with ~~advisory~~ area highlighted or indicated and causeway, Pond, and Horse Island Labeled

The following cleanup actions were completed between August 2000 and July 2001:

- Placement of a protective soil cover over the top and both sides of the causeway to prevent humans and wildlife from contacting waste material.
- Stabilization of both of the causeway's banks by regrading, adding rip-rap (rocks), and planting vegetation along the sides of the causeway.

- Construction of a paved road along the top of the causeway (reducing infiltration of precipitation into waste material and reducing erosion of cover material).
- Covering the four areas of contaminated sediment in the pond with 1 foot of soil, a layer of fabric, and 1 foot of rocks to prevent direct contact with contaminated sediment by aquatic organisms, wildlife, and humans (sediments on the marsh side did not present risks that warranted remedial action).

In addition, the following monitoring and land management restrictions were instituted after completion of the cleanup work:

- Sediment sampling (90 days after completion of work – October 2001).
- Annual groundwater testing for 5 years.
- No unauthorized digging or construction activities.
- No swimming or wading.
- No residential development of the site or use of the site's groundwater for drinking water.

Fishing from the area was allowed following the cleanup actions because potential human health risks calculated using fish samples collected in 1991 indicated the fish were safe to eat by the occasional consumer (one meal per week). Based on the recreational fishing use of the area and typical US and South Carolina fish consumption habits, it was assumed that ~~the majority of~~ people fishing from the 3rd Battalion Pond fell into the occasional consumer category and could safely eat fish from the pond. Signs were posted warning against frequent consumption of fish from the pond which typically would result from a subsistence fishing scenario.

Picture of No Subsistence Fishing Signs

An interview between a local resident and MCRD Parris Island personnel in 2009 indicated there are people eating potentially much more than one fish meal per week from 3rd Battalion Pond. As a result of the interview the Department of the Navy, in collaboration with the U.S. Environmental Protection Agency and South Carolina Department of Health and Environmental Control, conducted a study of the fish in the 3rd Battalion Pond in 2009 to ~~ensure~~ the fish ~~are~~ safe to eat on a more frequent basis.

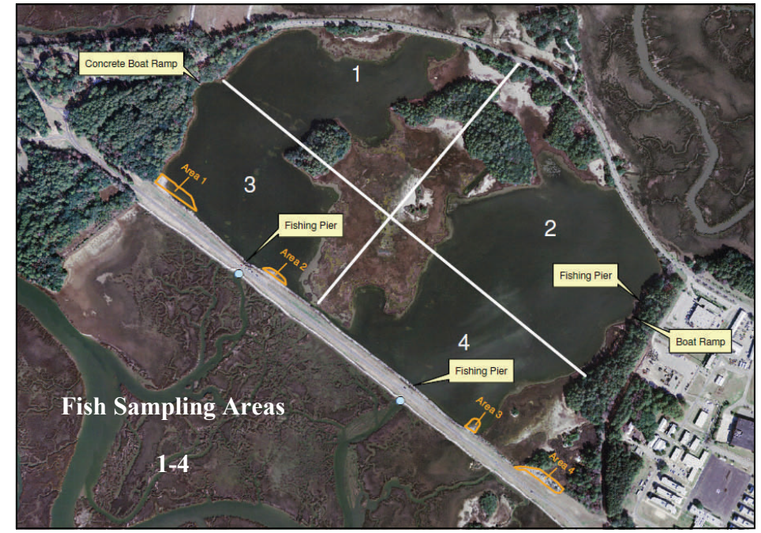
Fish Study

Fish samples were collected from four areas within the 3rd Battalion Pond and from General's Landing Creek from October 26-31, 2009. U.S. EPA guidance for fish consumption advisories (U.S. EPA, November 2000) recommends studying one top predator and one bottom feeder. Red and black drum were sampled as the top predator species and mullet were studied as bottom feeders.

An attempt was made to collect fish that were of edible and legal size, which included red drum between 15 and 23 inches long, black drum between 14 and 27 inches long, and mullet at least 12 inches long. Samples were collected using gill nets, cast nets, and hook and line.

Picture during fish sampling

A total of 6 red drum, 3 black drum, and 8 mullets were kept for analysis from 3rd Battalion Pond and four red drum, one black drum, and four mullets were kept from General's Landing Creek. Fewer samples were taken from General's Landing Creek because this area was being used as a comparison to show "typical" chemical



contaminant levels in fish in the local area likely not affected by contamination from 3rd Battalion Causeway.

The fish were filleted to remove scales, skin, bones, organs, excess fat, etc. The fish meat was tested for chemicals known to be present in the landfill that formed the causeway, which included the pesticide DDT and related chemicals, members of the PCB family of chemicals, mercury, and copper.

Risk Assessment

The fish sampling results were evaluated as part of the July 2010 Post-Interim Construction Risk Assessment for Site 3. The concentrations of contaminants found in the fish were similar to previous sampling events, but the risk assessment results were different.

The current risk assessment calculations indicate that fish from 3rd Battalion Pond might not be safe to eat routinely over the course of a lifetime due to concentrations of mercury and polychlorinated biphenyls (PCBs).

The recent risk assessment estimates higher potential health risks than previous studies for two main reasons:

- It was assumed the local population is eating more fish from the area than previously thought
- new methods were used for analyzing risks from PCBs.

It was previously assumed that ~~the majority of~~ people fishing from the 3rd Battalion Pond fell into the occasional consumer category (one meal per week). New information indicates that local residents might be eating much more than one meal per week from the pond. To ensure health risks are not underestimated, the 2010 study assessed risks from various scenarios including frequent exposures such as eating fish on a daily basis over the course of 70 years. The use of higher exposure assumptions resulted in higher health risks than were calculated previously for the "occasional consumer".

The recent assessment also evaluated risks from dioxin-like PCB~~s~~ instead of ~~standard~~ PCB methods used in past studies. Emerging science indicates that some PCB compounds have properties like dioxin, which is a highly toxic environmental contaminant. Analyzing dioxin-like PCBs typically results in higher potential health risks because of the use of higher toxicity values in risk assessment equations. There is still much uncertainty within the scientific community concerning health effect from dioxin-like PCBs. Because of this uncertainty, the U.S. EPA recommends testing for dioxin-like PCBs instead of ~~standard~~ PCB analyses for sites with potential fishing advisories to ensure health risks are not underestimated.

No Fishing Signs

MCRD Parris Island, with input from U.S. EPA and South Carolina Department of Health and Environmental Control, decided to ~~further restrict~~ fishing in the 3rd Battalion Pond as part of the December 2010 Proposed Plan for Site 3. The decision to increase the restriction from "No Subsistence Fishing" to "No Fishing Allowed" was made to ensure protection of health for local residents who might be eating fish from the pond more frequently than typical South Carolina recreational fishermen. The fish ~~will~~ be re-evaluated in the future to determine if the fishing restriction can be removed or modified.

Mercury and PCBs in Fish

The two primary contaminants found in the fish in 3rd Battalion Pond are mercury and PCBs. They are common contaminants found in water bodies elsewhere in the state and in many areas around the world. Because of this widespread contamination,

25th. I apologize, but I lost a week in December as I mentioned might happen during the last conference call and that put the development of the fact sheet and Qs & As behind schedule. Earlier, I was under the impression that the meeting needed to be held by the 25th if possible. If it can be postponed by a couple of weeks, then I would highly recommend a working session for the team to develop consensus risk communication materials. I can draft materials and facilitate the discussions, but it is very difficult to revise/finalize these types of materials with multiple agencies over the phone. I know this is last minute, but I have put together an outline of Risk Communication items (attached) that we might want to discuss this morning - including the option for a working session...

Thanks, Melissa

-----Original Message-----
From: Meredith Amick [mailto:amickms@dhec.sc.gov]
Sent: Tuesday, January 04, 2011 7:55 AM
To: Stacey French; Annie Gerry; Kent Krieg; llamas.lila@epa.gov; Llamas.Lila@epamail.epa.gov; Corack, Jennifer (CIV); Forrest, Sarah M. (CIV); charles.cook2@navy.mil; mmcrae@TechLawInc.com; Libby.Claggett@tetratech.com; Peggy.Churchill@tetratech.com; Preston.Smith@tetratech.com; mark.sladic@ttnus.com; lisa.donohoe@usmc.mil; timothy.j.harrington@usmc.mil
Subject: Re: January 25th proposed date for public meeting - potential conflicts, and other Site 3 stuff

Hi team,

I do agree with Lila. We have concerns as well about the support materials being ready for a meeting on January 25. This would indicate that a public notice must be published by Jan 10 (this coming Monday). I think we need to come to the call ready today to discuss options of later dates for the meeting.

Thanks,
Meredith

>>> <Llamas.Lila@epamail.epa.gov> 1/3/2011 4:48 PM >>>

Happy New Year Team!

I am finally back and feeling a little overwhelmed, but will try my best to get back into things as quickly as possible.

On that note, I wanted to let folks know that Tim Frederick has a conflict with January 25th and would not be available to participate in a public meeting if held. I was hoping to get Claire Marcussen of Tech Law (presented congener info at the joint Tier I and II meeting) as his backup to represent EPA, but found out today that she is also not available that date. David Williams is available, as well as David Buxbaum and myself. I am in discussions with EPA management regarding whose participation is to be considered desired versus mandatory for the meeting on EPA's behalf, from EPA's perspective. So I am wondering who will be participating from each of the agencies. I assume we may talk about this on Tuesday's call.

At the same time, I am wondering if we will have all the support materials ready by January 25th. I have seen and reviewed the fact sheet, and sent my draft comments on to Tim Frederick, who will also be reviewing it. Will get that out to folks as soon as possible. So far, nothing too extensive, but I will have a couple of questions on Tuesday's call before we go final on our comments. I have not seen a Q&A sheet as mentioned in the call agenda. Did I miss it? Also, is someone doing a power point presentation? or something? more for Tuesday's discussion.

Talk to you then,
Lila

[attachment "paris island seafood study fact sheet 3 jan 2011.pdf" removed by Lila Llamas/R4/USEPA/US]