Surfrider Foundation®

COASTAL GEORGIA/ LOW COUNTRY CHAPTER

160 Druid Circle
Savannah, GA 31410

William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

January 18, 2011

Dear Mr. Bailey,

As a member and representative of the Coastal Georgia Low Country Chapter of the Surfrider Foundation, I would like to express my interest and our chapters interest in the location planned for the deposit of dredge material from the planned Savannah River Deepening.

As the local Surfrider Chapter, we do not oppose the locations planned for the deposits of the dredged material at the locations on the beaches of Tybee Island.

Tybee Island is one of the barrier islands on the Georgia coast that is accessible to the public by automobiles and other vehicles, which make it a popular destination for persons of multiple interest from both the local area and from farther distances away, such as Atlanta. These persons come to Tybee for the ecological and recreational aspects of the beach. Recreational activities like surfing, beach kayaking, body boarding, fishing are amongst the few that will be impacted by the placement of the dredge material at the on-shore locations described in the Draft EIS. Ecological activities that involve the lagerhead sea turtles and other wild and sea life.

The placement of the dredge material at area described as MLW 200 in the EIS (reference Draft EIS pages 3-22 through 3-26) as "sediment that would be deposited at the mean low tide water (MLW) line and be allowed to mound up to mean sea level (MSL) or mid-tide. When filled to capacity [217,000 CY], the placement would create a mid-tide berm about 200 feet wide and 3,200 fee long." The creation of this would create a sand bar that is 200 feet by 3,200 feet long out in front of the current beach. This area of Tybee Island at the North End, which extends westward from the North Jetty 3,200 feet. This area also provides one of the few natural point breaks in the south eastern part of the US to which surfers, kayakers, windsurfers, kite boarders, body boarders, and skim boarders use for recreation. This also is an area enjoyed by many of the fisherman and other beach goers flock to.

The placement of the dredge material at the area described as MLW 500 would extend from the North Jetty southward for 11,000 feet (2 miles). The dredge material would extend this purposed distance and out a distance from the beach to 500 feet. This material would be placed in a similar design as the dredge material is planned for location MLW 200.

The creation of this would not only serve to decrease the wave energy in these areas, but it also could have a potential impact on the swimmers and water goers safety. Has the Corps of Engineers evaluated this plan for an increase in riptides over the life of this berm, as which it will erode away or any safety issues such as longshore tidal rip currents that would occur as a result of design? Is this up to the City of Tybee to take responsibility for this?

Other potential safety concerns would be how the lifeguards propose to cover this area effectively and the dangers for beach goers outside of 200 ft or 500 ft extended beach, because the profiles I have seen appear to ascend to deeper depths at an aggressive angle. What causalities will occur as a result of this design?

Surfrider Coastal Georgia P.O. Box 31033 Savannah, GA 31410

The creation of this could also lead to an environmental impact on the beach. The sediment in this area of the Savannah River has been exposed to chemical and heavy metals. While the Corps has stated the material put at the Tybee Beach will be 80% compatible with the current sand at the beach, what is the guarantee? Also what is the impact on the ecological life like the sea turtles?

All of the items discussed also have an economical impact on Tybee Island.

There are concerns not enough studies have been done to prove this. And I, myself, even have concerns about where the sediment with the heavy metals are currently planned to be placed. If this material is to be put at any location, isn't it the responsibilities of the companies to which benefit from it to assist in the funds to clean it up, not just leave it to the taxpayers.

It is understood by us at the Coastal Georgia Low Country Chapter that the Corps has other locations to put the sediment where there would not be negative impact on Tybee Island, or alternative designs for the how the dredge material is placed at both the on-shore and near-shore locations.

In summary, I oppose the current plan for the deposit of the dredge material at the on-shore locations at Tybee Island and I suggest the current plan be revised to have the material moved to a different location or new design for how this material will be placed at Tybee Island.

Regards,

Patrick Carver
Chairperson
Coastal Georgia Low Country Chapter of the Surfrider Foundation

Surfrider Foundation, Coastal Georgia/Low Country Chapter

613-MR-04-EN01

Comment: *The creation of this would not only serve to decrease the wave energy in these areas, but it also could have a potential impact on the swimmers and water goers safety. Has the Corps of Engineers evaluated this plan for an increase in riptides over the life of this berm, as which it will erode away or any safety issues such as longshore tidal rip currents that would occur as a result of design? Is this up to the City of Tybee to take responsibility for this?*

Response: The project's potential impacts to long shore currents were considered during design analysis of potential effects on Tybee Island and the originally-proposed nearshore placement plan. Modeling predicted that if the sediment were placed in the nearshore during the winter months [when there is nominal recreational use of the nearshore zone], it would become incorporated into the shoreline prior to the summer season. However, due to concerns expressed by the Georgia Department of Natural Resources and the City of Tybee Island concerning the quality (sand content) of the material, the Corps revised the placement plan for sediments excavated from the entrance channel. The project described in the final reports includes deposition of entrance channel sediments in previously-approved sites (Ocean Dredged Material Disposal Site or Jones/Oysterbed Island CDF). Nearshore placement of new work sediments has been removed from the SHEP.

613-MR-04-EV01

Comment: *Other potential safety concerns would be how the lifeguards propose to cover this area effectively and the dangers for beach goers outside of 200 ft or 500 ft extended beach, because the profiles I have seen appear to ascend to deeper depths at an aggressive angle. What causalities will occur as a result of this design?*

Response: The SHEP no longer includes plans for the nearshore deposition of any new work dredged sediment. The dredged material placement plan was revised to show all sediments excavated from the entrance channel being deposited in previously-approved areas: the Offshore Dredged Material Disposal Site or an upland confined disposal site. The Final EIS details these revisions to the plan.

613-MR-04-EV02, 613-MR-04-EV03, 613-JK-05-EC01

Comment: *The creation of this could also lead to an environmental impact on the beach. The sediment in this area of the Savannah River has been exposed to chemical and heavy metals. While the Corps has stated the material put at the Tybee Beach will be 80% compatible with the current sand at the beach, what is the guarantee? Also what is the impact on the ecological life like the sea turtles?*

Response: After coordination with GADNR-CRD, the dredged material placement plan has been revised and now calls for placement of all new work entrance channel material in previously-approved areas: the Ocean Dredged Material Disposal Site or an existing upland confined disposal facility. Project plans for placement of dredged material into the nearshore area off Tybee Island included measures to protect nesting sea turtles such as restricting the placement of sediment to periods of the year outside the nesting season. However, since no nearshore [sediment] placement of new work sediments will occur, the beach ecology [including sea turtle activities] should be unchanged from the status quo.

Surfrider Foundation.

COASTAL GEORGIA/ LOW COUNTRY CHAPTER

401 N. Cromwell Road #B1
Savannah, GA 31410

William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

January **21**, 2011

Dear Mr. Bailey,

As a member of the Coastal Georgia Low Country Chapter of the Surfrider Foundation, citizen of Chatham County and tax payer, I would like to express my interest in and opposition to the location planned for the deposit of dredge material from the planned Savannah River Deepening.

My review of pages 3-22 through 3-26 of the Draft EIS indicate:

- The placement of the dredge material at area described as MLW 200 in the EIS (reference Draft EIS pages 3-22 through 3-26) would act as an area that would create a sandbar and berm about 200 feet wide and 3,200 feet long. in front the current beach.

- The placement of the dredge material at the area described as MLW 500 would extend from the North Jetty southward for 11,000 feet (2 miles). The dredge material would extend this purposed distance and out a distance from the beach to 500 feet. This material would be placed in a similar design as the dredge material is planned for location MLW 200.

The creation of this would serve to:

- Decrease the natural wave energy in these locations and eliminate natural sources of recreation for the public.
- Have potential safety implications on the swimmers, fisherman, beach and water goers, and on the City of Tybee Lifegaurds.
- Increase environmental and ecological impact from the material and the placement of the dredge material.
- Produce a negative economical impact on the Tybee Island, if tourism is reduced in any way.

It is understood that the Corps has other locations to put the sediment where there would not be negative impact on Tybee Island, or alternative designs for the how the dredge material is placed at both the on-shore and near-shore locations. I suggest one of these approaches be used as an alternate to the current plan.

Regards,

Ronald L. Abbott
Member At Large
Coastal Georgia Low Country Chapter of the Surfrider Foundation

Surfrider Coastal Georgia P.O. Box 31033 Savannah, GA 31410

28 Morningside Dr.
Savannah, GA 314XX

William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

January **20**, 2011

Dear Mr. Bailey,

As a member of the Coastal Georgia Low Country Chapter of the Surfrider Foundation, citizen of Chatham County and tax payer, I would like to express my interest in and opposition to the location planned for the deposit of dredge material from the planned Savannah River Deepening.

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Regards,

Steven L Horton
Member At Large
Coastal Georgia Low Country Chapter of the Surfrider Foundation

From: WilsonJG@aol.com
To: CESAS-PD, SAS
Subject: REGARDING: Dredge Material from the Savannah Harbor Expansion Project
Date: Monday, January 24, 2011 11:52:49 PM

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).

The Draft Environmental Impact Statement (EIS) identifies the following placement sites, among others, for dredge materials (reference Draft EIS pages 3-22 through 3-26):

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- The placement of the dredge material at the area described as MLW 500 would extend from the North Jetty southward for 11,000 feet (2 miles). The dredge material would be placed 500 feet from the beach for the length of the placement site.
- The placement of the dredge material at the area described as ERDC Nearshore would extend seaward from Tybee Island below the MLW contour in the nearshore area. At total capacity, the top elevation of the placement site would be -4 feet so as not to interfere with boaters but such placement would allow potential for movement of material towards the Tybee Island shoreline by wave action. (It is important to note that this location is already reserved as a borrow site for Tybee's Island's beach renourishment program.)

The placement of this material at MLW 200, MLW 500, and ERDC Nearshore would:

- Decrease the natural wave energy in these locations and eliminate natural sources of recreation for the public.
- Have potential safety implications on swimmers, surfers, fishermen, lifeguards, and others.
- Increase environmental and ecological impact in sensitive onshore and nearshore areas, including from dredging materials washing up on beaches.
- Produce a negative economic impact on the Tybee Island due to reduced tourism.

In addition, the placement of this material at the ERDC Nearshore location could contaminate sand reserved for Tybee Island's beach renourishment program.

The placement of dredge materials at MLW 200, MLW 500 and the ERDC Nearshore locations are not necessary for SHEP to move forward. Alternative, more suitable sites are available. The Corps of Engineers should conduct additional studies and collect additional data prior to selecting any location for depositing dredge materials.

Thank you,
Joey Wilson

From: Steve Combs
To: CESAS-PD, SAS
Cc: info@surfrideratlanta.org
Subject: Opposition to Dredge Material Sites for Savannah Harbor Expansion Project (SHEP)
Date: Monday, January 24, 2011 10:59:04 PM

VIA EMAIL to CESAS-PD@usace.army.mil

January 24, 2010

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey:

I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).

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In addition, the placement of this material at the ERDC Nearshore location could contaminate sand reserved for Tybee Island's beach renourishment program.

The placement of dredge materials at MLW 200, MLW 500 and the ERDC Nearshore locations are not necessary for SHEP to move forward.

Alternative, more suitable sites should be used. The Corps of Engineers should conduct additional studies and collect additional data prior to selecting any location for depositing dredge materials.

Regards,
Surfrider Foundation Atlanta Chapter
Executive Committee
By Stephen Combs
PO Box 191653
Atlanta, GA 31119
Tel. 404-455-3822
info@surfrideratlanta.org

From:	Nick Nixon
To:	CESAS-PD, SAS
Cc:	Nick Nixon
Subject:	Tybee Island
Date:	Monday, January 24, 2011 10:00:49 PM

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).
The Draft Environmental Impact Statement (EIS) identifies the following placement sites, among others, for dredge materials (reference Draft EIS pages 3-22 through 3-26):

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In addition, the placement of this material at the ERDC Nearshore location could contaminate sand reserved for Tybee Island's beach renourishment program.
The placement of dredge materials at MLW 200, MLW 500 and the ERDC Nearshore locations are not necessary for SHEP to move forward. Alternative, more suitable sites are available. The Corps of Engineers should conduct additional studies and collect additional data prior to selecting any location for depositing dredge materials.

Regards,

Thomas Nixon

From: Coty P
To: CESAS-PD, SAS
Subject: Concern for Tybee Island
Date: Monday, January 24, 2011 10:01:10 PM

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24 January 2011

Surfrider Foundation Member: Coty Pinckney 4013 Morgan Road, Tucker, GA 30084

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).

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In addition, the placement of this material at the ERDC Nearshore location could contaminate sand reserved for Tybee Island's beach renourishment program.

The placement of dredge materials at MLW 200, MLW 500 and the ERDC Nearshore locations are not necessary for SHEP to move forward. Alternative, more suitable sites are available. The Corps of Engineers should conduct additional studies and collect additional data prior to selecting any location for depositing dredge materials.

Regards,

Coty Pinckney

From:	wphraner@comcast.net
To:	CESAS-PD, SAS
Subject:	Savannah Harbor Expansion Project
Date:	Monday, January 24, 2011 10:34:55 PM

January 24, 2011

Wendy Phraner
430 Tara Oaks Court
Lawrenceville, GA 30043

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,
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In addition, the placement of this material at the ERDC Nearshore location could contaminate sand reserved for Tybee Island's beach renourishment program.
The placement of dredge materials at MLW 200, MLW 500 and the ERDC Nearshore locations are not necessary

for SHEP to move forward. Alternative, more suitable sites are available. The Corps of Engineers should conduct additional studies and collect additional data prior to selecting any location for depositing dredge materials.
Regards,
Wendy Phraner

From:	matt jones
To:	CESAS-PD, SAS
Subject:	Please consider this, please.
Date:	Monday, January 24, 2011 10:34:56 PM

---

24 January 2011
Matthew Jones
Department of Ecology and Environmental Science
University of Maine.

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).

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In addition, the placement of this material at the ERDC Nearshore location could contaminate sand reserved for Tybee Island's beach renourishment program.

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Alternative, more suitable sites are available. The Corps of Engineers should conduct additional studies and collect additional data prior to selecting any location for depositing dredge materials.

Thanks for your concern,
-matt jones

From:	shorton912@aol.com
To:	CESAS-PD, SAS
Subject:	Attn: Mr. Bailey / Savannah River Dredging
Date:	Thursday, January 20, 2011 12:06:16 PM
Attachments:	coe2.docx

To Whom ;

I am vehemently opposed to the plan to place dredge material anywhere near Tybee Island. The dredge material should be widely dispersed in water as deep as possible so as to minimize any effect on the natural environment. Please see attached letter.

Steve Horton
28 Morningside Dr.
Wilmington Island

From:	Elliott Baumgardner
To:	CESAS-PD, SAS
Subject:	dredging near Tybee
Date:	Monday, January 24, 2011 10:44:24 PM

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).

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Regards,

Elliott Baumgardner

From:	Michelle Emrich
To:	CESAS-PD, SAS
Subject:	I oppose the Savannah Harbor Expansion Project (SHEP)
Date:	Monday, January 24, 2011 10:57:37 PM

Mr. William Bailey

ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).

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collect additional data prior to selecting any location for depositing dredge materials.

Regards,
Michelle Emrich MD

From: Matthew Wynne
To: CESAS-PD, SAS
Subject: Concerned Citizen
Date: Monday, January 24, 2011 10:55:48 PM

January 24, 2011

Matthew Wynne

461 Miner Dr.

Richmond Hill, GA 31324

Mr. William Bailey

ATTN: PD

US Army Corps of Engineers, Savannah District

100 W. Oglethorpe Ave.

Savannah GA 31401-3640

Dear Mr. Bailey,

I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).

The Draft Environmental Impact Statement (EIS) identifies the following placement sites, among others, for dredge materials (reference Draft EIS pages 3-22 through 3-26):

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The placement of the dredge material at the area described as MLW 500 would extend from the North Jetty southward for 11,000 feet (2 miles). The dredge material would be placed 500 feet from the beach for the length of the placement site.

The placement of the dredge material at the area described as ERDC Nearshore would extend seaward from Tybee Island below the MLW contour in the nearshore area. At total capacity, the top elevation of the placement site would be -4 feet so as not to interfere with boaters but such placement would allow potential for movement of material towards the Tybee Island shoreline by wave action. (It is

important to note that this location is already reserved as a borrow site for Tybee's Island's beach renourishment program.)

The placement of this material at MLW 200, MLW 500, and ERDC Nearshore would:

Decrease the natural wave energy in these locations and eliminate natural sources of recreation for the public.

Have potential safety implications on swimmers, surfers, fishermen, lifeguards, and others.

Increase environmental and ecological impact in sensitive onshore and nearshore areas, including from dredging materials washing up on beaches.

Produce a negative economic impact on the Tybee Island due to reduced tourism.

In addition, the placement of this material at the ERDC Nearshore location could contaminate sand reserved for Tybee Island's beach renourishment program.

The placement of dredge materials at MLW 200, MLW 500 and the ERDC Nearshore locations are not necessary for SHEP to move forward. Alternative, more suitable sites are available. The Corps of Engineers should conduct additional studies and collect additional data prior to selecting any location for depositing dredge materials.

Regards,

Matthew Wynne

From: Charles Sparkman
To: CESAS-PD, SAS
Subject: Savannah Harbor Expansion Project - OPPOSED
Date: Tuesday, January 25, 2011 1:08:32 AM

January 25, 2011

Charles Sparkman
202 14th Street
Tybee Island, GA 31328
and
410 North Errol Court
Atlanta, GA 30327

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).

The Draft Environmental Impact Statement (EIS) identifies the following placement sites, among others, for dredge materials (reference Draft EIS pages 3-22 through 3-26):

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* Increase environmental and ecological impact in sensitive onshore and nearshore areas, including from dredging materials washing up on beaches.
* Produce a negative economic impact on the Tybee Island due to reduced tourism.

In addition, the placement of this material at the ERDC Nearshore location could contaminate sand reserved for Tybee Island's beach renourishment program.

The placement of dredge materials at MLW 200, MLW 500 and the ERDC Nearshore locations are not necessary for SHEP to move forward. Alternative, more suitable sites should be used. The Corps of Engineers should conduct additional studies and collect additional data prior to selecting any location for depositing dredge materials.

Regards,
Charles Sparkman

From: JamesTMcKean@comcast.net
To: CESAS-PD, SAS
Subject: SHEP input
Date: Tuesday, January 25, 2011 9:00:13 AM

Dear Mr. Bailey,

I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).
The Draft Environmental Impact Statement (EIS) identifies the following placement sites, among others, for dredge materials (reference Draft EIS pages 3-22 through 3-26):

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Best regards,
James McKean

From: Ellen Schoolar
To: CESAS-PD, SAS
Subject: Savannah Harbor Expansion Project comment
Date: Tuesday, January 25, 2011 9:07:52 AM

Dear Mr. Bailey:

I am very concerned about the impact that the harbor deepening will have on beach erosion at Tybee Island. I do not think that sufficient due diligence was performed to determine what the impact will be or how to mitigate further erosion. The Corps' near-shore disposal plan, which included dumping a 500 foot-wide platform of dredged clay and mud just three feet off the low-tide watermark, and creating a physical "island" of over 4 million cubic feet of dredged marine clay and silt just off Tybee's beach, was grossly negligent at best. I am very grateful to the Tybee City Council for hiring its own engineering consultant to evaluate the risks to Tybee that the Corps failed to consider in its plan. Furthermore, I find it preposterious that, even though Tybee's rejection of the dredged material dumping will supposedly save $10 million on the project, Tybee will not get one dime of that saved money to help renourish its beach.

I am also very concerned that the potential effects of off-shore dumping have not been evaluated. My understanding is that the ODMDS is filling up rapidly, and I do not believe that there has been any consideration of how the material in this site may shift as the site reaches capacity.

Furthermore, to be quite frank, I am perturbed that the tax payers are footing the bill for this project. I attended the information workshop at the Civic Center a few months ago, and although the information was useful and I commend the Corps for making efforts to educate the public, I was very disturbed to see that the room was filled mostly by wealthy business people (who will greatly benefit from the harbor deepening) giving themselves figurative pats on the back. The "creation of jobs" has been thrown around ad nauseam to justify this project, but the real benefit to the harbor deepening is to private corporations; not to the public. Accordingly, I emphatically feel that the costs of the harbor deepening should come from private sources. If the government wishes to create more jobs, it could do so by putting our teachers back in schools and restoring other jobs that truely benefit the public.

I strongly oppose the harbor deepening project.

Respectfully,

Ellen L. Schoolar

From: Marilyn Cramer
To: CESAS-PD, SAS
Subject: Savannah Harbor Expansion Project
Date: Tuesday, January 25, 2011 9:49:40 AM

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).

The Draft Environmental Impact Statement (EIS) identifies the following placement sites, among others, for dredge materials (reference Draft EIS pages 3-22 through 3-26):

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The placement of this material at MLW 200, MLW 500, and ERDC Nearshore would:

- Decrease the natural wave energy in these locations and eliminate natural sources of recreation for the public.
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Regards,
Marilyn Cramer

Wisie, Inc.
Marilyn Cramer, *VP of Content*
1010 Olde Towne Lane

Woodstock, GA 30189
(800) 518-9760 Ext. 1012
mcramer@wisie.com
www.Wisie.com

From:	Elena Conis
To:	CESAS-PD, SAS
Subject:	Savannah Harbor Expansion Project
Date:	Tuesday, January 25, 2011 11:14:38 AM

Dear Mr. Bailey,

I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).

The Draft Environmental Impact Statement (EIS) identifies the following placement sites, among others, for dredge materials (reference Draft EIS pages 3-22 through 3-26):

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Regards,

From: Greg McMenamy
To: CESAS-PD, SAS
Subject: Savannah Harbor Expansion Project
Date: Tuesday, January 25, 2011 10:39:11 AM

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).

The Draft Environmental Impact Statement (EIS) identifies the following placement sites, among others, for dredge materials (reference Draft EIS pages 3-22 through 3-26):

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Regards,
Greg McMenamy

Gregory B. McMenamy, Jr., Esq.
McMenamy Law

1410 Resurgens Plaza
945 East Paces Ferry Road, N.E.
Atlanta, Georgia 30326
404.846.2828
404.846.2829 (fax)
www.mcmenamylaw.com

From:	Clay Davidson
To:	CESAS-PD, SAS
Subject:	Georgia surf-going Community opposes proposed dumping sites that will destroy surf
Date:	Tuesday, January 25, 2011 11:49:08 AM

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

While I support the dredging of the Savannah port and welcome its very real benefits it will bring statewide, I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).

The Draft Environmental Impact Statement (EIS) identifies the following placement sites, among others, for dredge materials (reference Draft EIS pages 3-22 through 3-26):

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In addition, the placement of this material at the ERDC Nearshore location could contaminate sand reserved for Tybee Island's beach renourishment program.

The placement of dredge materials at MLW 200, MLW 500 and the ERDC Nearshore

locations is not necessary for SHEP to move forward. Alternative, more suitable sites should be used. The Corps of Engineers should conduct additional studies and collect additional data prior to selecting any location for depositing dredge materials.

Mr. Bailey, I recently moved to Georgia from Southern California. Tybee Island is a very special place that provides unique public beach access for all Georgian's to use and enjoy surfside activities. Currently, it is the best spot for a surfer to be able to access surfable waves, which are rare in Georgia given the continental shelf. While I support the port deepening, I am adamant that the Corp's consider the real negative effects the proposed dumping areas will have on all Georgian's access to surfside activities, and remain hopeful you will consider changing the location of the three contested dumping grounds to preserve the unique treasure that Tybee Island provides for all Georgians.

Kind regards,

Clay Davidson
806 Charles Allen Dr, NE
Atlanta, Georgia, 30308

From:	Ginny Grigsby
To:	CESAS-PD, SAS
Subject:	Protect the Tybee Beaches
Date:	Tuesday, January 25, 2011 1:15:20 PM

1/25/11

Ginny Grigsby

803 Creekgarden Ct.

Atlanta, GA 30339

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

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Regards,
Ginny Grigsby, Ph.D., ABD

--
Ginny Grigsby, Ph.D., ABD
Grigsby Family Solutions, LLC
404.606.2795

From: Mike VanWagenen
To: CESAS-PD, SAS
Subject: Opposed to SHEP
Date: Tuesday, January 25, 2011 1:47:22 PM

VIA EMAIL to CESAS-PD@usace.army.mil

1/25/2011

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

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Regards,

Michael Van Wagenen
National Sales Manager
Yamaha Watercraft

From:	Shelly Krueger
To:	CESAS-PD, SAS
Subject:	Dredge material
Date:	Tuesday, January 25, 2011 1:42:40 PM

VIA EMAIL to CESAS-PD@usace.army.mil.

January 24, 2011

Shelly Krueger
907 Jones Ave
Tybee Island, GA 31328

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

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Regards,

Shelly Krueger

VIA EMAIL to CESAS-PD@usace.army.mil.

January 24, 2011

[Organization or Individual Name and Address]

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

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Regards,

Tim Malins

Tybee retail business owner

Surfider Event Coordinator

From: Downes, Tim
To: CESAS-PD, SAS
Subject: SHEP Opposition
Date: Tuesday, January 25, 2011 5:34:48 PM

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).

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- The placement of the dredge material at area described as MLW 200 would create a berm about 200 feet wide and 3,200 feet long directly in front the current beach.
- The placement of the dredge material at the area described as MLW 500 would extend from the North Jetty southward for 11,000 feet (2 miles). The dredge material would be placed 500 feet from the beach for the length of the placement site.
- The placement of the dredge material at the area described as ERDC Nearshore would extend seaward from Tybee Island below the MLW contour in the nearshore area. At total capacity, the top elevation of the placement site would be -4 feet so as not to interfere with boaters but such placement would allow potential for movement of material towards the Tybee Island shoreline by wave action. (It is important to note that this location is already reserved as a borrow site for Tybee's Island's beach renourishment program.)

The placement of this material at MLW 200, MLW 500, and ERDC Nearshore would:

- Decrease the natural wave energy in these locations and eliminate natural sources of recreation for the public.
- Have potential safety implications on swimmers, surfers, fishermen, lifeguards, and others.
- Increase environmental and ecological impact in sensitive onshore and nearshore areas, including from dredging materials washing up on beaches.
- Produce a negative economic impact on the Tybee Island due to reduced tourism.

In addition, the placement of this material at the ERDC Nearshore location could contaminate sand reserved for Tybee Island's beach renourishment program.

The placement of dredge materials at MLW 200, MLW 500 and the ERDC Nearshore locations is not necessary for SHEP to move forward. Alternative, more suitable sites should be used. The Corps of Engineers should conduct additional studies and collect additional data prior to selecting any location for depositing dredge materials.

Regards,

Tim Downes

From:	Justin Remais
To:	CESAS-PD, SAS
Subject:	Savannah Harbor Expansion Project
Date:	Tuesday, January 25, 2011 6:04:36 PM

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

I write to express deep concern about planned locations for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP). The Draft EIS, on pages 3-22 through 3-26, identifies the following placement sites, among others, for dredge materials:

* The placement of the dredge material at area described as MLW 200 would create a berm about 200 feet wide and 3,200 feet long directly in front the current beach.
* The placement of the dredge material at the area described as MLW 500 would extend from the North Jetty southward for 11,000 feet (2 miles). The dredge material would be placed 500 feet from the beach for the length of the placement site.
* The placement of the dredge material at the area described as ERDC Nearshore would extend seaward from Tybee Island below the MLW contour in the nearshore area. At total capacity, the top elevation of the placement site would be -4 feet so as not to interfere with boaters but such placement would allow potential for movement of material towards the Tybee Island shoreline by wave action. (It is important to note that this location is already reserved as a borrow site for Tybee's Island's beach renourishment program.)

I am concerned that the placement of dredge material at MLW 200, MLW 500, and ERDC Nearshore would:
* Reduce natural wave energy in these locations, and impact public recreation and swimmer and fisher safety.
* Impact ecological health in sensitive onshore and nearshore areas, including from dredging materials washing up on beaches.
* Negatively impact the economy of Tybee Island, particularly by threatening the tourism industry.

What is more, the placement of dredge material at the ERDC Nearshore location could contaminate sand reserved for Tybee Island's beach renourishment program.

I urge the placement of dredge materials at locations *other than* MLW 200, MLW 500 and the ERDC Nearshore, and I request that the Corps of Engineers conduct additional studies regarding alternative placement sites, including the collection of additional ecological data, to support the selection of any locations for depositing dredge materials.

Regards,
Justin Remais
Atlanta, GA

From:	Michael Collier
To:	CESAS-PD, SAS
Subject:	Savannah Harbor Expansion Project
Date:	Tuesday, January 25, 2011 6:07:32 PM

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).

The Draft Environmental Impact Statement (EIS) identifies the following placement sites, among others, for dredge materials (reference Draft EIS pages 3-22 through 3-26):

--The placement of the dredge material at area described as MLW 200 would create a berm about 200 feet wide and 3,200 feet long directly in front the current beach.

--The placement of the dredge material at the area described as MLW 500 would extend from the North Jetty southward for 11,000 feet (2 miles). The dredge material would be placed 500 feet from the beach for the length of the placement site.

--The placement of the dredge material at the area described as ERDC Nearshore would extend seaward from Tybee Island below the MLW contour in the nearshore area. At total capacity, the top elevation of the placement site would be -4 feet so as not to interfere with boaters but such placement would allow potential for movement of material towards the Tybee Island shoreline by wave action. (It is important to note that this location is already reserved as a borrow site for Tybee's Island's beach renourishment program.)

The placement of this material at MLW 200, MLW 500, and ERDC Nearshore would:

--Decrease the natural wave energy in these locations and eliminate natural sources of recreation for the public.

--Have potential safety implications on swimmers, surfers, fishermen, lifeguards, and others.

--Increase environmental and ecological impact in sensitive onshore and nearshore areas, including from dredging materials washing up on beaches.

--Produce a negative economic impact on the Tybee Island due to reduced tourism.

In addition, the placement of this material at the ERDC Nearshore location could contaminate sand reserved for Tybee Island's beach renourishment program.

The placement of dredge materials at MLW 200, MLW 500 and the ERDC Nearshore locations is not necessary for SHEP to move forward. Alternative, more suitable sites should be used. The Corps of Engineers should conduct additional studies and collect additional data prior to selecting any location for depositing dredge materials.

Regards,

Dr. Michael J. Collier
4211 Mundy Mill Place
Oakwood, GA 30566
770-535-8160

From:	Pam Longobardi
To:	CESAS-PD, SAS
Subject:	STOP!! Save Tybee"s Ocean Playground
Date:	Tuesday, January 25, 2011 6:10:39 PM

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

As an educator deeply involved in the future of the Georgia Coast, I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).

The Draft Environmental Impact Statement (EIS) identifies the following placement sites, among others, for dredge materials (reference Draft EIS pages 3-22 through 3-26):

--The placement of the dredge material at area described as MLW 200 would create a berm about 200 feet wide and 3,200 feet long directly in front the current beach.

--The placement of the dredge material at the area described as MLW 500 would extend from the North Jetty southward for 11,000 feet (2 miles). The dredge material would be placed 500 feet from the beach for the length of the placement site.

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The placement of this material at MLW 200, MLW 500, and ERDC Nearshore would:

--Decrease the natural wave energy in these locations and eliminate natural sources of recreation for the public.

--Have potential safety implications on swimmers, surfers, fishermen, lifeguards, and others.

--Increase environmental and ecological impact in sensitive onshore and nearshore areas, including from dredging materials washing up on beaches.

--Produce a negative economic impact on the Tybee Island due to reduced tourism.

In addition, the placement of this material at the ERDC Nearshore location could contaminate sand reserved for Tybee Island's beach renourishment program.

The placement of dredge materials at MLW 200, MLW 500 and the ERDC Nearshore locations is not necessary for SHEP to move forward. Alternative, more suitable sites should be used. The Corps of Engineers should conduct additional studies and collect additional data prior to selecting any location for depositing dredge materials.

Regards,
Pam Longobardi

Professor of Art, Georgia State University

1090 Standard Drive NE

Atlanta, GA 30319

From: clwisner03@aol.com
To: CESAS-PD, SAS
Subject: Savannah River Deepening
Date: Tuesday, January 25, 2011 6:27:54 PM

January 25, 2011

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,
I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).
The Draft Environmental Impact Statement (EIS) identifies the following placement sites, among others, for dredge materials (reference Draft EIS pages 3-22 through 3-26):
The placement of the dredge material at area described as MLW 200 would create a berm about 200 feet wide and 3,200 feet long directly in front the current beach.
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The placement of the dredge material at the area described as ERDC Nearshore would extend seaward from Tybee Island below the MLW contour in the nearshore area. At total capacity, the top elevation of the placement site would be -4 feet so as not to interfere with boaters but such placement would allow potential for movement of material towards the Tybee Island shoreline by wave action. (It is important to note that this location is already reserved as a borrow site for Tybee's Island's beach renourishment program.)
The placement of this material at MLW 200, MLW 500, and ERDC Nearshore would:
Decrease the natural wave energy in these locations and eliminate natural sources of recreation for the public.
Have potential safety implications on swimmers, surfers, fishermen, lifeguards, and others.
Increase environmental and ecological impact in sensitive onshore and nearshore areas, including from dredging materials washing up on beaches.
Produce a negative economic impact on the Tybee Island due to reduced tourism.
In addition, the placement of this material at the ERDC Nearshore location could contaminate sand reserved for Tybee Island's beach renourishment program.
The placement of dredge materials at MLW 200, MLW 500 and the ERDC Nearshore locations are not necessary for SHEP to move forward. Alternative, more suitable sites are available. The Corps of Engineers should conduct additional studies and collect additional data prior to selecting any location for depositing dredge materials.

Regards,
Cynthia Wisner
Coastal Georgia/ Low Cuntry Surfrider Foundation

From:	deango4
To:	CESAS-PD, SAS
Subject:	Savannah Harbor Expansion is a bad idea...
Date:	Tuesday, January 25, 2011 6:29:34 PM

1/25/011

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).

The Draft Environmental Impact Statement (EIS) identifies the following placement sites, among others, for dredge materials (reference Draft EIS pages 3-22 through 3-26):

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--The placement of the dredge material at the area described as ERDC Nearshore would extend seaward from Tybee Island below the MLW contour in the nearshore area. At total capacity, the top elevation of the placement site would be -4 feet so as not to interfere with boaters but such placement would allow potential for movement of material towards the Tybee Island shoreline by wave action. (It is important to note that this location is already reserved as a borrow site for Tybee's Island's beach renourishment program.)

The placement of this material at MLW 200, MLW 500, and ERDC Nearshore would:

--Decrease the natural wave energy in these locations and eliminate natural sources of recreation for the public.

--Have potential safety implications on swimmers, surfers, fishermen, lifeguards, and others.

--Increase environmental and ecological impact in sensitive onshore and nearshore areas, including from dredging materials washing up on beaches.

--Produce a negative economic impact on the Tybee Island due to reduced tourism.

In addition, the placement of this material at the ERDC Nearshore location could contaminate sand reserved for Tybee Island's beach renourishment program.

The placement of dredge materials at MLW 200, MLW 500 and the ERDC Nearshore locations is not necessary for SHEP to move forward. Alternative, more suitable sites should be used. The Corps of Engineers should conduct additional studies and collect additional data prior to selecting any location for depositing dredge materials.

Regards,
Dean A. Gower
Surfrider member

From:	Keith
To:	CESAS-PD, SAS
Subject:	Dredge Material Placement
Date:	Tuesday, January 25, 2011 8:45:46 PM

1/25/011

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).

The Draft Environmental Impact Statement (EIS) identifies the following placement sites, among others, for dredge materials (reference Draft EIS pages 3-22 through 3-26):

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--The placement of the dredge material at the area described as ERDC Nearshore would extend seaward from Tybee Island below the MLW contour in the nearshore area. At total capacity, the top elevation of the placement site would be -4 feet so as not to interfere with boaters but such placement would allow potential for movement of material towards the Tybee Island shoreline by wave action. (It is important to note that this location is already reserved as a borrow site for Tybee's Island's beach renourishment program.)

The placement of this material at MLW 200, MLW 500, and ERDC Nearshore would:

--Decrease the natural wave energy in these locations and eliminate natural sources of recreation for the public.

--Have potential safety implications on swimmers, surfers, fishermen, lifeguards, and others.

--Increase environmental and ecological impact in sensitive onshore and nearshore

areas, including from dredging materials washing up on beaches.

--Produce a negative economic impact on the Tybee Island due to reduced tourism.

In addition, the placement of this material at the ERDC Nearshore location could contaminate sand reserved for Tybee Island's beach renourishment program.

The placement of dredge materials at MLW 200, MLW 500 and the ERDC Nearshore locations is not necessary for SHEP to move forward. Alternative, more suitable sites should be used. The Corps of Engineers should conduct additional studies and collect additional data prior to selecting any location for depositing dredge materials.

Regards,

Keith J. Kuns
PO Box 2032
Loganville, GA 30052
678.227.9586

From: Caroline Tsuji
To: CESAS-PD, SAS
Subject: Tybee Island
Date: Wednesday, January 26, 2011 12:06:55 AM

January 25, 2011

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).

The Draft Environmental Impact Statement (EIS) identifies the following placement sites, among others, for dredge materials (reference Draft EIS pages 3-22 through 3-26):

--The placement of the dredge material at area described as MLW 200 would create a berm about 200 feet wide and 3,200 feet long directly in front the current beach.

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--The placement of the dredge material at the area described as ERDC Nearshore would extend seaward from Tybee Island below the MLW contour in the nearshore area. At total capacity, the top elevation of the placement site would be -4 feet so as not to interfere with boaters but such placement would allow potential for movement of material towards the Tybee Island shoreline by wave action. (It is important to note that this location is already reserved as a borrow site for Tybee's Island's beach renourishment program.)

The placement of this material at MLW 200, MLW 500, and ERDC Nearshore would:

--Decrease the natural wave energy in these locations and eliminate natural sources of recreation for the public.

--Have potential safety implications on swimmers, surfers, fishermen, lifeguards, and others.

--Increase environmental and ecological impact in sensitive onshore and nearshore areas, including from dredging materials washing up on beaches.

--Produce a negative economic impact on the Tybee Island due to reduced tourism.

In addition, the placement of this material at the ERDC Nearshore location could contaminate sand reserved for Tybee Island's beach renourishment program.

The placement of dredge materials at MLW 200, MLW 500 and the ERDC Nearshore locations is not necessary for SHEP to move forward. Alternative, more suitable sites should be used. The Corps of Engineers should conduct additional studies and collect additional data prior to selecting any location for depositing dredge materials.

Regards,

From:	Savannah Canoe
To:	CESAS-PD, SAS
Subject:	SHEP PROPOSAL
Date:	Wednesday, January 26, 2011 9:02:18 AM

January 25, 2011

Nigel Law
Savannah Canoe & Kayak

Mr. William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,
I am writing to express opposition to certain locations planned for the deposit of dredge material from the Savannah Harbor Expansion Project (SHEP).
The Draft Environmental Impact Statement (EIS) identifies the following placement sites, among others, for dredge materials (reference Draft EIS pages 3-22 through 3-26):

- The placement of the dredge material at area described as MLW 200 would create a berm about 200 feet wide and 3,200 feet long directly in front the current beach.
- The placement of the dredge material at the area described as MLW 500 would extend from the North Jetty southward for 11,000 feet (2 miles). The dredge material would be placed 500 feet from the beach for the length of the placement site.
- The placement of the dredge material at the area described as ERDC Nearshore would extend seaward from Tybee Island below the MLW contour in the nearshore area. At total capacity, the top elevation of the placement site would be -4 feet so as not to interfere with boaters but such placement would allow potential for movement of material towards the Tybee Island shoreline by wave action. (It is important to note that this location is already reserved as a borrow site for Tybee's Island's beach renourishment program.)

The placement of this material at MLW 200, MLW 500, and ERDC Nearshore would:

- Decrease the natural wave energy in these locations and eliminate natural sources of recreation for the public.
- Have potential safety implications on swimmers, surfers, fishermen, lifeguards, and others.
- Increase environmental and ecological impact in sensitive onshore and nearshore areas, including from dredging materials washing up on beaches.
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In addition, the placement of this material at the ERDC Nearshore location could contaminate sand reserved for Tybee Island's beach renourishment program.
The placement of dredge materials at MLW 200, MLW 500 and the ERDC Nearshore locations are not necessary for SHEP to move forward. Alternative, more suitable sites are available. The Corps of Engineers should conduct additional studies and collect additional data prior to selecting any location for depositing dredge materials.

Regards,

N. Law

Savannah Canoe and Kayak
Nigel & Kristin Law
(912) 341-9502
info@savannahcanoeandkayak.com

Join the SC&K NEWSLETTER..
www.savannahcanoeandkayak.com

The following responses address the concerns of the previous 33 emails and letters, which express similar concerns.

Surfrider Foundation - Form Letter

604-MR-04-EN01, 604-MR-04-EV01, 604-MR-04-EV02, 604-MR-04-EC01

Comment: *The creation of this would serve to:*

- *Decrease the natural wave energy in these locations and eliminate natural sources of recreation for the public.*
- *Have potential safety implications on the swimmers, fisherman, beach and water goers, and on the City of Tybee Lifegaurds.*
- *Increase environmental and ecological impact from the material and the placement of the dredge material.*
- *Produce a negative economical impact on the Tybee Island, if tourism is reduced in any way.*

Response: The project's potential impacts to longshore currents were considered during design of the nearshore placement sites. Modeling predicted that if placement occurred during the winter months [nominal recreational use], the material would become incorporated into the shoreline prior to the swimming season.

After receipt of this letter and others during the public comment period together with coordination with GA DNR-CRD and the City of Tybee Island, the District has revised the dredged material placement plan for sediments excavated from the entrance channel. Now, new work sediments excavated from the entrance channel will be deposited only in previously-approved areas: the Offshore Dredged Material Disposal Site or an upland confined disposal area. Since these locations are currently used for disposal, negative impacts to tourism would be unlikely.

The Final EIS details the revised sediment placement plan.

From:	Gene Best
To:	CESAS-PD, SAS
Subject:	Lake Hartwell
Date:	Monday, December 27, 2010 2:19:14 PM

I am in agreement with all of the below, and would like to know who authorizes the Corp to release water to the Savannah River, and why, or if the Corps has authority where does the authority come from ?

First the Corps has issued a timid request for comments on dropping Lake Thurmond releases January 1 - February 15.

Second the Corps has requested comments on deepening the harbour at Savannah.

Item 1 is ridiculous. The drought of 2008 gave us all the data anyone could want saying lower releases to prevent losing the lakes is acceptable. The Corps is now acting as if they have no previous information and is timidly offering a token reduction in flows for one and a half months. This measure after the lake is already down over 6ft and for only a month and a half is like spitting in the ocean.

Please request the Corps to use the information gathered in the last drought and follow the recommendations of Save Our Lakes Now, Friends of the Savannah River Basin, and Lake Hartwell Association to drop flows to 3600 cfs anytime Lake Thurmond is down more than 2' from full pool.

Item 2 is deceptive. Hidden in the proposal to deepen the harbour is a provision to put a fish ladder in around the Augusta Lock and Dam so Sturgeon can swim up river to the Augusta Shoals. This would greatly complicate future drought plans in that the sturgeon spawning in the shoals would tie our hands on lake releases during a drought. The Sturgeon have not been able to get to the shoals since 1937 so is very unwise to tamper with mother nature and suddenly have an endangered species in harms way during droughts.

Please request the Corps not to tamper with mother nature by putting a fish ladder in around the Augusta Lock and Dam which could endanger an already endangered species during droughts.

Overall it would be good if your response could include one question. Who authorized the Corps to release more water to the Savannah River than nature provides. Such a practice is bound to get us in trouble repeatedly.

Your comments should be emailed to: cesas-pd.sas@usace.army.mil or mailed to: William Bailey, USACE Savannah District, PO Box 889, Savannah, GA 31402 and your comments should be labeled COMMENTS CONCERNING DEEPENING SAVANNAH HARBOUR AND TEMPORARY REDUCTION OF FLOWS FROM THURMOND DAM

From:	Rex Millsap
To:	CESAS-PD, SAS
Subject:	COMMENTS CONCERNING DEEPENING SAVANNAH HARBOUR AND TEMPORARY REDUCTION OF FLOWS FROM THURMOND DAM.
Date:	Tuesday, December 28, 2010 10:31:20 AM

William Bailey, USACE Savannah District

Dear Mr. Bailey,

After going through the drought of 2008 and having the lake down 22 feet, I am extremely concerned about this sturgeon program being considered.

The corps used drastic measures in closing the Hartwell dam for 51 days and that flexibility would disappear completely if the sturgeon program goes through.

It is my understanding that the sturgeon haven't been able to reach the Augusta shoals since 1937. I'm sure that putting the entire Savannah basin lakes at economic risk is not worth creating a new sturgeon spawn area.

Thank you for your efforts.

Rex N. Millsap

Executive Data Services

770-314-5077 Skype 678-534-8512

From:	Fox, Warner S.
To:	CESAS-PD, SAS
Subject:	Comments concerning deepening Savannah Harbour and temporary reduction of flows from Thurmond dam
Date:	Monday, January 03, 2011 9:53:01 PM

Mr. Bailey,

As a life long frequenter of Lake Hartwell I write to express extreme concern about the impact your potential plans above will have on Lake Hartwell water levels if the plan comes to fruition. There is no reason that those of us that frequent lake Hartwell should suffer reduced water levels to benefit a deepening of the harbor. I personally do not believe for a second that this won't have a deleterious impact on lake Hartwell. We just came through a multi year drought and dramatically decreased lake levels. Now is not the time to further tamper with lake levels. Frankly, I can't comprehend why Hartwell is currently down as far as it is. It assumes frequent rain in the Spring. What if that assumption is mistaken as has happened too often in the past? We all know the answer. Hartwell will suffer yet another year of levels below "normal"

Please looks back at the information you gathered in the last drought. It's not difficult science as you know. I would ask that you follow the recommendations of Save Our Lakes Now and the LWA and drop flows to 3600 cfs if Thurmond drops more than 2 feet from full pool.

Why would you install a fish ladder? We don't need tampering with nature although I do understand that is in the corps nature. It can only lead to the alleged "need" to release more water.

Those of us that use the lake, own property there, or simply enjoy the beauty of it should not have to suffer further for the benefit of those downstream. I have personally seen the consequences (economic and otherwise) of droughts at Hartwell. No "study" will convince those of use closely connected with the lake otherwise. Thank you for your consideration.

Warner S Fox.

From:	Rex Millsap
To:	CESAS-PD, SAS
Subject:	COMMENTS CONCERNING DEEPENING SAVANNAH HARBOUR AND TEMPORARY REDUCTION OF FLOWS FROM THURMOND DAM.
Date:	Tuesday, December 28, 2010 10:31:20 AM

William Bailey, USACE Savannah District

Dear Mr. Bailey,

After going through the drought of 2008 and having the lake down 22 feet, I am extremely concerned about this sturgeon program being considered.

The corps used drastic measures in closing the Hartwell dam for 51 days and that flexibility would disappear completely if the sturgeon program goes through.

It is my understanding that the sturgeon haven't been able to reach the Augusta shoals since 1937. I'm sure that putting the entire Savannah basin lakes at economic risk is not worth creating a new sturgeon spawn area.

Thank you for your efforts.

Rex N. Millsap

Executive Data Services

770-314-5077 Skype 678-534-8512

From:	Rex Millsap
To:	CESAS-PD, SAS
Subject:	COMMENTS CONCERNING DEEPENING SAVANNAH HARBOUR AND TEMPORARY REDUCTION OF FLOWS FROM THURMOND DAM.
Date:	Tuesday, December 28, 2010 10:31:20 AM

William Bailey, USACE Savannah District

Dear Mr. Bailey,

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The corps used drastic measures in closing the Hartwell dam for 51 days and that flexibility would disappear completely if the sturgeon program goes through.

It is my understanding that the sturgeon haven't been able to reach the Augusta shoals since 1937. I'm sure that putting the entire Savannah basin lakes at economic risk is not worth creating a new sturgeon spawn area.

Thank you for your efforts.

Rex N. Millsap

Executive Data Services

770-314-5077 Skype 678-534-8512

From: jerry clontz
To: CESAS-PD, SAS
Subject: Response to two Corps Requests for Comment
Date: Tuesday, December 28, 2010 7:19:53 PM

---

1) Concerning the proposed lowering of release rate from Lake Thurmond for January - February 15.

First we at Save Our Lakes Now would like to know by what authority the Corps is sending more water down the Savannah than that provided by mother nature. Such practices in banking lead to bankruptcy and in managing lake releases lead to the possibility of destroying the whole system. We can not find anywhere a proclamation or law or communication from any responsible authority such as congress, the state of SC or GA, to follow such a practice. Second we can not see any reason to run a 1 1/2 month test when we have already run a 14 month test during the last drought. While we like the idea of reducing release rates we see no reason for an EA or for increasing flows above 3600 once the decrease has started until Lake Thurmond is again at full pool.

2) Concerning the deepening of Savannah Harbor

We at Save Our Lakes Now feel we have no reason to discourage the deepening of Savannah. But at the same time we are totally against the idea of building a fish ladder around the lock and dam to permit Short Nosed Sturgeon to reach the Augusta Shoals. The Short Nosed Sturgeon have not been able to reach the shoals since 1937. In our opinion suddenly opening a way for them to reach the Shoals is man tampering with nature which in itself is usually not wise. But additionally in view of all the past discussions about how drought flows complicate Sturgeon spawning (I wonder what they did before there was a dam; did they just die off when a drought occured) introducing them to the shoals potentially is endangering and endangered species and shoud not be done.

Jerry Clontz, Spokesman for Save Our Lakes Now

From:	Rick and Pat Carter
To:	CESAS-PD, SAS
Subject:	COMMENTS CONCERNING DEEPENING SAVANNAH HARBOUR AND TEMPORARY REDUCTION OF FLOWS FROM THURMOND DAM.
Date:	Wednesday, December 29, 2010 9:17:33 AM

I am a home owner on Lake Hartwell. Here are my comments:

Please use the information gathered in the last drought and follow the recommendations of Save Our Lakes Now, Friends of the Savannah River Basin, and Lake Hartwell Association to drop flows to 3600 cfs anytime Lake Thurmond is down more than 2' from full pool. WHICH IS RIGHT NOW!!!!! . I would like to know who authorized the Corps to release more water to the Savannah River than nature provides. Such a practice is bound to get us in trouble repeatedly. STOP STEALING MY WATER FOR BENEFIT OF OTHERS DOWN STREAM! I am paying significantly increased property taxes for waterfront property which goes to pay your salary and for all the corp, so I have a right to this water and you are STEALING it.

Also, please do not to tamper with mother nature by putting a fish ladder in around the Augusta Lock and Dam which could endanger an already endangered species during droughts.

Regards,

Richard Carter

From: jerry clontz [mailto:clontz_jerry@bellsouth.net]
Sent: Thursday, December 23, 2010 10:09 AM
To: Undisclosed-Recipient: ;@smtp101.sbc.mail.ac4.yahoo.com
Subject: YOUR HELP NEEDED WITH RESPONSE TO CORPS ON LAKE THURMOND

First the Corps has issued a timid request for comments on dropping Lake Thurmond releases January 1 - February 15.

Second the Corps has requested comments on deepening the harbour at Savannah.

Item 1 is ridiculous. The drought of 2008 gave us all the data anyone could want saying lower releases to prevent losing the lakes is acceptable. The Corps is now acting as if they have no previous information and is timidly offering a token reduction in flows for one and a half months. This measure after the lake is already down over 6ft and for only a month and a half is like spitting in the ocean.

Please request the Corps to use the information gathered in the last drought and follow the recommendations of Save Our Lakes Now, Friends of the Savannah River Basin, and Lake Hartwell Association to drop flows to 3600 cfs anytime Lake Thurmond is down more than 2' from full pool.

Item 2 is deceptive. Hidden in the proposal to deepen the harbour is a provision to put a fish ladder in around the Augusta Lock and Dam so Sturgeon can swim up river to the Augusta Shoals. This would greatly complicate future drought plans in that the sturgeon spawning in the shoals would tie our hands on lake releases during a drought. The Sturgeon have not been able to get to the shoals since 1937 so is very unwise to tamper with mother nature and suddenly have an endangered species in harms way during droughts.

Please request the Corps not to tamper with mother nature by putting a fish ladder in around the Augusta Lock and Dam which could endanger an already endangered species during droughts.

Overall it would be good if your response could include one question. Who authorized the Corps to release more water to the Savannah River than nature provides. Such a practice is bound to get us in trouble repeatedly.

Your comments should be emailed to: cesas-pd.sas@usace.army.mil or mailed to:

William Bailey, USACE Savannah District, PO Box 889, Savannah, GA 31402

and your comments should be labeled COMMENTS CONCERNING DEEPENING SAVANNAH HARBOUR AND TEMPORARY REDUCTION OF FLOWS FROM THURMOND DAM.

From: Mike Massey
To: CESAS-PD, SAS
Cc: Don Bowen; Kevin Bryant
Subject: Corps Requests for Comment
Date: Wednesday, December 29, 2010 8:46:42 AM

To the Corps –

A - Attached are my comments regarding the reduction of water flows out of the dam –

I agree with the reduction of water from Thurmond Dam. However:

1. This six week reduction just seems too little, too late. It does not make sense to me that this effort to request comments for an EA would start in Mid-December and the plan to reduce water would start in Mid-January. This potential issue was anticipated many months ago – even if the winter is the best time to reduce flows. Billions of gallons have been sent downriver already and there has been little definition to anyone why that was necessary. PLEASE make that clear! It MAY HAVE BEEN necessary but the Corps does not clearly define why to the basin stakeholders. This is part of the GROWING gathering of individuals and organizations into a grass roots attempt to change the current process.
2. A similar EA was completed during the prior drought. It would be nice if the Corps could define for us what the difference is from that time period so we can make a more informed comment this time. We realize the Federal Government has strict rules to follow but we also know there are ways to change them. Continuing studies when variables are similar each time (if they are) will provide a wealth of information to assist the public (and therefore the Corps) to have the rules changed. Having all the information provided to the Corps regarding similar or prior requests/reviews is significant in that effort.
3. We would like to recommend the Corps publish ALL comments they have received regarding this request on a web site that anyone can access so everyone can review the comments.

B - The Savannah Harbor Deepening –

1. We agree with many other people that the deepening of the harbor is necessary to maintain future commerce in the area.
2. We do not agree that a process to spend millions of dollars and have millions of gallons of water virtually lost in order to provide an extremely questionable process to allow the potential passage of short-nosed sturgeon further up the river. I have reviewed most reports and studies – Federal and State – regarding these fish and almost all of them present very inconclusive results. No money or time should be spent on this process until a clear result has been identified. It may be possible to design and plan for a future passage without the actual construction. I expect not to do so may result in law suits to prevent it.

Mike and Petra Massey

103 Shady Lane

Anderson, SC 29625

From:	JAMES WILKES
To:	CESAS-PD, SAS
Subject:	COMMENTS CONCERNING DEEPENING SAVANNAH HARBOUR AND TEMPORARY REDUCTION OF FLOWS FROM THURMOND DAM
Date:	Wednesday, December 29, 2010 9:37:01 PM

Dear Mr Baily,

I am an engineer who works and lives in Greenville, SC. I grew up in Lincolnton Ga and have enjoyed all the lakes on the Savannah river since I was a kid. It has been very disappointing to see the lake levels drop to such low levels while the corp ignores all the data gathered over the last 50 years. Why is it necessary to let the lakes drop to dangerously low levels before we start adjusting the flows. That's like having a canteen of water in the desert and knowing you have a hole in it but you ignore the problem until it's almost empty. I have read many of the documents on the lake and can't find any requirement for the lakes to insure that the river keeps flowing, nor can I find any requirement or approval for the corp to release more water than mother nature provides. On the contrary, the lakes were put in for flood control and water conservation. Based on data from the last drought, outflows at 3600cfs were proved to be successful so why don't we start these flows when the lake drops more than 2 feet instead of at dangerously low levels. This helps the lake maintain a reasonable level and insures that the river does have water in an extended drought.

One other practice I don't understand is why the lakes are dropped 4 feet in the fall and winter. I keep hearing that it's because of heavy rains during this period but based on the data from your website the average rainfall over the area is pretty consistent at around 5" for every month of the year. Even if you look at the highest months rainfall over the past 50 years it doesn't occur during this period. I know the drought plan was composed many years ago but with all the technology we have today you think we could develop a better plan.

Lake Hartwell was 3 feet over normal pool back in July and is now down almost 10 feet from that level in 6 months. We are only a few inches behind in the yearly rainfall. Being an engineer, I would think that the engineers at the corp could use the data they have and learn from the past to better manage the precious water we have.

On the other subject, I support deepening the harbor but I don't understand why we need to waste tax payers money to install a fish ladder. It's tag on legislation like this that is killing this country so please take this out of the proposal. Not sure what is trying to be achieved with this ladder but I don't see that it will benefit anyone, it will only create more problems in the future.

Sincerely,

Jimmy Wilkes

From:	Toni Gleeson
To:	CESAS-PD, SAS
Subject:	Comments on Proposal to Deeping Savanah Harbour, Lower Lake Levels and Build Fish Ladder
Date:	Thursday, December 30, 2010 8:36:54 AM

William Bailey
USACE Savannah District
PO Box 889
Savannah, GA 31402

Dear Mr. Bailey,

We have read the ACofE proposal for deepening the Savannah harbor, lowering the Savannah River lake levels, and building fish ladders for Sturgeon and we are deeply concerned.

The impact from the 2007 and 2008 drought should have furthered encouraged the ACofE that the lake levels need to be maintained and conserved not lowered. During these time of drought and Lake Thurmond drops 2 feet below full pool, then outflows should be limited to no more than 3600 cfs. If water is not entering the lake during natural weather systems, then the lake does not have the extra water to provide.

What is more concerning, it the proposal to install fish ladders so that the Sturgeons, can swim up stream, a process they can not currently accomplish in a natural environment. Why would the ACofE want to provide the Sturgeons a tool that is not necessary? In addition, to the wasted money, this would require additional release of water to maintain the ladder system. Additional pressure on an already over taxed river system is not viable.

We understand the economic impact of the Savannah River systems is not a concern for the ACofE. However, as resident what the ACofE is proposing is devastating to our communities, the natural beauty of the area, and future growth.

We implore you to consider a much more conservative approach, including leaveing lake levels alone, reducing outflows during drought, and do not installing fish ladders.

Sincerely,

Antoinette and Todd Gleeson

From:	CESAS-PD, SAS
To:	CESAS-PD, SAS
Subject:	FW: COMMENTS CONCERNING DEEPENING SAVANNAH HARBOUR AND TEMPORARY REDUCTION OF FLOWS FROM THURMOND DAM (UNCLASSIFIED)
Date:	Thursday, December 30, 2010 3:36:19 PM

Classification: UNCLASSIFIED
Caveats: NONE

From: JAMES WILKES [mailto:rwilkes1@bellsouth.net]
Sent: Wednesday, December 29, 2010 9:37 PM
To: CESAS-PD, SAS
Subject: COMMENTS CONCERNING DEEPENING SAVANNAH HARBOUR AND TEMPORARY REDUCTION OF FLOWS FROM THURMOND DAM

Dear Mr Baily,

I am an engineer who works and lives in Greenville, SC. I grew up in Lincolnton Ga and have enjoyed all the lakes on the Savannah river since I was a kid. It has been very disappointing to see the lake levels drop to such low levels while the corp ignores all the data gathered over the last 50 years. Why is it necessary to let the lakes drop to dangerously low levels before we start adjusting the flows. That's like having a canteen of water in the desert and knowing you have a hole in it but you ignore the problem until it's almost empty. I have read many of the documents on the lake and can't find any requirement for the lakes to insure that the river keeps flowing, nor can I find any requirement or approval for the corp to release more water than mother nature provides. On the contrary, the lakes were put in for flood control and water conservation. Based on data from the last drought, outflows at 3600cfs were proved to be successful so why don't we start these flows when the lake drops more than 2 feet instead of at dangerously low levels. This helps the lake maintain a reasonable level and insures that the river does have water in an extended drought.

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Sincerely,

Jimmy Wilkes

Classification: UNCLASSIFIED
Caveats: NONE

From: CESAS-PD, SAS
To: CESAS-PD, SAS
Subject: FW: Lake Thurmond Releases/Deepening Harbor (UNCLASSIFIED)
Date: Monday, January 03, 2011 6:45:21 PM

Classification: UNCLASSIFIED
Caveats: FOUO

From: Steve & Brenda Bigelow [mailto:bigelowlake@gmail.com]
Sent: Thursday, December 23, 2010 3:53 PM
To: CESAS-PD, SAS
Subject: Lake Thurmond Releases/Deepening Harbor

I am very concerned about the disregard of the information gathered in the last drought by the Save Our Lakes Now, Friends of the Savannah River Basin and Lake Hartwell Assoicaiton. These groups requested that flows drop to 3600 cfs anytime Thurmond is down more than 2' from full pool. It is down more than 6' and has been for more than a month. Please consider the former proposal and act more proactively when the lake levels drop.

As to the harbor proposal, I am not in favor of creating a fish ladder around the August Lock and Dam. This will create additional complications to lake releases by introducting an endangered species where not has existed in this area for more than 70 years. .

I do not believe that the Corps has authority or an obligation to release more water to the Savannah River than nature provides. Please take my comments into consideration when making decisions on the above proposals. Thank you.

Brenda Bigelow

Classification: UNCLASSIFIED
Caveats: FOUO

From:	CESAS-PD, SAS
To:	CESAS-PD, SAS
Subject:	FW: COMMENTS CONCERNING DEEPENING SAVANNAH HARBOUR AND TEMPORARY REDUCTION OF FLOWS FROM THURMOND DAM. (UNCLASSIFIED)
Date:	Monday, January 03, 2011 6:56:08 PM

Classification: UNCLASSIFIED
Caveats: FOUO

From: lynnesewell@comcast.net [mailto:lynnesewell@comcast.net]
Sent: Sunday, December 26, 2010 11:59 AM
To: CESAS-PD, SAS
Subject: COMMENTS CONCERNING DEEPENING SAVANNAH HARBOUR AND TEMPORARY REDUCTION OF FLOWS FROM THURMOND DAM.

Hello,

I would like to make the following requests:

1. Please use the information gathered in the last drought and follow the recommendations of Save Our Lakes Now, Friends of the Savannah River Basin, and Lake Hartwell Association to drop flows to 3600 cfs anytime Lake Thurmond is down more than 2' from full pool.

2. Please do not to tamper with mother nature by putting a fish ladder in around the Augusta Lock and Dam which could endanger an already endangered species during droughts.

I would also like to ask the following question:

Who authorized the Corps to release more water to the Savannah River than nature provides? Such a practice is bound to get us in trouble repeatedly.

Lynne Sewell

Classification: UNCLASSIFIED
Caveats: FOUO

From:	CESAS-PD, SAS
To:	CESAS-PD, SAS
Subject:	FW: COMMENTS TO CORPS ON LAKE THURMOND water releases (UNCLASSIFIED)
Date:	Monday, January 03, 2011 6:57:02 PM

Classification: UNCLASSIFIED
Caveats: FOUO

From: RONALD K STEPP [mailto:stepprbw1@bellsouth.net]
Sent: Sunday, December 26, 2010 3:14 PM
To: CESAS-PD, SAS
Cc: stepprbw1@bellsouth.net
Subject: Fw: COMMENTS TO CORPS ON LAKE THURMOND water releases

As a home owner on lake Hartwell, I respectfully ask the corps for the following:

Item 1. follow the recommendations of Save our Lakes Now and drop outflows to 3600 cfs anytime Lake Thurmond is down more than 2 ft. from full pool.

Item 2. Do not put fish ladder in around Augusta Lock and Dam..
Item 3. Who Authorized the Corps to the release more water to the Savannah River than nature provides?

THANKS,
Ronnie Stepp

First the Corps has issued a timid request for comments on dropping Lake Thurmond releases January 1 - February 15.

Second the Corps has requested comments on deepening the harbour at Savannah.

Item 1 is ridiculous. The drought of 2008 gave us all the data anyone could want saying lower releases to prevent losing the lakes is acceptable. The Corps is now acting as if they have no previous information and is timidly offering a token reduction in flows for one and a half months. This measure after the lake is already down over 6ft and for only a month and a half is like spitting in the ocean.

Please request the Corps to use the information gathered in the last drought and follow the recommendations of Save Our Lakes Now, Friends of the Savannah River Basin, and Lake Hartwell Association to drop flows to 3600 cfs anytime Lake Thurmond is down more than 2' from full pool.

Item 2 is deceptive. Hidden in the proposal to deepen the harbour is a provision to put a fish ladder in around the Augusta Lock and Dam so Sturgeon can swim up river to the Augusta Shoals. This would

greatly complicate future drought plans in that the sturgeon spawning in the shoals would tie our hands on lake releases during a drought. The Sturgeon have not been able to get to the shoals since 1937 so is very unwise to tamper with mother nature and suddenly have an endangered species in harms way during droughts.

Please request the Corps not to tamper with mother nature by putting a fish ladder in around the Augusta Lock and Dam which could endanger an already endangered species during droughts.

Overall it would be good if your response could include one question. Who authorized the Corps to release more water to the Savannah River than nature provides. Such a practice is bound to get us in trouble repeatedly.

Your comments should be emailed to: cesas-pd.sas@usace.army.mil or mailed to:

William Bailey, USACE Savannah District, PO Box 889, Savannah, GA 31402

and your comments should be labeled COMMENTS CONCERNING DEEPENING SAVANNAH HARBOUR AND TEMPORARY REDUCTION OF FLOWS FROM THURMOND DAM.

Classification: UNCLASSIFIED
Caveats: FOUO

From:	CESAS-PD, SAS
To:	CESAS-PD, SAS
Subject:	FW: Comments on Proposal to Deeping Savanah Harbour, Lower Lake Levels and Build Fish Ladder (UNCLASSIFIED)
Date:	Monday, January 03, 2011 7:09:21 PM

Classification: UNCLASSIFIED
Caveats: FOUO

From: Toni Gleeson [mailto:antoinette_gleeson@yahoo.com]
Sent: Thursday, December 30, 2010 8:37 AM
To: CESAS-PD, SAS
Subject: Comments on Proposal to Deeping Savanah Harbour, Lower Lake Levels and Build Fish Ladder

William Bailey

USACE Savannah District

PO Box 889

Savannah, GA 31402

Dear Mr. Bailey,

We have read the ACofE proposal for deepening the Savannah harbor, lowering the Savannah River lake levels, and building fish ladders for Sturgeon and we are deeply concerned.

The impact from the 2007 and 2008 drought should have furthered encouraged the ACofE that the lake levels need to be maintained and conserved not lowered. During these time of drought and Lake Thurmond drops 2 feet below full pool, then outflows should be limited to no more than 3600 cfs. If water is not entering the lake during natural weather systems, then the lake does not have the extra water to provide.

What is more concerning, it the proposal to install fish ladders so that the Sturgeons, can swim up stream, a process they can not currently accomplish in a natural environment. Why would the ACofE want to provide the Sturgeons a tool that is not necessary? In addition, to the wasted money, this would require additional release of water to maintain the ladder system. Additional pressure on an already over taxed river system is not viable.

We understand the economic impact of the Savannah River systems is not a concern for the ACofE. However, as resident what the ACofE is proposing is devastating to our communities, the natural beauty of the area, and future growth.

We implore you to consider a much more conservative approach, including leaveing lake levels alone, reducing outflows during drought, and do not installing fish ladders.

Sincerely,

Antoinette and Todd Gleeson

Classification: UNCLASSIFIED
Caveats: FOUO

The following responses address the concerns of the previous 15 emails, which express similar concerns.

514-MR-01-EV01, 515-MR-01-EV01, 517-MR-01-EV01, 518-MR-01-EV01, 519-MR-01-EV01, 520-MR-01-EV01, 522-MR-01-EV01, 523-MR-01-EV01, 544-MR-01-EV01, 545-MR-01-EV01, 546-MR-01-EV01, 547-MR-01-EV01, 548-MR-01-EV01, 549-MR-01-EV01

Comment: ***Item 2*** *is deceptive. Hidden in the proposal to deepen the harbour is a provision to put a fish ladder in around the Augusta Lock and Dam so Sturgeon can swim up river to the Augusta Shoals. This would greatly complicate future drought plans in that the sturgeon spawning in the shoals would tie our hands on lake releases during a drought. The Sturgeon have not been able to get to the shoals since 1937 so is very unwise to tamper with mother nature and suddenly have an endangered species in harms way during droughts.*

Response: Passage upstream by anadromous fish [during the later winter/spring spawning season] is permanently blocked by the New Savannah Bluff Lock and Dam . Given this situation, all Cooperating Agencies and the Fisheries Interagency Coordination Team support a fish bypass structure [at the Dam] since it will provide Shortnose sturgeon with access to historic spawning areas at the Augusta Shoals. The intent is to increase the population levels of the endangered Shortnose sturgeon. Release rates [duration/amount] from the upstream dams will not be changed due to the proposed fish passage. NOAA Fisheries, who has the responsibility to manage SNS under the Endangered Species Act, believes that the proposed bypass is needed to compensate for adverse impacts to sturgeon habitat in the estuary.

From: Waters, Charles (SAVANNAH, GA)
To: CESAS-PD, SAS
Subject: Port Deepening - Against
Date: Wednesday, December 15, 2010 10:22:29 AM

I'm not so sure that this is a good idea. I'm sure it would help the Savannah economy grow, but we are really getting to the limits on what we can accept as we continue to degrade our environment. We substantially impact the wildlife preserve (a major flyway) and the river bottom ecosystem.

How much can we endanger the aquifer before we are drinking brackish water?

I was born here and have lived here most of my life.

Environmental replacement costs are not calculated in the P/L statement of companies – they are "externalities" that the public looses. We pay for them.

If I had a vote, I would vote "no".

Don Waters

221 E 44th St

Savannah GA 31405

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http://www.bankofamerica.com/emaildisclaimer. By messaging with Sender you consent to the foregoing.

Charles Waters

182-MR-02-EV01

Comment: *How much can we endanger the aquifer before we are drinking brackish water?*

Response: The Corps performed extensive analyses to determine potential SHEP-related impacts to the Upper Floridan aquifer [documented in GRR- Section 8.2.1, GRR-Appendix C Attachment 3, Supplemental Materials, and EIS-Section 5.05. These analyses concluded harbor deepening will have a minimal incremental effect on the present rate of saltwater intrusion into the aquifer. It was also determined that deepening will produce an insignificant change in penetration of chlorides through the confining layer when compared to the status quo [no-action alternative]. In model simulations, chloride concentrations decrease significantly upon entering the Upper Floridan aquifer, due to mixing [dilution] with the aquifer's considerable horizontal freshwater flows. Hence, the proposed dredging would have negligible impacts on water quality in production wells that tap the Upper Floridan aquifer in the environs of Savannah.

182-MR-02-EC01

Comment: *Environmental replacement costs are not calculated in the P/L statement of companies – they are "externalities" that the public looses. We pay for them.*

Response: Mitigation costs are included as part of the benefit/cost analysis of the SHEP, along with any associated expenses that would be required to make a project functional. Appendix C –Mitigation Planning details how the referenced concerns were addressed.

From: workshop Savannah
To: CESAS-PD, SAS
Subject: air quality
Date: Wednesday, December 15, 2010 4:44:06 PM

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what are the implications to savannah's already diminished qir quality?

Public Comment

183-MR-01-EV01
Comment: *what are the implications to savannah's already diminished air quality?*

Response: The air quality in the harbor area is generally good (see Sections 4.03 and 5.06 in the EIS and Appendix K in the DEIS). According to US EPA Region 4, both Chatham County, GA and Jasper County, SC are considered as "attainment" areas for the 8-hour Ozone Standard. The Savannah area is under no Federal or State restrictions for the purpose of improving air quality to meet any air quality standard.

According to the 2002 and 2005 EPA National Emission Inventory (NEI) data for Chatham County, Georgia, the Port of Savannah is a small subset of the County's total air emissions. The NEI data for Chatham County was provided by the Emissions Inventory & Analysis Group, AQAD/OAQPS, US EPA, Research Triangle Park, NC.

The Georgia Ports Authority is working with EPA to comply with recent regulations regarding the use of ultra low sulfur fuel (15 ppm) for their cargo handling equipment. The private tugs in the port have converted to using ultra low sulfur fuel. The Ocean Going Vessels (OGV) arriving at the port will be reducing their emissions of NOx and Sulfur. EPA estimates that once the final rule is in place for OGV, there may be reductions of about 90% PM and 80% NOx.

The Corps believes that the port will grow with or without the proposed harbor deepening. It anticipates that without deepening, it will take more vessels to transport cargo. If the port is deepened, fewer larger vessels would be able to carry the cargo through the port (compared to the without project condition). The proposed harbor deepening would not significantly impact air quality in the project area.

From: workshop Savannah
To: CESAS-PD, SAS
Subject: shep comment card
Date: Wednesday, December 15, 2010 7:02:01 PM

I'm greatly concerned with the impact of offshore and near shore dumping of dredged material on wave height and swell frequency. many Tybee businesses depend on recreation created by wave action which in turn create tourist dollars. people come to visit the ocean because it looks and behave like an ocean rather than a lake.

Public Comment

184-MR-01-EV01

Comment: *I'm greatly concerned with the impact of offshore and near shore dumping of dredged material on wave height and swell frequency. many Tybee businesses depend on recreation created by wave action which in turn create tourist dollars. people come to visit the ocean because it looks and behave like an ocean rather than a lake.*

Response: Based on concerns (sand content of the material) expressed by the GA DNR-CRD and the City of Tybee Island, Georgia, the dredged material placement plan has been changed. There will be no placement of new work dredged sediment into the nearshore area off Tybee Island. Placement of all sediments excavated from the entrance channel will be in previously-approved areas: the Offshore Dredged Material Disposal Site (ODMDS) or an upland confined disposal site. The Corps has placed dredged material into the ODMDS for many years, and its continued use is not expected to have any impacts on wave height and frequency at Tybee Island. The Final EIS details the noted revisions.

From: Dean Moss
To: CESAS-PD, SAS
Subject: Advance maintenance
Date: Tuesday, December 21, 2010 7:55:24 AM

Bill:

Can you clarify for me the policy that the Corps proposes to follow with respect to advance maintenance and extra depth for sedimentation?

In other words, how deep will the potentially authorized 48 ft channel actually be dredged? Did the modeling of the impacts take any extra depth into account?

Thanks and Merry Christmas, Dean

Dean Moss

185-JK-02-EN01

Comment: *Can you clarify for me the policy that the Corps proposes to follow with respect to advance maintenance and extra depth for sedimentation?*

Response: Current and proposed channel depths are compared in Table 6.3.1-2 of the Engineering Appendix [Appendix C of the GRR]. Advance maintenance provides the most cost effective means of maintaining a channel's authorized depth in high shoaling areas by excavating below the navigation depth to extend the interval between maintenance dredging events. In addition to the advance maintenance, up to two feet of overdepth is allowed in recognition of inaccuracies inherent in the excavation process. That is, in order to ensure that the specified navigation depth is fully achieved, the contractor removes additional material below that depth [to realize this certitude]. Given this recognition, the contractor is reimbursed for the extra material. Both overdepth and advance maintenance were considered in all of the hydrodynamic, water quality, and aquifer model studies.

185-JK-02-EN02

Comment: *In other words, how deep will the potentially authorized 48 ft channel actually be dredged? Did the modeling of the impacts take any extra depth into account?*

Response: Dredging depths, including advance maintenance and over depth, for each of the alternative project depths are shown in Table 6.3.1-2 of the Engineering Appendix.

1. As outlined on page 104 of the GRR, Appendix C- The hydrodynamic and water quality models (EFDC & WASP) incorporated bathymetry data sets from several different sources including USACE's annual surveys of the channel [1999 and 2002]. Those surveys provide depth information throughout the harbor at a snapshot in time. The surveys incorporate areas where maintenance dredging has just been completed (depths where the advance maintenance layer is empty) and areas where maintenance dredging is about to begin (depths where the advance maintenance layer is full and sediment has built up into the authorized navigation channel).

2. The Supplemental Study, "Development of the Water Quality Models" [2006] includes more detailed information on the model grid bathymetry [Section 4.2].

3. To evaluate each depth alternative, the model grid within the channel was lowered by the appropriate amount, i.e., the -48-foot project depth required adjusting the model grid bathymetry by 6-feet, the -47-foot project depth required adjusting the model grid bathymetry by 5-feet, etc. The original model grid was based on actual annual surveys which included advance maintenance and over depth. Therefore, the alternative project depths also account for these same parameters.

As stated in the previous response, both overdepth and advance maintenance were considered in all of the hydrodynamic, water quality, and aquifer model studies.

From: John Hamm
To: CESAS-PD, SAS
Subject: Details please
Date: Friday, December 10, 2010 11:40:46 AM

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1. What is the % of super ships that will not to use our port and what is the real $ loss if not upgraded?
2. Are there better ways to increase the value of our shipping business for similar or lower cost?
3. Is 48 ft. deep enough when PC is going to 50 ft. and some ships have a 49.5 ft. draft?

John Hamm

188-MR-03-EC01
Comment: *What is the % of super ships that will not to use our port and what is the real $ loss if not upgraded?*

Response: The largest vessels calling the US East Coast, including at the Garden City Terminal in Savannah, are expected to be about 8,000 TEUs in capacity. Page 51 of the Economic Appendix explains the reasons why the largest vessels in the world would not likely call at Savannah, with or without the proposed harbor deepening. Vessels much larger than 8,000 TEUs are more likely to be deployed on Asia to Europe and Transpacific trade routes. Vessels in excess of 9,500 TEUs may also have difficulties in Savannah Harbor due to length and width limitations and air draft restrictions created by the Talmadge Bridge. Such super ships currently make up about 3 percent of the world fleet and are expected to increase to roughly 11 percent of the world fleet by 2030.

Table 42 on Page 73 displays the forecasted vessel calls by vessel class for the "without project condition" and for each of the project alternatives. The transportation costs of keeping the channel at its present depth is compared to the transportation costs for each of the project alternatives to derive the project savings (benefits).

188-MR-03-EC02
Comment: *Are there better ways to increase the value of our shipping business for similar or lower cost?*

Response: Right now, shippers are already engaging in profit maximizing, "just in time" delivery practices, and they seek to optimize their scheduling and minimize delays wherever possible. Landside efficiencies are being planned and implemented to remain industry competitive. The present channel depth limits shippers from loading more completely and taking full advantage of larger vessels. The deepening project would reduce annual transportation costs by over $200 million.

188-MR-03-EV01
Comment: *Is 48 ft. deep enough when PC is going to 50 ft. and some ships have a 49.5 ft. draft?*

Response: The study authority was very specific regarding depths that could be evaluated as part of the SHEP and did not authorize the Corps to consider depths greater than 48 feet.

SAVANNAH HARBOR EXPANSION PROJECT

ENVIRONMENTAL IMPACT STATEMENT

NEARSHORE PLACEMENT OF DREDGED MATERIALS

REVIEW COMMENTS – BILL FARMER 1-11-11

The Environmental Impact Statement describes the planned dredging and placement of dredged materials from the Savannah Harbor Expansion Project. The following are review comments pertaining to the Environmental Impact Statement plus a 5/31/07 letter from Brad Gane, Assistant Director, Ecological Services Section, Coastal Resources Division, Georgia Department of Natural Resources, to Bill Bailey, U.S. Army Corps of Engineers.

1. Applicable law regarding the project includes the Georgia Rivers and Harbor Development (O.C.G.A. 52-9-2), which requires, in part, that all sand that is suitable for beach replenishment originating from the dredging of navigation channels within the inlets, as well as the entrances to harbors and rivers, shall be used to replenish the adjacent coastal beaches, if feasible, either by deposition of sand into the nearshore littoral zone or direct placement on affected beaches, and the deposition of sand shall be completed in cooperation with and, when required by applicable state or federal law, with the approval of the local governing authority and the Department of Natural Resources, according to the requirements of Part 2 Article 4 of Chapter 5 of Title 12, the "Shore Protection Act".
   The Environmental Impact Statement indicates the Savannah Harbor Expansion Project is consistent with these applicable laws.

   The Environmental Impact Statement also indicates that the Project complies with the requirements of the Georgia Coastal Management Act (O.C.G.A. 12-5-320, et.seq) 12-5-321. The EIS also indicates "The Corps performed an analysis of the proposed project with respect to resources under the purview of Georgia and South Carolina's programs concerning Coastal Zone Management Consistency…The Corps believes the proposed project is consistent with both programs."

2. Regarding the expression "…sand that is suitable…" as mentioned in the Georgia Rivers and Harbor Development (O.C.G.A. 52-9-2), it has been established to mean dredged material that has at least 90% sand and a maximum of 10% fines is suitable for placement on beaches, and dredged material suitable for nearshore placement should have a minimum sand content of at least 80% sand and a maximum of 20% fines. The Department of Natural Resources has indicated in a 2007 letter that the Department of Natural Resources would be willing to agree to some other standard should the City of Tybee Island determine that another standard should be used for placement on or near their beaches for this particular project.

3. The project identifies the portion of the shipping channel extending from 4,000 feet upriver from the river entrance outward into the ocean 98,600 feet from the river entrance, for a total of 102,600 feet (19.43 miles), as the area from which dredged materials would be taken for possible use to replenish the adjacent coastal beaches, if feasible, either by deposition of sand into the nearshore littoral zone or direct placement on affected beaches. The project identifies a plan to dredge to a total depth of 52 feet, 50 feet project depth plus 2 feet allowance of over-dredging, yielding a total volume of 13,325,513 total cubic yards of material from the 19.43 miles of ocean channel, of which 8,242,352 cubic yards would be placed in nearshore disposal sites. **TABLE AAA illustrates that the 8.24 MCY of dredged material planned for nearshore disposal has an 80% Sand and 20% Fines composition.**

4. The volume of dredged material in the region from 53,500 feet from the river entrance to 98,600 feet from the entrance channel has a volume of 5,083,161 cubic yards, with a dredged material composition of 93% sand and 7% Fines. Since this region of the bar channel has its closest point more than six (6) miles from the Tybee Shoreline, the cost to place this material in the nearshore region would be excessive.

5. Utilizing all this material for placement in the nearshore area of Tybee Island would require the use of booster pumps "which would greatly increase cost", so the Environmental Impact Statement indicates the area of the channel from which dredged materials would be deposited in the nearshore areas would be from a point 4,000 feet upriver from the river entrance to a point 53,500 feet into the ocean from the river entrance, for a total distance of 57,500 feet (10.89 miles). Data indicates the volume of dredged materials from this 57,500 foot section of the channel would yield 8,242,352 cubic yards of material having a content of 1,687,835 cubic yards (20%) fines and 6,563,517 cubic yards (80%) sand.

6. The year 2000 Tybee Island Beach Renourishment Project resulted in approximately 1,700,000 cubic yards of beach quality dredged materials (minimum 90% Sand, minimum 10% Fines). Comparing this volume of material with the volume of material planned for near shore placement, yields a ratio of 8,242,352 / 1,700,000 = 4.85. **This means that the total volume of planned nearshore placement of beneficially used dredged materials is about 4.8 times the volume of dredged materials placed on the Tybee beaches in the year 2000 Tybee Beach Renourishment Project.** Visualizing this volume in a different perspective, by imagining a rectangular sand dune constructed one football filed wide, and 5 miles long, the height of such a sand dune would be computed as follows: HT. = 8,242,352 / (5 x 1760 x 100) = 9.37 yards, 28 feet tall. **To summarize,**

the total volume of planned nearshore placement of beneficially used dredged material would fill a volume of a theoretical rectangular sand dune 100 yards wide by 5 miles long by 28 feet tall, which is about 4.85 times the volume of the Year 2000 Beach Renourishment Project of 1,700,000 cubic yards of dredged material.

7. Test boring data was summarized in the Environmental Impact Statement according to sub-regions in the entrance channel locations, and all of these sub-regions had a content of less that 20% fines except in two segments, namely the 10,000 to 20,000 foot and the 30,000 to 40,000 foot segments (measured from the river entrance). These two segments or sub-regions had a combined length of 20,000 feet (3.79 miles) and dredged volume of 3,169,671 cubic yards, and a content of 918,915 cubic yards (29%) fines and 2,249,756 cubic yards (71%) sand, for a 52 foot total dredged depth (50 foot project with 2 feet over-dredge allowed). Removing these two sub-regions from the areas used for nearshore beach replenishment would result in a dredged length of 37,500 feet (7.10 miles) and a nearshore beach replenishment volume of 5,072,681 cubic yards having a content of 759,920 cubic yards (15%) fines and 4,313,761 cubic yards (85%) sand. The Department of Natural Resources letter of 2007 indicates that these two sub-regions "…should be removed from the beneficial use plan/feasibility analysis and disposed at approved sites." The further-most portion of the 10,000 to 20,000 bar channel region is more than 6 miles to the ODMDS Offshore Disposal Site, and the further-most portion of the 30,000 to 40,000 bar channel region is about 3 ½ miles to the ODMDS Offshore Disposal Site, and the removal of this 3,169,671 cubic yards from the 8,242,352 cubic yards of planned beneficial use nearshore placement would be an approximate 38% reduction in planned nearshore beneficial use of dredged materials, but would decrease the Fines/Sand Ratio from 20/80 to 15/80.

8. The Draft Environmental Impact Statement also contains data on the content and composition of the Estimated Annual Maintenance (O&M) Dredged materials. This data is summarized in Table BBB. Since the Bar Channel acts as an almost complete sink for all sand in the littoral zone that would otherwise come from the South Carolina nearshore zones and reach the Tybee Island beaches and nearshore areas, the volume and composition of this same Estimated Annual Maintenance (O&M) Dredged Materials would reflect what would naturally reach Tybee if the channel was not there. The data indicates the annual maintenance dredging would total about 1,181,000 cubic yards, of which about 1,054,000 could be placed in the nearshore area of Tybee Island. This material has a content of 20% Fines and 80% Sand. **This means that the natural flow of sand that would come to Tybee if the ocean channel did not exist has essentially the same average content of Fines (20%) and Sand (80%) as does the planned beneficial nearshore use of dredged material from the Project.** Also, the 1,054,000 cubic yards of nearshore beneficially used Estimated Annual Maintenance (O&M) dredged material,

when compared to the 1,700,000 cubic yards of dredged material in the Year 2000 Tybee Island Beach Renourishment Project, results in a ratio of 0.62 (1,054,000/ 1,700,000 =). **This means that the Estimated Annual Maintenance (O&M) Dredged Volume is about 62% of the volume of the Year 2000 Tybee Island Beach Renourishment Project.** The Draft EIS indicates that placing the entrance channel maintenance sediments into the Savannah Harbor ODMDS is the least cost disposal alternative for long term maintenance of the proposed harbor deepening project, but that "…**Those other placement locations could also be used in a specific maintenance dredging event <u>if a non-Federal sponsor paid the expected additional costs</u> to deposit the O&M sediments in that location." The "other placement locations" include the project's nearshore disposal sites. The economics of possibly extending the periods between periodic Beach Renourishment Projects by beneficially using the annual maintenance dredging materials appears to be worthy of analysis**.

9. The Environmental Impact Statement identifies a **variety of benefits** resulting from the beneficial use of the dredged sediments, as follows:
   a. **Help restore sand that has been lost from the nearshore zone** in the past as a result of the entrance channel dredging.
   b. Decreasing depths in the nearshore area should **reduce the wave climate** that reaches the Tybee shoreline, providing shelter from the ocean waves, thereby **reducing its beach erosion rate.**
   c. The nearshore placement should also **provide a source of sands** which waves could subsequently move toward the beach, also **reducing the beach erosion rate**.
   d. Some sediment would be used to create an offshore intertidal island that would **provide valuable resting and loafing habitat for seabirds and shorebirds.**
   e. A small amount of sediments would be used to enhance deep-water fishing habitat.
   f. Distinct changes in bottom depths alter the ocean currents, thereby enhancing fish habitat.
   g. The beneficial placement of these entrance channel sediments keeps them from being deposited in the Savannah Harbor Dredged Material Disposal site (ODMDS), which theoretically has a defined sediment placement capacity and useful life, thereby extending the useful life of the ODMDS.
   h. **Additionally,** although not specifically mentioned in the Draft EIS, the benefits listed above should result in **significantly extending the period between periodic Beach Renourishment Projects that have historically occurred about once every 10 years at a cost of about $10 Million each.**

10. Attaching a monetary value to the dredged materials is imprecise, but acknowledging the fact that periodic Tybee Beach Renourishment Projects occur approximately every 10 years and have a cost of about $10 Million, and the volume of beach quality sand (90/10

Sand/Fines) is in the 1 to 2 MCY range, an estimated value of nearshore-placed dredged materials (80/20 Sand/Fines) of about $5.00 per cubic yard would be reasonable. **The monetary value of the 8,242,352 cubic yards of dredged material planned for placement in the nearshore area of Tybee Island would therefore be about $41 Million; and the monetary value of the subsequent 1,054,000 Estimated Annual Maintenance (O&M) Dredged material placed in the nearshore area would be about $5 Million per year.**

11. The Draft EIS itemizes the various project components together with the expected adverse impact of each, as well as the planned mitigation for each adverse impact. There is no reference to anticipated adverse impacts associated with the beneficial use of dredged materials in the Tybee Island nearshore area, and therefore there is no planned mitigation funding for this project component. However, The Draft EIS does have an after-project monitoring component for the purpose of detecting unexpected adverse impacts and correcting for such impacts.

In Summary:

Beneficially using both the New Work Harbor Deepening dredged materials plus the Annual Maintenance (O&M) dredged materials from the ocean channel by placing these dredged materials in the nearshore area of Tybee Island should significantly extend the period between expensive Tybee Beach Renourishment Projects that occur approximately every 10 years at an approximate cost of about $10 Million each.

Using past (cost and dredged volume) history for Tybee Island Beach Renourishment Projects, the monetary value of a cubic yard of dredged material that is suitable for beneficial use in the nearshore area of Tybee Island can be estimated at about $5.00 per cubic yard. Using $5.00 per cubic yard as a value estimate, the monetary value of the Project's 8.24 MCY of beneficially used New Work dredged material placed in the nearshore area of Tybee Island is about $41 Million; and the monetary value of the subsequent 1.0 MCY Estimated Annual Maintenance (O&M) Dredged material placed in the nearshore area would be about $5 Million per year.

Bill Farmer 1-11-11

(Attached Tables AAA and BBB

	A	B	C	D	E	F	G	H	I
1	TABLE AAA Dredging Plan, New Work, Bar Channel, 48' River Depth, 50' Ocean Channel Depth								
2		plus 2' = 52' Total Ocean Bar Channel Depth							
3									
4									
5	Entrance Channel			Excavation		%	Volume	%	Volume
6	Location (-)			Volume (CY)		Fines	Fines (CY)	Sand	Sand (CY)
7									
8	0 to +4000			375,403		14	52,556	86	322,847
9	0/10,000			1,110,713		17	188,821	83	921,892
10	10,000/20,000			1,595,871		29	462,513	71	1,132,358
11	20,000/30,000			1,628,379		15	244,257	85	1,384,122
12	30,000/40,000			1,573,800		29	456,402	71	1,117,398
13	40,000/45,000			1,959,186		14	274,286	86	1,684,900
14	45,000/50,000			incl. 40/45		incl	incl		incl
15	50,000/53,500			incl 40/45		incl	incl		incl
16									
17		Subtotal		8,242,352		20	1,678,835	80	6,563,517
18									
19	53,500/57,000			469,252		12	56,310	88	412,942
20	57,000/61,000								
21	61,000/64,500								
22	64,500/68,000								
23	68,000/72,000								
24	72,000/75,500								
25	75,500/79,000								
26	79,000/82,500								
27	82,500/85,000								
28									
29	57,000/60,000			401,409		9	36,127	91	365,282
30	60,000/98,600			4,212,500		6	252,750	94	3,959,750
31									
32		Subtotal		5,083,161		7	345,187	93	4,737,974
33									
34		TOTAL		13,325,513		15	2,024,022	85	11,301,491
35									
36									
37	NOTE: Above Dredging Data was developed using Table 3-9, page 3-38 in Alternatives Section								
38	of Draft EIS for Volume information; plus Tables 8 & 12 on pages 86 and 87 of Appendix I								
39	of Draft EIS for Composition information. Some interpolation was required.								

	A	B	C	D	E	F	G	H	I
1	**TABLE BBB Estimated Annual Maintenance (O&M) Dredging Data**								
2									
3	Entrance Channel			Excavation		%	Volume	%	Volume
4	Location (-)			Volume (CY)		FINES	Fines (CY)	Sand	Sand (CY)
5									
6	0 to +4000			76,000		14	10,640	86	65,360
7	0/10000			155,000		14	21,700	86	133,300
8	10000/20000			163,000		19	30,970	81	132,030
9	20000/30000			281,000		21	59,010	79	221,990
10	30000/40000			325,000		23	74,750	77	250,250
11	40000/53500			54,000		26	14,040	74	39,960
12									
13		Subtotal		1,054,000		20	211,110	80	842,890
14									
15	53500/98600			127,000		7	8,890	93	118,110
16									
17		TOTAL		1,181,000		19	220,000	81	961,000
18									
19									
20	NOTE: Data was developed from two Tables in Draft EIS, namely Table 3-10, page 3-30,								
21	Alternatives; and Table 1, page 6, Appendix H. Some minor interpolation done,								
22	since the two tables used some different Entrance Channel locations.								

Bill Farmer

210

Comment: *Using past (cost and dredged volume) history for Tybee Island Beach Renourishment Projects, the monetary value of a cubic yard of dredged material that is suitable for beneficial use in the nearshore area of Tybee Island can be estimated at about $5.00 per cubic yard. Using $5.00 per cubic yard as a value estimate, the monetary value of the Project's 8.24 MCY of beneficially used New Work dredged material placed in the nearshore area of Tybee Island is about $41 Million; and the monetary value of the subsequent 1.0 MCY Estimated Annual Maintenance (O&M) Dredged material placed in the nearshore area would be about $5 Million per year.*

Response: Due to concerns (sand content of the material) expressed by the Georgia Department of Natural Resources and the City of Tybee Island, the Corps revised the placement plan for sediments excavated from the entrance channel. The project described in the final reports includes deposition of new work entrance channel sediments in previously-approved sites (Ocean Dredged Material Disposal Site or Jones/Oysterbed Island CDF). Nearshore placement of new work sediments has been removed from the SHEP.

#494

4 Dorset Ct.
Savannah, GA 31410

December 18, 2010

William Bailey
ATTN: PD
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
Savannah GA 31401-3640

Dear Mr. Bailey,

As a citizen of Chatham County and a regular visitor and active beach user of Tybee Island's beach, I am writing to oppose the plan to place Savannah River Entrance Channel dredge deposits in the nearshore zone of Tybee Island as described in the Draft EIS (pages 3-22 through 3-26). The primary reasons for my opposition to the plans are public safety and the creation of dangerous nearshore currents and beach topographic features for beach users (swimmers, surfers, life guards, beach rescue personnel, surf fishermen).

As you are aware, Tybee Island is one of the few barrier islands accessible to the driving public on the Georgia coast. Tybee Island beach is thus an important resource not only for area residents but also for Georgia citizens and others from throughout the southeast. Locally, the City of Tybee Island realizes the importance of providing a safe and accessible beach for its economy. Therefore any activities or alterations to the beach that make beach activities less safe and accessible for the public on Tybee Island will have negative economic impacts for the City and the businesses that depend on beach activities and visitors.

According to the Draft EIS (pages 3-22 through 3-26) nearshore deposition of Savannah River Entrance Channel dredged material will include two areas (MLW 200 and MLW 500) adjacent to the front public beaches along Tybee Island. The placement of dredged material in both of these areas as described in the Draft EIS will create extremely unsafe conditions for people entering the water for almost 3 miles along Tybee Island.

Area MLW 200 extends westward from the North Beach jetty for 3,200 feet. This area is presently a popular surfing, skim boarding, wind surfing and fishing area, and it is served by one of the largest public parking areas for beach goers on Tybee Island. According to the Draft EIS (p. 3-25), "sediment would be deposited at the mean low water (MLW) line and be allowed to mound up to mean sea level (MSL) or mid-tide. When filled to capacity [217,000 CY], the placement would create a mid-tide berm about 200 feet wide and 3,200 feet long." Essentially, a sand bar (3,200 x 200 ft.) will be built out in front of the beach. This new sand bar will be built at the current low tide mark, and it will be high enough so that it will just be covered with water when the tide is half high. At higher tide, it will be just below the surface (maybe 3 ft). During the times between low and mid tide levels, it will be necessary to go from the current beach, out into the water (a new tidal channel), then up onto the new sand bar, then out to the waves. This new shoal will create a channel between our current beach and the new sand bar further out. This channel will be fed and drained by tide forces, and I can only imagine the magnitude of the longshore tidal rip currents that will be running through this channel. Depending on where you

are and whether the tide is rising or falling, the currents will sweep people into the jetty or out toward the river entrance. Certainly over time, low places, breaches and channels will form across the sand bar, and these will create strong tidal-driven rip currents seaward. During the periods between mid-tide and high tide, the sand bar will not be exposed, but the longshore current dynamics will remain and will probably be even more dangerous because people will not see the offshore bar (as is the case currently at the south end of Tybee Island).

Area MLW 500 extends from the North Beach jetty southward along the front of Tybee Island for 11,000 feet (2 miles), and it is to be 500 feet wide. According to the Draft EIS (P. 3-25), "The sediment would be deposited at the MLW line [low tide line] and be allowed to mound up to MSL or mid-tide. When filled to capacity, the placement would create a mid-tide berm about 500 feet wide and 11,000 feet long." So again, a sand bar will be built at the present low tide level, and this sand bar will be 500 feet wide (for 2 miles in front of Tybee's current beach). At low tide, a beach goer will walk across the current beach, down/out the wet intertidal sand to the current low tide line, then up onto a sand bar, walk another 500 ft across the sand bar, and then get to the waves/water. At mid tide, one will walk across the current beach, out into the water until it is about 3 ft deep, then climb up on the new sand bar, walk across it for 500 ft, and then to the waves. As the person walks/wades through the channel between the current beach and the offshore sand bar, he/she must fight the longshore tidal current in that channel. The same dangers and dynamics described above for MLW 200 (tidal currents and rip currents during all tidal stages except dead low tide) will exist for 2 miles of Tybee's beach front. I don't think Tybee will be winning any more prizes for a healthy beach with the longshore, parallel flows that we will be getting in this channel, and the number of folks that will be getting pulled out of it. Certainly nature will create multiple breaks in the sand bar along its width as the tidal water tries to flow out as the tide falls. These will make for some subtle, unseen rip currents outward. What is going to look like a giant 2-mile long tide pool along the front of Tybee will be a dangerous place for swimmers. I have no idea how life guards will be able to work effectively being well over 600 feet from the shore and also deal with the swimmers in the tidal channel.

I feel that these are very critical issues for Tybee Island. It is a recreational beach that serves thousands of people daily throughout most of the year. As you know, our coast is much more affected by tidal dynamics than wave dynamics, and to create a tidal-fed and drained channel along the front of this recreation beach just seems very irresponsible.

I will appreciate your consideration of revising the Channel Entrance deposition plans.

Thank you.

Sincerely,

Joseph P. Richardson

Joseph P. Richardson, Ph.D

cc: Jason Buelterman, Mayor Tybee Island
Patrick Carver, Chairperson, Surfrider Foundation Coastal Georgia Low Country Chapter
Ed Mazzarella, Director of Chapters, Surfrider Foundation

Joseph P. Richardson

494-JK-05-EV01

Comment: *As a citizen of Chatham County and a regular visitor and active beach user of Tybee Island's beach, I am writing to oppose the plan to place Savannah River Entrance Channel dredge deposits in the nearshore zone of Tybee Island as described in the Draft EIS (pages 3-22 through 3-26). The primary reasons for my opposition to the plans are public safety and the creation of dangerous nearshore currents and beach topographic features for beach users (swimmers, surfers, life guards, beach rescue personnel, surf fishermen).*

Response: The location of the proposed dredged material placement sites in the Tybee Island nearshore were based on detailed modeling and design studies. The design took into account potential impacts to longshore currents, required depths for commercial and recreational boating, etc. Based on concerns (sand content of the material) expressed by the GA DNR-CRD and the City of Tybee Island, Georgia, the dredged sediment placement plan has been revised, and placement of all new work sediments excavated from the entrance channel would be deposited in previously-approved areas: either in the Offshore Dredged Material Disposal Site or an upland confined disposal site. The Final EIS includes the revised sediment placement plan.

494-JK-05-EV02

Comment: *According to the Draft EIS (pages 3-22 through 3-26) nearshore deposition of Savannah River Entrance Channel dredged material will include two areas (MLW 200 and MLW 500) adjacent to the front public beaches along Tybee Island. The placement of dredged material in both of these areas as described in the Draft EIS will create extremely unsafe conditions for people entering the water for almost 3 miles along Tybee Island.*

Response: As noted above, the sediment placement plan has been revised in the Final EIS. Based on input from the GA DNR-CRD and the City of Tybee Island, the Corps no longer seeks environmental clearances to place new work sediment in the previously proposed nearshore sites (Site MLW 200, Site MLW 500, ERDC Nearshore, Site 2 Site 2 Extension, Sites 3, 4, 5, 6, 11, and 12) as part of SHEP. Placement of all sediments excavated from the entrance channel would be deposited in previously-approved areas: either in the Offshore Dredged Material Disposal Site or an upland confined disposal site. The Final EIS includes the revised sediment placement plan.

494-JK-05-EN01

Comment: *Area ML W 200 extends westward from the North Beach jetty for 3,200 feet. This area is presently a popular surfing, skim boarding, wind surfing and fishing area, and it is served by one of the largest public parking areas for beach goers on Tybee Island. According to the Draft EIS (p. 3-25), "sediment would be deposited at the mean low water (ML W) line and be allowed to mound up to mean sea level (MSL) or mid-tide. When filled to capacity [2 J 7,000 CYJ, the placement would create a mid-tide berm about 200 feet wide and 3,200 feet long." Essentially, a sand bar (3 ,200 x 200 ft.) will be built out in front of the beach. This new Sand bat· will be built at the current low tide mark, and it will be high enough so that it will just be covered with water when the tide is half high. At higher tide, it will be just below the surface (maybe 3 ft). During the times between low and mid tide levels, it will be necessary to go from the current beach, out into the water (a new tidal channel), then up onto the new sand bar, then out to the waves. This new shoal will create a channel between our current beach and the new sand bar further out. This channel will be fed and drained by tide forces, and I can only imagine the magnitude of the longshore tidal rip currents that will be running through this channel. Depending on where you are*

and whether the tide is rising or falling, the currents will sweep people into the jetty or out toward the river entrance. Certainly over time, low places, breaches and channels will form across the sand bar, and these will create strong tidal-driven rip currents seaward. During the periods between mid-tide and high tide, the sand bar will not be exposed, but the longshore current dynamics will remain and will probably be even more dangerous because people will not see the offshore bar (as is the case currently at the south end of Tybee Island).

Response: The project's potential impacts to longshore currents were considered during design analysis of potential effects on Tybee Island and the originally-proposed nearshore placement plan. Modeling predicted that if the sediment were placed in the nearshore during the winter months [when there is nominal recreational use of the nearshore zone], it would become incorporated into the shoreline prior to the summer season. However, due to concerns expressed by the Georgia Department of Natural Resources and the City of Tybee Island, the Corps revised the placement plan for new work sediments excavated from the entrance channel. The project described in the final reports includes deposition of entrance channel sediments in previously-approved sites (Ocean Dredged Material Disposal Site or Jones/Oysterbed Island CDF). Nearshore placement of new work sediments has been removed from the SHEP.

494-JK-05-EN02

Comment: *Area ML W 500 extends from the North Beach jetty southward along the front of Tybee Island for 11,000 feet (2 miles), and it is to be 500 feet wide. According to the Draft E1S (P. 3-25), "The sediment would be deposited at the ML W line [low tide line] and be allowed to mound up to MSL or mid-tide. When filled to capacity, the placement would create a mid-tide berm about 500 feet wide and 11,000 feet long." So again, a sand bar will be built at the present low tide level, and this sand bar will be 500 feet wide (for 2 miles in front of Tybee's current beach). At low tide, a beach goer will walk across the current beach, down/out the wet intertidal sand to the current low tide line, then up onto a sand bar, walk another 500 ft across the sand bar, and then get to the waves/water. At mid tide, one will walk across the current beach, out into the water until it is about 3 ft deep, then climb up on the new sand bar, walk across it for 500 ft, and then to the waves. As the person walks/wades through the channel between the current beach and the offshore sand bar, he/she must fight the longshore tidal current in that channel. The same dangers and dynamics described above for ML W 200 (tidal currents and rip currents during all tidal stages except dead low tide) will exist for 2 miles of Tybee's beach front. I don't think Tybee will be winning any more prizes for a healthy beach with the longshore, parallel flows that we will be getting in this channel, and the number of folks that will be getting pulled out of it. Certainly nature will create multiple breaks in the sand bar along its width as the tidal water tries to flow out as the tide falls. These will make for some subtle, unseen rip currents outward. What is going to look like a giant 2-mile long tide pool along the front of Tybee will be a dangerous place for swimmers. I have no idea how life guards will be able to work effectively being well over 600 feet from the shore and also deal with the swimmers in the tidal channel.*

Response: See previous responses.

494-JK-05-EN03

Comment: I *feel that these are very critical issues for Tybee Island. It is a recreational beach that serves thousands of people daily throughout most of the year. As you know, our coast is much more affected by tidal dynamics than wave dynamics, and to create a tidal-fed and drained channel along the front of this recreation beach just seems very irresponsible.*

Response: See previous responses.

US Army Corps of Engineers
Savannah District

Comment on the Savannah Harbor Expansion Project

The Savannah District, U.S. Army Corps of Engineers welcomes your comments on the Savannah Harbor Expansion Project. Once completed, place the card in the "comments" box or add postage and mail it back to us. Comments can also be provided online at **CESAS-PD@usace.army.mil**.

From: (optional) Kay Scardino

Comments:

I'm worried about the expansion + its effect on the marshes. In the '20's Frank Exley told me he could catch shrimp on an incoming tide at the Sugar Refinery dock.

Kay Scardin

502-MR-01-EV01

Comment: *I'm worried about the expansion & its effect on the marshes. In the 20's Frank Exley told me he could catch shrimp on an incoming tide at the Sugar Refinery dock.*

Response: The proposed harbor deepening could result in converting up to 740 acres of saltmarsh to its brackish marsh counterpart. However, given the wide range of salinity reported in the scientific literature for brackish marsh systems, the inherent variability in salinity that exists for all estuarine systems, and the numerous scenarios that were considered, it was concluded that 740 acres is a worst case value. Actual vegetative changes may not be noticeable in the Savannah Harbor estuary. That said, the District chose to be conservative in its assessment of project-related effects and elected to include the saltmarsh to brackish marsh conversion in its calculation of project impacts. Bottom line, there would be negligible impacts to existing estuarine habitat that supports larvae, juvenile, or mature shrimp. Further, minor changes to the salinity regime in the vicinity of the Sugar Refinery are not expected to affect the shrimp fishery at that location (see detailed response to a similar EPA comment).

US Army Corps of Engineers
Savannah District

Comment on the Savannah Harbor Expansion Project

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From: (optional) Concerned citizen - SR Collins 912-978-1120

Comments:

we would like to see Fresh water marsh created instead of purchasing property for Fish & Wildlife that by property type is naturally protected. create by Removing upland soil in Freshwater Areas and restoring to Freshwater marsh. We know where areas are available.

SR Collins

503-MR-01-EV01

Comment: *We would like to see fresh water marsh created instead of purchasing property for Fish & Wildlife that by property type is naturally protected. Create by removing upland soil in Freshwater areas and restoring to Freshwater marsh. We know where areas are available.*

Response: The District evaluated this option when considering mitigation alternatives. A watershed assessment was conducted in the Lower Savannah River Harbor to evaluate specific mitigation measures which could compensate for the potential conversion of freshwater wetlands [223 acres] to its brackish marsh counterpart. This functional assessment concluded the only element of wetland function that would be affected by this conversion was its fish and wildlife habitat component. To rectify these losses, the District reviewed approved mitigation banks in the Lower Savannah River Watershed, but determined there were none with the appropriate tidal, freshwater wetland characteristics. The District and Interagency Review Team determined that the "In-Lieu Fee" program is also functionally unable to provide the requisite compensation. The District considered the creation of tidal freshwater wetlands. The USFWS indicated that it did not believe the Corps could successfully grade down uplands in Savannah to create a viable freshwater marsh. Ultimately the study group concluded that creating freshwater marsh is not a long-term solution, given the unacceptable potential for failure over the extended economic life [50 years] of the project.

The District consulted the Wetland Interagency Coordination Team (ICT), which consists of technical expert representatives from USACE and federal/state natural resource agencies, to identify acceptable mitigation for SHEP. At that time, the USFWS stated that mitigation actions must be performed within the basin for any impacts to wetlands located within the SNWR. The Service suggested preservation of lands as a possible solution and recommended sites that are part of its long-term lands acquisition strategy to compliment the SNWR. The District then consulted with the Stakeholder Evaluation Group, including its non-governmental organizations members, to see if they could identify suitable mitigation options. Over the 10-year study period, no agency/organization could identify another feasible alternative as mitigation for impacts that would occur as a result of the wetland species shifts. Therefore, the District proceeded with the identification of preservation sites.

US Army Corps of Engineers
Savannah District

Comment on the Savannah Harbor Expansion Project

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From: (optional) Dorothy Bambach Friends of the Savannah
Ogeechee Audubon Society (Savannah, GA) & Coastal Wildlife Refuges

Comments: We have grave concerns about the wisdom of pursuing this project:

(1) The model used to project increased salinity in the river is just that: a model. An error could have substantial additional detrimental impact on the small amount of remaining tidal fresh water marsh in the Nat'l Wildlife Refuge.

(2) The $50 million identified as needed for "adaptive management" is an amount that was set arbitrarily at 10% of total initial migration project costs. This is the wrong approach, since there could be a total failure of one or more mitigation projects. The adaptive mgmt budget should be set at a much higher amount to cover the cost of having to completely re-do at least 2 projects.

(3) As a result of (2) above, the economic analysis of the project's benefits is inflated and overstated. It should be adjusted downward by a realistic estimate of the cost of replacing or re-engineering migration projects.

(4) What seems to be lacking in this entire analysis is a regional or even national policy overview -- why do we have so many east coast cities competing for the same business? We should pick one or two ports that can accomodate larger ships with minimal damage to the environment and use revenue-sharing to "spread the wealth"

Dorothy Bambach

504-MR-04-EN01

Comment: *The model used to project increased salinity in the river is just that: a model. An error could have substantial additional detrimental impact on the small amount of remaining tidal fresh water marsh in the Nat'l Wildlife Refuge.*

Response: The approved, calibrated, and validated hydrodynamic and water quality models are competent to identify project impacts and develop mitigation plans. These models simulate the complex estuarine dynamics, viz., hourly, daily, and monthly tidal variations, salinity and dissolved oxygen dynamics together with their spatial distribution within the system. The models are applicable over a wide range of conditions including low and high freshwater flow. They have been calibrated and validated using field data and were designed to meet the expectations of the Water Quality Interagency Coordination Team, which followed the Modeling Technical Review Group that was established in the late 1990s. The review group's brief was to oversee the development of a technically valid model for determining SHEP's environmental impacts and attendant mitigation features. The group included representatives from the District, US EPA Region 4, USGS, Georgia DNR-EPD, South Carolina DHEC, and private sector technical modeling experts [tasked with actual model development]. An independent technical review and uncertainty analysis have been conducted on the models and the resulting comments/concerns were incorporated into the final version. Details regarding the hydrodynamic and water quality model development process, extensive reviews, and uncertainty analysis can be found in the report, "Development of the Hydrodynamic and Water Quality Models for the Savannah Harbor Expansion Project" dated January 2006 [included in the Supplemental Materials to the Engineering Appendix]. Acceptance letters from agencies involved in the modeling technical review group can be found in the document, "Correspondence Regarding Hydrodynamic & Water Quality Model Acceptability" [included the Supplemental Materials to the Engineering Appendix].

504-MR-04-EV01

Comment: *The $50 million identified as needed for "adaptive management" is an amount that was set arbitrarily as 10% of total initial migration project costs. This is the wrong approach, since here could be a total failure of one or more mitigation projects. The adaptive mgmt budget should be set at a much higher amount to cover the cost of having to completely re-do at least 2 projects.*

Response: As stated in Appendix D (Monitoring and Adaptive Management Plan), the costs presented for the adaptive management measures are [indeed] estimates. Whether any of these measures will need to be implemented will only become known after post-construction results are inspected and project performance is evaluated [to include effectiveness of mitigation features]. The mitigation and adaptive management costs for the SHEP (on a relative basis) well exceed usual percentages for a Corps of Engineers' water resource development project. The amounts identified for adaptive management are to be viewed as a group. Although costs were developed for modifications to specific mitigation features, the funds would be used for any action that is needed for the mitigation features to function as intended. Additional funds could be requested for costs that exceed the present budgeted amount, following established procedures for unexpected cost increases. The Corps considers the project in the "construction" phase until the end of the monitoring and adaptive management period.

504-MR-04-EC01

Comment: *As a result of 2 above, the economic analysis of the project's benefits is inflated and overstated. It should be adjusted downward b a realistic estimate of the cost f replacing or re-engineering mitigation projects.*

Response: The mitigation and adaptive management costs for the SHEP (on a relative basis) well exceed usual percentages for a Corps of Engineers' water resource development project. The amounts identified for adaptive management are to be viewed as a group. Although costs were developed for modifications to specific mitigation features, the funds would be used for any action that is needed for the mitigation features to function as intended. Additional funds could be requested for costs that exceed the present budgeted amount, following established procedures for unexpected cost increases.

504-MR-04-EV02

Comment: *What seems to be lacking in this entire analysis is a regional or even national policy overview – why do we have so many east coast cities competing for the same business? We should pick one or two ports that can accommodate larger ships with minimal damage to the environment and use revenue-sharing to "spread the wealth".*

Response: There is no regional or national policy governing port development. However, a regional port analysis was conducted and its conclusions are found in GRR-Appendix D. Under present conditions, a regional port would not be technically or institutionally feasible. There is no existing or planned East Coast port that could process the total volume of TEUs handled by multiple regional ports. Further, there is no governing authority which would support development of this notional regional port. GEC, Inc. conducted a regional port analysis for the District and concluded that a true regional port would require more land than is currently available at any of the existing Southeast US ports. In addition, institutional issues such as the lack of a non-federal sponsor [required by the Water Resources Development Act of 1986] and the unknowns associated with State coastal zone management plans raise serious questions about viability. Even assuming the theoretical potential at the reconnaissance level of study, a full feasibility level analysis would be necessary to ascertain actual practicability. Experience has shown that a very large/complex project with so many interrelated and often competing issues would require many years and millions of dollars to complete. Deferring critical port improvements to address the concept of a regional facility would seriously constrain the US position in international trade [in the meantime].

US Army Corps of Engineers
Savannah District

Comment on the Savannah Harbor Expansion Project

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From: (optional)

Comments: I disagree with deepening beyond 45'-46' because the impact models used have too many unknown variables that will impact the outcome and proposed contingency plans/mitigation plans have not been proven. Loss of fresh water wetlands can not be reversed. If the upper aquafer is contaminated possible proposed mitigation of fresh river water injection will compound problems with the introduction of surface water contaminants such as herbicides, pestisides, viruses, haterria, synthetic chemicals, etc. This will adversely affect the overall health of the population that uses this resource; as well as agricultural entities with contaminated irrigation sources. In the end if adverse impacts occur it will be the citizens and natural wildlife and natural resource that will pay the price and overall lowered quality of life.

Public Comment-

505-MR-01-EV01

Comment: *I disagree with deepening beyond 45'-46' because the impact models used have too many unknown variables that will impact the outcome and proposed contingency plans/mitigation plans have not been proven. Loss of freshwater wetlands cannot be reversed. If the upper aquifer if contaminated possible proposed mitigation of fresh river water injection will compound problems with the introduction of surface water contaminants such as herbicides, pesticides, viruses, bacteria, synthetic chemical, etc. This will adversely affect the overall health of the population that uses this resource; as well as agricultural entities with contaminated irrigation sources. In the end if adverse impacts occur it will be the citizens and natural wildlife and natural resource that will pay the price and overall lowered quality of life.*

Response: The proposed SHEP includes adequate mitigation measures for the five channel depth alternatives evaluated (44-48 feet). Basically, the mitigation involves flow diversion to increase the amount of freshwater entering Little Back River and Middle River, measures to decrease the amount of saltwater entering these streams, and oxygen injection at three points to remove the project's incremental effects on the dissolved oxygen regime in Savannah Harbor.

The project provides further mitigation for those impacts that would occur even with the above mitigation measures in place. Namely, marsh restoration to compensate for loss of same because of excavation requirements [bend wideners/meeting areas] of the project, payment to the Georgia DNR-EPD to stock fingerling Striped bass, and construction of a fishway at New Savannah Bluff Lock and Dam to permit passage of Shortnose sturgeon (and other species of anadromous fish) to traditional spawning areas.

It should be noted that the predicted increases in upstream salinity levels as a result of construction of the project will not result in the actual loss of any marsh. Rather, there would be a conversion of some tidal freshwater marsh to its brackish marsh counterpart. Many of the emergent plant species associated with freshwater marsh systems would still be readily observed in a brackish marsh system. Also, the basic wetland functions (water purification, flood protection, shoreline stabilization, etc.) typically associated with these systems would not be altered. There would just be a change in the fish and wildlife function when tidal freshwater marsh is converted to brackish marsh. Consequently, the mitigation plan for the project also provides for the acquisition and preservation of land that is ecologically valuable to the Savannah National Wildlife Refuge. This would ensure that these lands [which are valuable wildlife habitat] would remain protected in perpetuity thereby providing compensation for the change in fish and wildlife function occasioned by the noted conversion.

Notably, studies conducted during the SHEP indicate that construction of the project would not have any appreciable effects on the movement of saltwater through the protective layer (Miocene) into the upper Floridan aquifer. Consequently, the project does not include any mitigation measures to reduce saltwater intrusion into the aquifer. However, the project *does* include extensive monitoring to ensure there is no unanticipated movement of saltwater into the aquifer as a result of construction of the project.

US Army Corps
of Engineers
Savannah District

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From: (optional)

Comments: How does your FIS address invasive species?

Public Comment

506-MR-01-EV01
Comment: *How does your EIS address invasive species?*

Response: Please see paragraphs 4.06 and 5.20.7 of the EIS which address invasive species.

US Army Corps of Engineers
Savannah District

Comment on the Savannah Harbor Expansion Project

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From: (optional) John S. Niedzwiecki 4309 Augusta Rd 79B GC GA 31408

Comments:

I am a Retired truck Driver, 40 years, My Main concern is the increased truck Traffic, and if the Roads Are going to be Able to handle it. Also the trains are going to be longer and block, West Bay Street and GA 17 & GA 21 longer than they do Now

John Si Niedezwiecki

508-DC-02-EV01

Comment: *I am a retired truck driver, 40 years, my main concern is the increased truck traffic, and if the roads are going to be able to handle it. Also the trains are going to be longer and block West Bay Street and GA 17 and GA 21 longer than they do now.*

Response: The Georgia Ports Authority (GPA) is working closely with the Georgia Department of Transportation to construct the following:

1. Jimmy Deloach Parkway Connector to I-95,
2. Grange Road Upgrade to GA 21,
3. Mason ICTF/Highway 307 Overpass, and
4. Brampton Road Connector to I-516.

These more direct connectors to the terminal would be able to accommodate increases in truck traffic over time with a major increase in traffic on adjacent residential streets.

GPA will be working closely with the operators of the trains and make sure that they don't block West Bay Street, GA 17 and GA 21 for long periods of time.

December 15, 2010

Cecilia F. Morett
5 Leaning Oaks Court
Savannah, GA 31410

Comments on the deepening of the Savannah River:

I am in favor of the deepening as I think it's vital to keep up with competitors. If the port can't accommodate larger ships, it will lose business. That loss of business will have a domino affect in our area and beyond.

As much as I am in favor of the deepening, I have concerns about the impact it will have in other areas.

1. How will the deepening of the channel affect shrimpers and crabbers who make their living in the waters adjacent to the channel? From buoy 22 out to buoy 6 on both sides outside the channel are active shrimping areas. Inside the jetties, but outside of the channel, the waters are used by shrimpers and crabbers.

If the channel is deepened along the areas mentioned above, how will that affect the depth of the waters just outside the channel where the commercial shrimpers and crabbers work now?

How will deepening the channel affect the marine life in general, and specifically the shrimp and crabs that are harvested in waters adjacent to the channel?

2. How will deepening the channel affect the northern area of Tybee Island? What influence will the depth of the channel have on the ship's wake as they move in and out of the area?

At present, the ships' wake pulls water and sand from Tybee along the north side of the island. You can see the water being sucked out and then rushing back in, throwing water 50 linear feet or more back on the beach. When it rushes back out, more sand goes along with it. During beach season, fishing gear, coolers, chairs, radios, umbrellas, cell phones and PEOPLE are caught in the mini-tsunami and pulled out to sea. I have personally pulled a 6 year old child out of the wash before he was swept away. Someone else rescued his grandmother. (I can give you her contact information.) They were walking the shore line in water that did not even cover the tops of their feet just before the wake hit them. The people who have had items swept away have been well away from the water's edge before the wake hit.

On October 31, 2009, a small fishing boat in the same area was overturned as the wake of two ships passing. I saw the entire incident and called the Coast Guard. They pulled a man, woman and their two sons from the water. Their boat was never found. (The Coast Guard will have information on this rescue case.)

How will the increased depth of the channel in that area (from inside the jetties out to buoy 15) affect the surrounding beach? Will the increased depth cause the ship's wake to be magnified as it gets in shallower water? How much sand along the northern shore will be lost due to the deepening?

Again, I am in favor of deepening the channel, but it's important to be aware of the impact it will have in other areas. If there is a way to offset any negative impact, those means should be included in the project from the beginning and not treated as an unexpected afterthought.

Thank you,

Cecilia F. Morett

Cecilia F. Morett 912-897-4281 email: sassyshrimper@aol.com

Cecilia F. Morett

509-MR-04-EN01

Comment: *How will the deepening of the channel affect shrimpers and crabbers who make their living in the waters adjacent to the channel? From buoy 22 out to buoy 6 on both sides outside the channel are active shrimping areas. Inside the jetties, but outside of the channel, the waters are used by shrimpers and crabbers.*

Response: There would only be a minimal impact to the shrimp/crab interests. Deepening of the entrance channel would increase its width on each side by 25 feet and is expected to have no effect on depths outside the channel.

509-MR-04-EV01

Comment: *How will deepening the channel affect the marine life in general, and specifically the shrimp and crabs that are harvested in waters adjacent to the channel?*

Response: Section 4.12 Recreational and Commercial Fishing, states the following: *Commercial shrimp trawling is common in the immediate vicinity of the dredged entrance channel, since this is a natural corridor for emigrating shrimp. The Georgia DNR Coastal Resources Division (Personal Communication, 26 February 2007, Mr. Spud Woodard, Assistant Director for Marine Fisheries) indicates that Georgia's territorial waters south of the channel are open to food shrimp trawling during the established season, which is typically mid-June through December. Trawling occurs off the beach at Tybee Island, but is limited because of water depth.* That Section 4.12 also states that: *Commercial and sport fishing within Savannah Harbor is low due to heavy vessel traffic levels and high shoaling rates which limit benthic communities and required recurring maintenance dredging.*

The Draft EIS proposed placing dredged sediment in the nearshore area of Tybee Island and along the entrance channel as depicted in Figure 3.2. However, the Coastal Resources Division of GA DNR and the City of Tybee Island requested that the project not place any new work dredged sediment within the nearshore area due to uncertainties with that proposed action. As a result, the Final EIS describes a revised plan where sediments from the entrance channel would be placed either in the existing upland diked disposal areas and/or the EPA-approved ODMDS. As stated in Section 4.12 in the DEIS: *Commercial and sport fishing within Savannah Harbor is low due to heavy vessel traffic levels and high shoaling rates which limit benthic communities and required recurring maintenance dredging.*

The proposed entrance channel dredging would occur within the confines of the existing navigation channel and the oceanward extension of that channel. All new work sediments removed from the entrance channel would be placed either within the upland CDFs or the ODMDS. Therefore there will not be significant adverse impacts to commercial and non-commercial pelagic and benthic invertebrates.

509-MR-04-EN02

Comment: *How will deepening the channel affect the northern area of Tybee Island? What influence will the depth of the channel have on the ship's wake as they move in and out of the area?*

Response: Model predictions indicate that increasing the depth of the shipping channel [worse case] would not have a measurable effect on Tybee's north shore [located about 3000' distant]. The only significant effect of ships transiting the channel would be the long period drawdown. Based on an examination of the fleet mix, frequency of passage, and speed, the drawdown would slightly decrease in most cases with the deepened channel. While some ships would create an increased drawdown value compared to the without project condition, the magnitude at the shoreline would only be about 0.1 foot. Bottom line: analysis of ship wakes along the north shore of Tybee does not indicate there would be any significant adverse impacts.

509-MR-04-EN03

Comment: *How will the increased depth of the channel in that area (from inside the jetties out to buoy 15) affect the surrounding beach? Will the increased depth cause the ship's wake to be magnified as it gets in shallower water? How much sand along the northern shore will be lost due to the deepening?*

Response: As noted, computations indicate the increased depth of the shipping channel would not have a measureable effect on Tybee's north shore. There is no obvious relationship between the increased depth of the ship channel and whether a wave’s energy would increase or decrease during its travel to the shore.

Based on examining the fleet mix, frequency of passage and speed, the drawdown would be slightly decreased [in most instances] with the deepened channel. While some ships would produce a greater drawdown compared to the without project condition, its magnitude at the shoreline would only be about 0.1 foot. Bottom line: analysis of ship wakes along the north shore of Tybee does not show there would be any significant adverse impacts.

1) To much value to economics
2) Inadiquate explanation to aquifer damage
3) Salt water intrusion into SWR
4) Increased Tonnage to GPA
5) His shipping theory

US Army Corps of Engineers. Savannah District

Comment on the Savannah Harbor Expansion Project

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From: (optional) Robert L. Jones; 631 Rose Dhu Road Sav'h GA 31419-332[illegible]

Comments: I am opposed to deepening the Savannah River as now proposed. In general, it is a case of the tail wagging the head. My reasons are ① economics is being put before all else [illegible] [illegible] lip service to other and very critical matters, ② inadequate explanation has been given regarding possible damage to the aquifer, ③ at risk is that of damage to the environment, namely increasing salt water intrusion into the Savannah Wildlife Refuge, and other regions, ④ opposed I am to [illegible] increase in tonnage of Georgia Ports Authority [illegible] [illegible] ingress/egress of trucking [illegible] [illegible], and ⑤ shipping in general should be made to fit the physical geographies of a given region vs viceversa

Robert Jones 12/15/10

PUBLIC COMMENTS

#595 MR. FERGUSON: Richard Ferguson out of the Port of Savannah, Georgia, Longshoreman Officer. I'm sergeant-at-arms, just reelected as an officer, and I work on the docks. We need that river to be deepened. We have a lot of people that do whole lot for the City of Savannah and also the City of Atlanta.

We send -- we export, import, move a lot of cargo. We're going on being the number one port in Savannah and we're depending on a lot of people getting jobs at the harbor, more jobs we can supply.

I want to appreciate that. I hope y'all deepen the river for what we really need. Thank you.

*****

#510a MR. JONES: In fact, I would like to have myself quoted. Robert L. Jones, and I live at 631 Rose Dhu Road, D-H-U, Savannah, Georgia, 31419-3323. My comment is first, in general, it is a matter of the tail wagging the head. I am opposed to deepening the Savannah River as presently proposed for the following reasons; one, inadequate explanation has yet

to be given -- excuse me -- adequate explanation has yet been given assuring us, as local residents and citizen, that the deepening will not damage the aquifer.

Point number two, opposed to deepening I am out of concerns toward damaging the environment, specifically that of increased saltwater intrusion in the upper areas of Savannah River, namely that of the Savannah Wildlife Refuge.

Point number three, I am concerned that the deepening of the river certainly is going to increase the influx of tonnage movement at the port, which in turn will have a direct bearing on the roadway infrastructure, both in terms of the roadway withstanding it, as well as street increase in truck traffic.

Point number four, it is my view that economics is being placed in the forefront ahead of all else, with all else simply being given lip service.

At the point that these big ships, of themselves an experiment, be found that they and their operation are not economically

feasible, then the damages that arose, aquifer namely and environment another, will long since have been lost and difficult to gain, making generally the local area in a very difficult circumstance. Those are my comments.

*****

#596 MR. MASHBURN: Michael Mashburn, M-A-S-H-B-U-R-N. I work with Colonial Terminals and one thing -- my comment would be not only would this harbor deepening positively affect the container traffic in the port, but it's also going to greatly, positively affect the liquid tanker traffic in the port.

By that I mean that our customers, our terminal customers are going to have a efficiencies, because they're going to be able to get bigger cargoes in.

The movement of their tankers are going to be less restricted, because a lot of the draft restrictions will be gone, which could result in less inventories, run-outs in the terminal, which would otherwise prevent other

Robert L. Jones

510-MR-04-EN01

Comment: *My comment is first, in general, it is a matter of the tail wagging the head. I am opposed to deepening the Savannah River as presently proposed for the following reasons; one, inadequate explanation has yet to be given -- excuse me – adequate explanation has yet been given assuring us, as local residents and citizen, that the deepening will not damage the aquifer.*

Response: The Corps conducted extensive analyses to determine potential SHEP-related impacts to the Upper Floridan aquifer [documented in GRR- Section 8.2.1, GRR-Appendix C Attachment 3, Potential Ground-Water Impacts to the Upper Floridan Aquifer, and EIS-Section 5.5. These analyses concluded harbor deepening will have a minimal incremental effect on the present downward rate of saltwater intrusion into the aquifer. The results also determined that deepening will produce an insignificant change in penetration of chlorides through the confining layer when compared to the status quo [no-action alternative]. In simulations, chloride concentrations decrease significantly upon accessing the Upper Floridan aquifer due to mixing [dilution] with its considerable horizontal freshwater flows. Hence, the proposed dredging would have negligible impacts on water quality in production wells that tap the Upper Floridan aquifer in the environs of Savannah.

510-MR-04-EV01

Comment: *Point number two, opposed to deepening I am out of concerns toward damaging the environment, specifically that of increased saltwater intrusion in the upper areas of Savannah River, namely that of the Savannah Wildlife Refuge.*

Response: The Corps completed all wetland studies/analyses identified by the Wetland Interagency Coordination Team to evaluate the wetland impacts of the various project alternatives. Through years of coordinated efforts with stakeholders, regulators, cooperating/partnering agencies, a mitigation plan was developed that adequately compensates for impacts to wetlands while maximizing project benefits. The USFWS prepared the Fish and Wildlife Coordination Act Report (Appendix E of the EIS). They conclude that the mitigation is adequate. In addition, the selected alternative includes a post-construction monitoring plan to evaluate actual impacts to wetlands, and an adaptive management plan that will permit adjustments to the mitigation features, if required.

510-MR-04-EV02

Comment: *Point number three, I am concerned that the deepening of the river certainly is going to increase the influx of tonnage movement at the port, which in turn will have a direct bearing on the roadway infrastructure, both in terms of the roadway withstanding it, as well as street increase in truck traffic.*

Response: Under both the without and with project conditions, Garden City Terminal will reach its build-out capacity in about 2030 when the total number of TEUs reaches 6.5 million. This is the maximum number of containers that could reasonably be processed through the GCT [annually] based on its size, the number of gates that provide access to the property, the number and size of the berths, the number and size of the container cranes, the number of jockey trucks that move the containers within the terminal, how the containers are stacked within the terminal, and the number of railroads that service the terminal and the frequency of their trains. It is predicted that without deepening, more vessels will be required to transport cargo that moves through the port; however, with deepening, the

total number of vessels decreases as they will be able to load/unload without the current constraints of draft.

No incremental increases in cargo are expected to occur as a result of the proposed harbor deepening. As a result, the project would not affect the number of containers that move through the areas that surround the port. The project's economic benefits result from the use of larger, more cost-effective container ships, not an increase in the number of containers. Noise, air emissions (including air toxics), and traffic would not be increased as a result of the proposed deepening.

Therefore, the proposed harbor deepening will have no adverse landside impacts outside the Garden City Terminal.

510-MR-04-EV03

Comment: *Point number four, it is my View that economics is being placed in the forefront ahead of all else, with all else simply being given lip service.*

Response: The SHEP strategy sought to maximize economic benefits while avoiding and minimizing environmental impacts. The study was conducted pursuant to the project authority and included the following objectives: (1) evaluate the need for increased navigation efficiency and safety. The size of a vessel and its cargo determine its draft (i.e., depth of water required for ship to float). With the current depth of the harbor, many vessels [70%] are operationally constrained, i.e., not able to load to their maximum capacity and travel at any tide. "Light loading" of vessels or use of smaller vessels increase costs to the shipper, which are eventually passed onto the consumer, (2) avoid, minimize, or compensate for adverse environmental impacts associated with the proposed action. See Section 5.0 in the DEIS and the Mitigation Plan in Appendix C for a discussion of environmental commitments incorporated into the proposed plan, and (3) provide adequate dredged material disposal capacity for the construction of the project and for the 50-year period of analysis.

US Army Corps of Engineers
Savannah District

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From: (optional) _____

Comments: what happens when BIGGER ships are built? When will deepening stop and at what cost to the environment?

How can you guarantee the Aquifer will not be damaged in this deepening?

Public Comment-

511-MR-03-EV01
Comment: *What happens when BIGGER Ships are built?*

Response: The largest capacity vessels calling on the US East Coast [including Garden City Terminal] are expected to be about 8,000 TEUs. Vessels much larger than 8,000 TEUs are more apt to be deployed on Asia to Europe and/or Transpacific trade routes. The Economics Appendix explains why these larger vessels are unlikely to call at Savannah, irrespective of SHEP. For example, vessels in excess of 9,500 TEUs would have difficulties negotiating Savannah Harbor due to length and width limitations and air draft restrictions created by the Talmadge Bridge. Such *super* ships currently make up about 3 percent of the world fleet, but are expected to increase to approximately 11 percent by 2030.

Table 42 [Economics Appendix] displays the forecasted vessel calls by size class for the "without project condition" and for each of the deepening alternatives. The transportation costs of keeping the channel at its present depth is compared to same for each of the depth options to derive its project savings (benefits).

511-MR-03-EV02
Comment: *When will deepening stop and at what cost to the environment?*

Response: The study authority for SHEP was very specific regarding depths and did not authorize consideration beyond -48 feet. Transportation improvements would likely stop when the costs exceed the expected benefits.

511-MR-03-EN01
Comment: *How can you guarantee the Aquifer will not be damaged in this deepening?*

Response: The thickness of the protective Miocene confining layer above the Floridan aquifer has been studied via extensive drilling and seismic surveys. The area between river Stations 30+000 (Fields Cut) and -25+000B has been studied in particular detail since the aquifer is very close to the surface and its confining layer is relatively thin. It is well documented that groundwater withdrawals in/around Savannah is a major cause of saltwater intrusion into the aquifer. However, SHEP studies indicate that the proposed channel deepening [worse case] would only be a minor contributor to further downward flow through the confining layer. Notably, the difference between the maximum proposed deepening (-48 foot MLW) and the no-action scenario was minor [and only occurs along the channel alignment]. Nevertheless, dredging [for the proposed deepening] would be closely monitored to lessen the potential for unnecessary over digging. The Corps would also monitor groundwater along the channel after the project to identify any unexpected impacts.

A detailed explanation of study findings can be found in the General Re-Evaluation Report for SHEP, Appendix C: Engineering, Supplemental Studies, Potential Ground-Water Impacts to the Upper Floridan Aquifer, June 2007.

US Army Corps of Engineers
Savannah District

Comment on the Savannah Harbor Expansion Project

The Savannah District, U.S. Army Corps of Engineers welcomes your comments on the Savannah Harbor Expansion Project. Once completed, place the card in the "comments" box or add postage and mail it back to us. Comments can also be provided online at **CESAS-PD@usace.army.mil**.

From: (optional) Robert J. GALLETTA

Comments: I have A new way to DISSOLVE OXYGEN into Water

GALLETTA-AERATOR.COM

Robert Galleha

513-MR-01-EN01
Comment: "*I have a new way to dissolve oxygen into water. Galeha-aerator.com"*

Response: The EIS [Section 5.02] states: "The Corps' studies indicate that oxygen injection is the most cost-effective method for raising D.O. levels in the harbor. Due to the site-specific requirements, a land-based injection system would be the most effective solution." The District reviewed the commenter's posts on YouTube. Alternate methods of adding oxygen to the river that are capable of meeting the project's mitigation objectives could be considered during the design phase.

THE LAMAR INSTITUTE, INC.

#557

December 21, 2010

Mr. William Bailey
U.S. Army Corps of Engineers
Savannah District
P.O. Box 889
Savannah, Georgia 31402-0889

Dear Mr. Bailey:

I am writing in regards to the proposed Savannah River Navigation Project and the Draft EIS that was released by your office in November, 2010. I have reviewed the present draft documents regarding cultural resources and it seems to be a reasonable approach to the problem, if the proposed survey and mitigation efforts are followed.

Our organization has a long-standing interest in the cultural resources of the Savannah River watershed and their responsible identification, protection, investigation, public interpretation and proper mitigation (should destruction of these resources be absolutely necessary). I am requesting that "The LAMAR Institute, Inc." be included as an "Interested Party" in the final EIS documentation process, and as the various surveys and mitigation efforts move forward. We would also appreciate copies of any background documentation (archaeological reports, historical reports) pertaining to the project if extra copies are available. Electronic copies would be fine. I look forward to hearing from you.

Contact information:

Daniel T. Elliott,
President, The LAMAR Institute, Inc.
P.O. Box 2992, Savannah, GA 31402
dantelliott@gmail.com
(706) 341-7796; (912) 826-5214

Sincerely,

Daniel T. Elliott
President
The LAMAR Institute, Inc.

P.O. BOX 2992 • SAVANNAH/GA • 31402
SHIP TO: 101 SAVANNAH AVE., RINCON, GA 31326
PHONE: 912 826-5214, CELL 706 341-7796 • FAX: 912 826-5214 • EMAIL
DANTELLIOTT@WINDSTREAM.NET

The Lamar Institute

557-DC-01-EV01

Comment: *Our organization has a long-standing interest in the cultural resources of the Savannah River watershed and their responsible identification, protection, investigation, public interpretation and proper mitigation (should destruction of these resources be absolutely necessary). I am requesting that "The LAMAR Institute, Inc." be included as an "Interested Party" in the final EIS documentation process, and as the various surveys and mitigation efforts move forward. We would also appreciate copies of any background documentation (archaeological reports, historical reports) pertaining to the project if extra copies are available. Electronic copies would be fine. I look forward to hearing from you.*

Response: The Lamar Institute has taken a leadership role in creating public education and involvement activities for Georgia archaeology. Their assistance in identifying and evaluating these types of activities for the CSS Georgia mitigation and other archaeological investigations associated with the Savannah Harbor Expansion Project would be an asset to the project. The District will include the LAMAR Institute as an interested party in the EIS process and any extra copies of cultural reports (or electronic copies) will be forwarded to them.

US Army Corps of Engineers
Savannah District

#565

Comment on the Savannah Harbor Expansion Project

The Savannah District, U.S. Army Corps of Engineers welcomes your comments on the Savannah Harbor Expansion Project. Once completed, place the card in the "comments" box or add postage and mail it back to us. Comments can also be provided online at **CESAS-PD@usace.army.mil**.

From: (optional) GEORGE H. CELSCHIG – George H. Celschig

Comments:

a favor expansion of the Harbor! – However, do not want salt water intrusion into our fresh water!!!

George H. Oelschig

565-MR-01-EV01

Comment: *I favor expansion of the Harbor! –However, I do not want salt water intrusion into our fresh water!!!*

Response: The Corps performed extensive analyses to determine potential SHEP-related impacts to the Upper Floridan aquifer [documented in GRR- Section 8.2.1, GRR-Appendix C Attachment 3, Item 1.1.36, and EIS-Section 5.05. These analyses concluded harbor deepening will have a minimal incremental effect on the present downward rate of saltwater intrusion into the aquifer. It was also determined that deepening will produce an insignificant change in penetration of chlorides through the confining layer when compared to the status quo [no-action alternative]. In simulations, chloride concentrations decrease significantly upon accessing the Upper Floridan aquifer due to mixing [dilution] with its considerable horizontal freshwater flows. Hence, the proposed dredging would have negligible impacts on water quality in production wells that tap the Upper Floridan aquifer in the environs of Savannah.

From: Frank Peeples Jr
To: CESAS-PD, SAS
Subject: SHEP - Savannah Bulk Terminal LLC 1-6-11
Date: Thursday, January 06, 2011 9:10:44 AM

I am the owner and managing member of Savannah Bulk Terminal, LLC located at harbor marker 68, known also as "Woodchip Terminal" in the SHEP documents. I DO NOT SUPPORT the proposed Harbor Expansion Project at the requested permit depth 48 ft. My primary objection is that according to the Bank Stability Report dated July 28, 2010 the proposed widener at our location will result in the "taking" of land. (Page 5, Memorandum for the Record, submitted by Joseph Hudak, Jr. Pe.) In the event a permit to construct is issued by the USCOE, despite my objection, I demand that mitigation measures be taken to protect my land from known accelerated wave actions, bank sloughing, and/or decreased lateral bank stability resultant of the proposed project deepening and subsequent cumulative effects from advanced maintenance dredging and dredge over swing. I am simply requesting the same slope protection measures afforded to other project stakeholders and other cultural resources already protected or planned to be protected under this SHEP (e.g. Additional armoring of spoil disposal dykes on the North Bank of the river, Fort Jackson).

In addition I oppose this project as it does not adequately address a funding source or mitigation plan for the additional costs of future maintenance dredging that WILL be passed on to facilities with agitation dredging permits (GPA included), many that will never require or benefit from a 48 ft channel depth. Current COE practice is to take the average cost of upland silt disposal in Savannah and pass this cost directly on to private terminals per cubic yard operating under maintenance dredging permits. The end effect will be to unfairly and disproportionally increase Savannah marine terminal operating costs related to berth maintenance.

Further, in my opinion, the SHEP does not adequately address a method to pay for the long term maintenance of the proposed project particularly when the USCOE in its own admittance does not have the funds currently to adequately maintain the current 42′ channel. The State of Georgia and the GPA will invest $100MM's of dollars of tax payer's money on new inland infrastructure to mirror the SHEP's "you build it, they'll come strategy" when all of this investment could be rendered useless if the channel re-silts with the lack of maintenance dollars.

In my opinion I believe a 45′ channel more accurately reflects the current economic situation, regional and national port competitive situation, global ship market and would provide additional capacity to insure continued growth for the GPA. In addition this limited expansion will save well over $200MM per your data which could be redirected to inland infrastructure projects to support the last mile logistics which will have an immediate impact on safety and facilitating cargo through the Port. Regardless of the final outcome, I will expect the same protection afforded to those agencies with the power to stop this project in order to protect my business, employees, piers and land from potential damage resultant of the loss of lateral stability on the South River bank caused by any further deepening or advanced maintenance dredging.

Respectfully,

Frank Peeples, Jr.

Frank Peeples Jr.

566-MR-02-EV01

Comment: I *am the owner and managing member of Savannah Bulk Terminal, LLC located at harbor marker 68, known also as "Woodchip Terminal" in the SHEP documents. I DO NOT SUPPORT the proposed Harbor Expansion Project at the requested permit depth 48 ft. My primary objection is that according to the Bank Stability Report dated July 28, 2010 the proposed widener at our location will result in the "taking" of land. (Page 5, Memorandum for the Record, submitted by Joseph Hudak, Jr. Pe.) In the event a permit to construct is issued by the USCOE, despite my objection, I demand that mitigation measures be taken to protect my land from known accelerated wave actions, bank sloughing, and/or decreased lateral bank stability resultant of the proposed project deepening and subsequent cumulative effects from advanced maintenance dredging and dredge over swing. I am simply requesting the same slope protection measures afforded to other project stakeholders and other cultural resources already protected or planned to be protected under this SHEP (e.g. Additional armoring of spoil disposal dykes on the North Bank of the river, Fort Jackson).*

Response: The Bank Stability Report for the project assessed a proposed widener in the vicinity of the Woodchip Terminal at BN 57. That widener was subsequently determined to be unnecessary and was removed from the project. The navigation channel in that area will be deepened on the existing side slope, thus removing the potential for impacts to adjacent upland property in that location.

A Ship Forces on the Shoreline Study and a Bank Erosion Study were conducted to determine the impact the new vessel fleet operating in the deepened channel would have on wave erosion on the adjacent shoreline. In both the With and Without deepening scenarios, more vessels are expected to navigate through Savannah Harbor. The forecasted fleet for the deeper channel would be composed of fewer larger vessels than the future without project condition, which would have more and smaller vessels. Projections based on vessel design, transit speeds, and vessel numbers indicate that less wave-induced erosion would occur with the deepened channel than with the future without project condition.

566-MR-02-EV02

Comment: *In addition I oppose this project as it does not adequately address a funding source or mitigation plan for the additional costs of future maintenance dredging that WILL be passed on to facilities with agitation dredging permits (GPA included), many that will never require or benefit from a 48 ft channel depth. Current COE practice is to take the average cost of upland silt disposal in Savannah and pass this cost directly on to private terminals per cubic yard operating under maintenance dredging permits. The end effect will be to unfairly and disproportionally increase Savannah marine terminal operating costs related to berth maintenance.*

Response: Deepening the Savannah Harbor navigation channel would increase shoaling in some reaches of its inner harbor. However, the total volume of sediment required to be removed from the inner harbor on an annual basis is expected to remain roughly the same. The volume will remain constant, but the location will change somewhat. The evaluations do not differentiate between shoaling in the channel, per se, versus in the adjacent berths. The District remains fully committed to the harbor's long-term maintenance and, to that end, obtains the necessary funding through the established budget process. Berth owners that choose to use private sediment disposal areas to deposit their maintenance sediments would not experience any share of the increased Federal cost of maintaining the deeper channel.

From: davidschaller@comcast.net
To: CESAS-PD, SAS
Subject: Savannah Harbor Expansion Project
Date: Tuesday, January 18, 2011 5:40:51 PM

Please consider the following comments with regard to the proposed Savannah Harbor Expansion Project (SHEP).

The SHEP is the most studied and scrutinized project of its kind in the United States. More field data and been collected, analyzed and modeled in order to identify potential impacts than in any previous study.

As a result of this comprehensive effort, a very thorough mitigation plan has been developed to address all issues relating to the project. More importantly, an adaptive management plan has been prepared and is included in the project to monitor results of the expansion work for an extended period of time and to immediately implement corrective action when and if called for.

From a historical perspective, the last expansion missed the mark with ultra-conservative estimates of the world fleet, the Savannah fleet and the economic benefits projected to result from that deepening. With a fifty (50) year project life, the estimates for the SHEP appear conservative again. The forty eight (48) foot project depth shows the highest gross benefits and except for the very conservative economic assumptions used by the Corps, 48 feet should be the NED depth. 48 feet is required in order to retain the tremendous economic benefits currently produced as a direct result of the deep draft commercial commerce conducted via the Port of Savannah.

Every aspect of the project to date has been subject to public review and comment. A Stakeholders Evaluation Group (SEG) was assembled early in the study phase and has been closely engaged in the work effort every step of the way. The involvement of numerous environmental groups, not to mention the cooperation and critical input of state and federal resource agencies (including South Carolina) has greatly benefited the project. Every issue, both large and small, has

been identified and addressed as a result of this uncommon yet very effective collaboration.

The project is essential at 48 feet and it will produce wide-ranging economic benefits for the nation. Failure to implement this critical project will negatively impact the capacity and capability of the United States deep draft transportation system and result in higher transportation costs and increased consumer costs at the retail level. With exceedingly thorough study and evaluation and the inclusion of a comprehensive mitigation plan and adaptive management program, as well as significant economic benefits to be produced, the 48 foot expansion project should be implemented as soon as possible.

Thank you.

David Schaller

David Schaller

587-DC-01-EC01

Comment: *From a historical perspective, the last expansion missed the mark with ultra-conservative estimates of the world fleet, the Savannah fleet and the economic benefits projected to result from that deepening. With a fifty (50) year project life, the estimates for the SHEP appear conservative again. The forty eight (48) foot project depth shows the highest gross benefits and except for the very conservative economic assumptions used by the Corps, 48 feet should be the NED depth. 48 feet is required in order to retain the tremendous economic benefits currently produced as a direct result of the deep draft commercial commerce conducted via the Port of Savannah.*

Response: The world fleet of container vessels has changed more rapidly than the Corps expected when it evaluated deepening Savannah Harbor back in the early 1990's.

The Principles & Guidelines defines the Federal objective as "contributing to National Economic Development (NED) consistent with protecting the environment". The NED Plan represents the plan that reasonably maximizes the NED benefits to the Nation after subtracting out the economic costs.

In the case of Savannah Harbor, the 47-foot deepening alternative resulted in the highest net benefits, thus making it the NED plan. The present channel depth limits shippers from loading more completely and taking full advantage of larger vessels. The deepening project would reduce annual transportation costs by $213 million. Corps policy provides non-Federal sponsors such as the GPA with the opportunity of choosing a plan different from the NED Plan, which is defined as the Locally-Preferred Plan. Departures from the NED have cost sharing implications and need to be approved by the ASA(CW).

CWT Savannah Hotel, LLC
CSX Realty Development, LLC
6737 Southpoint Drive South
Jacksonville, FL 32216

January 21, 2011

U.S. Army Corps of Engineers
Savannah District
Savannah Planning Unit
Attention: Mr. William Bailey
100 West Oglethorpe Avenue
Savannah, Georgia 31401-3640

RE: Savannah Harbor Expansion Project ("SHEP")
Comment on Draft Environmental Impact Statement ("EIS")

Dear Mr. Bailey:

CWT Savannah Hotel, LLC ("CWT") and CSX Realty Development, LLC ("CSXRD") are pleased to have this opportunity to comment on the Draft EIS which was distributed for public comment on November 17, 2010. The SHEP is greatly needed and will enhance shipping as well as the related economic future of the entire area.

Since the project is adjacent to CWT's Westin Savannah Harbor Hotel and CSXRD's properties on Hutchinson Island, both of which rely heavily on the riverwalk and the adjoining docks as well as the proposed yacht basin which was recently approved by the Corps, we had our engineering firm undertake a review of the EIS. Several subject areas investigated need further clarification from your office. I will attempt to list them below:

1. Shoreline Erosion.

The "Savannah Harbor Expansion Bank Erosion Study" reported on specific areas but may not have included the entire shoreline of Hutchinson Island. If at all possible, could your office clarify the exact locations considered for bank erosion analysis identified by channel stationing and offset (which side of the river). CWT and CSXRD are simply trying to assure there will be no increase in bank erosion along the shoreline of CWT properties due to changes in the channel profile or ship traffic.

2. Impacts to Structures Due to Dredging, Bank Slope Failure, or Scour Associated with Channel Deepening.

The CWT and CSXRD properties adjoin sections of the river with two separate allowable advanced maintenance dredging criteria . The section of river above STA 70+000 has an allowable maintenance dredging depth of two feet and the corresponding maximum channel depth would be equal to the allowable overdredge depth of -50 feet. Below STA 70+000, the allowable advanced maintenance dredging depth is four feet and the corresponding maximum channel depth would be -52 feet, exceeding the typical allowable overdredge depth. A portion of CSXRD property, "Parcel 10" fronts this portion of the river. Here the theoretical encroachment towards CSXRD's property could be as great as approximately eight feet. There is concern this encroachment could have the potential to impact the submerged rock jetty that provides shore protection for the southern bank of the downstream end of Figg Island. It appears from a review of COE studies that deepening the channel will not result in undermining of the existing structures at the Westin Hotel property. However, this conclusion is only valid assuming the channel is not widened inadvertently at the time of the project or in subsequent maintenance dredging events. Is there any kind of assurance that can be given that the channel will not be widened along the City Front Reach of the river? Also, is there any information available which will put to rest our concerns that the channel deepening will not have an adverse affect on the shore protection (rock jetty) currently in place adjacent to Parcel 10? We would greatly appreciate a copy of available scour analysis or some other assurance from the Corps that scouring of the channel bottom or side slopes will not pose a problem.

3. Impacts Due to Increased Flooding During Storm Surge.

If possible, CWT and CSXRD would like to request from the Corps, storm surge contour maps delineating flood elevation contours for both the 42' and 48' channel under the 5', 10' and 15' storm surge conditions analyzed. As you are aware, a matter of inches can make the difference in a structure being flooded or not.

The above outlines our present concerns regarding the proposed project. Once again, let us emphasize our support for this endeavor but would like to have the above-captioned information and your response so that we may more fully understand the project and the COE can further minimize its impact. Thank you for your cooperation.

Sincerely yours,

CWT Savannah Hotel, LLC
CSX Realty Development, LLC

By: Richard C. Sibley
Richard C. Sibley
AVP, CSX Real Property, Inc., its agent

CWT Savannah Hotel, CSX Realty Development

616-MR-03-EN01

Comment: *The "Savannah Harbor Expansion Bank Erosion Study" reported on specific areas but may not have included the entire shoreline of Hutchinson Island. If at all possible, could your office clarify the exact locations considered for bank erosion analysis identified by channel stationing and offset (which side of the river). CWT and CSXRD are simply trying to assure there will be no increase in bank erosion along the shoreline of CWT properties due to changes in the channel profile or ship traffic.*

Response: Bank erosion due the Savannah Harbor Expansion Project was addressed by three separate studies: Savannah Harbor Expansion Bank Stability Report, Ship Forces on the Shoreline of the Savannah Harbor Project, and Savannah Harbor Expansion Bank Erosion Study, Fort Pulaski and North Tybee Island, Georgia, with updates. These study reports are included as Supplemental Materials, in Attachment 3 of the Engineering Appendix of the GRR (Appendix C).

The Bank Stability Report addressed predicted direct upland impacts due to channel deepening. Overall, impacts to the shoreline would be minimal since the channel would be deepened on the existing slope. Impacts were identified at a few areas and separate taking studies and recommendations were made for these locations. Those sites are identified in the Bank Stability Report.

The Ship Forces on Shoreline Study and the Bank Erosion Study considered the impact of ship waves on the entire shoreline, including Hutchinson Island, using available information such as aerial photos, ERDC studies, visual inspections, and shoreline configurations. The areas considered at higher risk of erosion were examined in more detail. It was determined by these studies that although there would be erosion due to ship waves for both the with and without project condition, there would be no increase in erosion due to ship waves with channel deepening. No increases in bank erosion due to deepening are predicted for the subject property.

616-MR-03-EN02

Comment: *The CWT and CSXRD properties adjoin sections of the river with two separate allowable advanced maintenance dredging criteria. The section of river above ST A 70+000 has an allowable maintenance dredging depth of two feet and the corresponding maximum channel depth would be equal to the allowable overdredge depth of -50 feet. Below STA 70+000, the allowable advanced maintenance dredging depth is four feet and the corresponding maximum channel depth would be -52 feet, exceeding the typical allowable overdredge depth. A portion of CSXRD property, "Parcel 10" fronts this portion of the river. Here the theoretical encroachment towards CSXRD's property could be as great as approximately eight feet. There is concern this encroachment could have the potential to impact the submerged rock jetty that provides shore protection for the southern bank of the downstream end of Figg Island. It appears from a review of COE studies that deepening the channel will not result in undermining of the existing structures at the Westin Hotel property. However, this conclusion is only valid assuming the channel is not widened inadvertently at the time of the project or in subsequent maintenance dredging events. Is there any kind of assurance that can be given that the channel will not be widened along the City Front Reach of the river? Also, is there any information available which will put to rest our concerns that the channel deepening will not have an adverse affect on the shore protection (rock jetty) currently in place adjacent to Parcel 10? We would greatly appreciate a copy of available scour analysis or some other assurance from the Corps that scouring of the channel bottom or side slopes will not pose a problem.*

Response: The channel prism would be deepened, but excavation will be limited to its bottom plane. The angle[s] of the channel's side slopes in this reach would remain essentially the same, i.e., current design specifications do not include any channel widening at this location. The GRR-Engineering Appendix, Section 6.3.5 describes the areas where the inner harbor side slopes would be dredged. The inner harbor channel's side slopes would not be dredged in other reaches. Section 6.4 discusses the analyses that were performed of the stability of the side slopes.

616-MR-03-EN03

Comment: *If possible, CWT and CSXRD would like to request from the Corps, storm surge contour maps delineating flood elevation contours for both the 42' and 48' channel under the 5', 10' and 15' storm surge conditions analyzed. As you are aware, a matter of inches can make the difference in a structure being flooded or not.*

Response: The objective of the hurricane surge modeling was limited to a determination of how SHEP would affect the propagation of a surge traveling through the estuary and into the river system. Hence, the model grid was not created with the capabilities to provide a detailed inundation map. While the Savannah River, the braided stream network adjacent to the river, and the ocean bar [up to 17 miles offshore] are described in detail in the model grid, the elevated river banks, adjacent beaches, and contiguous uplands are not captured by this network. Admittedly, these areas would be impacted during a hurricane. Moreover, they would affect the propagation of a storm surge through the river system and navigation channel. As noted, the SHEP model is limited in this regard, but it is a useful and adequate tool to compare the potential effects of the various depth alternatives. This work was not an attempt to update FEMA's projections regarding the effects of tropical storm surge inundation.

From: Amber Welsh
To: CESAS-PD, SAS
Subject: Deepening the port of Savannah
Date: Friday, January 21, 2011 11:08:16 AM

To whom it may concern,

In order to increase the depth of the port to increase business, we must be able to protect and sustain our precious wetlands. Savannah and the low country is a true gem and so much of sea life depends on the health of the marsh. We cannot risk the health of this ecosystem because we want to save money. It is crucial that at the very minimum all of Georgia Conservancy's measures are adhered to.

Sincerely,

Amber Welsh, P.E. | Associate
LEED® Accredited Professional

397 5th Street NE,
Atlanta, GA 30308
(v) 404.810.9020
(c) 678.488.1967
timmonsdesigneng.com

Amber Welsh

617-MR-01-EV01

Comment: *In order to increase the depth of the port to increase business, we must be able to protect and sustain our precious wetlands. Savannah and the low country is a true gem and so much of sea life depends on the health of the marsh. We cannot risk the health of this ecosystem because we want to save money. It is crucial that at the very minimum all of Georgia Conservancy's measures are adhered to.*

Response: The District is fully committed to wetland protection. Foremost, it always seeks to avoid and minimize impacts to wetlands in the execution of its civil works projects. This is the same policy to which permit applicants are required to adhere when they apply for a Corps Section 404 permit to impact wetlands. When impacts to wetlands cannot be avoided, appropriate mitigation must be provided to compensate for any loss of wetland function [no-net loss].

Construction of the SHEP (no matter which channel depth is ultimately constructed) would result in the loss of 15.68 acres of brackish marsh because of the excavation requirements of the project. The project would include in-kind mitigation for this wetland loss by restoring approximately 24 acres of marsh in Disposal Area 1S.

While the predicted increase in upstream salinity levels from construction of the project would not result in any loss of marsh, areas of tidal freshwater marsh would likely convert to brackish marsh. Many of the emergent plant species associated with freshwater marsh systems would still be readily observed in a brackish marsh system. Notably, the basic wetland functions (water purification, flood protection, shoreline stabilization, etc.) typically associated with these systems would not change. There would be a minor modification in the fish and wildlife function when tidal freshwater marsh is converted to brackish marsh. Consequently, the mitigation plan for the project provides for the acquisition and preservation of land that is ecologically valuable to the Savannah National Wildlife Refuge. This would ensure that these lands [which are valuable wildlife habitat] would remain protected in perpetuity, thereby providing compensation for the change in fish and wildlife function when tidal freshwater marsh is converted to its brackish marsh counterpart.

#642

William Bailey
PD, US Army Corps of Engineers
Savannah District
100 West Oglethorpe Ave
Savannah, GA 31401-3640

January 13,2011

Reference: Savannah River deepening

We want to make sure that there is a plan in place for the Shad and endangered species short-nosed sturgeon to be replenished.

Because the DNR has recently passed laws that will affect the number of Shad caught by shutting-down the Ogeechee, St. Mary's, and Satilla Rivers for Shad fishermen; it is imperative that the Savannah River have full access to this species.

There is a hatchery in Richmond Hill where these fish can be raised, but there is no plan in place as of yet to make sure this "Savannah Delicacy" is not completely depleted.

We did voice our concerns to the DNR board, to no avail, as to the magnitude of their decision. Our Shad customers are all over the country.

Georgia is the only state on the Atlantic Coast that does NOT have a replenishing plan for saltwater fish. We recommend that before the decision is finalized on the deepening of the Savannah River that a plan has been implemented to raise Shad and the endangered short-nose sturgeon.

With the deepening of the harbor, it will affect the natural spawning of the shad. We need a plan in place to make sure than when the river is deepened, the shad can & will be raised.

These fish return to the river that they are born in. The short-nose sturgeon do not leave the river like their cousin the Atlantic sturgeon – therefore if a program is started to raise these species we could, in a few years, have more Shad and short-nose sturgeon and they can be taken off of the endangered species list.

Thank you in advance for your consideration of this matter.

Charles J Russo Jr
Russo's Seafood
201 East 40th St
Savannah, GA 31401
912-234-5196

Charles J Russo Jr.

642-MR-01-EV01

Comment: *Georgia is the only state on the Atlantic Coast that does NOT have a replenishing plan for saltwater fish. We recommend that before the decision is finalized on the deepening of the Savannah River that a plan has been implemented to raise Shad and the endangered short-nose sturgeon.*

Response: EIS-Section 5.03.2 details the proposed actions that would benefit American shad and the Shortnose sturgeon. Although the fish bypass at the New Savannah Bluff Lock and Dam is designed to pass Shortnose sturgeon to allow their access to historic spawning areas at the Augusta Shoals, the design would also readily accommodate American shad, thereby providing similar benefits to that (and other) anadromous species.

From:	HONEYSAIL@aol.com
To:	CESAS-PD, SAS
Cc:	DIMARIAN21@aol.com; jim@connectsavannah.com
Subject:	Comments: Savannah Harbour Deepening Project
Date:	Sunday, January 23, 2011 2:34:04 PM

Dear Mr. Bailey,

I have only 2 comments/questions for USACE and they are:

1) Who will provide my family with fresh drinking water should there be an accidental salt water contamination of our drinking water supply either via a breach in the Floridian Aquifer or salt water intrusion into the Savannah Industrial Water intake?

2) How long will it take to supply my family with fresh drinking water in the event that the water supply becomes contaminated with salt?

Your answer to the above are very important to me as I pump my drinking water from the aquifer and we all must have fresh water to survive. Thank you

Sincerely yours,

John J. Fitzgerald, Jr.
260 Oatland island Road
Savannah, GA 31410

(912) 441-2296

John J. Fitzgerald Jr.

647-MR-02-EV01

Comment: "*Who will provide my family with fresh drinking water should there be an accidental salt water contamination of our drinking water supply either via a breach in the Floridian Aquifer or salt water intrusion into the Savannah Industrial Water intake?"*

Response: The results of numerous studies [prepared for the overall evaluation of SHEP] concluded that the project will not adversely affect Savannah's drinking water [ground- or surface water]. For example, extensive analyses were performed to determine potential impacts to the Upper Floridan aquifer [documented in GRR- Section 8.2.1; GRR-Appendix C Attachment 3, Potential Ground-Water Impacts to the Upper Floridan Aquifer, June 2007; and EIS-Section 5.5 of the EIS]. These analyses concluded harbor deepening will have a minimal incremental effect on the present downward movement of saltwater into the aquifer. It was also determined that deepening will produce an insignificant change in penetration of chlorides through the confining layer when compared to the status quo [no-action alternative]. Chloride concentrations would decrease significantly upon accessing the Upper Floridan aquifer due to mixing [dilution] with the considerable horizontal freshwater flows of the aquifer. Hence, the proposed dredging would have negligible impacts on water quality in production wells that tap the Upper Floridan aquifer in the environs of Savannah.

The project includes long-term monitoring of the groundwater to identify any unexpected effects, should they occur.

The potential for elevated chloride levels at Savannah's freshwater surface intake was carefully examined. The Corps coordinated closely with the City concerning possible impacts, additional analysis, and possible solutions. Potential effects associated with elevated chlorides would primarily affect industrial water uses rather than residential customers, since chloride levels would not approach the drinking water standard. The District evaluated whether increased lead and/or copper solubility might pose a secondary effect. The mitigation plan recommended for surface water chlorides is to provide a raw water storage impoundment where water supply can be drawn from on a temporary basis during a high chloride event. Details of this reservoir concept design and operational plan are included in Section 7.7 of the Engineering Appendix and Section 5 of the EIS. The City of Savannah plans to use the proposed reservoir on a permanent basis to reduce the requirement to react to sudden changes in water quality from Abercorn Creek which presently result from the tidal cycle influence on Abercorn Creek water. Pre-mixing the water plant input water before it reaches the treatment plant will have operational benefits for the city which should result in enhanced drinking water quality for the customers. Fortunately, all analyses to date indicate that impacts at the City's intake are minimal and would only occur for short durations during low-flow periods. Section 5.02.3 of the EIS has been revised to reflect the most current data analysis and conclusions.

647-MR-02-EV02

Comment: "*How long will it take to supply my family with fresh drinking water in the event that the water supply becomes contaminated with salt?"*

Response: The Corps and the natural resource agencies responsible for management of groundwater believe that the SHEP would not result in measureable changes in chloride levels in the drinking water aquifer.

Weyerhaeuser

Port Wentworth
Cellulose Fibers

SUSTAINABLE FORESTRY INITIATIVE

Post Office Box 668
Savannah, Georgia 31402
1 Bonnybridge Road
Port Wentworth, Georgia 31407
(912) 964-1271, (912) 966-4341
FAX: (912) 966-4339

January 21, 2011

OVERNIGHT DELIVERY

Mr. Bill Bailey
US Army Corps of Engineers
Savannah, GA 31402

SUBJECT: Comments on Draft Environmental Impact Statement for the Savannah Harbor Expansion Project

Dear Mr. Bailey:

Please accept Weyerhaeuser NR Port Wentworth's comments concerning the *Current Draft Environmental Impact Statement for the Savannah River Expansion Project*. Weyerhaeuser NR Port Wentworth is a Cellulose Fibers Manufacturing Facility located on the Savannah River in Port Wentworth, GA. The Facility directly employs approximately 320 individuals and due to our business functions could impact an additional 2.5 to 5 times as many individuals. As proposed, the draft EIS could have major impacts on our manufacturing operation, its employees, and the surrounding community. Weyerhaeuser NR Port Wentworth's process operations are supplied water by the City of Savannah's Industrial Water Plant. Weyerhaeuser NR Port Wentworth also has a Non-Contact Cooling Water inlet and associated piping in use, and permitted for 30 MGD maximum daily flow.

The Weyerhaeuser NR Port Wentworth Mill supports expansion of the harbor and resulting Economic Growth and Development. Weyerhaeuser NR Port Wentworth produces approximately 900 Air Dried Metric Tons of Pulp per day (translates to about 350 Sea Containers per week), is a 100% export facility directly to the Georgia Ports Authority, and would benefit by the larger ships and lower shipping costs.

The current Tier II EIS Chloride model in the Draft suggests little to no increase in Chlorides in the Harbor. Weyerhaeuser attended the meeting at the US Army Corps Savannah Office to review the recently revised model/s that indicate there will be significant predictable changes in Chloride Concentrations in the Harbor on December 21, 2010. Significant increases in Chlorides in the Harbor (from 12mg/L to as much as 70 mg/L on certain days) will impact Weyerhaeuser NR Port Wentworth both directly and indirectly.

Direct impacts to Weyerhaeuser include accelerated corrosion rates to our Non Contact Water Intake Screen, pumps, piping, and Heat Exchanger. Accelerated corrosion rates can be calculated if the Salt Water concentration and resulting Chlorides increase are known, based on the Langelier Index and other models. Weyerhaeuser can calculate corrosion rates based upon varying Chloride concentrations when necessary, and will have to undergo a cost-benefit analysis directed towards Capital to be invested to install Cooling Towers and associated equipment, in efforts to save our current piping and system and no longer utilize Savannah River Surface Water for cooling.

Indirect Impacts to Weyerhaeuser from increased Chlorides in the harbor include the fact that our mill's Process and Boiler water is supplied by the City of Savannah Industrial Water Supply. Weyerhaeuser has reviewed and supports the comments that the City of Savannah submitted regarding this Draft EIS in relation to Chlorides. If the City of Savannah takes action to mitigate for Chlorides, then Weyerhaeuser NR Port Wentworth will be penalized by drastically increased costs for water from the city to support the City of Savannah's project. If the City of Savannah does not take action mitigate the increased Chlorides then Weyerhaeuser will be impacted by increased Chlorides. The two specific impacted areas of the facility include the Boiler Water processing units and the Bleach Plant. The Bleach Plant bleaches our final product from brown pulp to white pulp. The impacts to the Bleach Plant are linear based on Chloride concentration, and will demand increase of the Bleaching Chemicals to maintain current production levels. Increased chemical usage will result in additional costs, and possible additional emissions of Air and Water pollutants. Boiler water for high pressure boilers (anything over 200 psi steam) is supposed to have essentially zero Chloride concentration to protect the tubes in the boiler from internal corrosion and erosion. Weyerhaeuser has a Demineralizer Area that takes the current supplied water (approximately 12 mg/L Chlorides) to non-detect levels. Currently the Demineralizer Area has some excess capacity, but increases in Chloride concentrations will impact this capacity negatively, and large increases in Chlorides (concentrations 50 mg/L and above) will exacerbate current capacity, and will require additional Capital to maintain current Boiler water needs possibly including Reverse Osmosis units in addition to our current equipment in the Demineralizer Area.

The current Draft EIS includes a 2 year post dredge monitoring period for Chlorides. If increased Chlorides are detected during the monitoring period, then the current Draft EIS includes statements to implement an Adaptive Management Plan. Any actions required by the Adaptive Management Plan would need funding, and would have to be placed in the 2 year appropriation cycle. The issue with this approach is that if Chlorides increase as high as the updated model predicts immediately after dredging, then either the City of Savannah or Weyerhaeuser will have to provide mitigation on an unplanned emergency basis or suffer downtime. Weyerhaeuser can make some process adjustments to address moderate Chloride increases, but elevated levels of Chloride near or above 50 mg/L will likely result in additional Capital Investments.

All of the above Capital costs and increased operating costs can be estimated, and additional technical references can be located to support calculations as discussed in the December 21, 2010 meeting. Weyerhaeuser will need additional time and will obtain additional resources in efforts to provide this cost data and supporting information to the US Army Corps under separate letter.

Weyerhaeuser appreciates this opportunity to offer comments on the Draft EIS as an impacted stakeholder. We believe our comments are significant, and identify non-technical and technical issues that must be resolved prior to the establishment of a Final EIS. If you have any questions concerning these comments, please contact me at (912) 966-4377.

Sincerely,

Weyerhaeuser NR Port Wentworth

Robert C. Grygotis
VP/Mill Manager

Chris Blocker
Environmental Manager

Weyerhaeuser

694-MR-01-EV01

Comment: *All of the above Capital costs and increased operating costs can be estimated, and additional technical references can be located to support calculations as discussed in the December 21, 2010 meeting. Weyerhaeuser will need additional time and will obtain additional resources in efforts to provide this cost data and supporting information to the US Army Corps under separate letter.*

Response: Weyerhaeuser's concerns regarding capital costs related to dealing with potential increases in chlorides are acknowledged. The Corps' consultant obtained additional information from the company in 2011 when it evaluated potential ways to treat higher chloride levels in the City's water supply. Since this comment was received, the Corps' more detailed and updated analysis of potential impacts to chlorides in surface water supplies has been completed and provided to Weyerhaeuser. This

analysis can be found in the Engineering Appendix, Section 7.7 and summarized in Section 5 of the EIS..

From: chris rice
To: CESAS-PD, SAS
Subject: SHEP comments
Date: Monday, January 24, 2011 5:43:44 PM

Dear Mr. William Bailey:

It is important that the Savannah Harbor be expanded to 48 ft, as this expansion is vital to the growth, and success of Georgia, United States, and to maritime partners around the globe. The proposed project depth of 48 feet will improve safer navigation for deep draft vessels, and will allow vessels a deeper draft with an unconstrained transit. In addition, it will enhance the queuing of vessels, minimize impacts to deeper draft vessels, and with the realignment of the channel for passing areas will improve safer navigable transit for deep draft vessels.

The expansion is critical to all vessel traffic using the Savannah River, and by having 48 feet you allow for more hours in a tide window for vessel with more capacity to arrive and depart without causing delays to other vessels not tidally constrained and allows for safer conditions for pilotage, asset management, and vessel transit. The expansion will equally enhance and adequately support the vessel movements for two-way traffic in Savannah River.

The documents and information supports harbor expansion from the economics, the engineering, and evaluation to maintain and improve the environmental mitigation of the Savannah River, and it is clear that justification for 6 more feet speaks volumes to deepening this harbor to 48 feet.

Respectfully,

Chris Rice

Chris Rice

700-DC-01-EC01

Comment: *It is important that the Savannah Harbor be expanded to 48 ft, as this expansion is vital to the growth, and success of Georgia, United States, and to maritime partners around the globe. The proposed project depth of 48 feet will improve safer navigation for deep draft vessels, and will allow vessels a deeper draft with an unconstrained transit. In addition, it will enhance the queuing of vessels, minimize impacts to deeper draft vessels, and with the realignment of the channel for passing areas will improve safer navigable transit for deep draft vessels.*

Response: Thank you for your feedback on the project.

From: SBOOHER@aol.com
To: CESAS-PD, SAS
Subject: America cannot afford more tidal freshwater wetland loss.
Date: Monday, January 24, 2011 6:25:07 PM

Mr William Bailey 24 January 2011
Attn: CESAS- PD

Subject: America cannot afford more tidal freshwater wetland loss.

If the tidal freshwater wetlands of the Savannah National Wildlife Refuge cannot be protected and previously lost tidal freshwater wetlands restored, then Savannah River Harbor Deepening plans should be held without funding.
At such time as permanent protection of existing area and Refugee tidal freshwater wetlands is secured and past destroyed Refuge tidal freshwater wetlands identified and funding for permanent restoration are secured, then the Harbor Deepening plans can move forward.

For past River Deepening and this planned Deepening, I have not read where any of the proposed mitigation properties are tidal freshwater wetlands. I am asking that the Corps of Engineers investigates to determine if Refugee Tidal Freshwater wetlands have been lost in previous Savannah Harbor Deepening activities and if mitigation sites for those deepening actions are permanently protected tidal freshwater wetlands. Is the Corps of Engineers monitoring those locations and acreage of the previous mitigation sites to insure they are tidal freshwater wetlands that are permanently protected? Accountability of tidal freshwater wetlands lost from previous deepening activities must be written into the current deepening plan and a condition for moving forward with this Harbor Deepening. Until this happens, there must be no Federal or State funding approved for this project.

USFWS considers the current Tidal freshwater wetlands to be the most critical natural resource in the harbor. Tidal freshwater wetlands are far more ecologically diverse than saltwater wetlands and their acreage along the east coast and in the Savannah National Wildlife Refugee in particular has been in steady decline over recent decades. It is imperative that we preserve what we have and take measures to restore what has been lost. (see DEIS Section 5.1.2 as it addresses indirect impacts to wetlands which includes impacts to tidal freshwater wetlands).

Sam Booher
4387 Roswell
Dr **Augusta, GA**
30907

Sam Booher

710-MR-01-EV01

Comment: *For past River Deepening and this planned Deepening, I have not read where any of the proposed mitigation properties are tidal freshwater wetlands. I am asking that the Corps of Engineers investigates to determine if Refugee Tidal Freshwater wetlands have been lost in previous Savannah Harbor Deepening activities and if mitigation sites for those deepening actions are permanently protected tidal freshwater wetlands. Is the Corps of Engineers monitoring those locations and acreage of the previous mitigation sites to insure they are tidal freshwater wetlands that are permanently protected? Accountability of tidal freshwater wetlands lost from previous deepening activities must be written into the current deepening plan and a condition for moving forward with this Harbor Deepening. Until this happens, there must be no Federal or State funding approved for this project.*

Response: Appendix L (Cumulative Impacts) provides a thorough discussion of the impacts of past harbor improvements on the various marsh types (salt, brackish, tidal freshwater) in the Savannah Harbor estuary. While there are other factors involved such as sea level rise and landside development, deepening of the Savannah Harbor navigation channel over time has resulted in an increase in upstream salinity levels. This, in turn, has caused freshwater marsh to be replaced by more salt tolerant wetland species. Mitigation for this particular impact has been provided on a project-specific basis, depending on the expected impact of the individual project. A comprehensive study to determine the historic losses of freshwater marsh in the Savannah Harbor estuary and appropriate restoration or mitigation measures would require a separate study authorization from Congress.

The Corps conducted extensive studies during SHEP to determine its potential impacts to tidal freshwater marsh and measures to ameliorate those effects. It is unavoidable that SHEP's construction will increase upstream salinity levels. While this change will not result in any areal marsh loss, it would cause some tidal freshwater marsh to shift to a brackish marsh species assemblage. Consequently, measures have been developed and included to increase the flow of freshwater and decrease the flow of saltwater into Middle and Little Back Rivers to offset the anticipated increase in salinity levels. Even with implementation of these measures, some tidal freshwater marsh (mainly in Front River) would likely convert to more brackish species of emergent marsh.

A Wetland Interagency Coordination Team [technical expert representatives from the District and federal/state natural resource agencies] was assembled to identify acceptable mitigation for SHEP. At that time, the USFWS stated that mitigation actions must be performed within the basin for impacts to wetlands located within the SNWR. The Service suggested preservation of lands as a possible solution and recommended sites that are part of its long-term lands acquisition strategy to compliment the SNWR. The District then consulted with the Stakeholder Evaluation Group, including its non-governmental Organizations members, to see if they could identify any other suitable mitigation options. Over the 10-year study period, no agency/organization could identify another feasible alternative as mitigation for impacts that would occur as a result of the wetland species shifts.

The Wetland Interagency Team concluded that there were no opportunities either to restore or create substantial acreages of tidal freshwater marsh in the estuary. Consequently, acquisition and

preservation of lands that are ecologically valuable and add to the purposes of the Savannah National Wildlife Refuge was identified as appropriate mitigation for impacts to tidal freshwater marsh.

From: SBOOHER@aol.com
To: CESAS-PD, SAS
Subject: America cannot afford to Deepen every Ocean Port
Date: Monday, January 24, 2011 6:46:16 PM

Mr William Bailey
Attn: CESAS- PD

24 January 2011

Subject: America cannot afford to Deepen every Ocean Port

The ports in Savannah, Jacksonville and Charleston will continue to be key U.S. gateways to international trade. However all three do NOT need to be deepened in order to accommodate the new generation of containerships. The current containerships will continue to dominate ocean commerce when the expansion of the Panama Canal is completed in 2014.

The current terminals along the Savannah River support hundreds of thousands of jobs throughout Georgia and South Carolina. Current size container ships are not going to be sunk. They will continue to be utilized. Once a decision is made as to which Atlantic Coast Port is deepened, current container ships visiting that port will be shifted to use Savannah Port. Without deepening the Savannah River, Savannah Port will continue to grow and provide even more jobs as current containerships visiting Jacksonville, if deepened, will now use Savannah Port.

The Federal Government cannot afford to assist deepening every port along the Atlantic Coast. Nor are State Budgets deep enough to allow every state along the Atlantic Coast to spend tax payers money to deepen a port in every state.

The Federal Government needs to decide which one Port to will help fund. This would save funds currently planned for deepening Savannah River and yearly dredging funds needed to keep it deep. A much better solution would be a Trans-shipment port in the Bahamas like Hutchenson Port then no Atlantic Coast ports need deepening.

Sam Booher
4387 Roswell Dr
Augusta, GA 30907

Sam Booher

711-DC-02-EC17

Comment: *The ports in Savannah, Jacksonville and Charleston will continue to be key U.S. gateways to international trade. However all three do NOT need to be deepened in order to accommodate the new generation of containerships. The current containerships will continue to dominate ocean commerce when the expansion of the Panama Canal is completed in 2014.*

Response: The District is very sensitive to how taxpayers' funds are spent. As a result, the SHEP economic analysis was performed to the highest standards using empirical data and forecasts developed by reputable economic firms with specific expertise in the shipping industry. The economic model used in the prediction analysis for SHEP underwent several iterations of rigorous review, including one by an independent panel. From the federal perspective, the optimal project (defined as the project providing the greatest net benefits over costs, i.e., NED) was found to be the -47 feet deepening alternative.

As to evaluating multiple ports and selecting one "regional port" to deepen [upgrade], this concept surfaces frequently. For the Savannah study, cargo flows at competing ports [southeast US] were examined and it was discovered that many have unique hinterlands. Further, it was determined that because of trucking costs, there is relatively little rerouting of cargo between competing ports and their respective hinterland. Also, port rotation becomes an issue, i.e., a system of container ports are served by a particular shipping service. Determination of which port[s] of call will be included in a given service rotation is often dictated by the design draft of the largest vessel[s] used by that company.

It is correct that some shippers will continue to use the Port of Savannah, irrespective of SHEP. The C Corps believes that to be the general case, rather than the exception. Therefore, for the "without-project" baseline condition, cargo volumes are not expected to decline if the harbor is not deepened. However, it was shown that for a select *share* of the vessels [mainly the larger, Post-Panamax vessels] there would be significant inefficiencies accruing over time absent deepening. Due to port rotations, the distinct hinterland, etc., some shippers could not easily move from one port for another and would just incur the higher costs from those noted inefficiencies as a cost of doing business. A deepening project will allow these shippers to switch to larger vessels or load some of their vessels without the current constrains of draft [for a select number of trade routes]. Hence, transportation costs would be lowered and the savings ultimately will be passed onto US consumers and businesses. This can be difficult to conceptualize, since the subsequent savings are difficult to trace over a 50-year investment period. SHEP will require a significant investment, but the transportation cost model determined that SHEP's benefit/cost ratio is greater than 5. This value was verified via multiple sensitivity analyses using alternate growth forecasts and changing shipper behavior. In nearly all instances, a deepening project is cost effective.

Freeport, Bahamas and other trans-shipment centers in the Caribbean have certainly grown more competitive in recent years. Nonetheless, for the present, they will merely complement and not replace ports in the Southeast because of the costs to reposition containers, as well as the time-sensitive nature of cargo. The District continues to monitor worldwide shipping trends as well as the Panama Canal's expansion, the Arctic Passage, and a host of other seaborne transportation events. Moreover, the District will re-examine SHEP during and after its construction to ensure that the economic benefits continue to be realized.

The following information also bears on your interests:

The NED plan is the alternative that fulfills the federal objective and maximizes the net economic benefits to the [entire] nation while taking into account environmental, societal, and other considerations. After a thorough analysis and rigorous review, the NED Plan was found to be the -47 foot deepening alternative. In fact, benefits would increase beyond -47-feet; however, the *net* benefits (difference between benefits and costs) maximize at the -47-foot level. The NED plan serves as the basis for cost-sharing, which in turn sets the limit for Federal government financing. If other alternatives are economically viable, the non-federal sponsor has the option of choosing a plan other than the NED, i.e., the Locally-Preferred Plan.

Global Insight's commodity forecast is based on a large number of economic factors and was vetted several times by economists for its applicability [reasonable assumptions] to the Savannah Harbor study. The Corps of Engineers guidance on deep-draft navigation projects emphasizes using empirical data [whenever possible] and to make forecasts over a 50-year period of analysis. This is a prudent approach because data on past and present problems help shape the future without-project condition scenario. This, in turn, serves as a baseline for project formulation and evaluation [comparisons]. As expected, a 50-year forecast contains uncertainty. Therefore, several sensitivity analyses were performed using lower growth rates, no growth, and increased packaging densities. For the most part, the results show project improvements [deepening] are still economically justified.

Economic conditions can change markedly from year to year. For example, in 2009 there were dramatic declines in worldwide cargo volumes and shipbuilding [economic downturn], whereas more recently external events such as Middle East unrest and the tsunami in Japan have likewise affected the shipping industry. Therefore, the application of a longer [50-year] period of analysis helps to reduce short-term volatility and provides a more accurate economic picture [smoothing the curve] of a project's economic viability.

The *HarborSym* analysis considers all vessels by estimating their efficiency gains from reduced congestion. The Transportation Cost Savings Model estimates the efficiency gains from vessels being able to load/unload without the current constraints of draft. Conversion of the operating fleet to larger vessels will also result in a substantial reduction in transportation costs after implementation of SHEP. The larger vessels would benefit more from a harbor deepening. However, there will also be some incremental gains in efficiency to smaller vessels as a result of reduced harbor/channel congestion.

The largest capacity vessels calling on the US East Coast [including Garden City Terminal] are expected to be about 8,000 TEUs. Vessels much larger than 8,000 TEUs are more apt to be deployed on Asia to Europe and/or Transpacific trade routes. The Economic Appendix [page 51] explains why these larger vessels are unlikely to call at Savannah, irrespective of SHEP. For example, vessels in excess of 9,500 TEUs would have difficulties negotiating Savannah Harbor due to length and width limitations and air draft restrictions created by the Talmadge Bridge. Such *super* ships currently make up about 3 percent of the world fleet, but are expected to increase to approximately 11 percent by 2030.
There is no regional or national policy governing port development. However, a regional port analysis was conducted and its conclusions are found in GRR-Appendix D. Under present circumstances, a regional port would not be technically or institutionally feasible [or at least very difficult]. There is no existing or planned East Coast port that could process the total volume of TEUs handled by multiple regional ports. Further, there is no governing authority which would support development of such a notional regional port. GEC, Inc. conducted a regional port analysis and concluded that a true regional port would require more land than is currently available at any of the existing Southeast US ports. In

addition, institutional issues such as the lack of a non-federal sponsor [required by the Water Resources Development Act of 1986] and the unknowns associated with State coastal zone management plans raise serious questions about the viability of this concept. Even assuming the theoretical potential at the reconnaissance level of study, a full feasibility level analysis would be necessary to ascertain actual practicability. Experience has shown that a very large/complex project with so many interrelated and often competing issues would require many years and millions of dollars to complete. Deferring critical port improvements to address the concept of a regional facility would seriously constrain the US position in international trade [in the meanwhile].

From:	patmetz
To:	CESAS-PD, SAS
Subject:	Comment on Savannah Harbor Expansion Project
Date:	Tuesday, January 25, 2011 1:01:13 AM
Attachments:	Comment to COE 1-24-11.doc

To: The Savannah District, U. S. Army Corps of Engineers

From: Patricia E. Metz
2003 Fair Hope Drive, NE
Townsend, Georgia 31331

Subject: Comment on the Savannah Harbor Expansion Project

Date: January 24, 2011

Deepening the Savannah River to even 45 feet will result in additional loss of freshwater marsh within Savannah National Wildlife Refuge. Considering that the refuge has already lost 73% of this irreplaceable wetland habitat as a result of earlier harbor deepening projects, the Corps' proposal for deepening the river to 48 feet is unconscionable. Thousands of taxpayer dollars have been spent on elaborate models which predict minimal impact on the environment from the 48-foot deepening. Similar models produced for the development of the Back River Tide Gate predicted that salt water would never reach the refuge's northern intake to its freshwater diversion canal: the model was wrong.

If the new model is incorrect, a death blow could be dealt to the Savannah River fishery resources. Again thousands of taxpayer dollars have been invested in programs to restore striped bass in the river; these successful efforts will have been wasted if dredging proceeds to 48 feet. Suggested mitigation for the anticipated impact on striped bass is to fund restocking. This plan is pure folly since the loss of at least 28% of the striped bass spawning habitat is predicted, though no accurate measure to forecast the loss exists. With continued loss of spawning habitat, restocking would be a never ending, cost-spiraling endeavor.

Georgia's state and local governments strongly support the deepening project for one reason: the money and jobs it is expected to generate. To this end, they are willing to gamble with the natural resources of the Savannah River. However, many coastal residents do not share their vision for a deeper harbor which can accommodate the biggest container carrier vessels in the world. At some point, they must accept the fact that the cost of digging the Savannah River deeper and deeper cannot justify the environmental losses.

Please record my disapproval of the Corps proposal to deepen the Savannah River to 48 feet.

Patricia E. Metz

719-MR-01-EV01

Comment: *If the new model is incorrect, a death blow could be dealt to the Savannah River fishery resources. Again thousands of taxpayer dollars have been invested in programs to restore striped bass in the river; these successful efforts will have been wasted if dredging proceeds to 48 feet. Suggested mitigation for the anticipated impact on striped bass is to fund restocking. This plan is pure folly since the loss of at least 28% of the striped bass spawning habitat is predicted, though no accurate measure to forecast the loss exists. With continued loss of spawning habitat, restocking would be a never ending, cost-spiraling endeavor.*

Response: The statements that previous deepening projects have reduced wetland habitats in SWNR by 73% and that the Tidegate model predicted salt water would not reach the freshwater diversion canal are not completely accurate. Changes to freshwater wetlands within the SNWR are the result of multiple factors, including among others sea level rise, harbor improvements, and actions taken by the USFWS in its management of the Refuge.

The District conducted extensive incremental analyses to determine the balance between the least-cost, environmentally acceptable deepening alternative and the option that maximizes economic benefits. The studies/analyses [contained in the EIS] are competent to forecast/address potential project impacts. The models used to estimate the impacts of the various harbor deepening alternatives on wetlands were developed with full participation of the Wetland Interagency Coordination Team, of which the USFWS was a major contributor. The Water Quality Interagency Coordination Team, of which the USFWS was also a member, was oversaw the development and use of the models that were used to predict changes expected from a harbor deepening. The USFWS concurred in the acceptability of the models to predict impacts from this harbor deepening project. Although no numerical model is completely accurate, the data generated from these models closely tracks actual field measurements.

With regard to the striped bass restocking program, the Fisheries Interagency Coordination Team, [comprised of federal/state regulators and subject matter experts] agreed that the re-stocking program is adequate to mitigate for project impacts to spawning areas. The stocking would introduce fingerlings into the population after the spawning and juvenile life stages, thereby compensating for adverse impacts to habitats used by those early life stages. GA DNR-WRD has stated that the proposed compensatory mitigation is acceptable.

The selected alternative includes a post-construction monitoring plan to identify and evaluate actual impacts that occur to wetlands, along with an adaptive management plan to make adjustments to the mitigation features if required. Numerous techniques to ensure that modeling results are accurate and represent the range of expected conditions have been employed. Moreover, there has been extensive interagency coordination, stakeholder input, application of advanced technologies, consultation with subject matter experts, agency reviews, and independent external peer reviews – all conducted with the objective of achieving the most accurate appraisal of SHEP's impacts.

From:	patrick huerd
To:	CESAS-PD, SAS
Subject:	No Harbor Deepening
Date:	Tuesday, January 25, 2011 8:05:54 AM

Harbor Deepening will have a negative affect on local habitat and wildlife. This Port will only get bigger if we take this step. We have a usable port as it is and our Coastal Habitat is suffering enough. The people who make their lives here in this region are the ones who will lose. Georgia beaches are nasty by Natures choice, lets just let Mother Nature carry on without destroying anything else.

Respectfully

Patrick Lin Huerd
Long County
912-271-8610

Patrick Lin Huerd

724-DC-02-EV01

Comment: *Harbor Deepening will have a negative affect on local habitat and wildlife. This Port will only get bigger if we take this step. We have a usable port as it is and our Coastal Habitat is suffering enough. The people who make their lives here in this region are the ones who will lose. Georgia beaches are nasty by Natures choice, lets just let Mother Nature carry on without destroying anything else.*

Response: The Corps believes the SHEP can be implemented without significant adverse environmental impacts. The project's mitigation plan provides adequate mitigation for all affected resources.

From: Harry Shelley
To: CESAS-PD, SAS
Subject: Comments on SHEP
Date: Tuesday, January 25, 2011 8:42:13 AM

January 1, 2011

US Army Corps of Engineers
Savannah District Mobile/Savannah Planning Center
ATTN: Mr. William Bailey
P.O. Box 889
Savannah, Georgia 31402-0889

RE: Proposal to deepen the Savannah Harbor

Dear Mr. Bailey:

The Friends of the Savannah River Basin (FSRB) appreciates the opportunity to respond to the Environmental Impact Statement (EIS) on a proposal to deepen the Savannah Harbor from its current depth of 42 feet up to a maximum depth of 48 feet. We recognize the considerable effort and expense that goes into developing a full EIS.

The Savannah Harbor Expansion Studies have been on-on going for many years but the FSRB is concerned that they haven't fully comprehended current critical on-going actions that will impact the dynamics of the SRB taken as a system. Specifically the expansion of Plant Vogtle, the current on-going TMDL reduction studies, the extreme low flow studies, Phase 2 of the SR Comprehensive Study and salt water intrusion on the NWR or the City of Savannah water intakes. These must be fully analyzed to determine if there are any restrictions to operational flexibility or unintended biological or water quality impacts due to the project.

We also have concern over the proposed fish ladder mitigation action at the New Savannah Bluffs Lock & Dam. From the research we have seen, it is not clear that the sturgeon will effectively use such a system. In addition it is our understanding that the City of Augusta is required to build a fish ladder at the Diversion Dam should one be built at the New Savannah Bluffs. Given this second fish ladder, it is a concern that the operational flow restrictions caused by previous agreement on flows to the shoals area due to the Augusta Canal will further impact the flexibility to operate in extreme low flow situations.

We are also concerned about the nature and accuracy of the funding estimates for the adaptive management of the mitigation actions. They are based on a fixed percentage of the cost of the mitigation estimates. With the deficit issues in Washington it is unclear whether future funding will be available to adequately evaluate and execute any required actions to modify or add to the mitigation actions. This could seriously deter correcting any unintended impacts that may occur on the SRB. Also we would expect there to be more specific "trigger criteria" based on observed field observations to evaluate the need for mitigation actions and to assess their impacts.

Corps estimates, project the harbor deepening will provide more than $100 million annually in net benefits to the nation. However the entire SRB is of extreme importance to the economic health and well-being of both states. The Lakes area and lower basin receive millions of visitors, support real estate, industry, recreation, biological diversity and most critical of all water supply. We feel that no major action should be taken without fully understanding the

potential effects on this complex system.

Harold and Barb Shelley
FSRB Facilitators

Friends of the Savannah River Basin

725-MR-03-EV01

Comment: *The Savannah Harbor Expansion Studies have been on-on going for many years but the FSRB is concerned that they haven't fully comprehended current critical on-going actions that will impact the dynamics of the SRB taken as a system. Specifically the expansion of Plant Vogtle, the current on-going TMDL reduction studies, the extreme low flow studies, Phase 2 of the SR Comprehensive Study and salt water intrusion on the NWR or the City of Savannah water intakes. These must be fully analyzed to determine if there are any restrictions to operational flexibility or unintended biological or water quality impacts due to the project.*

Response: The District used a systematic evaluation of SHEP's potential effects on the Savannah River Basin. A combination of extensive field studies and comprehensive modeling analyses were conducted to determine impacts of the deepening project on the estuary. The results [which were compiled in the EIS] are adequate for an engaged reader to understand all the ramifications of the proposal. EIS-Appendix L (Cumulative Impacts) and EIS-Section 5.0 provide ample information to address all of the noted concerns.

725-MR-03-EV02

Comment: *We also have concern over the proposed fish ladder mitigation action at the New Savannah Bluffs Lock & Dam. From the research we have seen, it is not clear that the sturgeon will effectively use such a system. In addition it is our understanding that the City of Augusta is required to build a fish ladder at the Diversion Dam should one be built at the New Savannah Bluffs. Given this second fish ladder, it is a concern that the operational flow restrictions caused by previous agreement on flows to the shoals area due to the Augusta Canal will further impact the flexibility to operate in extreme low flow situations.*

Response: The Fishery Interagency Coordination Team concluded that construction of a fishway at the New Savannah Bluff Lock and Dam was acceptable mitigation for the adverse impacts of the SHEP on the Shortnose sturgeon. NOAA Fisheries (who is responsible for SNS under the Endangered Species Act) concurred in their Biological Opinion. Fishways have had a long/successful history. Lake sturgeon have been observed negotiating both constructed/natural rapids [entire river width] in the upper mid-west [US]. Some of these observations were made at much more shallow water depths than will be the case [3.5 to 5.5 feet] for the fish passage at the Dam (Aadland 2010). Since the Lake sturgeon is a larger species than the Shortnose, the latter should have little difficulty negotiating the constructed rock ramp at NSBL&D. Savannah District held an interagency fish passage workshop in April 2011 to review the mitigation proposed for SNS and develop design guidelines for successful passage at NSBL&D. As a result of the workshop, the District revised its proposed design to an Off-Channel Rock Ramp that would be much larger than the previously-proposed Horseshoe ramp. The larger structure would carry the entire river flow for most of the spring spawning season, thereby improving the expected SNS passage effectiveness. The Monitoring Plan continues to include provisions to ascertain Shortnose sturgeon use of the structure, as well as their overall success in moving to upstream spawning grounds. The Adaptive Management Plan provides the means to modify the fishway if required.

There are no planned release changes from the upstream dams resulting from the proposed fish passage at New Savannah Bluff Lock and Dam or the Diversion Dam. However, the latter structure [at the Diversion Dam] is not a component of the Savannah Harbor Expansion Project.

725-MR-03-EV03

Comment: *We are also concerned about the nature and accuracy of the funding estimates for the adaptive management of the mitigation actions. They are based on a fixed percentage of the cost of the mitigation estimates. With the deficit issues in Washington it is unclear whether future funding will be available to adequately evaluate and execute any required actions to modify or add to the mitigation actions. This could seriously deter correcting any unintended impacts that may occur on the SRB. Also we would expect there to be more specific "trigger criteria" based on observed field observations to evaluate the need for mitigation actions and to assess their impacts.*

Response: As stated in Appendix D (Monitoring and Adaptive Management Plan), the costs presented for the adaptive management measures are [indeed] estimates. Whether any of these measures will need to be implemented will only become known after post-construction results are inspected and project performance is evaluated [to include effectiveness of mitigation features]. The District intends to request funding for Adaptive Management along with the other construction costs. Funds would then be available to implement an action if it determined by the Federal Cooperating Agencies to be needed. Costs which exceed the estimated total for Adaptive Management could be sought through the Corps' normal budget process. Monitoring and adaptive management are considered to be mitigation features, so they would be given the highest priority in the Corps budget process. The Corps considers the project in the "construction" phase until the end of the monitoring and adaptive management period.

The Monitoring and Adaptive Management Plans provide a discussion of post-construction monitoring and the decision-making process that would determine if additional monitoring and/or mitigation measures are warranted. Purposely, the plan does not identify specific acceptability criteria for water quality or biological parameters that would trigger the need for additional monitoring or modifications to mitigation measures. The District is willing to defer to the judgment of agency technical experts, rather than just use a specific parameter to determine when changes may be necessary. Based on their experience, some resource experts may see a need to modify the monitoring and/or a mitigation measure, even though a specific [parameter] threshold has not been reached. There is also a concern about the potential cumulative/synergistic impacts of multiple parameters, even though the threshold limits had not been exceeded for any one parameter. The FEIS Appendix D contains thresholds for some individual parameters that will be used to monitor the project's performance.

Decisions about changes in the monitoring plan or mitigation features can be made at any time during the post-construction monitoring effort. Monitoring data and reports would be made available to the resource agencies as soon as possible. Data from fixed water quality monitoring stations would be available on a real-time basis [on-line]. The plan provides for an annual meeting [end of monitoring year] between the District and the natural resource agencies to discuss the data and any necessary changes. However, the schedule is sufficiently flexible to convene a meeting any time concerns dictate. If the monitoring identifies impacts that are well outside of those predicted, consultation with the resource agencies will begin immediately. Corrective actions could range from a change in the monitoring plan to a cessation of construction activities until a problem is rectified.

INTERNATIONAL PAPER

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January 24, 2011

Mr. William Bailey
PD, US Army Corps of Engineers
Savannah District
100 West Oglethorpe Avenue,
Savannah, Georgia 31401-3640

Also Via Email: CESAS-PD@usace.army.mil

RE: Comments on Draft Tier II Environmental Impact Statement (DEIS), General Reevaluation Report (GRR) and Savannah Harbor Expansion Project Chloride Impact Evaluation (CIE)

Dear Mr. Bailey:

International Paper is in receipt of your letter dated November 15, 2010 regarding provision of comments on the Draft Tier II Environmental Impact Statement and General Reevaluation Report for the Savannah Harbor Expansion. Since receipt of the letter, we were also provided with the document titled "Savannah Harbor Expansion Project Chloride Impact Evaluation," dated December 15, 2010. We appreciate the opportunity to review these documents and have several comments and concerns.

International Paper is a large, integrated pulp and paper facility located in Savannah, Georgia with a rated production capacity of over one million tons of product per year. The paper making process is very water intensive – upwards of 20 million gallons per day of water is used to make the finished product. In addition to producing linerboard products, water is also supplied to the facility's power boiler and recovery furnace to generate steam and energy that is used throughout the process. While some of the water remains in the product, much of the water is treated in the facility's wastewater treatment plant, located on the banks of the Savannah River and on Hutchinson Island.

Because water is a key raw material used at this facility, the quality of the intake water is vital to its successful operation. Therefore, the documents referenced above were reviewed to determine what, if any, impacts the Harbor Expansion would have on the quality of the facility's feedwater. Our comments are given below.

Comments

1. While the Draft Tier II Environmental Impact Statement (DEIS) and General Reevaluation Report (GRR) include a significant amount of information regarding the chloride evaluations, as issued the reports are incomplete and based on modeling efforts that were known to be in error. Therefore, the majority of International Paper's review of the documents focused on the Chloride Impact Evaluation (CIE), dated December 15, 2010. International Paper concurs with comments supplied by the City of Savannah on the DEIS and GRR and incorporates them by reference.

2. The Savannah Mill currently uses 6-8 million gallons per day of water supplied by the City of Savannah Industrial and Domestic (I&D) facility. That amount is expected to increase significantly over time as use of groundwater from the Upper Floridan aquifer is further curtailed. Therefore, the chloride content of the water supplied by the City of Savannah will have greater and greater impacts on the mill. The area of greatest concern is the boiler water feed system. This system provides high quality water to the boilers, which is then converted to steam to supply the mill. The increases in chloride content to the intake of the City I&D facility that are referenced in the CIE document will adversely impact the boiler water system. International Paper anticipates that it will be forced to treat the incoming water from the City I&D facility to reduce chloride levels of the water being supplied to the boilers.

3. The facility was originally constructed in 1936, with numerous expansions taking place since that time. It includes a vast labyrinth of underground piping of various vintages that supply water to all areas of the mill. The potential of increased chloride concentrations in these pipelines is also of great concern, as much of this pipeline is carbon steel or carbon based. Similar to the City of Savannah in their comments on the report, International Paper is likewise concerned about advanced corrosion rates within the mill's water pipelines. Many of these pipes already show signs of wear, and it is believed that advanced corrosion rates could force these pipelines to be repaired or replaced sooner than currently planned. To prevent this from occurring, International Paper anticipates that all incoming water from the City I&D facility will need to be treated to remove chlorides in order to preserve the integrity of the mill's piping system.

In order to understand the financial impact associated with treating the facility's incoming water supply for chlorides, consultants were contacted to get rough estimates for new water treatment technology. Based on the information received, treating the City I&D water to reduce chlorides down to current levels would cost millions of dollars in capital investments for the water treatment units with annual operating costs also in the millions of dollars. Costs that we considered did not include the costs associated with treating the concentrated wastewater stream that discharges from the chloride treatment units. Treatment methodologies for handling the wastewater stream have not yet been identified to develop a cost estimate.

To this point, the Chloride Impact Evaluation Report (CEI) evaluated desalinization as a Mitigation Option. The report states

> *"A conceptual estimate of costs for desalinization treatment at the point of industrial users was developed using the methodology published by the U.S. Department of the Interior and was determined to be cost prohibitive."*

Based upon the very rough costs for treating chlorides at the International Paper facility that are outlined above, we agree that desalinization treatment for industrial users is indeed cost prohibitive. Therefore, International Paper supports the mitigation option of construction of a supplemental water intake pipeline that would mitigate chloride concerns for all industrial users, at a cost considerably lower than the sum total of all capital investments by each industrial user.

Once again, we appreciate the opportunity to provide the Army Corp of Engineers with our comments and concerns regarding the chloride impacts from the Harbor Expansion Project. If you have any questions regarding the information contained in this report, please contact me at (912) 238-7054.

Sincerely,

Donna Katula
Manager, Environmental Performance
International Paper - Savannah Mill

INTERNATIONAL PAPER

728-MR-01-EV01

Comment: *The Savannah Mill currently uses 6-8 million gallons per day of water supplied by the City of Savannah Industrial and Domestic (I&D) facility. That amount is expected to increase significantly over time as use of groundwater from the Upper Floridan aquifer is further curtailed. Therefore, the chloride content of the water supplied by the City of Savannah will have greater and greater impacts on the mill. The area of greatest concern is the boiler water feed system. This system provides high quality water to the boilers, which is then converted to steam to supply the mill. The increases in chloride content to the intake of the City I&D facility that are referenced in the CIE document will adversely impact the boiler water system. International Paper anticipates that it will be forced to treat the incoming water from the City I&D facility to reduce chloride levels of the water being supplied to the boilers.*

Response: The District appreciates this information and used it in its update of the expected project impacts to chloride levels at the City's water intake in Abercorn Creek. That analysis is included in the Engineering Appendix, Section 7.7. The proposed mitigation storage reservoir should result in more stability in the water quality parameters as compared to the existing condition. Although occasional increases in chloride levels may be experienced, chloride levels are expected to be maintained below that which can be handled by the IP existing demineralizer facilities.

From:	Beverly Faircloth
To:	CESAS-PD, SAS
Subject:	Harbor Expansion Project
Date:	Tuesday, January 25, 2011 10:58:05 AM

I have serious concerns regarding the deepening of the harbor. The port at Savannah can continue to grow and jobs will be maintained without the expense and danger to the environment that bigger ships calling here will cause, such as:

>cost to improve highway infrastructure to support increased port traffic;

>saltwater intrusion of the Floridian Aquifer;

>quality of dredged material to be dumped on the beach at Tybee;

>cost to build and maintain the huge aereators that deepening the harbor will necessitate.

There are many more reasons not to recommend this. Please consider this carefully.

Beverly Faircloth

732-MR-04-EV01, 732-MR-04-EN01, 732-MR-04-EV02, 732-MR-04-EV03
Comment: *>cost to improve highway infrastructure to support increased port traffic;*
>saltwater intrusion of the Floridian Aquifer;
>quality of dredged material to be dumped on the beach at Tybee;
>cost to build and maintain the huge aereators that deepening the harbor will necessitate.

Response: The Georgia Ports Authority (GPA) is working closely with the Georgia Department of Transportation (DOT) to secure priority construction the following roadway links: Jimmy Deloach Parkway Connector to I-95; Grange Road Upgrade to GA 21; Mason ICTF/Highway 307 Overpass; and Brampton Road Connector to I-516.

These are relatively direct connectors to/from the GCT and would be able to accommodate predicted increases in future truck traffic at an acceptable level of service rating [without placing an unacceptable burden on adjacent residential streets].

As discussed in the GRR-Appendix C: Engineering, Supplemental Studies, Potential Ground-Water Impacts to the Upper Floridan Aquifer [2007] impacts to groundwater in the Upper Floridan aquifer are expected to be minimal due to the proposed harbor deepening.

Placement of sediments on the dry portion of the Tybee Island beach was never part of SHEP's sediment placement plan. However, after coordination with GA DNR-CRD and the City of Tybee Island, the original dredged material placement plan has been revised. Currently, placement of all sediments excavated from the entrance channel would be deposited in previously-approved areas: the Offshore Dredged Material Disposal Site or an upland confined disposal site. The Final EIS details the revisions to the plan.

The construction and maintenance costs of the Speece cones (aerators) were considered in the project's economic analysis. The District would be responsible for the long-term operation of the DO systems. Importantly, the Corps gives its highest budget ranking for operation/maintenance of mitigation features.

Skidaway Institute of Oceanography
University System of Georgia
10 Ocean Science Circle
Savannah, Georgia 31411

January 25, 2011

UNEXAMINED EFFECTS OF THE PROPOSED SAVANNAH HARBOR DEEPENING ON THE MARSHES OF THE SAVANNAH NATIONAL WILDLIFE REFUGE

We have identified three issues that have not been addressed adequately in the current EIS and monitoring plan for the Savannah Harbor project. Their exclusion will limit the ability of local, state and federal agencies to identify and mitigate potential damages to the marsh ecosystem of the Savannah National Wildlife Refuge as a result of the proposed deepening. We strongly recommend that the current monitoring and mitigation plans be altered to include more appropriate and detailed study of SNWR marsh oxygen consumption, sediment dynamics, and carbon and nutrient cycling as outlined below.

Dr. William Savidge, Asst. Professor
Dr. Clark Alexander, Professor
Dr. Jay Brandes, Assoc. Professor
Aron Stubbins, Asst. Professor
Skidaway Institute of Oceanography*

*The Skidaway Institute is an autonomous research institution within the University System of Georgia. Faculty of the Institute educate students and conduct research on all aspects of the marine environment in Georgia and around the world.

The EFDC and WASP modeling approach appears to ignore the contribution of the flooded marsh surface to the total oxygen demand of the estuary. The model is designed to evaluate processes in flooded channels. Oxygen consumption estimates are derived from standard BOD samples taken from the river. Studies elsewhere in the State of Georgia (Cai et al. 1999) have shown that the flooded marsh surface -- not the water in the river channel -- is the dominant sink for dissolved O_2 in tidal estuaries. The effect is most pronounced in the summer months and during nighttime high tides (the flooded marsh can contribute a net addition of oxygen to the system during daytime high tides). The Satilla River system studied by Cai et al. (1999) has a number of significant differences with the Savannah in terms of flooded marsh area and riverine water chemistry; however, exclusion of reactive marsh surfaces from consideration is likely to lead to an overestimate of O_2 concentrations within the system. Marsh surface oxygen consumption rates at the monitoring sites should be quantified to address this issue, and rates followed over time to address the effects of channel deepening/mitigation efforts on this variable. Results of the field measurements will guide modeling efforts and inform adaptive oxygen mitigation decisions

Cai, Wei-Jun, Lawrence R. Pomeroy, Mary Ann Moran, and Yongchen Wang. 1999. Oxygen and carbon dioxide mass balance for the estuarine-intertidal marsh complex of five rivers in the southeastern U.S. Limnol. Oceanogr. 44: 639-649.

Sediment supply to marshes along the Middle and Back Rivers as a result of diversion at McCoy Cut is not addressed. Sediment supply is important for maintaining marsh level during sea level rise (e.g., Friedrichs and Perry 2001, Morris et al. 2002). Supply to marshes is affected by changes in in the strength of different sources (river/ocean) and changes in the efficiency of suspended particle trapping (as a function of tidal range, vegetation type and density). If the sediments feeding the marshes are derived predominantly from upstream sources, then the proposed diversion at McCoy Cut may channel more sediment into the Back and Middle Rivers. The effects of increased loading on marshes within the Refuge may be positive or negative. If sediment sources are predominantly from downstream, then blocking upstream movement of sediment at New Cut and the sediment basin may restrict the supply of sediment available to the marshes, limiting their ability to respond to sea level rise and leading to drowning of marsh habitat. Sediment character and accumulation rates on daily, weekly and monthly scales in channels and marshes should be measured near the monitoring sites to address this issue. Evidence for increased sedimentation in marshes or siltation in creeks and channels, or, conversely, sediment starvation of marsh platforms, can be used to alter sediment management strategies to maintain a healthy sediment balance in the Refuge.

Friedrichs, Carl.T., and J.E. Perry, 2001. Tidal salt marsh morphodynamics. In: P. Goodwin and A.J. Mehta (eds.), Tidal Wetlands: Physical and Ecological Processes. Journal of Coastal Research, SI 27: 7-37.

Morris, James T., P.V. Sundareshwar, Chriostopher T. Nietch, Bjorn Kjerfve, and D.R. Cahoon. 2002. Responses of coastal wetlands to rising sea level. Ecology 83: 2869-2877.

In the EIS, biological impacts to Refuge marshes are evaluated entirely in terms of abundance and distribution of biological components (marsh vegetation and fauna). However, the biogeochemical functions of the marshes and the indirect ecosystem services they provide have not been considered, and the potential alterations in those services, whether positive or negative, as a result of altered salinity patterns inside and outside the refuge remain unquantified.

Marshes are efficient systems for capture and sequestration of carbon and associated nutrients. Given the distribution of fresh, brackish and salt marshes within the Refuge as well as regional estimates for carbon sequestration (Loomis et al. 2010), marsh soils within the Refuge sequester on the order of 3000 metric tons of carbon per year. The source of the carbon is both particulate carbon captured from suspended riverine matter and atmospheric CO_2 stored as living and dead plant biomass. As both particulate exchange and plant productivity are likely to be altered by the dredging and mitigation activities, the capacity of the Refuge to store carbon will be altered by harbor expansion.

Carbon balance within the estuary is likely to be altered in other ways as well. Increased porewater sulfate, which is derived from salt water, in portions of the Refuge may tip the metabolic balance of the sedimentary microbial community from a predominantly methanogenic community to a sulfate reducing community. Weston et al. (2006) have presented evidence that

increased salinity and sulfate reduction can lead to an enhanced "burn-down" of stored carbon and the release of previously sequestered nutrients and CO_2 back into porewaters. Declines in sedimentary methanogenesis will also alter the relative proportions of CO_2 and CH_4 emissions to the atmosphere. Overall, decreased methane emissions from refuge sediments can be regarded as a net "good," as methane is a particularly effective greenhouse gas. However, the mobilization of stored carbon and nutrients that may accompany a shift sulfate metabolism in marsh sediments could contribute to eutrophication of local water bodies.

Distribution and abundance of marsh vegetation is an inadequate measure of the effects of harbor deepening on the Refuge marshes. The biogeochemical cycling of nutrients, as well as dissolved and particulate organic and inorganic carbon, should be assessed and monitored at representative sites within the Refuge to address this issue. Carbon and nutrient budgets represent a more holistic assessment of the health of the marshes and their relationship with the larger estuarine system than does marsh plant distribution. Plant productivity as well as biomass and distribution should be determined along planned monitoring transects.

Loomis, Mark J. and Christopher B. Craft. 2010. Carbon sequestration and nutrient (nitrogen, phosphorus) accumulation in river-dominated tidal marshes, Georgia, USA. Soil Science of America Journal 74: 1028-1036.

Weston, Nathanial, B, Ray E. Dixon, and Samantha B. Joye. 2006. Ramifications of increased salinity in tidal freshwater sediments: Geochemistry and microbial pathways of organic matter mineralization. Journal of Geophysical Research 111 (G01009) doi: 10.1029/2005JG00071.

Skidaway Institute of Oceanography

Page 1

737-MR-03-EV01, 737-MR-03-EV02

Comment: *The EFDC and WASP modeling approach appears to ignore the contribution of the flooded marsh surface to the total oxygen demand of the estuary. The model is designed to evaluate processes in flooded channels. Oxygen consumption estimates are derived from standard BOD samples taken from the river. Studies elsewhere in the State of Georgia (Cai et al. 1999) have shown that the flooded marsh surface -- not the water in the river channel -- is the dominant sink for dissolved O2 in tidal estuaries. The effect is most pronounced in the summer months and during nighttime high tides (the flooded marsh can contribute a net addition of oxygen to the system during daytime high tides). The Satilla River system studied by Cai et al. (1999) has a number of significant differences with the Savannah in terms of flooded marsh area and riverine water chemistry; however, exclusion of reactive marsh surfaces from consideration is likely to lead to an overestimate of O2 concentrations within the system. Marsh surface oxygen consumption rates at the monitoring sites should be quantified to address this issue, and rates followed over time to address the effects of channel deepening/mitigation efforts on this variable. Results of the field measurements will guide modeling efforts and inform adaptive oxygen mitigation decisions Sediment supply to marshes along the Middle and Back Rivers as a result of diversion at McCoy Cut is not addressed. Sediment supply is important for maintaining marsh level during sea level rise (e.g., Friedrichs and Perry 2001, Morris et al. 2002). Supply to marshes is affected by changes in in the strength of different sources (river/ocean) and changes in the efficiency of suspended particle trapping (as a function of tidal range, vegetation type and density). If the sediments feeding the marshes are derived predominantly from upstream sources, then the proposed diversion at McCoy Cut may channel more sediment into the Back and Middle Rivers. The effects of increased loading on marshes within the Refuge may be positive or negative. If sediment sources are predominantly from downstream, then blocking upstream movement of sediment at New Cut and the sediment basin may restrict the supply of sediment available to the marshes, limiting their ability to respond to sea level rise and leading to drowning of marsh habitat. Sediment character and accumulation rates on daily, weekly and monthly scales in channels and marshes should be measured near the monitoring sites to address this issue. Evidence for increased sedimentation in marshes or siltation in creeks and channels, or, conversely, sediment starvation of marsh platforms, can be used to alter sediment management strategies to maintain a healthy sediment balance in the Refuge.*

Response: The Corps does not concur. The models considered the contribution of flooded marsh surface as discussed in Section 8.3.2 of the report titled "Development of the Hydrodynamic and Water Quality Models" completed January 2006, which is included in the Engineering Appendix Supplemental Materials.

The adjacent marsh areas in the Lower Savannah River and Estuary (Harbor) significantly affect the dissolved oxygen concentrations in the Front River. The marsh areas are important for the hydrodynamics in the way they affect the salinity transport on the Middle and Little Back Rivers. Therefore, it was determined that inclusion of the marsh areas into the model was necessary for capturing the salinity trends in the upper part of the estuary. The modeled marsh areas would also provide a mechanism to simulate CBODu loadings from the marsh areas into Savannah Harbor. As described in detail in Section 4.04, a simple, but comprehensive solution was developed to handle the marsh areas in the EFDC hydrodynamic and WASP water quality models. The enhanced EFDC model

includes 17 separate marsh areas to represent the 10 Q zones of the estuarine marshes from the Tidegate to I-95. Only 15 of the marshes were used as water quality loads. The Union Creek and Augustine Creek sites were used as storage only. The hydrodynamic and water quality models used for the SHEP analyses were developed from the same models that EPA used to simulate dissolved oxygen for their TMDL regulations.

To quantify the exchange of organic material between marshes and the open water of the Savannah Harbor, previous studies were reviewed to develop appropriate loading rates. The following studies were reviewed and used to quantify the marsh loadings.

• GPA field data during Summer of 1999 – marsh data (ATM, 2000).

• Maybank Project: A Study of the Intertidal Marshes and Streams. USEPA Environmental Services Division, Athens, Georgia, May 1984 (USEPA, 1984).

• Burke III, Roy 1984. Proposed Protocol for: Incorporating the Effects of a Spartine Salt Marsh into a Simplified Water Quality Model of Adjacent Tidal Waters in Georgia. US USEPA, Region 4 (Burke, 1984).

• Nutrient Dynamics and Water Quality Interactions in the Goose Creek Sub-Basin of the Charleston Harbor Estuary. Department of Environmental Health Science University of South Carolina, Columbia, SC, October 1996 (McKellar, 1996).

• Nixon, Scott W. and Virginia Lee. Wetlands and Water Quality. Technical Report Y-86-2, October 1986 (Nixon, 1986).

Sediment supplies to marshes are important. However, the District does not agree that the flow alteration plan [for SHEP] will result in changes to sediment loading that are of sufficient magnitude to significantly alter suspended particle trapping (a function of tidal range, vegetation type and density) in the tidal freshwater marsh and/or brackish marsh ecosystems. Within the Lower Savannah River Basin, the sediment supply to tidal marsh ecosystems is derived from both freshwater (upstream) and brackish water (downstream) inputs. The flow diversion plan will shunt greater freshwater volumes to the Little Back River (LBR) and Back River (BR) areas to preserve and/or expand freshwater marsh, thereby minimizing SHEP-derived impacts to those marshes. However, segments of the LBR and BR will still be subjected to brackish water input to the extent that salinity gradients will continue to exist. Ultimately, these minor changes [to the salinity regime in LBR and BR] will reach equilibrium. The tidal range [differential between MWH and MLW] in these areas will not be significantly altered. Consequently, the adjacent tidal freshwater and brackish marshes would still receive twice-daily flushing by surface waters carrying sediments. In turn, sediments, particulate matter, and detritus, which are all transported and/or influenced by both freshwater and brackish water inputs, will still be subject to the same physical and biogeochemical processes (including sediment trapping) that presently occur in these marsh environments.

Shifts in vegetation type and corresponding densities, which also influence sediment supply to marsh, will also be minor as a result of the flow diversion plan. The salinity range used in the SHEP model to differentiate between brackish marsh (0.6-4 ppt) and salt marsh (> 4ppt) was restrictive given that brackish marsh salinities have been reported with a range from 0.5-10 ppt (NOAA, 2010) and in other estuarine systems from 0.5-17 ppt (Judd and Lonard, 2004). Thus, the salinity range used to quantify salt marsh in the area of potential effect (i.e., > 4 ppt) likely over estimates the amount of saltmarsh in the system and under-estimates the amount of brackish marsh. As such, the described conversion of salt marsh to brackish marsh that may occur as a result of harbor deepening, would be negligible when

taking into account vegetative characteristics for wetland environments with associated salinities commonly associated with a brackish marsh (i.e., range between 5 and 10 ppt).

Given the wide range of salinity reported in literature for brackish marsh systems, the inherent variability in salinity that exists for all estuarine systems, and the modeling results that report post-deepening salinity concentrations consistent with the aforementioned range, it was concluded the 740-acre calculated conversion of saltmarsh to brackish marsh if the harbor is deepened to 47-feet is a conservative number, with actual vegetative shifts unlikely to be identifiable in situ in Savannah. That said, the District elected to be conservative in its assessment of project-related effects and included the saltmarsh/brackish marsh conversion in its calculation of minor impacts.

The conversion of 223 acres of freshwater wetland to brackish marsh represents the only significant wetland conversion that is likely to be noticeable if the harbor is deepened to 47-feet as proposed. It is important to stress that the impact [223 acres] to freshwater wetlands would only result in a nominal shift in vegetative species. The District's calculation of the freshwater wetland acreage experiencing conversion is based on a change [in the boundary] of 0.5 ppt salinity, a traditional rule-of-thumb for differentiating between freshwater marsh and brackish marsh. However, data reported in the literature for Savannah Harbor suggest that a shift in vegetation (from freshwater to brackish marsh) in this estuary does not occur until salinity concentrations approach 2.5 ppt (Latham et al., 1994). Even at oligohaline marsh sites with average salinity concentration of 2.1 ppt, a discriminant function (DF) analysis revealed that only 47% of cases resulted in the correct pairing of environmental variables with vegetative species composition and dominance. At those same oligohaline sites, 37% of the vegetative species composition and dominance were more closely aligned with a freshwater classification (Latham et al., 1994).

Given the previously-described information, the District has determined that the SHEP and flow diversion plan will have a negligible impact on sediment supply to tidal freshwater and brackish marshes within the project effect's area.

Page 2

737-MR-03-EV03

Comment: *In the EIS, biological impacts to Refuge marshes are evaluated entirely in terms of abundance and distribution of biological components (marsh vegetation and fauna). However, the biogeochemical functions of the marshes and the indirect ecosystem services they provide have not been considered, and the potential alterations in those services, whether positive or negative, as a result of altered salinity patterns inside and outside the refuge remain unquantified.*

Response: The District agrees that freshwater and brackish marsh systems contribute important biogeochemical functions and indirect ecosystem services. However, considering the total acreage of diverse marsh habitat in the Refuge, the various SHEP-derived conversions will not be of sufficient magnitude to produce a quantifiable positive or negative result with respect to carbon sequestration. It is important to note that several studies were conducted during the SHEP to establish baseline conditions in regards to the amount of tidal freshwater marsh remaining in the estuary. Applied Technology and Management (March 2003) and USFWS (Welch and Kitchens 2006) conducted studies to categorize the various wetland communities in the study area (I-95 Bridge to mouth of Back River). Using a marsh succession model, the USFWS identified the following marsh distribution (Welch and Kitchens 2006):

Marsh Distribution

Marsh Type	Acreage
Freshwater	3,269
Brackish	3,082
Saltmarsh	2,506

Even with complete conversion of 223 acres of tidal freshwater wetland to its brackish counterpart, there would still be approximately 3,044 acres of tidal freshwater marsh present in the estuary. All marsh habitats are important in carbon cycling; hence, the net change in the sequestration process would be negligible in the context of the Refuge and/or Savannah River Estuary. This would also translate into a negligible change in the regional estimates for carbon sequestration [3,000 metric tons/year] for marsh soils within the Refuge [Loomis et al., 2010]. Further, it is doubtful that a marginal species shift [on 223 acres] would materially affect its sulfate metabolism or that this would result in a measurable increase in eutrophication of local water bodies. It is important to note that the subject plant community is already influenced by brackish water, and therefore, subject to some degree of sulfate reduction within its pore waters.

These marsh areas are further influenced by increased salinity during low flow and/or drought conditions. Interestingly, river flows used in simulations to determine wetland impacts for the "Basic Evaluation" are average/typical flows for the evaluation period of 1 March to 1 November as specified by the Wetland Interagency Coordination Team. Average/typical river flows were determined using recorded gage data for Savannah River at Clyo, Georgia. The EFDC model has continuous input boundary conditions for a seven-year period (1997-2003) available for simulation. The year 1997 was found to have flow conditions representative for the long-term average flows for the river. Low or drought river flows were also considered for determining wetland impacts. This flow condition was called "Sensitivity Analysis #1". Low or drought river flows were determined using recorded gage data and 2001 was found to have flow conditions representative for the long-term low/drought flows for the river. *As illustrated in the results for drought flow conditions, deepening (47-foot depth) in conjunction with flow diversion plan 6A would actually convert 520 acres of brackish marsh to freshwater wetlands.* However, the District chose to be conservative [more inclusive of impacts] and used the results of average/typical river flows that resulted in 223 acres of freshwater wetland conversion.

Freshwater Tidal Marsh/Wetland Impacted Acreages Deepening WITH Flow Diversion Plan 6A					
Model Scenario	**44 ft depth**	**45 ft depth**	**46 ft depth**	**47 ft depth**	**48 ft depth**
Basic Evaluation Average/Typical Flow Conditions	**322**	**-32**	**-201**	**-223**	**-337**
Sensitivity Analysis #1 Low/Drought Flow Conditions	**920**	**903**	**678**	**520***	**362**

Acreages shown in red are freshwater tidal wetlands that are not mitigated for by flow altering plans (6a & 6b).
**Interpolated value.*

To reiterate, nutrient cycling within the impacted 223 acres of freshwater wetlands would just be incrementally changed [not lost] and still retain the ability to sequester carbon. Thus, the net change in these processes would be negligible when considering the quantity of marsh located in the Refuge or the Savannah River Estuary.

Finally, the Corps' calculation of the number of acres of freshwater wetland that have the potential to be converted to brackish marsh is based on a shift in the boundary [location] of 0.5 ppt salinity, a traditional rule-of-thumb for differentiating between freshwater marsh and brackish marsh. However, data reported in the literature for Savannah Harbor suggest that a shift in vegetation (from freshwater marsh to brackish marsh) in this estuary does not occur until salinity concentrations approach 2.5 ppt (Latham et al., 1994). Even at oligohaline marsh sites with average salinity concentration of 2.1 ppt, a discriminant function (DF) analysis revealed that only 47% of cases resulted in the correct pairing of environmental variables with vegetative species composition and dominance. At those same oligohaline sites, 37% of the vegetative species composition and dominance were more closely aligned with a freshwater classification (Latham et al., 1994).

Given the aforementioned information, the District evaluated and monitored biological components [i.e., marsh vegetation and fauna] since these factors represented logical and quantifiable endpoints that can be appropriately mitigated should impacts be observed.

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January 25, 2011

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District Commander
US Army Engineer District, Savannah

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Submitted via e-mail to CESAS-PD@usace.army.mil

Subject: **DRAFT - TIER II ENVIRONMENTAL IMPACT STATEMENT (EIS) FOR SAVANNAH HARBOR EXPANSION PROJECT, CHATHAM COUNTY, GEORGIA AND JASPER COUNTY, SOUTH CAROLINA, RELEASED 15 NOVEMBER 2010**

Dear Mr. Bailey:

These comments (including the attached Appendices) are submitted concerning the Draft Tier II EIS for the Savannah Harbor Expansion Project (SHEP). Please consider both my comments and the attached Appendices as part of the comments and part of the record of this proceeding.

Feel free to contact me (ahricko@usc.edu) or 323-442-3077 if I can provide any further information.

Sincerely yours,

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January 25, 2011

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Dear Mr. Bailey:

These comments are submitted concerning the Draft Tier II EIS for the Savannah Harbor Expansion Project (SHEP). Please consider both my comments and the attached Appendices as part of the comments and part of the record of this proceeding.

I am a professor at the Keck School of Medicine of the University of Southern California (USC). I direct a community outreach and education program at the Southern California Environmental Health Sciences Center. Through that Center, funded by the National Institute of Environmental Health Sciences, and with additional funding from the Kresge Foundation, our Center has been studying the health and community impacts related to international trade and goods movement, through ports, rail yards, and other facilities. We have had several national conferences on this topic and have received requests for technical assistance on better understanding of these impacts from those living in communities where ports and rail yards are expanding. It is with this background that I submit these comments.

I submit these comments primarily to address perceived inadequacies in the DEIS for the SHEP pertaining to the evaluation of air quality, noise, environmental justice and cumulative impacts. In addition, the purpose and need for the project are not clearly defined. The DEIS does not include any discussion of growth inducement, cumulative impacts, noise, health impacts, EJ or air quality in its economic or environmental analyses. For these reasons, a new Draft EIS should be recirculated for additional public review. In addition, I note that the request for a public hearing on this DEIR was denied by the Army Corps of Engineers.

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I. ISSUES IGNORED OR DISMISSED IN THE SHEP DEIS: Growth Inducement, Community Impacts, Health Impacts, Noise, Cumulative Impacts and Environmental Justice

I am familiar with Army Corps of Engineers DEISs, EISs, and EAs. As is true with the Ports of Los Angeles and Long Beach, the Georgia Ports Authority must comply with the National Environmental Policy Act (NEPA) for projects with federal involvement, such as projects with federal funding or federally issued permits. NEPA requires consideration of potential environmental impacts from projects prior to federal action. From reading the SHEP DEIS, I discovered that many of the issues that Army Corps of Engineers personnel have addressed in other DEISs/EAs related to Ports and international trade/goods movement are dismissed with a few simple paragraphs – and no analysis – in the SHEP. See the following analyses in other projects and please compare to the lack of such analyses in the SHEP.

- The DEIR/EA for the Heim Bridge/SR 47 Expressway in Southern California includes a discussion of the following topics, not located in the SHEP DEIS, which should have been addressed:
  - Growth Inducement
  - Health Impacts
  - Community impacts (see Appendix A, letter from U.S. EPA Region 9 on the Heim Bridge, SR 47 Project)
  - Noise (12 page discussion, with noise measurements, predicted measurements, mitigation methods) http://www.polb.com/civica/filebank/blobdload.asp?BlobID=7535
  - Cumulative impacts – including other projects that will impact air quality and noise* (see U.S. EPA Region 9 letter in Appendix A). Also see case at http://nsglc.olemiss.edu/SandBar/SandBar8/8.3nepa.htm).

- The EIR/EA for the Middle Harbor Redevelopment Project (Port of Long Beach) was produced by the ACE and Port of Long Beach, at http://www.polb.com/environment/docs.asp. The EIR/EA for this project in Southern California includes a discussion of the following topics, which are either not located or summarily dismissed in the SHEP DEIS, which should have been addressed:
  - Growth Inducement
  - Health Impacts
  - Community Impacts
  - Noise
  - Cumulative Impacts
  - Environmental Justice Concerns

A. NOISE

Of significant concern, the the ACE/GPA dredging project does not have a lengthy construction noise section nor does the overall project have an operational noise section to analyze whether unloading larger number of containers from new larger post-Panamax ships (that have been at

the Port previously) is noisier for the community than previous operations. This type of environmental review/analysis is a requirement of NEPA. Here are the pages of the Middle Harbor Project that shows the type of noise analysis – not done for the SHEP DEIS – which much be conducted: http://www.polb.com/civica/filebank/blobdload.asp?BlobID=5136.

Other EISs by the Army Corps of Engineers have also included noise. See, e.g., http://www.porteis.com/project/documents_library/PortEISNewsletter4v38pages.pdf . See the following Scoping Presentation by the ACE: www.lca.gov/Library/FileDownload.aspx?ProdType=2&id=3043.

Appendix A of these comments includes citations to research on the impacts of noise on human health and are submitted for the record as health impacts that must be considered by the SHEP DEIS.

The SHEP analysis states that the noise levels from the dragarm sliding along the bottom ranged from 70-140dB. Most noise charts do not even go over 110 (see below a noise chart reprinted from the EIS/EA by the Port of Long Beach and Army Corps of Engineers for the Middle Harbor Project.) The impacts of such noise levels on animal life in the river and human health nearby must be analyzed.

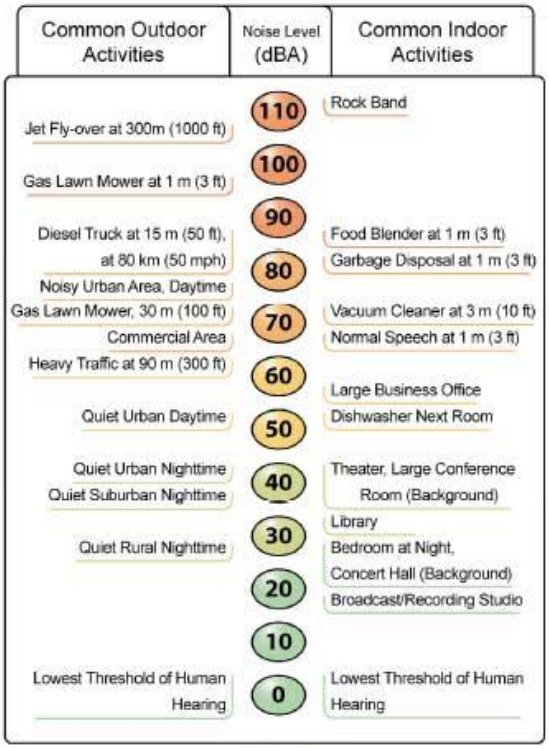


Exhibit 2.2.6-1
Typical Sound Levels from Indoor and Outdoor Noise Sources

3

Chart above from the Middle Harbor Development Project of the Port of Long Beach.
The following section of the SHEP in italics is copied from the .pdf of the SHEP. Note the last paragraph which states that there are minimal impacts from noise, based on no original noise analyses for this project and no published data. The NEPA-required SHEP analysis of noise is completely inadequate.

Noise Associated with Dredging (from page 5-113 of the SHEP DEIS)
"The noise generated from a hopper dredge is similar to a cutterhead suction dredge except there is no rotating cutterhead. The majority of the noise is generated from the dragarm sliding along the bottom, the pumps filling the hopper, and operation of the ship engine/propeller. Like the cutterhead suction dredge, the noise ranged from 70 to 1,000 Hz and peaked at 120 to 140 dB (Clarke et al 2002).

These results from Clarke et al are preliminary and have not been published. (Emphasis added).

The noise generated from a mechanical dredge entails lowering the open bucket through the water column, closing the bucket after impact on the bottom, lifting the closed bucket up through the water column, and emptying the bucket into an adjacent barge. Once the barge is full, it is towed by a tug offshore and empted either in the submerged berms adjacent to the ocean bar channel or the Savannah ODMDS. According to discussions with Doug Clarke and Charles Dickerson, US Army Engineer Research and Development Center the maximum noise spike with mechanical dredges is when the bucket hits the bottom. All other noises from this operation (i.e., winch motor, spuds, etc.) are insignificant. The sediment within Savannah Harbor is predominantly sand/silt/mud mixture. No rock, gravel, or cobbles are located within the portion of the navigation channel to be deepened. According to the Clarke et al (2002), the peak amplitude for the bucket hitting the rocky, gravel, cobble bottom at Cook Inlet, Alaska was about 120 dB. Both Doug Clarke and Charles Dickerson, US Army ERDC stated that this peak amplitude of the bucket hitting the existing sand/silt/mud substrate of Savannah Harbor would be significantly less than 120dB.

In light of these factors, the proposed harbor deepening is not expected to result in more than minimal adverse impacts as a result of noise."

Below please find noise analyses conducted by other Port projects that involved the Army Corps of Engineers.

B. HEALTH IMPACTS FROM EXPOSURE TO AIR POLLUTION

The SHEP DEIR basically concludes that there will be insignificant health impacts from air pollution resulting from dredging the Savannah River and expanding the capacity of the Garden City Terminal. Their analyses and assumptions are believed to be faulty and the DEIR for SHEP must be redone. The resulting air pollution from this project must be evaluated, including its potential health impacts. Air pollution resulting from the expansion of port projects in the U.S. is a serious concern in 2010, but is dismissed by the ACE and GPA in their documents. Please see a report by U.S. EPA which documents some of the health impacts from ports and "goods movement." http://www.epa.gov/compliance/ej/resources/publications/nejac/2009-goods-movement.pdf. Also please see Appendix B of these comments, which includes more

information about the latest research findings on the health impacts of air pollution on human health.

C. ENVIRONMENTAL JUSTICE CONCERNS

Environmental Justice (EJ) concerns are required to be considered/evaluated in EISs. The SHEP DEIS fails to consider EJ concerns. We are concerned over the significant and unavoidable impacts to the already disproportionately affected EJ community, and recommend additional measures to fully offset these impacts. We suggest that the Corps and Georgia Ports Authority develop a Health Impact Assessment to better identify these impacts and work with the community to identify offset measures. In addition to health impacts from construction and operational emissions, we are also concerned with potential impacts from construction noise resulting from the Project. Please see the report about environmental justice concerns relating to ports and goods movement produced by U.S. EPA in 2009, entitled: *Reducing Air Emissions Associated With Goods Movement: Working Towards Environmental Justice* at http://www.epa.gov/compliance/ej/resources/publications/nejac/2009-goods-movement.pdf

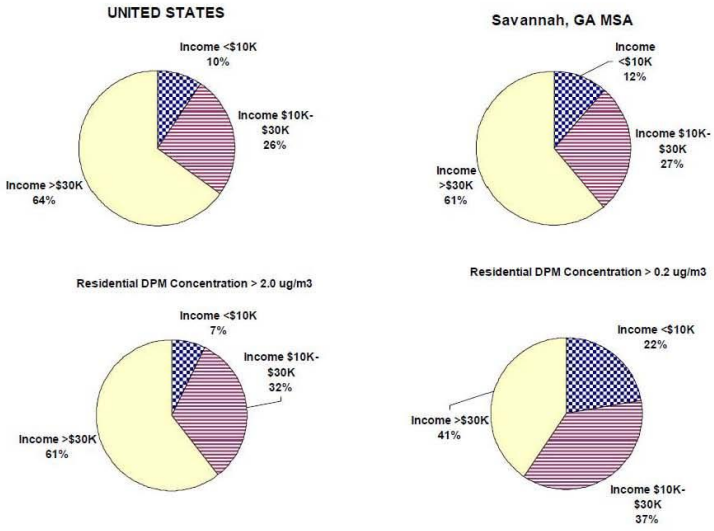
Of great relevance, on the locomotive and marine engine rule of U.S. EPA, the agency contracted with a consulting firm to produce a report about EJ issues and demographics near Ports. Here is Appendix G of the report and following are pages showing the inequities and disproportionate impacts of air pollution for the African-American community living near the various terminals of the Port of Savannah:

Age, Income, and Racial/Ethnic Composition

of Populations Exposed to DPM in the Vicinity of Harbor Areas

Below are pie charts showing the income distribution near the Port of Savannah from the above report. Please note that the residents living in close proximity to the terminals are those who are most like to be exposed to PM:

Figure G-113. Income composition of households exposed to DPM concentration thresholds due to emissions from Savannah Harbor.

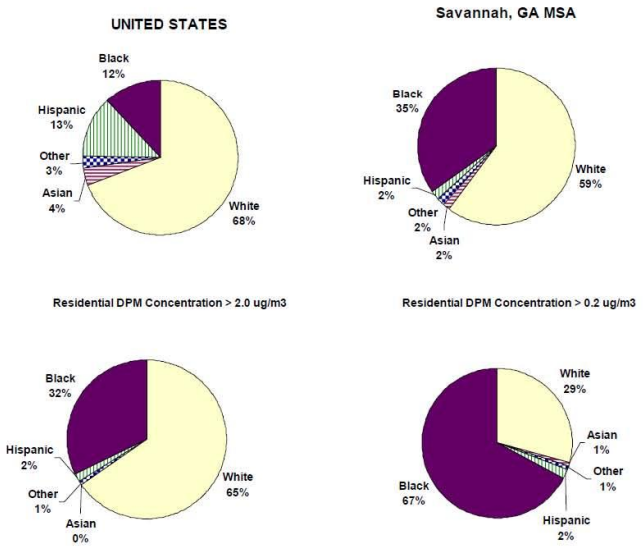


Also please note that the racial demographics of those who live in close proximity to the marine terminals of the Savannah Harbor show that the African-American community is at greater risk of exposure to pollutants than other races in Savannah.

6

Age, Income, and Racial/Ethnic Composition of Populations Exposed to DPM in the Vicinity of Harbor Areas

Figure G-114. Racial/ethnic composition of population exposed to DPM concentration thresholds due to emissions from Savannah Harbor.



The comments attached in Appendix D, written by U.S. EPA Region 9 in response to a marine terminal expansion in Los Angeles are completely relevant to this DEIS, even citing the anticipated expansion for the Port of Savannah:

II. PURPOSE AND NEED FOR THE PROJECT IS UNCLEAR AND INCONSISTENT

A. SHEP project and expansion of port capacity

- Is the project needed so that the Port of Savannah can expand its capacity?
- Or will, as claimed, the Garden City Terminal expand to capacity even without the SHEP river deepening?

If the latter is true, as claimed, why is the SHEP needed at all? If the SHEP is indeed needed for Garden City to reach capacity, then air quality and noise impacts are grossly understated in the emissions inventory and throughout the DEIS and the DEIS must be redone and resubmitted for public comment.

Although the DEIS is described as pertaining to the "Savannah Harbor Expansion Project," the EIS does not make a clear case about why the dredging/deepening of the Savannah River is actually required or proposed. In fact, the DEIS makes multiple claims that the Port of Savannah will not be expanded as a result of the river dredging – which actually is inconsistent with the name of the EIS, which calls the project an "expansion" project.

If the project is billed as an "expansion plan," which certainly implies enlarging the capacity to handle international trade, then both the air pollution and noise sections of the EIS are completely inadequate as written. They are based on an assumption that the Port will NOT expand in capacity, but will instead have the same number of containers as the Port would have in the future without dredging of the River.

At the outside, the Army Corps of Engineers DEIS must clarify:

- How many containers does the Garden City Terminal handle per year now?
- How many containers would it expect to have come into Garden City Terminal in future years if the River is not deepened?
- Why does it believe that smaller ships will keep coming to Savannah in large numbers and with a full complement of containers? What evidence does the GPA have that 6+ million containers/year will be handled at Garden Cit Terminal WITHOUT the SHEP project? This evidence must be in the DEIS.
- How many containers will GPA and the ACE anticipate coming into the Port of Savannah be in future years if the River is deepened?

If the answers to questions #2 and #3 are "an equal number," then how can the Georgia Ports Authority (GPA) justify spending millions of dollars to deepen the river? If the answer to the third question is YES, the ACE/GPA need to provide documentation that the Garden City Terminal can be competitive with all other East Coast Ports WITHOUT the SHEP, which is what the DEIS claims. The entire DEIR is based on answers to these questions and the assumptions that are based on them.

If, indeed, the GPA will "lose business" to other East Coast Ports if it does not deepen the river (as it claims in numerous newstories) then the answer for question #2 simply cannot be equal to the answer for #3 above.

Which is it? If the same number of containers will be handled with or without the deepening – then the Port will not be "growing," as stated below; nor will it "embark on an aggressive expansion," as stated below; nor will the deepening "create jobs and commerce." If, as is much more likely to be true based on other harbor expansion projects, the number of containers will indeed increase only with the SHEP Project and the deepening in place – then the EIS is completely inaccurate in its projections or air pollution and noise.

This is the current number of ships and types at the Garden City Terminal, from Appendix K of the SHEP DEIS at page 7:

TABLE 4-1 BASELINE EXISTING 42-FOOT DEPTH GARDEN CITY TERMINAL (ONE-WAY VESSEL CALLS)

	Post Panamax	Panamax	Sub-Panamax	Handy-size	Total
Total	32	1,261	213	15	1,521

How can the GPA, the Port of Savannah and the Army Corps of Engineers make the claims that this number will increase to 2226 Post Panamax ships WITH or WITHOUT deepening of the SHEP – by 2065? See Table 4-3 compared to above Table.

Where is an economic or environmental analysis that by 2065 more than 4,000 Post-Panamax ships will choose to go up a 42-foot Savannah River if it is not dredged to a deeper level, as indicated by Table 4-3 on page 8 of the SHEP DEIS?

2065	Post-Panamax	Panamax	Sub-Panamax	Handy-size	Total
-42 feet Baseline	2226	1289	616	17	4148
-44 feet	1869	1136	616	17	3637
-45 feet	1811	1075	616	17	3519
-46 feet	1794	1050	616	17	3477
-47 feet	1794	1040	616	17	3467
-48-feet	1794	1040	616	17	3467

Moreover, the Army Corps of Engineers must explain what the following paragraph from its Emissions Inventory (citing the Economic Analysis in the GRR) can possibly mean since the statement defies logic and also is in complete opposition to the statements made below in A and B about the expected results of expansion of the Garden City Terminal.

Paragraph quoted is from Appendix K, page 61, Air Emission Inventory for the Port of Savannah from the SHEP DEIS:

"Since the Corps' expectation is that a change in harbor depth in Savannah of up to 6 feet would not provide sufficient rationale for vessel lines to alter their trade routes or place larger (more efficient) vessels on those routes, the vessel fleets expected to occur With

and Without the proposed harbor deepening would remain the same. Therefore, no changes in air emissions at the port would be expected to occur as a result of any of the proposed deepening alternatives. A growth in cargo movements and accompanying air emissions are expected in the future over time in Savannah, but those increases would be the result of increasing demand for the goods which move through the port and not a result of a harbor deepening."

Another statement (page 84 of Appendix K): *The emissions from land-based terminal operations would not be affected by the proposed harbor deepening because the proposed deepening is not expected to result in more cargo moving through the port or Garden City Terminal (GCT)."*

And from page 94 of Appendix K: *"Emissions from Land-Based Equipment would not change with channel depth, because the same number of containers would move through the GCT With and Without harbor deepening on a given year."*

The above ACE conclusions are completely inconsistent, of course, with the following statements in the SHEP DEIS:

From Table 4-3, it is apparent that the number of vessels calling on the Port of Savannah decreases as the depth of the Federal channel increases. (Underlining is by the Army Corps of Engineers).

Furthermore, the ACE takes credit for a claimed reduction in air toxics (see concerns raised about the Air Toxics analysis by the U.S. EPA in its letter on this project) a few pages later in Appendix K:

" … the proposed harbor deepening – which would allow larger vessels to regularly use the harbor – would result in lower emissions of air toxics than would the fleet that can use the present 42-foot deep authorized channel."

In its overall conclusion about air quality, the Corps states, in Appendix K, page 100, that:

"Since the proposed harbor deepening is not expected to increase the number of vessels or total cargo moving through the port, no changes to air quality would occur as a result of the project. Increases in air emissions at the port are expected over time as a result of growth in demand for goods that move through the port. Those increases would occur independent of a harbor deepening project."

The Army Corps and the Port of Savannah cannot have it both ways. It cannot claim that the deepening will not increase the trade routes and size of the vessels coming to the Garden City Terminal AND simultaneously claim that the number of vessels will decrease (because they are carrying more containers) if the Federal channel increases in depth.

B. News story quotations – including from the Mayor of Savannah, postings on the Georgia Ports Authority website, and other documents – showing inconsistencies in what the SHEP claims versus what officials have claimed in public

The news story quotations below (from a variety of sources) are inconsistent with claims made in the SHEP DEIS. Only one conclusion can be drawn from the quotations below and from the

activities of the GPA at the Garden City Terminal (where it has already acquired 33 Post-Panamax cranes): *the SHEP will expand the capacity of the Port to handle more containers*.

Such a conclusion also makes it clear that the DEIR – because of its faulty claimed assumptions – does not assess the potential environmental impacts on growth inducement, air quality, noise and cumulative impacts from the SHEP project.

1. The quotations and highlights below are from a press release posted on the website of the Georgia Ports Authority concerning a conference of George Port Authority officials and 350 business people): http://www.gaports.com/corporate/tabid/379/xmmid/1097/xmid/5042/xmview/2/default.aspx

   "As the fastest growing and fourth largest container port in the nation, the Port of Savannah is responsible for moving 8.3 percent of the U.S. containerized cargo volume and more than 18 percent of all East Coast container trade in FY2010."

   "In preparation for the Panama Canal Expansion in 2014, the GPA has embarked on an aggressive expansion and modernization plan."

   "The SHEP is one of the most important and productive civil works projects in the country, and will maintain and create jobs and commerce throughout the region.

[Emphasis added.]

2. The SHEP GRR Section 4 states the following: (http://www.sas.usace.army.mil/shexpan/documents/SHEP_GRR_Section_4.pdf)

   "The Georgia Ports Authority has planned and funded improvements at Garden City Terminal to coincide with the Panama Canal Expansion Project. With these improvements in place, this terminal will be the largest single container handling facility in the Nation with more than 1,200 acres, 9,000 feet of berth, 33 post-Panamax size cranes, and two on-site intermodal transfer facilities serviced by two major rail lines. The facility, at full build out, will have a throughput capacity of 6.5 million TEUs."

   The paragraph from the SHEP GRR Section 4 (above) makes the following clear:

   - The GPA is funding improvements that rely on the Panama Canal Expansion to be successful.
   - Once expansion is in place, very large ships will be able come up the river IF IT IS DEEPENED.
   - The GPA has already bought 33 post-Panamax size cranes in anticipation of increased capacity from these larger ships.
   - At full buildout, the Garden City Terminal will have a throughput capacity of 6.5 million TEUs.

   Clearly, the Garden City Terminal would not be able to handle 6.5 million containers without the deepening of the river to handle post-Panamax ships. As required by NEPA, the SHEP DEIS must do adequate analyses of Growth Inducement, Noise, Lighting, Air Quality with this in mind, as an assumption throughout the document. Thus, the DEIS

for SHEP must be redone and resubmitted for public review using correct assumptions for all analyses.

3. Comments by the Mayor of Savannah with President of the United States on need for river deepening to ensure economic growth

   Comments by the Mayor of Savannah, reprinted below, make it once again clear that the future economic growth of the Garden City Terminal relies on the deepening of the Savannah River. This growth inducment must be analyzed in multiple places throughout the DEIS.

   Savannah Morning News *March 3, 2010*
   by Lesley Conn

   Savannah Mayor Otis Johnson rode alone with President Barack Obama in the back of a limousine, and he tried to make the most of it Tuesday.

   "I'm sorry I did most of the talking," Johnson said, "but it was my one opportunity. I had a list in my head. I just unleashed it all."

   The mayor accompanied the president from Savannah Technical College, south of DeRenne Avenue near Hunter Army Airfield, to an unannounced stop downtown for lunch at Mrs. Wilkes' Dining Room on West Jones Street. .....

   The mayor stressed the need to deepen Savannah's harbor to 48 feet from 42 feet so the Georgia Ports Authority will be able to accept larger, deeper-draft vessels once the widening of the Panama Canal is completed. Without that deepening, the mayor explained, Savannah risks slipping as the fourth-busiest port in the nation, a standing that supports 286,000 jobs throughout the state.

4. Georgia Ports Authority admits on its website that the Savannah River deepening is a large part of what will increase its throughput capacity from 2.62 million TEUs to 6 million TEUs in 2018.

   This must be analyzed in a DEIS section on Growth Inducement (that currently does not exist), as well as in a Noise Section (which is currently only 3 paragraphs long), in the Air Quality section, and in Cumulative Impacts, since the GPA states (below) that there are numerous other expansion projects underway. See http://www.gaports.com/Default.aspx?tabid=269 reprinted below from the GPA website:

   The Future of Trade (From GPA website at
   http://www.gaports.com/Default.aspx?tabid=269

   Business continues to grow, and Garden City Terminal remains ahead of the curve. Anticipating the changing pace of trade not only in the Southeast and Midwest but in overseas markets, the Georgia Ports Authority will invest $1.2 billion in expansion

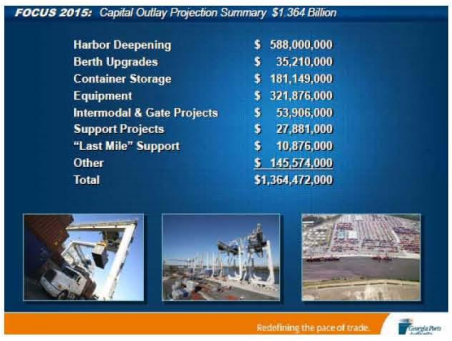
12

projects over the next decade to accommodate the projected growth in global trade.

Over the next 10 years, Garden City Terminal is scheduled to add on average two high-speed super post-Panamax container cranes every 18 months for a total of 25 cranes, as well as 86 Rubber-Tired Gantries (RTG) as part of long-term developments for a full RTG conversion at the facility, further improving terminal efficiencies. And to accommodate the larger traffic necessary to keep up with demand, the Georgia Ports Authority is in the process of increasing the depth of the Savannah River Navigation Channel from 42 to 48 feet MLW (12.8 to 14.6 meters).

These expansion projects, together with numerous others identified under the GPA's long-term strategic development plan, will increase throughput capacity from the current 2.62 million TEUs to 6 million TEUs in 2018. (Emphasis added)

5. The Georgia Port Authority Port Direct Curtis Foltz also makes it clear in a power point presentation that the Savannah River Deepening is part of the $1 billion + expansion that will allow the expansion described above on the GPA website. See http://s3.amazonaws.com/centers_of_innovation_documents/618/Curtis_Foltz.pdf



6. Another study discussing the various expansions related to the GPA and Garden City Terminal also makes it clear that the Savannah River Deepening is critical to reaching the capacity of 6 million containers at the Garden City Terminal. See

http://www.aapaseaports.com/article.cgi?id=19008 reprinted Below:

Case Study: Georgia Ports Authority

Today's investments build for tomorrow

Even in tough economic times, Georgia's ports provide a vital economic lifeline for the Southeast, and the Georgia Ports Authority's ambitious and well-thought-out strategic development plan is positioning its facilities among the most accessible, efficient and best-equipped in the nation, according to authority officials.

While recent economic conditions present challenges, the GPA has not retreated from the planning and construction that have driven so much prosperity. In fact, the GPA has been working to secure additional capacity that will create new economic opportunity and sustainable growth for generations to come.

Already touted as the largest and most efficient single container facility in the United States, Garden City Terminal has yet to reach its full potential. Port officials say infrastructure improvements will ensure the port is ready when cargo levels increase.

The GPA's on-terminal strategic development plan bodes to nearly double annual capacity, from 3.5 million twenty-foot equivalent container units today to 6.5 million TEUs by 2018. In 2009, the GPA opened its second on-terminal intermodal container transfer facility, making it the only single-terminal facility on the U.S. East Coast with two on-terminal ICTFs.

The recent arrival of four super-post-Panamax ship-to-shore cranes at Garden City has brought the total to 23 post-Panamax class cranes on nearly 10,000 feet of continuous berthing. The Georgia authority has also completed terminal improvements such as additional refrigerated container racks and new containerhandling equipment. These expansion efforts, funded by the GPA, are ongoing in preparation for the Panama Canal expansion.

"The success of our business at the GPA is tied directly to the Panama Canal's ability to move our cargo throughout the world," said the authority's executive director, Curtis J. Foltz. "In an effort to complement the Panama Canal's expansion program, we are increasing capacity at the Port of Savannah and working diligently to gain approval of the Savannah Harbor Expansion Project."

Currently, Georgia Gov. Sonny Perdue, Georgia's elected Washington representatives and numerous other elected and appointed administrative officials are working in concert to achieve the goal of deepening the Savannah River from 42 feet to as many as 48 feet.

With the growth of the U.S. Southeast population in recent decades, retail and trade demands for this area have increased exponentially. The completion of the Savannah Harbor and Panama Canal expansion projects should enable the GPA to serve this important sector, expand its trade lanes and provide more opportunities for Georgia and the U.S. Southeast.

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"Our superior services, logistics and facilities have allowed the GPA to grow its market share and further establish Georgia's ports as a strategic gateway in the South Atlantic," Mr. Foltz said. "When the economic climate improves, we'll be ready with additional capacity and infrastructure in place to handle it efficiently."

While the world's economy may be struggling, the strategic advantages of the Port of Savannah remain the same, Mr. Foltz said. The successful formula of terminal capacity, velocity, efficient rail and gate operations and nearby distribution center space, with room to grow, provide a foundation for success.

"The GPA has continued to strengthen these advantages," Mr. Foltz said, "thereby positioning the Port of Savannah to be a world leader for many years to come."

III. Inconsistencies between the SHEP DEIS and the above news stories and website postings/presentations by the Georgia Ports Authority make it clear that the Savannah River Deepening will induce growth at the Garden City Terminal and that without the SHEP, the Garden City Terminal would not grow from 2.5+ to 6 million + containers. This induced growth must be accounted for in all analyses (air pollution, noise, and others)

A. Claimed reduction in air pollution

SHIP SIZE/NUMBER OF CONTAINERS

The DEIS makes the argument that larger ships will be frequenting the Port of Savannah, each carrying more containers – but that the total number of containers will not increase at the Port.

On this basis, the DEIS claims that air pollution will be reduced because (e.g., 10 ships carrying 4000 containers pollute more than 5 ships carrying 8000 containers).

The DEIS must be redone to reflect that the additional containers that will be accommodated at the Terminal only because of the SHEP will result in growth of air pollution at the Garden City Terminal as described below.

TRUCKS/YARD EQUIPMENT

Because the DEIS claims that the Garden City Terminal will be able to handle 6 million + containers in the future without the SHEP, then it claims that no additional trucks needed to move them (and no additional yard equipment, etc). This is false, based on all the above documentation that shows that the capacity of the Garden City Terminal is reached only with the deepening of the River.

Comment: the DEIS must be rewritten to account for the air pollution from the additional trucks, yard handling equipment, cranes, etc. that will be needed for the additional containers to be

handled in the future when the Harbor is deepened. A new emissions inventory is required along with new air dispersion modeling and analyses.

AIR EMISSIONS INVENTORY

As a starting point to determine if air pollution levels will go up or down or stay the same after the SHEP, an air emissions inventory was conducted.

OVERALL PORT EMISSIONS

On page 112, of Appendix K, page 112, it states: "The Port of Savannah is a substantial contributor of NOX (15 percent) emissions in Chatham County (Table 6-4). … The Port contributes only minor amounts to emissions of SO2 (6.2 percent), PM10 (1.4 percent), HC (1.7 percent), VOC (1.7 percent), and CO (1.0 percent)." [Emphasis added.]

In light of the fact that most Ports that have done emissions inventories which concluded that the Ports are, in fact, significant contributors to PM, these calculations seem suspect. (See http://www.polb.com/environment/air/emissions.asp). Why is Savannah different than other ports that have conducted emissions inventories?

One important reason may be because GPA, the Port of Savannah and the Army Corps of Engineers have not followed the U.S. EPA Guidelines for conducting emissions inventories. The guidelines are different in significant aspects from the DEIS. E.g., the guidelines suggest that truck emissions be counted to the first drop-off, which is not how GPA/ACE did the calculations. Shipping emissions are calculated differently than the guidlelines, etc. In all cases, the GPA/ACE methods minimize the emissions from the SHEP expansion project over what would have resulted from using the U.S. EPA Guidelines. That is, if the guidelines were followed, the emissions would have been shown to be higher for the SHEP Project.

REDUCTION OF EMISSIONS

The Inspector General of U.S. EPA has noted a need for Ports to further reduce air emissions to protect public health. See http://www.epa.gov/oig/reports/2009/20090323-09-P-0125.pdf and excepts in this document, Appendix C. Please note that the Georgia Ports are relying solely on federal rules to reduce their pollution, whereas other ports around the country are replacing old trucks and dirty equipment. See for example the following statements in Appendix K, page 116:

"Emissions of NOX, SO2, and PM2.5 are likely to decrease as the terminal operators replace their equipment with newer engines that do not emit as much pollution and use the lower sulfur fuels mandated by EPA." … "Again, the port's contributions of NOX and SO2 emissions in the County should substantially decrease as a result of these new requirements for cleaner fuels.

PORT CONTRIBUTION TO NOx and PM2.5

NOx and PM2.5 are two of the most important (measured) air pollutants from the Port in terms of links to health effects. The Emissions Inventory presents very confusing information about PM2.5. In one sentence (highlighted) the Inventory says that the port is a minor contributor of PM2.5 to County air pollution. In the next sentence (also highlighted below), the Inventory says that PM2.5 is a SUBSTANTIAL CONTRIBUTOR to air pollution in Chatham County. Which is it? See text surrounding Table 6-4 of the SHEP DEIS. The SHEP DEIS must contain accurate

analyses for the contribution of NOx and PM2.5 to port and regional air pollution. The air quality analysis must be redone so that it makes sense and so that readers and residents can understand it. The following is a quotation from the DEIR, Appendix K, page 90:

> The results calculated by the Corps for the entire port are in general agreement with those estimated by EPA in 2002 for Ocean-Going Vessels calling at Savannah. The numbers show that the port is a minor contributor of HC, VOC, CO, PM2.5, and PM10 in the County. However, it is a substantial contributor to emissions of NOX and PM2.5. The table below shows the percentage of air emissions in the County that are derived from the port (using the 2002 EPA National Emissions Inventory).

Table 6-4 2008 Port Emissions
Percentage of Chatham County 2002 Emissions

	HC	VOC	CO	NOX	PM10	PM2.5	SO2
Port of Savannah	2.4	2.4	1.5	24.5	4.2	11.9	7.2

Although the DEIS plays down any exceedances of air pollution regulations, the Emissions Inventory actually shows that 14% of the daily PM2.5 measurements exceeded 35ug/m3 – the U.S. EPA standard for PM25. See excerpt from the document below, Appendix K:

> EPA also reported a small increase in PM 2.5 concentration from 2000-2006. Figure 14 of that document showed that PM 2.5 had changed -1 to 4 ug/m3 over that period. The average annual PM 2.5 concentrations were in the range of 12.1-15 ug/m3, with 66 out of 895 measurements exceeding 15.1 ug/m3. The daily range of PM2.5 was in the range of 16-35 ug/m3, with 126 out of 895 measurements (14%) exceeding 35 ug/m3 (Figure 15 of EPA's document).

TRUCK EMISSIONS

Truck emissions are considered a large part of the air pollution emissions from virtually every port in the country… apparently with the exception of the Garden City Terminal. In Appendix K, the DEIS claims that the trucks are not a major source of pollution either at the port or at the Garden City Terminal.

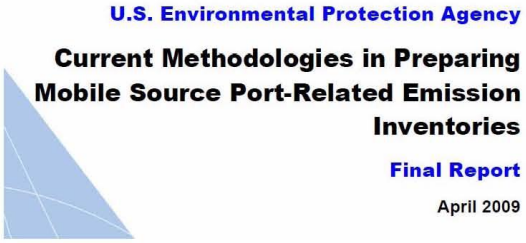
These values indicate that emissions from these Trucks are a relatively small contribution to the total emissions from both the port and the Garden City Terminal. NOX represent the largest pollutant by weight from these trucks – 218 tons in 2008. That amount was 5 percent of the NOX emitted at the Garden City Terminal and 2.5 percent at the total emitted at the port. The largest contribution by percentage was in Carbon Monoxide (CO), where their emissions constituted 7.6 percent of the total at the Garden City Terminal. On a percentage basis, the Trucks (tractor trailers) which move containers over the roads do not comprise a major source of air pollution either at the port or at the Garden City Terminal.

We question whether the GPA/ACE are calculating truck emissions correctly. Appendix K, page 9, states. *"For container cargo, the landside area includes the time trucks wait to enter the GPA terminal to drop off or pick up its load, as well time for the outgoing trucks to clear the immediate vicinity of the port."*

The ACE included only a 15-minute period of time for when the trucks leave the port until they enter the interstate highway system, clearly an underestimation of time. At most ports, the trucks are not even out of the gate within 15 minutes after a container is loaded:

Appendix K, page 94. "The Corps added 15 minutes of travel time each way for each truck to account for the time trucks travel in the vicinity of the port, but outside the terminal. This additional 30 minutes of engine time accounts for time spent while traveling between the Interstate highway system and the Garden City Terminal."

Again, this part of the emissions inventory does not follow current guidelines from U.S. EPA for preparing emissions inventories, published in April 2009 and must be re-analyzed. http://www.epa.gov/cleandiesel/documents/ports-emission-inv-april09.pdf



We note that these guidelines state that truck emissions should be counted from the point of placing the container on the truck until the first destination/drop off point, not just while trucks are at the port. This emissions inventory method, used by the Ports of L.A. and Long Beach, would result in a much larger contribution of trucks to the port pollution. Thus, the emissions inventory must be redone for the SHEP DEIS.

REPLACEMENT OF TRUCK FLEET

Replacement of truck fleets does not seem to be required, as is being done in LA/LB, Seattle, and even in Charleston SC. Georgia Ports appear to be relying on the marine operators replacing their fleets as equipment and trucks get older and as federal rules become stricter.

EMISSIONS WHILE HOTELLING AT GPA'S GARDEN CITY TERMINAL

Many Ports around the country – recognizing that there is significant air pollution from ships loading and unloading in the harbor with their engine on – have required electric plug-ins (also called "cold-ironing" or "shore power)," to reduce the emissions from ships that call upon their ports frequently.

However, just as the DEIS claims for truck emissions, the DEIS claims that "the hotelling of containerships is a minor part of the overall port emissions for HC, VOC, CO, NOX, PM, and SO2." As a result, the DEIS states that the Garden City Terminal not only does not require shore power – it actually claims that the use of shore power is experimental (even though other major ports are already using it.) The DEIS describes the process as "expensive," possibly requiring "international agreements" and "still in its development stage."

There is no credence to the ACE claim that "this method is still in the development stage" or that "international agreements" may be required to implement cold ironing. Shore power is being implemented at ports in L.A., Long Beach, Seattle, San Francisco, and Charleston.

Again, this part of the emissions inventory did not follow current guidelines from U.S. EPA preparing emissions inventories, published in April 2009: http://www.epa.gov/cleandiesel/documents/ports-emission-inv-april09.pdf. The emissions inventory must be redone.

EMISSIONS FROM TRIPS TRAVELING 36 MILES FROM THE SAVANNAH HARBOR TERMINAL TO THE ENTRANCE, ½ OF IT UP THE RIVER

The emissions inventory must calculate the emissions from the Post-Panamax ships that will be travelling up the Savannah River for the residents along the River.

COMPARISON OF EMISSIONS INVENTORIES FROM PORT OF LONG BEACH 2008 http://www.polb.com/environment/air/emissions.asp THOSE SHOWN IN THE SHEP DEIS EMISSIONS INVENTORY

The following charts are from the 2008 emission inventory showing the contribution of various pollutants to the Port emissions and to as a contribution to the South Coast Air Quality Management District – a huge area covering 5 counties. Note that many changes had already occurred at the POLB by 2008, including ULSD that is now used in trucks at Garden City, and electric cranes. Since the TEUs at POLA in 2008 were 6.7 million, this seems like a reasonable comparison for future emissions at the Garden City Terminal, EXCEPT that the Air District in southern California is a huge geographic area, so the emissions are much likely to be less as a contributor to those 5 counties than if the contribution were shown only for L.A. County.

Nonetheless, please note that the SOX emissions at the POLA are much higher than any levels of SOX emissions predicted for the Port of Savannah, including the Garden City Terminal.

This is further evidence that the SHEP DEIS must be redone and recirculated to the public, with the new DEIS correcting the Emissions Inventory for this project.

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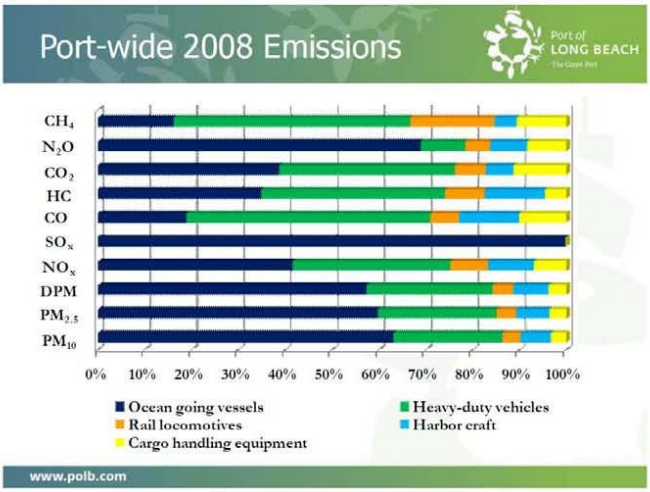
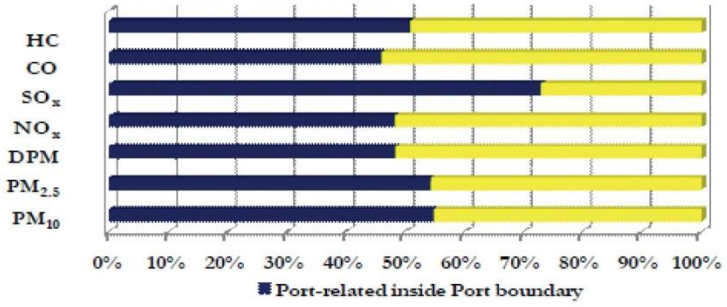

Port-wide 2008 Emissions
Port of LONG BEACH
CH4
N2O
CO2
HC
CO
SOx
NOx
DPM
PM2.5
PM10
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Ocean going vessels
Heavy-duty vehicles
Rail locomotives
Harbor craft
Cargo handling equipment
www.polb.com

Figure ES.8 shows that roughly 50% of the port-related emissions occur within the Port boundary. SO_x port-related emissions are attributed with a higher percentage (70%) within the Port boundary due to hotelling and in-harbor maneuvering emissions within the breakwater.

Figure ES.8: 2008 Port-related Emissions by Port Boundary



In order to put the Port-related emissions into context, the following figures compare the Port's contribution to other sources in the South Coast Air Basin[1]. The 2008 SoCAB emissions used for this comparison are from the 2008 emissions listed in the 2007 AQMP Appendix III. In the South Coast Air Basin, 8% of diesel particulate matter emissions, 4% of NO_x emissions, and 34% of SO_x emissions are attributed to port-related emissions from the Port of Long Beach. The Port's percent contribution of DPM and NO_x within the SoCAB decreased in 2008 as compared to 2007 and 2005, while the Port's percent contribution of SO_x increased in 2008 from 2007 and 2005.

This emissions inventory from Port of Los Angeles raises obvious questions about what the emissions inventory from the Garden City Terminal would be like when it will be handling 6 million + TEUs.

CONCLUSION:

Feel free to contact me (ahricko@usc.edu) or 323-442-3077 if I can provide any further information.

Sincerely yours,

Andrea Hricko
Professor of Preventive Medicine, Keck School of Medicine of USC

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APPENDIX A. Health Impacts of Exposure to Air Pollution and Noise

(written by Andrea Hricko and submitted to the SHEP DEIS record)

The health impacts from air pollution and noise must be considered in the DEIS for the SHEP both for the construction of the SHEP and for operational noise (from ships, trucks, trains, handling of containers, yard equipment, cranes, etc) that will be increased by the expansion of the Garden City Terminal to handle more containers.

RESEARCH FINDINGS ON HEALTH IMPACTS FROM EXPOSURE TO AIR POLLUTION AND NOISE

A review of the scientific literature on the health impacts of mobile source noise and air pollution shows a growing body of scientific evidence indicating that:

Children who grow up in polluted communities suffer reduced lung function and other respiratory effects

USC studies in Southern California show that a package of mobile source pollutants (NOx, PM, acid vapor, and elemental carbon) correlate with reduced lung function. In one USC study, three times as many children in North Long Beach, where levels of elemental carbon (EC) are higher than in most of the communities in the study, had reduced lung function than children in less polluted communities. The study is important because medical experts believe that reduced lung function is a significant predictor of mortality from all causes in adults. The EIR/EIS must describe the USC and other research findings showing the respiratory health effects of mobile source air pollution. *(See references).*

Living or going to school in close proximity to busy roads and freeways (close to mobile source exhaust) is linked to asthma and respiratory effects in children, as well as other effects in adults.

A growing body of evidence shows increased risk of asthma and other respiratory effects from living or going to school in close proximity to busy roads and freeways. *(See References for citations to scientific articles on this topic).*

Elevated levels of particulate matter are linked to cardiovascular disease and increased mortality.

In response to this growing body of evidence, the American Heart Association issued a scientific statement in 2004 concluding: "Exposure to air pollution contributes to the development of cardiovascular diseases." A recent study shows an increase in stroke among those living close to busy roads. Studies on increased cardiovascular disease and mortality from particulate exposure should be reviewed in the EIR/EIS. *(See references for citations to scientific articles on this topic).*

Pregnant women who live near busy roads and freeways (and who are exposed to current levels of air pollution in Los Angeles air) are more likely to give birth to low birth weight and premature infants; infant mortality has also been linked to air pollution levels.

Thousands of women of child-bearing age live in the vicinity of the San Pedro Bay Ports or along goods movement corridors in Southern California. Studies on increased reproductive problems and adverse birth outcomes must be described in the EIR/EIS. *(See references for citations to scientific articles on this topic).*

Increased lung cancer risks among workers exposed to diesel exhaust, including a recent study on railroad workers.

Based on studies of workers exposed to diesel exhaust, diesel particulate matter was declared a Toxic Air Contaminant in the state of California in 1998. A recent study on diesel and cancer risks authored by Dr. Eric Garshick states:

> *In > 35 studies of workers with occupational exposure to diesel exhaust, excess risk of lung cancer is consistently elevated by 20–50%.... These results [elevated cancer risk in railroad workers] indicate that the association between diesel exhaust exposure and lung cancer is real. These results along with previous studies of lung cancer and diesel exhaust support current efforts to reduce emissions in both occupational and general environmental settings. (See references to scientific articles on this topic).*

Diesel exhaust particles can enhance allergies and allergic asthma.

The EIR/EIS should describe studies showing the potential for enhancement of allergies and asthma from diesel exhaust emissions from trucks and trains delivering containers to other locations throughout the region. *(See References)*

RESEARCH FINDINGS ON THE HEALTH IMPACTS OF EXPOSURE TO NOISE

Noise is a serious, and often dismissed, public health problem, which causes numerous health and social effects, ranging from hearing to cardiovascular problems, and from learning problems in school to sleep disturbances at home. A review of the noise exposure and health effects literature should be included in the EIR/EIS.

Community and occupational health studies show that noise levels from goods movement activities can impact health and quality of life. For example, excessive noise disturbs restorative sleep; elevated noise levels affect children's mental health and classroom behavior, especially if children have an "early biological risk" (such as having been born prematurely); and chronic noise exposure may contribute to the progression of cardiovascular disease. Portions of abstracts from several selected studies are reprinted below to illustrate the causes for concern. See complete list of references below.

"Disturbed Sleep Patterns and Limitation of Noise" by B. Griefahn et al.
Noise and Health, Volume 6, Number 22, Jan - Mar 2004, pp. 27-33(7).
ABSTRACT. "Due to the undisputable restorative function of sleep, noise-induced sleep disturbances are regarded as the most deleterious effects of noise. They comprise alterations during bedtimes such as awakenings, sleep stage changes, body movements and after-effects

such as subjectively felt decrease of sleep quality, impairment of mood and performance.... Intermittent noise that is produced by air traffic, rail traffic and by road traffic during the night is particularly disturbing and needs to be reduced. Suitable limits are suggested."

"Ambient neighbourhood noise and children's mental health" by P. Lercher et al. Occup Environ Med. 2002 Jun;59(6):380-6.
"OBJECTIVES: To investigate the relation between typical ambient noise levels (highway, rail, road) and multiple mental health indices of school children considering psychosocial and biological risk factors as potential moderators. CONCLUSIONS: Exposure to ambient noise was associated with small decrements in children's mental health and poorer classroom behaviour. The correlation between mental health and ambient noise is larger in children with early biological risk."

"Noise burden and the risk of myocardial infarction" by SN Willich et al. Eur Heart J. 2006 Feb;27(3):276-82. Epub 2005 Nov 24.
"METHODS AND RESULTS: In a case-control study, patients consecutively admitted to all 32 major hospitals in Berlin with confirmed diagnosis of acute myocardial infarction were enrolled from 1998 to 2001 in the Noise and Risk of Myocardial Infarction study. Information was obtained on environmental and work noise annoyance. The sound levels of environmental and work noise were assessed using traffic noise maps as proxy and international standards for workplaces, respectively. Environmental sound levels were associated with increased risk in men and women. CONCLUSION: Chronic noise burden is associated with the risk of myocardial infarction."

"Neighbourhood inequalities in physical inactivity: the role of neighbourhood attractiveness, proximity to local facilities and safety in the Netherlands" by FJ van Lenthe et al. Soc Sci Med. 2005 Feb;60(4):763-75. In a study in the Netherlands, residents who lived in neighborhoods with the most traffic-related noise pollution seldom walked or cycled to shops or work. This study is relevant to residents in noise and traffic-related goods movement communities, especially at a time when obesity is becoming such a serious problem.

APPENDIX B: Selected References on the Health Impacts of Air Pollution and Noise

Respiratory Effects

Barck, C., J. Lundahl, et al. (2005). "Brief exposures to NO2 augment the allergic inflammation in asthmatics." Environ Res 97(1): 58-66.

Delfino, R. J. (2002). "Epidemiologic evidence for asthma and exposure to air toxics: linkages between occupational, indoor, and community air pollution research." Environ Health Perspect 110 Suppl 4: 573-89.

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Künzli, N., R. McConnell, et al. (2003). "Breathless in Los Angeles: the exhausting search for clean air." Am J Public Health 93(9): 1494-9.

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McConnell, R., K. Berhane, et al. (2003). "Prospective Study of Air Pollution and Bronchitic Symptoms in Children with Asthma." Am J Respir Crit Care Med 168(7): 790-797.

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Pandya, R. J., G. Solomon, et al. (2002). "Diesel exhaust and asthma: hypotheses and molecular mechanisms of action." Environ Health Perspect 110 Suppl 1: 103-12.

Peden, D. B. (2002). "Pollutants and asthma: role of air toxics." Environ Health Perspect 110 Suppl 4: 565-8.

Pietropaoli, A. P., M. W. Frampton, et al. (2004). "Pulmonary function, diffusing capacity, and inflammation in healthy and asthmatic subjects exposed to ultrafine particles." Inhal Toxicol 16 Suppl 1: 59-72.

University of Southern California - Health Science News. (2005). "Air Pollution Found to Pose Greater Danger to Health than Earlier Thought."

University of Southern California - Health Science News. (2005). "Researchers Link Childhood Asthma to Exposure to Traffic-related Pollution."

Traffic proximity

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Brunekreef, B. and J. Sunyer (2003). "Asthma, rhinitis and air pollution: is traffic to blame?" Eur Respir J 21(6): 913-5.
Cyrys, J., J. Heinrich, et al. (2003). "Comparison between different traffic-related particle indicators: elemental carbon (EC), PM2.5 mass, and absorbance." J Expo Anal Environ Epidemiol 13(2): 134-43.
Environmental Protection Agency (2004). "Study of Health Effects of Toxic Air Pollutants on Asthmatic Children in Huntington Park."
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Gilliland, F. L., Y;Saxon,A;Diaz-Sanchez,D; (2004). "Effect of glutathione-S-transferase M1 and P1 genotypes on xenobiotic enhancement of allergic responses: randomised, placebo-controlled crossover study." Lancet 363: 119.
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Zhu, Y., W. C. Hinds, et al. (2002)(2). "Concentration and Size Distribution of Ultrafine Particles Near a Major Highway." J Air & Waste Manage Assoc 52:1032-1042.

Particulate Matter

Chalupa, D. C., P. E. Morrow, et al. (2004). "Ultrafine particle deposition in subjects with asthma." Environ Health Perspect 112(8): 879-82.
Charron, A. and R. M. Harrison (2003). "Primary particle formation from vehicle emissions during exhaust dilution in the roadside atmosphere." Atmos Environ.
Delfino, R. J., C. Sioutas, et al. (2005). "Potential role of ultrafine particles in associations between airborne particle mass and cardiovascular health." Environ Health Perspect 113(8): 934-46.
Environmental Protection Agency (2004). "Air Quality Criteria for Particulate Matter Providing the Scientific Foundation for EPA Decision Making." Volumes 1 and 2.
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Hauck, H., A. Berner, et al. (2003). "AUPHEP—Austrian Project on Health Effects of Particulates—general overview." Atmos Environ .
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APPENDIX C. Excerpts from a Report by the Inspector General for US EPA on Need to Reduce Air Pollution at Ports.
Report found at: http://www.epa.gov/oig/reports/2009/20090323-09-P-0125.pdf

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF INSPECTOR GENERAL

Catalyst for Improving the Environment

Evaluation Report

EPA Needs to Improve Its Efforts to Reduce Air Emissions at U.S. Ports

Report No. 09-P-0125

March 23, 2009

Chapter 1
Introduction

Purpose

This evaluation focuses on the efforts of the U.S. Environmental Protection Agency (EPA) to control air pollution from mobile sources operating in and approaching U.S. ports.[1] The evaluation, completed in accordance with the 2007 Annual Plan of the EPA Office of Inspector General (OIG), was initiated because a prior OIG report[2] found that EPA faced significant challenges in controlling air emissions from port sources.

The objectives of our evaluation were to determine whether EPA's:

- actions taken to address air emissions from oceangoing vessels at selected U.S. ports have been effective, and
- management plan (strategy) to address emissions from port sources is sufficient to protect human health and the environment at selected major U.S. ports.

Background

The United States has approximately 360 commercial sea and river ports. Air emissions from activities at these ports contribute to local air quality problems impacting communities surrounding port areas. These emissions have significant environmental and human health impacts, such as cancer and asthma. EPA's goal for clean air is to protect and improve the air so it is healthy to breathe, and reduce risks to human health and the environment. EPA employs a multipronged approach to address emissions from port sources. This approach includes implementing existing regulations, developing new standards for diesel engines, promoting voluntary emission reductions from existing diesel engines, and participating in international efforts to address air emissions from oceangoing vessels.

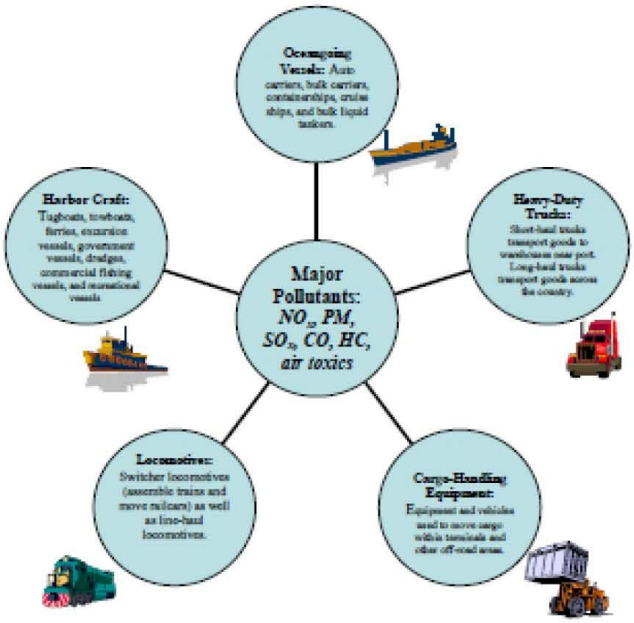
Sources of Emissions

Almost all port emissions come from five diesel-fueled source categories, including oceangoing vessels, heavy-duty trucks, cargo-handling equipment, locomotives, and harbor craft. The emissions of greatest

[1] According to the Agency, air quality modeling recently conducted to support its proposed Emissions Control Area application shows that emissions from as far as 200 nautical miles from ports impact air quality, not only in the immediate port areas, but for 100 miles inland. When this report refers to oceangoing vessels "in U.S. ports," it is also referring to vessels approaching U.S. ports.
[2] *Progress Report on EPA's Nonroad Mobile Source Emissions Reduction Strategies*, Report No. 2006-P-00039, September 27, 2006.

concern from these sources are nitrogen oxides (NO_x), particulate matter (PM), sulfur oxides (SO_x), carbon monoxide (CO), and hydrocarbons (HC), as well as some toxic air pollutants. Figure 1-1 provides brief descriptions for each of these major categories of port pollution.

Figure 1-1: Descriptions of the Five Major Sources of Port Emissions



Source: The OIG compiled source categories based on review of existing literature on port air emissions.

Port sources also emit air toxics, most notably diesel exhaust. Other air toxics emitted from diesel engines include benzene, 1,3-butadiene, formaldehyde, acetaldehyde, acrolein, polycyclic organic matter, and naphthalene. All of these compounds, except acetaldehyde, were identified as national or regional risk drivers in EPA's 1999 National-Scale Air Toxics Assessment. These air toxics pose both cancer and non-cancer health effects. For example, EPA's December 2007 Advanced Notice of Proposed Rulemaking stated that:

> *...mobile sources, including Category 3 marine [oceangoing vessel] engines, were responsible for 44 percent of outdoor toxic emissions and almost 50 percent of the cancer risk among the 133 pollutants quantitatively assessed in the 1999 National-Scale Air Toxics Assessment.*

In January 2008, the South Coast Air Quality Management District (SCAQMD) released its draft final report, Multiple Air Toxic Exposure Study III (MATES III). MATES III studied the cancer risk from exposure to toxic air pollution in the Southern California air basin. The study measured air toxics at 15 locations throughout Southern California from 2004 to 2006. MATES III found the cancer risk rate from air toxics in the Southern California air basin is nearly 1,200 per million, with the highest cancer risks at about 3,700 per million. Most of the risks were from diesel particulates. The highest air toxics risks are found near the port area, an area near Central Los Angeles, and near transportation corridors. The results from this study demonstrate the need for continued efforts to reduce air toxic emissions, particularly from diesel engines. The Clean Air Act set a lifetime cancer risk of 1 in 1 million as a threshold above which regulation may be warranted for individual sources of air toxics.

A July 2008 National Oceanic and Atmospheric Administration study[3] found that emissions from shipping have a significant impact on air quality and health on both local and regional scales. Extensive measurements of the emissions of light absorbing carbon aerosol, or soot,[4] from commercial shipping showed increased concentrations of this aerosol at U.S. ports on the East Coast, West Coast, and Gulf Coast. The study also suggested that large oceangoing vessels may emit up to twice as much aerosol as previously estimated.

Impacts of Air Pollution from Port Activities

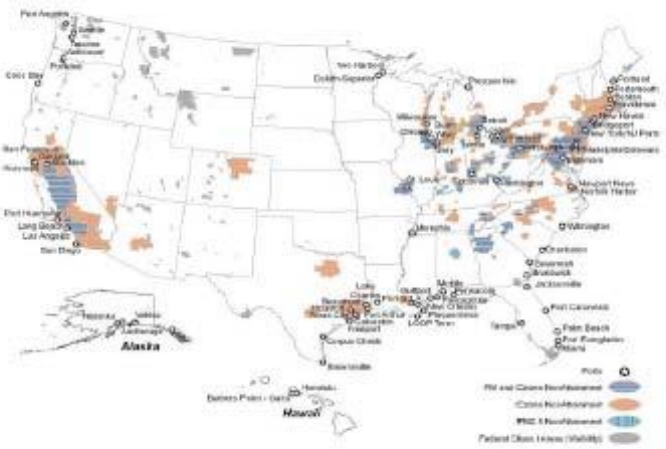
Diesel and other emissions from port activities have significant human health and environmental impacts in onshore communities. These impacts include increased cancer rates, asthma, other respiratory and cardiovascular diseases, and premature death. Port emissions also contribute to the formation of ground level ozone, acid rain, and crop damage. EPA has recognized that diesel engines at ports create emissions that affect the health of workers and people living in nearby communities, and contribute significantly to regional air pollution. EPA has determined that diesel exhaust is "likely to be carcinogenic to humans by inhalation" and that this hazard applies to environmental exposures.[5]

[3] Lack, D., B. Lerner, C. Granier, T. Baynard, E. Lovejoy, P Massoli, A. R. Ravishankara, and E. Williams. *Light absorbing carbon emissions from commercial shipping*, Geophys. Res. Lett., 35, L13815, doi:10.1029/2008GL033906, 2008.
[4] Soot is diesel particulate matter, and results from burning fuel in diesel engines.
[5] U.S. EPA (2002). *Health Assessment Document for Diesel Engine Exhaust*, prepared by the National Center for Environmental Assessment, Washington, DC, for OTAQ; EPA/600/8-90/057F.

Recent studies show that populations living near large diesel emission sources such as major roadways,[6] rail yards, and ports[7] are likely to experience greater diesel exhaust exposure levels than the overall U.S. population, exposing them to greater health risk. For example, according to the California Air Resources Board, nearly 60 percent of the 2 million people living in the area around the Ports of Los Angeles and Long Beach have a potential cancer risk of greater than 100 in 1 million (due in part to port emissions), while over 410,000 people living closest to the same ports have a cancer risk greater than 200 in 1 million.[8] Recent studies have also shown an increased risk of cancer at other ports in the United States.[9]

EPA recently conducted an initial screening level analysis on the size of the U.S. population living near 47 marine ports and 37 rail yards selected. According to EPA, this was useful in beginning to understand the populations exposed to diesel particulate matter in these areas. The results indicate that at least 13 million people, including a disproportionate number of low-income households, African-Americans, and Hispanics, live in the vicinity of these facilities and are exposed to ambient diesel particulate matter. Figure 1-2 below shows U.S. port locations and areas exceeding air quality standards in 2007.

Figure 1-2: U.S. Ports and Areas Exceeding Air Quality Standards as of March 2007.



Source: EPA Advanced Notice of Proposed Rulemaking, *Control of Emissions From New Marine Compression-Ignition Engines at or Above 30 Liters per Cylinder.* Federal Register: December 7, 2007, Volume 72, Number 235, pp. 69522-69552. The figure depicts counties which were designated nonattainment for either or both the 8-hour ozone National Ambient Air Quality Standards (NAAQS) and PM2.5 NAAQS as of March 2007. It also shows the location of mandatory class I Federal areas for visibility.

Areas of the country where air pollution levels persistently exceed the ambient air quality standards[10] may be designated as "nonattainment" areas. In 2007, 31 U.S. sea ports were located in nonattainment areas for ozone, fine particulate matter, or both. Further, in March 2008, EPA strengthened the air quality standards for ground-level ozone, revising the present 8-hour ozone standard from 0.084 to 0.075 parts per million (ppm). Many additional counties with ports are projected to be in nonattainment for the 0.075 ppm 8-hour ozone standard. According to EPA's Office of Air Quality Planning and Standards, EPA's goal is to improve the air quality in areas where it is unacceptable and prevent deterioration in areas where the air is relatively free of contamination.

In addition to public health impacts, serious public welfare and environmental impacts are associated with mobile source emissions at

[10] EPA has established National Ambient Air Quality Standards (NAAQS) for six pollutants common throughout the United States. These include ozone and particulate matter.

ports. Pollutants such as NO_x, SO_x, and fine particulate matter ($PM_{2.5}$) can impair visibility in many parts of the United States. These pollutants contribute to structural damage to bridges and other structures by corrosion or erosion, and damage the exteriors of buildings, monuments, and other culturally important articles. Finally, NO_x and SO_x emissions from diesel engines contribute to increased acidity and higher amounts of dissolved chemical nutrients (especially nitrogen and sulfur) in water bodies. For example, airborne NO_x from diesel and other sources contributes about 32 percent of the excess nitrogen load to the Chesapeake Bay, North America's largest and most biologically diverse estuary, home to more than 16 million people and 3,600 species of plants, fish, and animals.[11]

Projected Port Growth and Impacts

Generally, port emissions are expected to grow substantially over the next several decades, with oceangoing vessels showing the largest growth. According to EPA, excluding further regulatory controls,[12] NO_x emissions from oceangoing vessels are projected to more than double by 2030, growing to 2.1 million tons a year (or 34 percent of U.S. mobile source NO_x emissions).[13]

In 2007, Category 3 marine engines (large oceangoing vessel engines)[14] emitted more than half of the mobile source SO_x inventory for the entire United States (almost 530,000 tons). According to EPA, without further regulatory controls, these emissions are expected to increase to approximately 1.4 million tons by 2030, or 95 percent of mobile source emissions. Without additional regulations or controls, some source categories will represent an increasingly larger percentage of the Nation's mobile source emissions inventory. Figure 1-3 illustrates the projected emissions of NO_x, $PM_{2.5}$, and SO_2 for mobile sources categories as a percentage of the total U.S. mobile source inventory in 2001 and 2030.

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[11] *EPA Relying on Existing Clean Air Act Regulations to Reduce Atmospheric Deposition to the Chesapeake Bay and Its Watershed*, EPA Office of Inspector General, Report No. 2007-P-00009, Feb. 28, 2007.

[12] On October 9, 2008, the International Maritime Organization (IMO) adopted new international standards for NO_x from oceangoing vessel engines and sulfur in their fuels. Estimates in this report do not reflect potential reductions that may be achieved from recent revisions to IMO Annex VI standards. As discussed in Chapter 2, EPA will need to assess the impacts of these revisions on the Agency's ability to meet its responsibilities under the CAA.

[13] These projections are based on growth rates ranging from 1.7 to 5.0 percent per year, depending on the geographic region (2007 EPA Advanced Notice of Proposed Rulemaking).

[14] For the purpose of emission regulations, marine engines are divided into three categories based on displacement (swept volume) per cylinder. Each of the categories represents a different engine technology. Category 1 and Category 2 marine diesel engines are used to provide propulsion power on many kinds of vessels including tugboats, pushboats, supply vessels, fishing vessels, and other commercial vessels in and around ports. They are also used as stand-alone generators for auxiliary electrical power on many types of vessels. Category 3 marine diesel engines are very large and are used for propulsion power on oceangoing vessels such as container ships, oil tankers, bulk carriers, and cruise ships.

Figure 1-3: Projected Emissions Contributions of Mobile Source Categories as a Percentage of the Total U.S. Mobile Source Inventory for 2001 and 2030, Based Upon Current Regulations.

Figure 1-3-a: Mobile Source Category NO_x Emissions as a Percentage of Total U.S. Mobile Source Emissions Inventory.

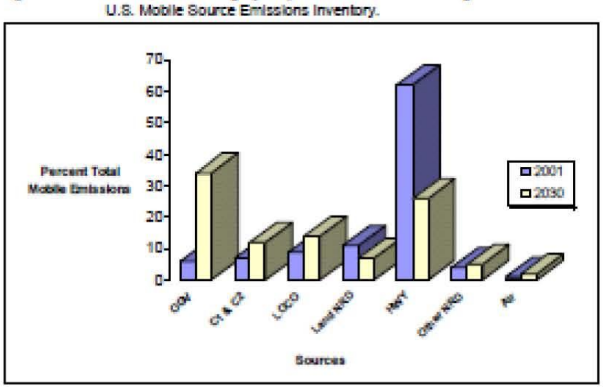


Figure 1-3-b: Mobile Source Category $PM_{2.5}$ Emissions as a Percentage of Total U.S. Mobile Source Emissions Inventory.

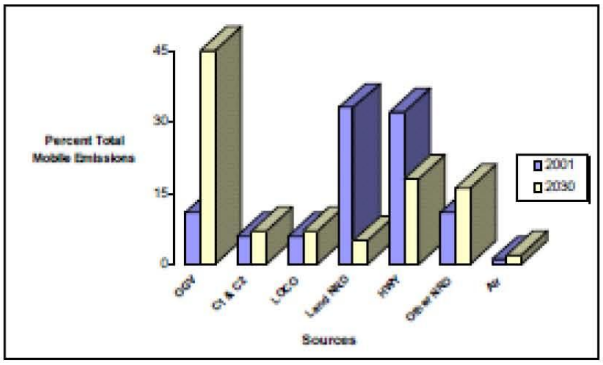
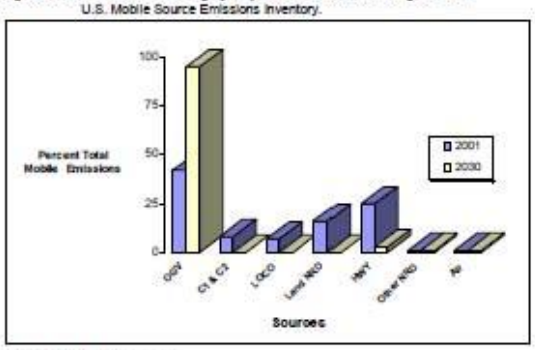


Figure 1-3-c: Mobile Source Category SO_2 Emissions as a Percentage of Total U.S. Mobile Source Emissions Inventory.



Legend for Figure 1-3-a to 1-3-c:

OGV	Oceangoing Vessels
C1 & C2	Category 1 and Category 2 marine engines[15]
LOCO	Locomotives
Land NRD	Land-based nonroad diesel
HWY	Highway
Other NRD	Other nonroad diesel
Air	Aircraft

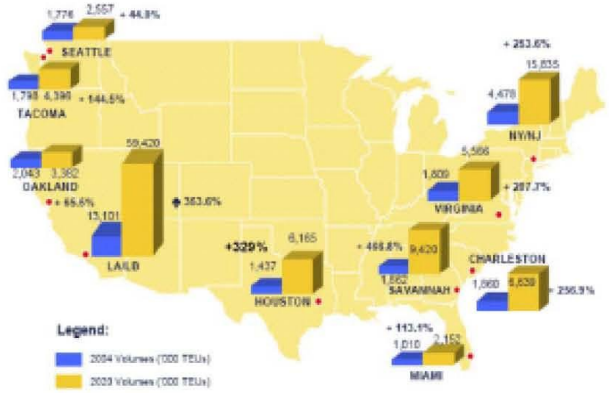
Source: OIG analysis of EPA Advanced Notice of Proposed Rulemaking; *Control of Emissions of From New Marine Compression-Ignition Engines at or Above 30 Liters per Cylinder; Proposed Rule*. Federal Register pp. 69522-69552, December 07, 2007.

Increasing emissions at ports can be attributed to rising demands in international trade, as well as expanded port infrastructure. The Panama Canal is being expanded to accommodate larger oceangoing vessels and allow for more frequent use. According to the Panama Canal Authority, the expansion is scheduled to be completed in 2014. This expansion will include a new wider, deeper channel that will allow larger ships to pass through and the number of ships to increase. To accommodate the increased cargo volume attributable to the Panama Canal expansion, some Eastern U.S. and Gulf Coast ports are expected to significantly increase their capacity.

Figure 1-4 illustrates the expected growth in container trade projected at selected U.S. ports between 2004 and 2020.

[15] These engines are typically are used to provide propulsion power on many kinds of vessels including tugboats, pushboats, supply vessels, fishing vessels, and other commercial vessels in and around ports.

Figure 1-4: Projected Growth in U.S. Maritime Container Trade at Selected U.S. Ports (2004-2020)



Source: American Society of Civil Engineers 2005 Report Card for America's Infrastructure, U.S. Department of Transportation.

For example, according to the U.S. Department of Transportation, by 2020 the Port of Savannah is projected to increase its container traffic by over 400 percent. Similarly, the Ports of Los Angeles and Long Beach (combined) and Houston are expected to increase their container traffic by over 300 percent. Increased cargo volume means more activity for cargo-handling equipment, heavy-duty trucks, harbor craft, and locomotives. This type of growth will add to air quality concerns in these areas. Appendix A provides details on projected growth at U.S. ports due to container shipping and port expansion plans.

NOTE: GEORGIA PORT AUTHORITY WANTS TO RAISE THE PORT'S POTENTIAL CAPACITY TO 6.5 MILLION TEU'S BY 2018

	and bulk head improvements.
Savannah	• Savannah Harbor Expansion Project will deepen the harbor to 48 feet (before the Panama Canal improvements are completed). • Georgia Port Authority wants to raise the port's potential capacity to 6.5 million TEUs by 2018.
Charleston	• The port expansion includes a $600 million terminal at the former Navy

In order to receive the growth in container traffic, by 2020 every major U.S. container port is expected to double the volume of cargo it must process with East Coast ports tripling in volume and some West Coast ports quadrupling in volume. Table A-2 shows the projected increases of specific ports by 2020, starting from 2004. This shows the anticipated impact of the Panama Canal expansion on port growth.

Table A-2: Growth of Container Traffic in Selected U.S. Ports

Port	2004 volume (1000 TEUs)	2020 Volume (1000 TEU)	Increase (Percent)
Seattle	1,776	2,557	44
Tacoma	1,798	4,396	144.5
Oakland	2,043	3,382	65.5
Los Angeles/Long Beach	13,101	59,420	353.6
Houston	1,437	6,165	329
Miami	1,010	2,152	113.1
Savannah	1,662	9,420	466.8
Charleston	1,860	6,639	256.9
Virginia	1,809	5,566	207.7
New York/New Jersey	4,478	15,835	253.6

Source: American Society of Civil Engineers – 2005 Report Card for America's Infrastructure, U.S. Department of Transportation.

Table 2-1: Contribution of Commercial Marine Vessels[a] to Mobile Source Inventories for Selected Ports in 2002

Port Area	NO_x Percent	$PM_{2.5}$ Percent	SO_x Percent
Baltimore, MD	12	27	69
Beaumont, TX	6	20	55
Boston, MA	4	5	30
Charleston, SC	22	33	87
Galveston, TX	5	12	47
Houston, TX	3	10	41
Jacksonville, FL	5	11	52
Los Angeles/Long Beach, CA	5	10	71
Miami, FL	13	25	66
New Orleans, LA	14	24	59
New York/New Jersey, NY/NJ	4	9	39
Oakland, CA	8	14	80
Port Everglades, FL	9	20	56
San Francisco, CA	1	1	31
Savannah, GA	24	39	80
Seattle, WA	10	20	56
South Louisiana, LA	12	24	58
Tacoma, WA	20	38	74
Valdez, AK	4	10	43
Wilmington, NC	7	16	73

[a]This category includes emissions from Category 3 propulsion engines, as well as Category 2 and 3 auxiliary engines used on oceangoing vessels.

Source: *EPA Advanced Notice of Proposed Rulemaking, Control of Emissions From New Marine Compression-Ignition Engines at or Above 30 Liters per Cylinder.* Federal Register: December 7, 2007, Volume 72, Number 235, pp. 69522-69552. Table VIII-4, p. 69547.

APPENDIX D. Letter from U.S. EPA Region 9 concerning the DEIR for the Heim Bridge, Port of Long Beach – to show the way that Region describes the need for information on cumulative impacts, health impacts, environmental justice, etc.

See next few pages of this .pdf

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

October 12, 2007

Mr. Ron Kosinski
California Department of Transportation
100 South Main Street
Los Angeles, California 90012-3606

Subject: Draft Environmental Impact Statement (FEIS) for the Schuyler Heim Bridge Replacement and State Route 47 Expressway Project (CEQ # 20070361)

Dear Mr. Kosinski:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the Schuyler Heim Bridge Replacement and State Route (SR) 47 Expressway Project (Project), Ports of Los Angeles and Long Beach, Los Angeles County, California. Our comments are provided under the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR 1500-1508), and Section 309 of the Clean Air Act. Based upon our review, we have rated the proposed action as *Environmental Concerns- Insufficient Information (EC-2)*. See attached "Summary of the EPA Rating System" for a description of the rating. The basis for the rating is summarized below and further detailed in our enclosed comments.

Cumulative Impacts

EPA is aware of a number of forthcoming EISs in the port area over the next few years, which, if implemented, will lead to substantial cumulative environmental impacts in an already highly impacted area. We note that the neighboring low income and minority communities have historically sustained extensive impacts to air quality and water quality from goods movement-related operations. For this reason, it is critical that the environmental documentation for this project, and all future projects in the Port of Los Angeles and Port of Long Beach area, reflect the level of historical, current, and future direct, indirect, and cumulative environmental impacts. In particular, this project's contributions to cumulative effects must be clearly defined along with proposed mitigation. EPA recommends that the FEIS include a more robust cumulative impact assessment that effectively discloses the health of the current environment, the trends that have contributed to impacts and/or losses to these resources, and the Project's cumulative effects.

Air Quality

EPA has concerns with the Project's impacts to air quality, including mobile source air toxics (MSATs). EPA recommends, given the likelihood of a shift in localized MSAT impacts in an area that is already highly impacted by air toxics, that Caltrans perform dispersion modeling for major MSATs to identify areas that may experience an increase in MSATs. Caltrans should provide additional mitigation for any adverse MSATs impacts and commit to these mitigation measures in the FEIS and Record of Decision (ROD). The mitigation plan developed for the

Project should 1) further minimize impacts from construction; 2) be consistent with the Clean Air Action Plan (CAAP, approved on November 20, 2006); and 3) identify specifically how measures identified in the CAAP can be both expanded upon and implemented earlier. EPA also recommends that the FEIS include additional monitoring data and studies performed in the project area and identify exceedances of the new 24-hour national ambient air quality standard for particulate matter less than 2.5 microns in diameter (PM2.5).

Environmental Justice

EPA is concerned that the project may result in disproportionately high and adverse air quality impacts to low income and minority populations. EPA recommends that Caltrans re-assess these potential impacts as detailed in the enclosed comments. Mitigation should be proposed, as necessary, to reduce any identified environmental justice impacts.

Water Quality

EPA is concerned that proposed construction work in the Cerritos Channel and Consolidated Slip/Dominguez Channel will resuspend fine-grained bottom sediments and may exceed state water quality standards and the proposed silt/turbidity curtains may not be fully effective to reduce impacts from resuspended sediments, given tidal influences and the depth of the channel. Also, the DEIS does not accurately characterize the current conditions in the area surrounding the bridge. EPA recommends including recent testing results from complete Tier 1 and Tier 2 sediment sampling in the area surrounding the bridge in the Cerritos Channel and implementing additional best management practices (BMPs) and a construction monitoring program to ensure containment of resuspended sediments.

The enclosed Detailed Comments include additional recommendations to coordinate with EPA's Superfund Program for work proposed in Consolidated Slip and with the U.S. Fish and Wildlife Service and the California Department of Fish and Game to address impacts to the American peregrine falcon nesting pair on the Schuyler Heim Bridge.

We appreciate the opportunity to review this DEIS and are available to further discuss all recommendations provided. When the FEIS is released for public review, please send two hard copies and three electronic copies to the address above (Mail Code: CED-2). If you have any questions, please contact me at 415-972-3846 or Susan Sturges, the lead reviewer for this project. Susan can be reached at 415-947-4188 or sturges.susan@epa.gov.

Sincerely,

Connell Dunning

FOR Nova Blazej, Manager
Environmental Review Office

Enclosures:
EPA's Detailed Comments
Summary of EPA Rating Definitions

cc: Karl Price, California Department of Transportation
Steve Healow, Federal Highway Administration
Mark Cohen, U.S. Army Corps of Engineers

Cumulative Impacts

The cumulative impacts section of the Draft Environmental Impact Statement (DEIS) for the Schuyler Heim Bridge Replacement and State Route 47 Expressway Project (Project) in the Ports of Los Angeles and Long Beach identifies multiple current and future projects to be constructed in the ports area. A second document, the recently completed DEIS for the TRAPAC terminal also identifies multiple capacity increasing and infrastructure projects. Based on information contained in both documents, an estimated 14 combined Environmental Impact Report (EIR)/EISs, and almost twice as many EIRs, are to be developed in support of infrastructure projects over the next few years. This large volume of future proposed projects in the ports, if implemented, will lead to substantial cumulative construction- and operation-related environmental impacts in an already highly impacted area. We note that the neighboring low income and minority communities have historically sustained extensive impacts to air quality and water quality from goods movement-related operations.

The high volume of proposed projects combined with a highly urbanized setting, with low-income and minority communities in an already highly impacted area, demands a thorough cumulative impacts assessment with extensive proposed mitigation. Specifically, all feasible mitigation should be proposed and committed to along with timeframes for implementation.

The DEIS includes a brief qualitative discussion of cumulative impacts for each resource area, but does not provide an appropriate context for cumulative impacts. The DEIS does not include the historical extent of resource losses and impacts and instead, relies on baseline conditions described in the Affected Environment sections of the document for the analysis.

Given the historically sustained extensive cumulative impacts to air and water quality from goods movement-related operations, EPA strongly recommends a more comprehensive analysis of cumulative impacts to resources of concern. The Final EIS (FEIS) should include a more robust cumulative impact assessment that effectively discloses: 1) a defined study area for each resource; 2) the health or status of the resource and the historical extent of losses and/or impacts to the resource; 3) the trends associated with those losses and/or impacts; 4) how reasonably foreseeable actions may impact those resources; 5) the Project's contributions to these cumulative effects; and 6) a mitigation strategy and timeframe of implementation to reduce impacts.

Recommendation:

- Include a more robust cumulative impact analysis in the FEIS. EPA recommends Caltrans follow the June 2005 *Guidance for Preparers of Cumulative Impact Analysis* prepared jointly by Caltrans, Federal Highway Administration, and the EPA for this additional analysis. The guidance is a useful reference and is available on-line at http://www.dot.ca.gov/ser/cumulative_guidance/approach.htm
- Include a mitigation strategy to reduce impacts from the proposed project and include timeframes for implementation of all proposed mitigation.

Air Quality

Mobile Source Air Toxics

The project area includes the Wilmington District of the City of Los Angeles, which is already one of the most heavily impacted areas for air quality in the nation. In addition to being adjacent to the Ports of Los Angeles and Long Beach (where marine vessels, cargo handling equipment, diesel trucks, and locomotives all contribute mobile source air toxics (MSAT) emissions), Wilmington is also the location of several oil refineries and other major air toxics emitters.

A 2001-2003 California Air Resources Board monitoring study (http://www.arb.ca.gov/ch/reports/wilmington_sb25_report.pdf) adjacent to Wilmington Park Elementary School (1115 Mahar Avenue, Wilmington, CA), approximately 1000 feet from the proposed Project area where Henry Ford Avenue meets Alameda Street, found high levels for several air toxics. Predicted increased cancer risks due to air toxics at the site were 277 in a million, which is much higher than the level EPA generally considers unacceptable (EPA uses >100 in a million risk as unacceptable for stationary sources; see the Benzene NESHAP, 54 FR 38044, September 14, 1989). The majority of the increased cancer risk was due to 1,3-butadiene and benzene, both primarily emitted by mobile sources. The 277 in a million risk was from only nine air toxics. Including the impacts of diesel particular matter (PM) would make the actual risks much higher.

Given the significant concerns about adverse health effects from mobile source pollutants and the project's potential for emissions in close proximity to residential communities and sensitive receptors, EPA recommends performing an analysis of potential MSAT impacts that informs decision-making between project alternatives and informs avoidance, minimization, and mitigation options. When considering appropriate and useful levels of analysis, EPA recommends that the lead agency consider the following:

- The likelihood of impact and potential magnitude of the effect, including both the magnitude of emissions and the proximity of the project emissions to potential residential and sensitive receptors, such as schools, hospitals, day care facilities, and nursing homes;
- The severity of existing conditions;
- Whether the project is controversial and whether air toxics concerns have been raised by the public for this project or for other projects in the area in the past;
- Whether there is a precedent for analysis for projects of this type, either under NEPA or other environmental laws; and
- Whether the analysis could be useful for distinguishing between alternatives, informing design changes, and targeting mitigation.

For most transportation projects, EPA generally recommends that the following levels of analysis be considered (in order of increasing complexity):

1. Qualitative discussion,
2. Quantify emissions,
3. Toxicity-weight emissions,

4. Dispersion modeling, and
5. Risk assessment.

These analyses are further described in the March 2007 report entitled "Analyzing, Documenting, and Communicating the Impacts of Mobile Source Air Toxic Emissions in the NEPA Process" conducted for the American Association of State Highway and Transportation Officials (AASHTO) Standing Committee on the Environment and funded by the Transportation Research Board (http://www.trb.org/NotesDocs/25-25(18)_FR.pdf). Procedures for toxicity-weighting, which EPA has found to be especially useful for the targeting of mitigation, are described in EPA's Air Toxics Risk Assessment Reference Library (Volume 3, Appendix B, beginning on page B-4, http://epa.gov/ttn/fera/data/risk/vol_3/Appendix_B_April_2006.pdf).

The DEIS acknowledges the need for quantitative MSAT analysis, stating (page 3.13-20):

"(1) the project would serve diesel trucks with the potential to concentrate diesel particulate matter; and
(2) sensitive receptors are within the project area and near the project site."

EPA agrees that a quantitative MSAT analysis is appropriate in this situation. The Project may result in shifting or exacerbating MSAT impacts in an area that is already heavily impacted, causing a concern with both direct and cumulative impacts. While the DEIS acknowledges the need for quantitative MSAT analysis, the analysis presented is inadequate to fully understand how MSAT impacts may vary between project alternatives. The regional emissions analysis, presented in Table 3.13-9, does not have sufficient information to describe how MSAT impacts will change, given that MSAT impacts are usually very localized (i.e. "hotspot").

Monitoring studies and epidemiological research have found that the largest impacts from vehicle-related pollutants generally occur within the first 1000 feet of a major roadway (see Section 3 of EPA's "Regulatory Impact Analysis: Control of Hazardous Air Pollutants from Mobile Sources," February 2007, http://www.epa.gov/otaq/regs/toxics/fr-ria-sections.htm). The DEIS acknowledges that there are a number of sensitive receptors, including residences and schools, that are closer than 1000 feet, some even within 100 feet of the proposed Project location. Thus, any change in traffic density resulting from the proposed Project alternatives (for example, the shifting of truck traffic from State Route 103 (SR-103) or Interstate 710 (I-710) to State Route 47 (SR-47)/Alameda Street) is likely to lead to both an increase in MSAT impacts at one location and a decrease in MSAT impacts at another location. The net result of this change may be either unacceptable or beneficial, and is especially dependent on the relative locations of sensitive receptors, but is difficult to determine without further quantitative analysis of changes in ambient concentration as a result of each alternative.

Recommendations:

- Given the likelihood of a shift in localized MSAT impacts in an area that is already highly impacted by air toxics, EPA recommends that Caltrans perform dispersion modeling of each of the MSATs listed in Table 3.13-9 for inclusion in the FEIS. Maps of ambient concentration should be presented in the FEIS for both the base year (2003, no build) and fully-operational facility (all alternatives). If construction emissions are not fully mitigated, the predicted changes in ambient concentration that would result from construction activity should be presented as well.

- The FEIS should discuss areas where alternatives may lead to increased MSAT impacts or provide environmental benefits. For example:
  - Would changes to SR-47 lead to increased impacts near Henry Ford Avenue and Alameda Street? For alternatives that may lead to increased MSAT impacts, the MSAT analysis will be critical for distinguishing between build alternatives, identifying whether specific design changes or mitigation would be necessary or beneficial, and targeting mitigation efforts.
  - Would the proposed SR-103 Extension result in decreases in truck traffic along Willow Street to I-710, providing an environmental benefit for this heavily-residential area?

- If the project will result in increased MSAT impacts, then Caltrans should propose MSAT mitigation measures. In order to be most helpful for targeting mitigation, the emissions should be further reported by project segment and smaller geographic locations. The benefits of proposed MSAT mitigation measures should be quantified and discussed in terms of the ability of mitigation to minimize or eliminate any potentially adverse localized impacts.

National Ambient Air Quality Standards

The Project is located in the South Coast Air Basin (SCAB). The SCAB is classified by EPA as serious nonattainment of the National Ambient Air Quality Standards (NAAQS) for particulate matter less than ten microns in diameter (PM10), nonattainment for particulate matter less than 2.5 microns in diameter (PM2.5), severe nonattainment for 8-hour ozone, and maintenance for CO. The SCAB has the worst 8-hour ozone and $PM_{2.5}$ problems in the nation, and attainment of these National Ambient Air Quality Standards (NAAQS) will require massive reductions from mobile sources, given the rapid growth in this emissions category and the long lifespan of diesel engines. The DEIS accurately reflects the SCAB nonattainment designations made by EPA for the NAAQS.

San Pedro Bay Ports Clean Air Action Plan

The San Pedro Bay Ports Clean Air Action Plan (CAAP), approved on November 20, 2006, identifies the measures that the Port of Los Angeles and the Port of Long Beach will take to reduce the emissions from Port operations. The CAAP includes recommendations and measures to reduce emissions 45% by 2011 through control measures for ocean-going vessels, heavy duty vehicles, cargo-handling equipment, harbor craft, and locomotives. The measures included are anticipated to reduce diesel particulate matter by 80% over the next five years (p. 4-39). Construction equipment and heavy duty truck emissions are expected to be a substantial

portion of the emissions associated with the proposed project. EPA recommends that any mitigation for the project's emissions impacts be consistent and support the CAAP.

Traffic and Air Quality Technical Studies

The Air Quality section references the Traffic and Air Quality technical studies but does not include these studies in the DEIS. These studies contain considerable technical information that augments the conclusions of the DEIS.

Recommendation:

Include the Traffic and Air Quality technical studies as attachments to the FEIS.

Conformity

The description of the applicable conformity requirements in several different sections of the DEIS provide conflicting conclusions as to which conformity requirements apply to the various aspects of the proposed project. Federal Actions that require Federal Highway Administration (FHWA) funding or approval are subject to the Transportation Conformity requirements [40 CFR part 93, subpart A]; other Federal Actions are subject to the General Conformity requirements [40 CFR part 93, subpart B]. Further, if the proposed project involves bridge retrofit, modification, or replacement and requires a permit from any Federal Agency other than FHWA, General Conformity would apply to the construction (i.e., equipment, barge, tugboat, etc.) emissions and operational emissions associated with the modifications to the Schuyler Heim Bridge.

Recommendation:

Clarify in the FEIS which aspects of the project are subject to transportation conformity, and which to general conformity. For General Conformity, the FEIS should describe the specific Federal Action that triggers the General Conformity requirements and include an analysis of the direct and indirect emissions associated with that Federal Action that are subject to the General Conformity requirements. For the General Conformity applicability analysis shown in Table 3.13-4, in addition to the column labeled "10% of the Emission Inventory", EPA also recommends specifically listing the emissions of each pollutant for which General Conformity is applicable and for which year this analysis is performed.

The DEIS states that the originally proposed project was included in the SCAG 2004 Regional Transportation Plan (RTP) and the SCAG 2006 Regional Transportation Improvement Program (RTIP) (pp. 3.13-11 – 3.13-12) and that the changes to the project scope are expected to be approved into the 2008 RTP in March 2008.

Recommendation:

To demonstrate that the proposed project meets the transportation conformity requirements in 93.115(a) and 93.115(b)(1), clarify in the FEIS that the project's design and scope have not changed significantly from those which were included in the 2004 RTP and 2006 TIP.

PM Hot Spot Analysis

A PM2.5 hot spot analysis is only required for the portion of the project that will be funded or approved by FHWA. However, the PM2.5 hot spot analysis in the DEIS also includes marine vessel emissions (pp. 3.13-17) that are elsewhere described as covered under general conformity (pp. 3.13-5).

Recommendation:
Clarify in the FEIS the relevant requirements for the emissions associated with the various elements of the project, and specify which emissions should be included in the PM2.5 hot spot analysis.

The PM2.5 and PM10 hot spot analyses are based upon three years of monitoring data (2004-2006) at the North Long Beach monitoring site. However, short-term ambient air quality trends may be influenced by variations in meteorology and not accurately reflect the longer-term ambient air quality trends.

Recommendation:
Base the conclusions of the hot spot analyses for PM10 and PM2.5 on six years of ambient air quality data, rather than three years, so that conclusions about ambient air quality trends is not based upon potential impacts of short-term meteorological trends.

The monitoring data presented in the PM hot spot analysis is from the North Long Beach site, the closest monitoring site to the project location. However, the traffic at the North Long Beach monitoring site may not reflect the same traffic conditions as at the project location since the project's area is heavily impacted by heavy duty truck traffic.

Recommendation:
If possible, include a discussion in the PM hot spot analyses of PM trends at monitors in locations with the percentage of truck traffic similar to that of the project area. This analysis would determine if PM concentrations are higher at these locations, exhibit different trends, or whether those concentrations are significantly influenced by roadway emissions.

PM10

A 2001-2003 CARB monitoring study (http://www.arb.ca.gov/ch/reports/wilmington_sb25_report.pdf) adjacent to the Wilmington Park Elementary School, approximately 1000 feet from the proposed Project area, found that PM10 levels were higher at the CARB study's Wilmington monitoring site than at the North Long Beach monitoring site. These results suggest that the air quality near the Wilmington School may be influenced by local sources not captured at the North Long Beach site.

Recommendation:
In addition to the air quality analysis presented in the DEIS, include results of the CARB study in the FEIS. Revise the air quality section to take into account the CARB study's conclusions about the air quality in the vicinity of the proposed project. If necessary, re-evaluate the DEIS' conclusions regarding the proposed project's impact on the local air quality conditions.

PM2.5

In the discussion of the air quality at the North Long Beach monitoring site (page 3.13-7), the DEIS references the number of exceedances of the 65 micrograms per cubic meter (ug/m^3) 24-hour PM2.5 NAAQS in recent years, but does not describe exceedances of the new 24-hour PM2.5 NAAQS of 35 ug/m^3. The new standard should be used as the threshold for NEPA evaluation purposes, as described in the memorandum by Anne Norton Miller, Director, EPA Office of Federal Affairs ("Reflecting the Revised PM2.5 National Ambient Air Quality Standard in NEPA Evaluations", June 25, 2007). This new standard was exceeded numerous times at the North Long Beach and Long Beach stations, as shown in the chart below. As demonstrated in this chart, the two Long Beach monitoring locations do show overall progress, but the PM2.5 35 ug/m^3 24-hour standard has not been attained at either monitoring location.

Number of PM2.5 35 ug/m^3 24-hour exceedances per year:

	2000	2001	2002	2003	2004	2005	2006
North Long Beach:	35	47	36	25	21	13	5
Long Beach:				15	17	10	7

Recommendation:

To most accurately represent the air quality conditions in the Long Beach area, include in the FEIS an updated discussion of the PM2.5 air quality conditions at the nearby monitoring stations and compare the PM2.5 concentrations to the new PM2.5 24-hour NAAQS.

Monitoring Studies near the San Pedro Bay Ports

SCAQMD has an ongoing ambient monitoring project in the vicinity of the Ports of Los Angeles and Long Beach. The study will measure criteria pollutants, air toxics and PM with speciation. In addition, SCAQMD currently is analyzing data from the MATES-III monitoring program which will soon provide air toxics monitoring data, including PM2.5 speciation at monitoring locations closer to the Ports.

Recommendation:

Where relevant, include in the FEIS the results of these two micro-scale monitoring studies to determine whether any updates to the air quality discussion in the DEIS are necessary in order to provide the most accurate and current assessment of the air quality conditions in the proposed project area.

Construction Emissions and Mitigation:

The project construction is expected to result in significant emissions of CO, NOx, ROG, PM10, and PM2.5, such as demonstrated in Table 13.10 for Alternative 1. In addition, emissions from diesel-powered equipment are expected. The MATES-II study in South Coast found that 70% of all cancer risk is attributed to diesel particulate emissions. The DEIS should evaluate the specific potential for increased diesel emissions, separate from other mobile-source emissions. EPA recommends consideration of the following additional mitigation measures to reduce the impacts resulting from future construction associated with this project.

Recommendations:
Due to the serious nature of the PM_{10} and $PM_{2.5}$ conditions in the SCAB and the significant cancer risk attributed to diesel emissions in the South Coast, EPA recommends that the best available control measures (BACM) for these pollutants be implemented at all times and that the FEIS and ROD incorporate the Construction Mitigation Plan. We recommend that (1) all applicable requirements under SCAQMD Rules, (2) the Caltrans Standard Construction Specifications and recommended measures listed on pages 3.13-36 and 3.13-37 of the DEIS, and (3) the following additional and/or revised measures be incorporated into a Construction Mitigation Plan.

Fugitive Dust Source Controls:

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

Mobile and Stationary Source Controls:

- Maintain and tune engines per manufacturer's specifications to perform at EPA certification levels and to perform at verified standards applicable to retrofit technologies. Employ periodic, unscheduled inspections to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications.
- Prohibit any tampering with engines and require continuing adherence to manufacturers recommendations
- If practicable, lease newer and cleaner equipment meeting the most stringent of applicable Federal or State Standards (see table: http://arb.ca.gov/msprog/ordiesel/documents/Off-Road%20Diesel%20Stds.xls). In general, only Tier 2 or newer engines should be employed in the construction phase, given the scale of the construction project, the level of the exposed population, and the high background levels of pollutants in the area.
- Utilize EPA-registered particulate traps and other appropriate controls where suitable to reduce emissions of diesel particulate matter and other pollutants at the construction site.

Administrative controls:

- Identify all commitments to reduce construction emissions and update the air quality analysis to reflect additional air quality improvements that would result from adopting specific air quality measures.

- Identify where implementation of mitigation measures is rejected based on economic infeasibility.
- Prepare an inventory of all equipment prior to construction and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking. (Suitability of control devices is based on: whether there is reduced normal availability of the construction equipment due to increased downtime and/or power output, whether there may be significant damage caused to the construction equipment engine, or whether there may be a significant risk to nearby workers or the public.)
- Utilize cleanest available fuel engines in construction equipment and identify opportunities for electrification. Use low sulfur fuel (diesel with 15 parts per million or less) in engines where alternative fuels such as biodiesel and natural gas are not possible.
- Develop a construction traffic and parking management plan that minimizes traffic interference and maintain traffic flow.
- Identify sensitive receptors in the project area, such as children, elderly, and infirm, and specify the means by which you will minimize impacts to these populations. For example, locate construction equipment and staging zones away from sensitive receptors away from fresh air intakes to buildings and air conditioners.
- Reflect the SCAQMD's BACMs for fugitive dust mitigation listed in Tables 3-13.11 – 3-13.13 in the Mitigation Reporting Plan (i.e., should be enumerated as mitigation measures in the monitoring report on p. 264 and 265). Moreover, given the severity of the PM problem in the area and the size of the construction activity associated with the proposed project, commit to implement during all construction phases more than the minimum of one BACM in each category in order to reduce PM emissions to the minimum.

Environmental Justice

EPA is concerned that the project may result in disproportionately high and adverse air quality impacts to low income and minority populations. Executive Order 12898 addresses environmental justice in minority and low income populations, and the CEQ has developed guidance concerning how to address Environmental Justice in the environmental review process (http://ceq.eh.doe.gov/nepa/regs/ej/justice.pdf). The project area is characterized by substantial proportions of both minority and low-income persons (82 percent minority and as many as 77 percent of persons below the poverty threshold in some areas), which is much greater that in either the City or County of Los Angeles.

As analyzed in the DEIS, the reference population is too narrowly defined and is not appropriated used for comparison to the affected population. The DEIS bases its determination of no disproportionately high and adverse air quality impacts to low income and minority populations, in part, because the DEIS indicates the effects of this project are not markedly different in severity or magnitude compared to other past or present highway improvements projects in the region (page 3.3-30). The DEIS further indicates that even though low-income

and minority groups would bear a large part of the burden associated with the project, it is due only to their proximity to short-term construction activities and is the same as for any community that would be similarly affected by proximity to construction (page 3.3-31). These arguments do not take into consideration the already existing ambient concentrations of air emissions and resulting increased cancer risk on minority and low-income populations in neighboring communities or other degraded environmental conditions associated with proximity to major port and industrial facilities. EPA recommends that Caltrans re-assess these potential impacts by more broadly defining the reference community (comparison group) to include the population that will benefit from the proposed project and comparing the benefits and impacts borne by both the affected community and the reference community.

Recommendations:

- Define the potential environmental justice concerns in the FEIS, which is the first step in an environmental justice analysis. Include a discussion of any environmental justice issues raised during the scoping meetings. If there are any additional environmental justice issues identified, then add them to Section 3.3.3.3.3.2 *Adverse Effects to Overall Population.* This section might be more appropriately named *Potential Environmental Justice Issues.*
- Define the reference community, which, combined with defining the affected community, is an important step in the environmental justice analysis. This is a critical step since the definitions are used to analyze whether there are disproportionately high and adverse human health or environmental impacts by comparing the impacts to the affected population with the impacts to the reference community. The affected community is defined in Section 3.3.3.2 *Affected Environment.* The reference community (or comparison group) is generally defined as the population that will benefit from the proposed project.
- Add a discussion of MSAT impacts, discuss the likelihood of a shift in localized MSAT impacts, and identify populations affected by MSATs, in Section 3.3.3.3.3.2 *Adverse Effects to Overall Population, Air Quality.*
- Revise Section 3.3.3.3.3.3 *Disproportionately High and Adverse Impacts to Minority and Low-income Populations* to include a discussion of the impacts to the affected community as compared to the reference community. The impacts that are significant after mitigation, such as the air quality impacts due to temporary construction and air quality impacts due to diversion of marine vessels around Terminal Island, are impacts that are predominately borne by minority and low-income populations and should be identified as environmental justice impacts in Section 3.3.3.4 *Environmental Justice Determination.*
- Identify additional mitigation to address these environmental justice impacts.

Water Quality

As noted in Table S-1: *Potential Project Effects and Avoidance, Minimization and/or Mitigation Measures*, Alternatives 1, 1A, 2, 3 and 4 would all involve the resuspension of fine-grained bottom sediments during 1) replacement and demolition of the Schuyler Heim Bridge in the Cerritos Channel, 2) placement of bridge footings in the Consolidated Slip/Dominguez Channel, and 3) other construction activities. The harbor sediments in the area of the bridges are

primarily silt and finer-sized fractions and, if resuspended, are expected to stay in suspension for days, resulting in exceedances of state water quality standards.

Dominguez Channel/Consolidated Slip

The DEIS incorporates sampling data from 2002 to characterize the sediments contained in the area around Consolidated Slip. The sediments in Consolidated Slip are highly contaminated with heavy metals including copper, lead, zinc, and mercury, total DDT compounds, total PCB compounds, and total PBC compounds. Consolidated Slip is part of Operable Unit 2 (OU2) of the Montrose Superfund Site. Montrose manufactured DDT at their plant upstream in Torrance from 1947 to 1982. DDT contaminated waste water flowed from the Montrose plant through subsurface storm drains and open channels, passing through the Dominguez Channel and Consolidated Slip on its way to the ocean. Consolidated Slip is currently listed on EPA's 303(d) list for 10 pollutants (including DDT) and has been designated by the Los Angeles Regional Water Quality Control Board (LARWQCB) as a Toxic Hot Spot under the Bay Protection and Toxic Cleanup Program.

Recommendation:

- Because OU2 is part of a Superfund Site, which is currently under remedial investigation, any activities that could potentially disturb sediments within the Site must be coordinated and approved through the EPA Superfund program process. DDT contaminated sediment in the Consolidated Slip would need to be managed as state and federal listed hazardous waste.

- EPA recommends that sediment sampling be conducted prior to any physical disturbance of sediment in Consolidated Slip to determine whether DDT is present in sediments in the work area. Please contact Richard Hiett, Remedial Project Manager, of our Superfund Program at 415-972-3170 for project coordination with the Superfund Site.

Cerritos Channel

The supplemental report, *Final State Route 47 Expressway and Schuyler Bridge Replacement Project Water Quality Impacts Technical Study* (July 2007) (Technical Study) relies on two sources of data to characterize the sediments in the Cerritos Channel underneath the Schuyler Heim Bridge. Surface sediment was characterized by looking at samples of the top 6 inches from a study performed in 2002 by CH2M Hill, and deeper strata were characterized from a 1994 Los Angeles Harbor Department Study. Because of the high rate of sedimentation in this area (the Ports of Los Angeles and Long Beach routinely conduct maintenance dredging in the area to maintain channel depth), the DEIS may not accurately characterize the current conditions in the area surrounding the bridge.

Recommendation:

The FEIS should include recent testing results from a complete Tier 1 and 2 sediment sampling, in accordance with the procedures set forth in EPA's Inland Testing Manual (http://www.epa.gov/waterscience/itm/ITM/) in the area surrounding the Schuyler Heim Bridge in the Cerritos Channel. Testing should fully characterize the chemical and physical properties of the sediment to the proposed project depth.

Construction Effects – Silt/Turbidity Curtains

As stated in the DEIS, sediment contaminants have the ability to impact aquatic life in both the Cerritos Channel and Dominguez Channel. The construction of new bridge footings and the removal of the old foundation will resuspend channel bottom sediments creating a turbidity plume that can be expected to stay in suspension for days and travel as far 1,250 meters upstream before the tide turns. As stated in the Technical Study, the sediment plume may contain constituents (copper, zinc, and PAHs) at potentially toxic concentrations. These concentrations will exceed State of California water quality criteria (WQC) and may cause acute toxicity to aquatic organisms. Additional contamination is possible from removal of lead-based paint from the existing structures. The DEIS proposes to utilize cofferdams and turbidity curtains to mitigate sediment resuspension (Section 3.16.4.1.1.1).

The loss of contaminants to the surrounding waters is of particular concern when dredging or relocating contaminated sediments. The sediment grain size distribution within the Consolidated Slip indicates that 80.12% of the material is composed of fines (silt and clays). Sediment samples taken from the Cerritos Channel also indicate a significant percentage (greater than 80 percent) of coarse silt and fines. This is of concern because sediment contaminants are generally bound to the fine particles, which are most easily resuspended during construction activities.

While the U.S. Army Corps of Engineers and other Federal Agencies have designated the use of silt or turbidity curtains a Best Management Practice to help protect environmental resources, there is little published literature that demonstrates how effective silt curtains have been in meeting project objectives.[1] The effectiveness of silt curtains depends on many factors such as 1) nature of operation, 2) quantity and type of material in suspension within or upstream of the curtain, and 3) characteristics, construction, and condition of the curtain as well as the area and configuration of the barrier enclosure (e.g. partial or full depth containment, either solid or permeable).

A 1978 study on silt curtains, performed by JBF Scientific Corporation for the U.S. Army Corps of Engineers Dredged Material Research Program, concluded that high currents and energy environments cause curtains to flare, thus reducing the curtain's effective depth. The study also noted that tidal currents that dominate the hydrodynamic regime may cause the fluid mud to be resuspended, especially if the curtain is not properly deployed and stated that "with respect to overall effectiveness and deployment considerations, a current velocity of approximately 1 knot appears to be a practical limiting condition for silt curtains."[2]

These conclusions are further supported by a 1994 EPA report which states that, "As a generalization, silt curtains and screens are most effective in relatively shallow, quiescent water. As the water depth increases and turbulence caused by currents and waves increases, it becomes increasingly difficult to effectively isolate the dredging operation from the ambient water. The

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[1] Francingues, N. R., and Palermo, M. R. (2005). "Silt curtains as a dredging project management practice," *DOER Technical Notes Collection* (ERDC TN-DOER-E21). U.S. Army Engineer Research and Development Center, Vicksburg, MS. http://el.erdc.usace.army.mil/dots/doer/doer.html.

[2] JBF Scientific Corporation. (1978). "An analysis of the functional capabilities and performance of silt curtains," Technical Report D-78-39, US Army Engineer Waterways Experiment Station, Vicksburg, MS.

St. Lawrence Center (1993) advises against the use of silt curtains in water deeper than 6.5 meters or in currents greater than 50 centimeters/second."[3]

Recommendation:

- Provide more information in the FEIS about the measures (including silt/turbidity curtains) that will be implemented during construction to minimize sediment resuspension. This should include information regarding the length, depth, and placement of curtains that will be utilized in both the Cerritos Channel and near Consolidated Slip. Given the tidal influences, and depth of channel (>50 feet), there is a high likelihood for failure. Please clarify in the FEIS whether the curtains in the Cerritos Channel will cross the entire channel (blocking navigation) or if it will be placed just around the bridge pilings.

- The DEIS states that curtains would be used during "pile-driving operations in the channel." If curtains are chosen as the best method to contain suspended sediments, then they should be utilized during *all* construction activities, not just pile-driving operations, that have the potential to alter sediments. Additionally, it may be appropriate to utilize two separate barriers to contain sediments: a primary *and* a secondary barrier.

Sediment Resuspension Monitoring

In addition to silt curtains, another key consideration to minimize sediment resuspension involves the selection and operation of the dredge/construction equipment. The keys to an effective and environmentally safe dredging operation are (EPA 1994): 1) selection of compatible equipment with the conditions at the site and the constraints of the project, 2) use of highly skilled operators, and 3) close monitoring and management of the dredging operation.

Recommendation:

- Include a monitoring plan to measure the level of sediment resuspension caused by the project in the FEIS and the ROD. Include in the monitoring plan measurements of turbidity or suspended solids to help track contaminant transport and the efficacy of the barriers put into place. Specify that water samples be collected at one location upstream and several locations downstream from the construction activity.

Biological Resources – American Peregrine Falcons

As noted in Table 3.16-3 the Schuyler Heim Bridge is currently home to a year-round nesting pair of American peregrine falcons. It is also shown that Peregrine falcons have nested at the nearby Gerald Desmond Bridge. It appears that in some years, the two bridges were alternatively used as nesting territory.

In the evaluation of direct effects from construction (Section 3.16.3.3.1.1.1), the DEIS states that the removal and replacement of the Schuyler Heim Bridge would eliminate a known nest site for a breeding pair of peregrine falcons. The DEIS suggests that it is likely the disturbed

[3] US Environmental Protection Agency. 1994. ARCS Remediation Guidance Document. EPA 905-B94-003. Chicago, IL: Great Lakes National Program Office.

and displaced peregrines would utilize their alternative nesting location at the Gerald Desmond Bridge. To minimize impacts to the falcons from construction, Point B-7 (3.16.4.1.1.1) of the DEIS mentions that efforts will be made to coordinate construction schedules of the future Gerald Desmond Bridge Replacement Project to prevent overlap.

Recommendations:

- Prior to completing the FEIS, consult with the U.S. Fish and Wildlife Service and the California Department of Fish and Game regarding the displacement of the peregrine falcons within the Ports of Los Angeles and Long Beach.
- Include mitigation measures in the FEIS and ROD to ensure a long-term home for this species within the project area. The construction of the proposed project will result in the direct loss of habitat for a breeding pair of American peregrine falcons. It is unclear from the DEIS if replacement of this habitat has been considered other than to suggest that the pair might migrate over to their alternative nesting site at the Gerald Desmond Bridge. Potential migration to the Gerald Desmond Bridge may not address the long-term habitat requirements of the falcons since the Gerald Desmond Bridge is also undergoing replacement.

SUMMARY OF EPA RATING DEFINITIONS

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

ADEQUACY OF THE IMPACT STATEMENT

Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

Keck School of Medicine University of Southern California

Page 2

755-MR-12-EV01

Comment: *Of significant concern, the the ACE/GPA dredging project does not have a lengthy construction noise section nor does the overall project have an operational noise section to analyze whether unloading larger number of containers from new larger post-Panamax ships (that have been at the Port previously) is noisier for the community than previous operations. This type of environmental review/analysis is a requirement of NEPA. Here are the pages of the Middle Harbor Project that shows the type of noise analysis – not done for the SHEP DEIS – which much be conducted: http://www.polb.com/civica/filebank/blobdload.asp?BlobID=5136.*

Response: The EIS discusses noise issues in the following locations: Section 50.7.1 Dredging Impacts, Section 5.19-Terminal Operations, Noise and Lighting section, Section 5.20.1 - Noise, and in Appendix B-Biological Assessment.

The GPA will expand the Garden City Terminal [GCT] irrespective of channel deepening. Under both without- and with- project conditions, the District expects the GCT to reach its build-out capacity near 2030 [at 6.5 million TEUs]. This is the maximum number of containers that can reasonably be processed based on factors such as the size of the terminal, the number of gates that provide access to the property, the number and size of the berths, the number and size of the container cranes, the number of jockey trucks that move the containers within the terminal, how the containers are stacked within the terminal, and the number of railroads that service the terminal and the return frequency of their trains. It is anticipated that without deepening, more vessels would be required to transport the cargo expected to move through the port. With deepening, the total number of vessels decreases as vessels would be able to load/unload closer to capacity without the present constraints of draft.

The District expects the number of containers moved through the port and through the Garden City Terminal to increase over time. However, harbor deepening would not alter the rate of increase. Since the number of containers moved through the Garden City Terminal would not be affected by harbor deepening, the proposed deepening, per se, would not affect noise levels attendant to landside cargo handling.

Page 3

755-MR-12-EV02

Comment: *The SHEP analysis states that the noise levels from the dragarm sliding along the bottom ranged from 70-140dB. Most noise charts do not even go over 110 (see below a noise chart reprinted from the EIS/EA by the Port of Long Beach and Army Corps of Engineers for the Middle Harbor Project.) The impacts of such noise levels on animal life in the river and human health nearby must be analyzed.*

Response: The following is the full text found in Appendix B on page 43:

"The noise generated from a hopper dredge is similar to a cutter head suction dredge except there is no rotating cutter head. The majority of the underwater noise is generated from the drag arm sliding along the bottom, the pumps filling the hopper, and operation of the ship engine/propeller. Like

the cutter head suction dredge, the noise ranged from 70 to 1,000 Hz and peaked at 120 to 140 dB (Clarke et al 2002). These results from Clarke et al are preliminary and have not been published."

As mentioned, the study quoted (Clarke et al 2002) has not been published [peer reviewed]. Further, it evaluated operations involving the excavation of rock rubble/cobbles from a channel in Alaska. Importantly, there is no rock in the Savannah Harbor sediments -- only sand, silt, and clay. Discussions with Dr. Clarke indicate that the noise levels generated from a hopper dredge would be considerably less with the type of sediments found in the Savannah Harbor.

The current data indicate that noise impacts on aquatic or terrestrial species would not be significant, so detailed studies are not warranted based on the information available at this time.

Page 4

755-MR-12-EV03

Comment: *The SHEP DEIR basically concludes that there will be insignificant health impacts from air pollution resulting from dredging the Savannah River and expanding the capacity of the Garden City Terminal. Their analyses and assumptions are believed to be faulty and the DEIR for SHEP must be redone. The resulting air pollution from this project must be evaluated, including its potential health impacts. Air pollution resulting from the expansion of port projects in the U.S. is a serious concern in 2010, but is dismissed by the ACE and GPA in their documents. Please see a report by U.S. EPA which documents some of the health impacts from ports and "goods movement." http://www.epa.gov/compliance/ej/resources/publications/nejac/2009-goodsmovement.pdf. Also please see Appendix B of these comments, which includes more information about the latest research findings on the health impacts of air pollution on human health.*

Response: In developing the air emission inventory for the Port of Savannah, the District used procedures established and recommended by US Environmental Protection Agency (EPA) to identify air emissions from ports. EPA's guidance document is titled, "Current Methodologies in Preparing Mobile Source Port-Related Emission Inventories, Final Report, dated April 2009". This document provides the framework that is used throughout the US to determine estimates for a port's air emission, i.e., for all ocean going vessels and land-based port equipment. [see responses to EPA's comments on air quality for more details]

The District expects the number of containers moved through the port and through the Garden City Terminal to increase over time. However, harbor deepening would not alter the rate of increase. Since the number of containers moved through the Garden City Terminal would not be affected by harbor deepening, the proposed deepening, per se, would not affect air emissions attendant to landside cargo handling.

As the number of containers moved through the port increases over time, the number of vessels required to transport the cargo is also expected to increase. With deepening, the total number of vessels is expected to decrease from what would otherwise be required to transport the cargo volume of a given year. If the number of vessels decreases, the air emissions from vessels would also decrease.

Page 5

755-MR-12-EV04

Comment: *Environmental Justice (EJ) concerns are required to be considered/evaluated in EISs. The SHEP DEIS fails to consider EJ concerns. We are concerned over the significant and unavoidable impacts to the already disproportionately affected EJ community, and recommend additional measures to fully offset these impacts. We suggest that the Corps and Georgia Ports Authority develop a Health Impact Assessment to better identify these impacts and work with the community to identify offset measures. In addition to health impacts from construction and operational emissions, we are also concerned with potential impacts from construction noise resulting from the Project. Please see the report about environmental justice concerns relating to ports and goods movement produced by U.S. EPA in 2009, entitled: Reducing Air Emissions*
Associated With Goods Movement: Working Towards Environmental Justice at
http://www.epa.gov/compliance/ej/resources/publications/nejac/2009-goods-movement.pdf

Response: Environmental justice concerns have been thoroughly considered in Section 5.19 of the EIS. This includes compliance of the proposed action with Executive Order 13045 (Protection of Children) and Executive Order 12898 (Environmental Justice). This section includes discussions on the following subjects: Overview of the project on EJ communities, Demographics of Chatham County and Garden City, Demographics of Jasper County, Landside Transportation of Cargo, Dredging Activities, Terminal Operations, Diesel Fuel Programs, Noise and Lighting, Employment, Considerations of other terminals, and Summary of Project Effects on EJ Populations and Children. Figures show the following: Poverty Levels in the Vicinity of the Upper End of Savannah Harbor; Locations of Schools, Hospitals and Child Care Facilities Along the Navigation Channel; and Proposed Road Improvements in the Vicinity of Garden City Terminal.[see response to EPA comments on this matter for more details]

Comparisons between the Ports of Los Angeles/Long Beach (LA/LB) and Savannah [while interesting] are not always valid. According to the US EPA website, the Ports of LA/LB are currently designated as "non-attainment" for both ozone (severe-17) and PM2.5. As indicated in Section 4.03 Air Quality, "*The Georgia Department of Natural Resources, Environmental Protection Division, Air Protection Branch (GADNR, EPD, APB) and the South Carolina Department of Health and Environmental Control, Bureau of Air Quality (SCDHEC, BAQ), have air quality jurisdiction for the project area for Chatham County, Georgia and Jasper County, South Carolina, respectively. The ambient air quality for Chatham County, Georgia and Jasper County, South Carolina has been determined to be in compliance with the National Ambient Air Quality Standards, and both counties have been designated as Attainment Areas (Personal Communication, 20 February 2007, Jim Kelly, GADNR, EPD, APB and Fatina Washburn, SCDHEC, BAQ).*"

Chatham County, GA is designated as in "attainment" for both ozone and PM2.5. Chatham and Jasper Counties are **not** designated as "non-attainment" for these pollutants.

A health impact assessment was not warranted because harbor deepening would result in reduced adverse air quality impacts to the surrounding communities rather than maintaining the status quo [no-action alternative]. The Ports of LA/LB probably may have conducted a detailed health impact assessment because their proposals were expected to have an adverse effect on parameters that affect human health [and this is not the case with SHEP].

Page 8

755-MR-12-EV05

Comment: *SHEP project and expansion of port capacity*

- *Is the project needed so that the Port of Savannah can expand its capacity?*
- *Or will, as claimed, the Garden City Terminal expand to capacity even without the SHEP river deepening?*

If the latter is true, as claimed, why is the SHEP needed at all? If the SHEP is indeed needed for Garden City to reach capacity, then air quality and noise impacts are grossly understated in the emissions inventory and throughout the DEIS and the DEIS must be redone and resubmitted for public comment.

Response: The Corps expects GPA to expand the GCT to 6.5 million TEUs regardless of whether or not the Savannah Harbor navigation channel is deepened. The objectives of the SHEP are to Identify and evaluate feasible, environmentally acceptable alternatives that will:

- Reduce congestion in the river channel;
- Accommodate recent and anticipated future growth in containerized cargo and ship traffic;
- Improve the efficiency of operations for container ships within the Savannah Harbor Navigation Project; and
- Allow larger and more efficient container ships to use the Port.

Harbor deepening would not expand the capacity of the Garden City Terminal to handle more cargo. The EIS adequately addresses the air quality and noise impacts of the proposed project.

Page 11

755-MR-12-EV06

Comment: *Clearly, the Garden City Terminal would not be able to handle 6.5 million containers without the deepening of the river to handle post-Panamax ships. As required by NEPA, the SHEP DEIS must do adequate analyses of Growth Inducement, Noise, Lighting, Air Quality with this in mind, as an assumption throughout the document. Thus, the DEIS for SHEP must be redone and resubmitted for public review using correct assumptions for all analyses.*

Response: No incremental increase in cargo is expected to occur as a result of the proposed harbor deepening. As a result, the number of containers that transit the areas that surround the port remains a zero sum. Further, overall landside impacts outside the Garden City Terminal, e.g., noise, air emissions [including air toxics], and traffic, would not increase as a result of the proposed deepening. The project's economic benefits accrue from the use of larger, more cost-effective container ships, not an increase in the number of containers.

Page 15

755-MR-12-EV07

Comment: *The DEIS must be redone to reflect that the additional containers that will be accommodated at the Terminal only because of the SHEP will result in growth of air pollution at the Garden City Terminal as described below.*

Response: The number of containers transiting the port and the Garden City Terminal will incrementally increase over time. However, harbor deepening would not affect the rate of this increase. It follows that the proposed deepening would have no material effect on the growth of air emissions at or in the environs of the Garden City Terminal. A deeper channel would allow fewer, larger vessels to carry the cargo moving through the port, resulting in a decrease in the number of vessel calls [when compared to the status quo]. The reduction in the number of vessels would decrease the pollutants emitted from vessels calling at the port.

Page 16

755-MR-12-EV08

Comment: *In light of the fact that most Ports that have done emissions inventories which concluded that the Ports are, in fact, significant contributors to PM, these calculations seem suspect. (See http://www.polb.com/environment/air/emissions.asp). Why is Savannah different than other ports that have conducted emissions inventories?*

Response: The emission inventory [Appendix K] for Savannah was developed using the procedures established and recommended by US Environmental Protection Agency (EPA) to evaluate a port's air emissions. EPA's guidance document is titled "Current Methodologies in Preparing Mobile Source Port-Related Emission Inventories, Final Report, dated April 2009". It provides the procedural outline used [throughout the US] to determine air emission estimates from all ocean-going vessels and land-based port equipment. The analysis was accomplished using the EPA protocols and site-specific data provided by GPA and the Savannah Harbor Pilots. While conducting the analysis, the District routinely consulted EPA to ensure its guidance was correctly interpreted and included the most up-to-date emission relationships.

755-MR-12-EV09

Comment: *NOx and PM2.5 are two of the most important (measured) air pollutants from the Port in terms of links to health effects. The Emissions Inventory presents very confusing information about PM2.5. In one sentence (highlighted) the Inventory says that the port is a minor contributor of PM2.5 to County air pollution. In the next sentence (also highlighted below), the Inventory says that PM2.5 is a SUBSTANTIAL CONTRIBUTOR to air pollution in Chatham County. Which is it? See text surrounding Table 6-4 of the SHEP DEIS. The SHEP DEIS must contain accurate analyses for the contribution of NOx and PM2.5 to port and regional air pollution. The air quality analysis must be redone so that it makes sense and so that readers and residents can understand it. The following is a quotation from the DEIR, Appendix K, page 90:*

Response: Appendix K has been revised to correct this inconsistency. A recalculation of emissions is not warranted. The District revised the text in Appendix K to reflect the following:

The results calculated by the Corps for the entire port are in general agreement with those estimated by EPA in 2002 and 2005 for Ocean-Going Vessels calling at Savannah. Table 6-4, below compares the Total Port Emissions for 2008 (in Table 5-78) to the EPA 2002 NEI and 2005 NEI data for Chatham County. For both the EPA 2002 and 2005 NEI data for Chatham County, the port is a minor contributor of HC, VOC, CO, PM10, PM2.5, and SO2. However, according to the EPA 2002 NEI data for the county, it is a substantial contributor to NOx emissions (about 18.3%). However, as also indicated in Table 6-4, according to the new EPA 2005 NEI data, the percent NOx emissions is further reduced from 18.3% to 13.5%.

Table 6-4 2008 Port Emissions Comparison (% Percent) to Chatham County EPA 2002 NEI and EPA 2005 NEI Emissions

	HC	VOC	CO	NOx	PM10	PM2.5	SO2
EPA 2002 NEI							
Port of Savannah (includes all 22 Terminals)	1.9	1.9	1.3	18.3	3.4	9.5	5.4
EPA 2005 NEI							
Port of Savannah (includes all 22 Terminals)	2.0	2.0	1.6	13.5	3.1	7.2	5.1

One needs to remember that the Corps is comparing its calculated emissions for the port in 2008 at the baseline -42 foot depth to the 2002 EPA NEI data for all of Chatham County. The port's contributions to SO2 emissions are expected to decrease as a result of EPA's requirements for use of cleaner fuels. These new standards should substantially reduce SO2 emissions, as the SO2 content in the fuels used by non-road diesel, locomotives, and marine diesel engines transitioned from 500 ppm sulfur in 2007 to ultra low sulfur diesel (ULSD) -- which is 15 ppm -- in 2010. For Ocean-Going Vessels, EPA issued new emission standards in late 2009 for Category 3 marine diesel engines which will require an 80 percent reduction in NOX emissions beginning in 2016. EPA also adopted standards for engines covered by MARPOL Annex VI that require OGV within 200 miles of the US to use fuel with a maximum of 1% Sulfur (10,000 ppm) beginning in 2012 and 0.10% (1,000 ppm) beginning in 2015. Again, the port's

contributions of NOX and SO2 emissions in the County should substantially decrease as a result of these new requirements for cleaner fuels.

As indicated in Section 5.20 of the EIS (on page 5-152 of the DEIS): *GPA continually evaluates methods to reduce diesel consumption and emissions. These actions protect the environment and the local population. Examples include the following:*

GPA has converted the older ship-to-shore cranes to electric and purchased new cranes that run off of electricity. Of the 23 ship to shore cranes, 21 are electric which avoids the use of 1.9 million gallons of diesel each year.

The Garden City Terminal is the largest shipper of refrigerated cargo on the east coast and has installed electric refrigerated container racks which eliminate the use of diesel generators for the refrigerated containers. The use of these racks in place of generators avoids the consumption of nearly 2.4 million gallons of diesel annually.

In 2010, EPA awarded GPA a Diesel Emissions Reduction Grant to repower 17 rubber tire gantry cranes (RTGs), which is one of the primary types of container handling equipment. By repowering these RTGs, GPA will avoid using 129,000 gallons annually throughout the life of the equipment.

GPA recently conducted a pilot project on use of a diesel additive in the container handling equipment. The study showed that the additive reduced fuel consumption and lowered emissions. GPA now uses the additive in all container handling equipment. This avoids use of 100,000 gallons of diesel fuel annually.

The Garden City Terminal has a total of 33 on-road truck container interchange lanes divided between two locations on the terminal, which have processed over 8,200 gate transactions on a single day. GPA's facility master plan includes construction of a third set of gates which would then provide access to the terminal from the east, west and south, thereby spreading out traffic and reducing waiting times at the gates. The dispersal of truck traffic reduces congestion and its accompanying air emissions. GPA expects to implement this improvement within the next 10 years.

Containers are shipped by rail using the two Intermodal Container Transfer Facilities (rail yards). At those facilities, trains are built for particular destinations as far west as Chicago. This effort reduces transit times of up to 3 days and avoids central train yard switching of cars, thereby reducing emissions. Moving freight by rail emits three times less NOx and PM than on-road trucks. With the only East Coast ICTFs located on the container terminal, GPA's on-dock rail volumes have increased 135% over the past five years (2008).

During periods of heavy cargo volumes, GPA coordinates extended gate hours (earlier morning and later evening hours and Saturdays) to decrease on-road and terminal congestion. This improves productivity, reduces truck idling, and decreases diesel emissions.

Forklifts of 15,500 pound capacity or smaller (86) are now fueled with LP gas, rather than diesel.

As a result of programs GPA implemented throughout the Garden City Terminal, approximately 4.5 million gallons of diesel and the associated emissions are avoided on an annual basis. While GPA has increased the total volume of containers moved, the gallons of diesel per container handled decreased 54% from FY01 to FY10.

Page 18

755-MR-12-EV10

Comment: *We question whether the GPA/ACE are calculating truck emissions correctly. Appendix K, page 9, states. "For container cargo, the landside area includes the time trucks wait to enter the GPA terminal to drop off or pick up its load, as well time for the outgoing trucks to clear the immediate vicinity of the port."*

Response: US EPA has designated both Jasper and Chatham Counties as attainment areas for both ozone and PM2.5. The following is an excerpt of where the 15-minute truck period is discussed in Appendix K:

The Corps included 15 minutes each way for each truck to account for the time it travels in the vicinity of the port, but not on the terminal. This additional 30 minutes of engine time accounts for time spent traveling between the Interstate highway system and the Garden City Terminal.

As noted, 15 minutes [each way] was allotted to travel time in reaching the Garden City Terminal and does not include any time spent within the terminal confines. This value [15 minutes] was selected based on input from GPA, which operates the GCT, and the truckers who haul the port's containers. Figure 5-57 shows planned road improvements near the Garden City Terminal (page 5-151 of the DEIS). This figure also depicts the proximity of Interstates 95 and 16 to the GCT. When the planned highway connector improvements are completed, the travel time from the gate at GCT to the interstates will be further reduced.

The air emission inventory in Appendix K also included truck emissions for the following trip increments once the truck is within the confines of GCT: (A) from the gate to trailer drop off, (B) move to new trailer pick up, and (C) loaded truck arrived back to the exit gate. These driving times or unloading/loading times (as well as relative speed of each one of these steps) were included in the overall calculation for emissions from the GCT and the port.

For defining the truck emission boundary, EPA's "Current Methodologies in Preparing Mobile Source Port-Related Emission Inventories, Final Report, dated April 2009" recommends the following:

Section 5.1. Definition of Land-side Boundaries (on page 5-1 of USEPA 2009)

"A region boundary must be determined to estimate the distance used in rail and long-haul truck trips. Boundaries for both modes should be consistent. In order to ensure consistency across different port emission inventories, the land-side boundary should be up to the first intermodal point, ***or the geographical boundary of the metropolitan area for trips that either originated or terminated outside the region*** *(emphasis added by the writer), whichever comes first. The geographical boundary of the metropolitan area is typically the air basin boundary, but it could be adapted depending on whether some regions are in non-attainment."*

For truck emissions, the District used the **geographical boundary of the metropolitan area for trips that either originated or terminated outside the region**. According to EPA 2009, the land side air emission boundary does not need to extend to the first intermodal point. Hence, a recalculation of the air emission analysis found in Appendix K is not warranted.

Page 19

755-MR-12-EV11

Comment: *However, just as the DEIS claims for truck emissions, the DEIS claims that "the hotelling of containerships is a minor part of the overall port emissions for HC, VOC, CO, NOX, PM, and SO2." As a result, the DEIS states that the Garden City Terminal not only does not require shore power – it actually claims that the use of shore power is experimental (even though other major ports are already using it.) The DEIS describes the process as "expensive," possibly requiring "international agreements" and "still in its development stage."*

Response: Appendix K discusses using shore power while berthing (cold ironing). Table 6-1 shows the percentage of container ship emissions while in a hotelling status at the Garden City Terminal compared to the port's total emissions. The values [based on an average dockside stay of 16 hours per container ship] reveal that hotelling is a minor part of the overall port emissions for HC, VOC, CO, NOX, PM, and SO2.

Table 6-1 Emissions while Hotelling at GCT

Percentage of Hotelling Emissions compared to Total Port Emissions [2008]

	HC	VOC	CO	NOX	PM10	PM2.5	SO2
Containerships	3.7%	3.7%	2.6%	9.0%	6.9%	6.8%	11.7%

Included in these calculated air emissions is 16 hours of auxiliary engine use while a vessel is berthed. Further, hotelling emissions will be reduced when ocean going vessel begin using Category 3 marine diesel engines as a result of EPA's new emission standards [2009]. This will mandate an 80 percent reduction in NOx beginning in 2016. EPA also adopted standards for engines covered by MARPOL Annex VI that require OGV within 200 miles of the U.S. to use fuel with a maximum of 1% Sulfur (10,000 ppm) beginning in 2012 and 0.10% (1,000 ppm) beginning in 2015. The District's hotelling calculations [2008] did not include the use of the noted new equipment/fuels which have resulted in even lower NOx and SO2 values. Given this conservative approach, a recalculation of emissions is not warranted.

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Comment: *The following charts are from the 2008 emission inventory showing the contribution of various pollutants to the Port emissions and to as a contribution to the South Coast Air Quality Management District – a huge area covering 5 counties. Note that many changes had already occurred at the POLB by 2008, including ULSD that is now used in trucks at Garden City, and electric cranes. Since the TEUs at POLA in 2008 were 6.7 million, this seems like a reasonable comparison for future emissions at the Garden City Terminal, EXCEPT that the Air District in southern California is a huge geographic area,*

so the emissions are much likely to be less as a contributor to those 5 counties than if the contribution were shown only for L.A. County.

Response: The air quality information from the Port of LA/LB has been reviewed by District technical staff for its applicability [comparison of port emissions to all other emitters in the air shed] to the proposed harbor deepening in Savannah. The District remains confident that the Garden City Terminal will reach maximum capacity of 6.5 million TEUs around 2030.

A direct air quality comparison between the Port of LA/LB [2008] and Savannah [2032] would overlook recently enacted regulations and new equipment/fuels – both of which will have a significant impact on emissions' levels. The District's calculations of Savannah's air emissions took into account the benefits these factors would introduce [over time]. Hence, the large difference in air emissions generated from these similar-sized ports [but at different points in time] is not the result of an error in the District's calculations, but rather a reflection of the benefits accruing from EPA's recent regulations.

The following paragraphs provide more detailed discussion of concepts that are important to this issue:

1. Ocean-going vessels [OGV] are the largest contributor of air emissions at any port. In 2008, OGVs at the Port of LA/LB were not required to use ultra low sulfur diesel [ULSD] (15 ppm Sulfur) fuels; rather they could use Marine Diesel Oil (MDO) [which is a 1% sulfur (10,000 ppm) fuel]. Their land based equipment used ULSD fuel, but the arriving OGVs did not have this requirement. The 2008 calculations for the Port of LA/LB included the use of fuels with the noted higher sulfur content. EPA issued new fuel standards that will substantially reduce SO2 emissions from non-road diesel, locomotives, and marine diesel engines. These fuels transitioned from 500 ppm sulfur[2007] to ULSD [15 ppm] in 2010. EPA also adopted standards for engines covered by MARPOL Annex VI that require OGV within 200 miles of the U.S. to use fuel with a maximum of 1% sulfur (10,000 ppm) beginning in 2012 and 0.10% (1,000 ppm) beginning in 2015. The SO2 emissions from both the Port of LA/LB and the Port of Savannah are expected to decrease with their use of these cleaner burning fuels.

2. Emissions of NOX, SO2, and PM2.5 will decrease as the terminal operators replace their equipment with newer engines that are less polluting. A port's percentage contributions of NOX and SO2 emissions to its surrounding air shed should further decrease with equipment replacement.

3. For OGVs, EPA issued new emission standards [2009] for Category 3 marine diesel engines which will require an 80 percent reduction in NOX emissions beginning in 2016. For its calculation of emissions from OGVs, the District used the values in the table below that shows the change in NOx emissions for OGVs at the Port of Savannah in 2008, 2016, 2020, 2025, 2030, and 2066.

Pollutant **2008**	**Main Engine Emission Factor (g/kW-hr)**	**Auxiliary Engine Emission Factor (g/kW-hr)**
NOx	17.00	13.90

	NOx Main Engine (g/kW-hr)	NOx Aux Engine (g/kW-hr)
2016	13.634	11.20201
2020	10.1286	8.12038
2025	7.2726	5.71012
2030/2066	5.4128	4.15471

To summarize: OGVs are the largest contributor of air emissions at any port. The District assumed that these ships would comply with the recent EPA regulations mandating cleaner fuel and low emission engines. For 2030, the District assumed that OGVs arriving at the Port of Savannah will be using lower sulfur fuel (1,000 ppm) and NOX emissions will be 5.4 g/kW-hr for the main engine and 4.15 g/kW-hr for the auxiliary engines. This is a significant change from 2008 when fuel was MDO 1% sulfur (10,000 ppm) and NOx emissions were 17.0 g/kW-hr for the main engine and 13.90 g/kW-hr for the auxiliary engines. Hence, a recalculation of emissions is not warranted.