Naval Air Station
South Weymouth, MA
Restoration Advisory Board
Summary of RAB Meeting – April 12, 2007

NAS South Weymouth Website: http://nas-southweymouth.navy-env.com

1. INTRODUCTIONS/ APPROVAL OF PRIOR MEETING MINUTES

Mary Skelton Roberts opened the meeting at approximately 7:15 PM. She requested that all attendees, including RAB members, regulators, and audience members, introduce themselves. She noted that the meeting agenda, handouts and the sign-in sheet were available on the back table. The sign-in sheet for the meeting is provided as Attachment A to this meeting summary. M. Skelton Roberts asked if everyone had time to read the meeting notes from the prior RAB meeting (March 2007) and asked for comments. There were no comments offered.

M. Skelton Roberts then reviewed the ground rules for the meeting and reminded the meeting attendees that the focus of the meeting is cleanup issues; redevelopment issues will be placed on the 'parking lot.'

M. Skelton Roberts reviewed the purpose of the parking lot. The purpose is to document any important issues related to redevelopment, and not clean-up, and compile them in a letter to be sent to South Shore Tri-Town Development Corporation (SSTTDC), with the hope that these issues would be addressed by SSTTDC. Issues brought up during the meeting will be added to the parking lot.

M. Skelton Roberts reviewed the guidelines for the meeting. She reminded the participants when asking questions to wait to speak until they are acknowledged, to state their names and affiliations, and to speak into the microphone when they have questions. M. Skelton Roberts then reviewed the agenda and presentations scheduled for the meeting. The Agenda for the meeting and the Action Item Tracking List are provided as Attachment B to this meeting summary. In accordance with the agenda, the presentations would be followed by the Updates and Action Items portion of the meeting.

2. PRESENTATIONS

M. Skelton Roberts introduced John Bleiler who summarized the objectives of the Basewide Assessment, and more specifically, tonight's presentation on the Human Health Risk Assessment. The following paragraphs summarize the presentation and include references to selected presentation slides in Attachment C. The complete presentation is available in color on the NAS South Weymouth web site: **http://nas-southweymouth.navy-env.com**.

The Basewide Assessment includes a series of four Technical Memoranda: the Basewide Hydrogeological Evaluation; the French Stream Geochemical Evaluation; a Human Health Risk Assessment (tonight's presentation); and an Ecological Risk Assessment.

The Basewide Assessment has been underway for about a year and a half. The focus tonight will be on the Human Health Risk Assessment (HHRA) for French Stream, including the iron flocculent material in the stream. A geotechnical memorandum on the potential sources of the floc material was discussed at the January 2007 RAB meeting. The ecological risk assessment is being prepared and should be ready in approximately 4 to 6 weeks; it will be discussed in a future RAB meeting. Mr. Bleiler then introduced Dr. Ishrat Chaudhuri to present the human health risk assessment update. He noted that the flocculent material in French Stream is very apparent and Dr. Chaudhuri, as a toxicologist and a human health risk assessor, has evaluated potential risks to a number of different human receptors, both current and future.

Dr. Chaudhuri stated that a variety of different receptors, exposure to surface water, sediment and floc from French Stream were studied. The study concluded that exposures were unlikely to result in unacceptable health risks for the evaluated receptors. A draft version of the risk assessment is complete and is currently under agency review.

The basic purpose of the risk assessment was to look at human health risks from exposure to surface, water, sediment, and iron flocculent (Slide 2). The focus was on the portion of French Stream that flows through NAS South Weymouth (the Base). A number of risk assessments have been performed by Navy as part of the CERCLA risk assessments for the IR sites. Those assessments did not include floc data though, just surface water and sediment data.

The Geochemical Technical Memorandum summarizes the floc investigation results and is currently under agency review. Chemical and bacterial analyses confirmed that the floc primarily consists of iron, manganese, organic matter, and bacteria (Slide 3). The conceptual model of floc formation was part of the Memorandum and was reviewed by Dr. Chaudhuri (Slide 4). Both an iron rich source and organic matter must be present to form floc. French Stream is characterized by a hard gravel bottom, meaning there is little sediment deposition. This made it difficult to collect sediment samples for chemical analysis. French Stream is very shallow, and due to these habitat limitations, deep swimming holes and fishing were not considered likely receptors. The geochemistry memorandum concluded that sources of iron and organic matter need to be present for floc to form. The floc could be formed in other areas as well, provided that the bacteria, iron, and organic matter are present (Slide 5).

The HHRA followed EPA Region 1 Superfund risk assessment guidance and MADEP guidance for an MCP Method 3 type of assessment. The risk assessment also followed portions of the streamlined HHRA Work Plan developed for the Environmental Baseline Survey (EBS) and used to investigate Areas of

Concern on the Base (Slide 6). A comprehensive set of samples was included in the HHRA. The results from a number of EBS, CERCLA, and MCP investigations were used. The focus was on the surface water, sediment, and floc data. A number of chemicals were detected in these samples, including metals, SVOCs, and hydrocarbon compounds (Slide 7). The HHRA evaluated data from 46 sediment samples, 58 surface water samples, and 4 floc samples collected by Navy under the various programs (Slide 8).

Slide 9 describes the receptors chosen for evaluation in the HHRA. After the data were complied, the receptors, or the representative population groups that could be exposed to the media that were being looked at, were chosen. An on-site worker, a trespassing child, a child resident, and an adult resident were chosen as receptors for this HHRA (Slide 9). Once the receptors were selected, exposure assumptions were made. Most of the exposure assumptions used were from EPA guidelines; recommendations from the EPA and MADEP were also considered (Slide 10). One example of an exposure assumption would be a child swimming 104 days out of the year, which averages out to 4 days a week for 6 months. The assumed surface water ingestion rate was 10 milliliters per hour for 2 hours per day. The floc ingestion rate was assumed to be similar to the rate for surface water. The floc exposure frequency was based on observations in French Stream from the December 2005 and May 2006 floc reconnaissance results.

Once the exposure assessment was complete, the information was then combined into risk models used to develop quantitative estimates of risk. Chemicals were grouped into carcinogens, e.g. PAHs and arsenic, and non-carcinogens, e.g. iron (gastrointestinal effects) and manganese (central nervous system effects). The potential cancer risk is expressed as the likelihood of cancer over the background cancer rate (Slide 11). The cancer risk estimate for the site was compared to a range, 1 in 10,000 to 1 in 1,000,000, that is accepted by the agencies. For perspective, the background cancer rate in the US is 1 in 2 for men and 1 in 3 for women. The risk range is used to determine when remediation or a removal action needs to be taken for a site. For non-carcinogens there is a threshold level below which there are no health effects (Slide 12). Once the estimated dose per site was calculated, it was compared to this threshold to see if there were any expected health effects. The non-cancer risk is expressed as a ratio; the estimated dose from the site compared to the threshold (safe) level. The ratio is called the hazard index. If the hazard index is less than or equal to one then there should be no non-cancer effects from the site.

The calculations were performed for the different receptors. It was determined that for the carcinogens the numbers were within an acceptable risk range. For the non-carcinogens, the hazard index was less than one. The risks determined for floc were negligible compared to the surface water and sediment data, despite the levels of iron and manganese found in the samples. See Slide 13.

Navy has concluded that the potential exposure to surface water, sediment, and floc is unlikely to pose a human health risk (Slide 14). The risk assessment was performed in accordance with EPA guidance and using various conservative exposure assumptions. The report is currently under agency review and comments are expected within a few months. The next step is the Ecological Risk Assessment.

D. Galluzzo asked about migration of floc and if it always stayed in one place. J. Bleiler stated that they did not focus on migration of the floc but in a storm event it is reasonable to assume that some is washed downstream and also more groundwater is discharged which contributes to formation of more floc.

D. Galluzzo asked, since there is no potential of danger, will the Navy guarantee that any future health issues associated with this water will be taken care of and will the floc conclusions be included in the transfer documents. D. Barney said it will be discussed in the transfer documents but there can be no guarantee. Undiscovered contaminants will be addressed by Navy, but hypothetical health issues are difficult to address.

D. Galluzzo brought up Ashland Nyanza site. B. Olsen responded that regarding the Nyanza site, the exposures occurred before the site was listed on the NPL and EPA was involved. Nyanza was thus a different situation than Weymouth where EPA and the Navy are working together.

D. Punchard stated his concern about where the samples were collected and the climate when they were collected. French Stream often floods his backyard and he is concerned that not enough samples have been collected. He suggested that there be off-site sample collection and believes the Navy is responsible for the flooding and chemicals in Rockland. Dr. Chaudhuri stated that the samples were analyzed for the standard EPA list of chemicals. Quite a few chemicals were detected and were used in the HHRA. The risks were not above levels that are considered significant.

P. Scannell asked if arsenic found. Dr. Chaudhuri responded, yes it was. He doubted the results of the HHRA based on the cluster of autoimmune diseases around the Base. Why doesn't Old Swamp River have the same problem? B. Olsen stated it is difficult to determine the origin of the floc. The construction of the Base was a likely contributor. Blasted rock was used to fill in the wetland. The broken rock, which would have made the iron and manganese more available, the peat of the wetland, and the environmental sites, all could have contributed to floc formation. B. Olsen also noted that EPA just received the report and it has not been reviewed. The EPA still wants to keep looking at possible sources for the formation of floc.

A comment was made that the public moving onto the Base should be made aware of the potential problems.

J. Rakers asked what happens if the concentrations of chemicals like arsenic accumulate. Dr. Chaudhuri stated the exposure scenario takes accumulation into account. Many variables, concentrations, and exposures were considered and the exposure assumptions also account for a sensitive population.

M. Parsons asked if there were any fish seen during the sampling. J. Bleiler stated that in earlier studies traps were set and nets and electromagnetic shock were used to catch fish. The chemical concentrations were looked at in the fish tissue. Only small fish were caught but concentrations were very low and would have a small effect on the food chain. Frogs were also looked at and the results also showed very low concentrations.

M. Parsons commented that French Stream looks so unusual, very different from the other streams in the area and stated her concerns that the contaminants would build up over time to cause harm. Will something be done to fix French Stream? D. Barney responded that once all the Basewide Technical Memoranda were submitted and reviewed, the overall condition of French Stream would be addressed. Dr. Chaudhuri noted that risk depends on the concentration of a given compound and dermal contact was considered in the risk assessment.

M. Bromberg suggested that there be another discussion after the agencies had reviewed the documents. B. Olsen also suggested an overall basewide review for a future meeting after all the reports have been reviewed.

M. Bromberg stated his concern with the groundwater irrigation system (proposed for the redevelopment of the Base). He could see the iron floc spread all over the Base. R. Kleiman stated that they would not be irrigating with water from French Stream. There is a well onsite that may be used for irrigation and that water would be aerated before it would be used for irrigation, which would cause the iron to precipitate out. Other potential sources for irrigation water are the MWRA water or treated wastewater. This process is identified in the draft Environmental Impact Report.

M. Bromberg asked what kind of ill effects are seen from iron or manganese. Dr. Chaudhuri responded that it depends on the dose, or concentration, of the chemical. The toxicity value that iron is based on considers gastrointestinal tract effects. Manganese has been found to cause nervous system effects. She noted that there needs to be a certain level of manganese and iron in our systems because they are both essential elements. To determine the toxicity values EPA looked at the amount that is needed in our bodies for survival and then how much above those levels would concentrations need to be before there were ill effects. Most manganese studies show inhalation as the main exposure pathway related to central nervous systems effects.

R. Sugatt stated that EPA has a health advisory for manganese in drinking water of 300 µg/L. There is a secondary drinking water limit for aesthetic purposes (based on staining of laundry) of 50 µg/L of manganese in the water. There is groundwater on the Base with manganese concentrations greater than 300 µg/L, which means the water needs to be treated before it can be ingested. The water systems in surrounding towns treat the water to below the secondary standard of 50 µg/L. He stated that the main exposure pathway for manganese is ingestion, not dermal.

D. Galluzzo asked about the lead concentration found on the Base compared to dangerous levels. Dr. Chaudhuri did not recall the exact numbers but stated it was below the standards. A question was asked: Why was lead paint banned? Lead paint was banned because children eat paint chips.

3. UPDATES AND ACTION ITEMS

M. Skelton Roberts reviewed the four action items listed on the Action Item Tracking List (see Attachment B) for this RAB meeting:

1. MDPH MS Study update: D. Barney stated that he did not have a chance to check on the status of the MDPH MS Study. His understanding is that when the report is ready it will be released, but he did not know the status.

2. List of AULs; what and where they are: The reason for the AULs (Activity and Use Limitations) is to limit disturbance of soil beneath a building. There must be a soil management plan and LSP oversight if the soil beneath a building with an AUL is excavated or otherwise disturbed. Building 31 on Shea Memorial Drive, Building 8, Building 24/98 (medical/dental facility), and Building 14, across the street from the main boiler plant, are the four areas on the Base that have AULs in place. Attachment D includes an AUL summary table and map of the Base showing locations of the Buildings with AULs.

3. Provide vernal pools map to J. Cunningham: S. Ivas stated that the vernal pool map was Figure 5.6-2 in the draft Environmental Impact Report. The updated map will be in the Final Environmental Impact Report. The updated map should be ready within the next two weeks.

M. Skelton Roberts asked each of the Leads to provide updates to the list of Update Items.

RAB Administrative Actions: D. Barney stated that the parking lot letter was developed and sent by Jim Cunningham to SSTTDC. There is also a summary of extra issues that did not make the parking lot letter, and were either addressed in RAB meetings or will be addressed in the future. Both were available on the back table.

J. Cunningham stated that he sent one letter to SSTTDC and one letter to Representative Delahunt asking for an engineer to be on the Base when the development occurs. The SSTTDC letter included the parking lot issues. Some of the issues were answered and some will be answered through documents that are available in the Caretaker Site Office. SSTTDC indicated that they will be responding in writing to all of the issues on the parking lot letter within the next few weeks.

MADEP Update: D. Chaffin stated that there were no changes to the Small Landfill or Fire Fighting Training Area (FFTA) since the last RAB meeting.

Coast Guard Update: D. Barney received no update.

IR Program Site Update: The Feasibility Study for the Sewage Treatment Plant has been finalized. The Proposed Plan is being prepared. Once finalized and distributed, there will be a public meeting and public hearing to present the preferred remedial action for the site.

The long-term monitoring at the Rubble Disposal Area has started with groundwater, surface water, and sediment samples being taken. The first monitoring round has been completed. A Land Use Control Implementation Plan was submitted, which is a document that discusses how the Rubble Disposal Area site will be managed in the future.

For the West Gate Landfill, Navy submitted a letter requesting EPA concurrence with Navy's preferred alternative in the Proposed Plan.

At AOC 55C, a small wetland area north of Trotter Road, sediment samples were collected for toxicity and chemical analyses. Co-located surface water testing is planned for the week of April 16. There was also an Electromagnetic Survey of the area conducted to delineate areas with subsurface metallic debris.

The RI data from Building 81 and Building 82 are being compiled and the report writing is underway.

MCP Update: A second round of groundwater samples has been collected at the FFTA. If the results are favorable, the Navy would submit a response action outcome and close out the FFTA.

EBS Update: Additional samples were collected around the East Mat Ditch to augment various removal reports for TACAN removal action.

FOST Update: FOST 3 will soon be ready for a signature. There were additional discussions with EPA regarding the groundwater notification clause that has been inserted in the updated version of FOST 3.

FOST 4 is available for public review and comment until May 1, 2007. It is available at the repositories as well as on the NAS South Weymouth web site.

SSTTDC Update: S. Ivas stated that the Phase I horizontal infrastructure plans were approved on Monday, April 11, 2007. This covers the roadways and all the pipelines, e.g., electrical, water, sewer, and storm water.

D. Punchard stated that when flooding occurs the water covers sewer manholes and drains into the Rockland sewer plant. He wants a containment pond built so that the water does not leave the Base.

B. Olsen stated that there have been samples taken downgradient of the Base adjacent to and in French Stream. Samples have been collected downstream as far as Reed Pond.

P. Scannell asked about materials in the runways (PCBs and asbestos). Now that the runways are being ground up without any protection or oversight he asked if someone going to provide oversight. A. Malewicz responded that the MADEP Lakeville Solid Waste Office has approved a plan that has to be followed to manage the waste on the site. A copy of the plan can be obtained from the Board of Health in your respective town. The MADEP Solid Waste Program oversees the protocol and MADEP approved and oversees the work to ensure the work is being performed properly. Asbestos is not in the concrete but was found in some mastic, or caulking. MADEP's conditions include a process to remove the mastic; that work has been done and the mastic taken off-site. The remainder of the runway was asbestos-free and was demolished and stock-piled per the MADEP approval. MADEP continues to conduct site visits at the Base and oversee the process. Efforts have been taken to minimize the amount of dust produced by grinding up the runways. The plan for the ground-up runway materials is to use them in the development process as roadway base. A copy of this protocol can be obtained from town Boards of Health and from Bob Johnson in the MADEP Lakeville Solid Waste Office.

R. Kleiman stated that most of the runway has been taken up and ground up. The material will be used as they begin road construction in about a month.

A question was asked whether there has there been any communication with Audubon or Natural Heritage about the activity adjacent to the wetlands. R. Kleiman responded that all of the work that is being performed now is under an order of conditions so there is a permit from Natural Heritage.

A. Hilbert asked about the status of the transfer of land. In response to the question, D. Barney reviewed the status of FOST 3 and FOST4. He stated that FOST 3, which is about 20 acres and in the old zoning plan called for senior residential areas in Weymouth, is being prepared for signature. FOST 4 includes about 200 acres that have been found by the Navy as suitable to transfer and is out for public comment.

FOST 4 is available on the NAS South Weymouth web site and in local libraries. In early May the comment period closes, a Responsiveness Summary will be prepared, and then that document will be prepared for signature. A couple of other steps need to be taken before the land will be transferred by deed. A. Hilbert then asked about the cost of the land. D. Barney responded that he does not know the cost or when a cost will be available.

Dr. Chaudhuri readdressed the concern about the drinking water standards. The average concentration of lead detected in the floc sample was 54 µg/L. Based on the exposure assumptions, a model was run and it was determined that the risk from the lead was below the acceptable threshold levels. The surface water results meet drinking water standards.

M. Parsons asked if the iron floc precipitated. She stated that some was on rocks and some was suspended. B. Olson stated that it comes out of the water it attaches to something - it is never just free floating. If it attaches to bacteria then it will float, but if it attaches to a rock it will stay there. The floc is more prevalent when it settles on something than it is when suspended in the surface water.

J. Rakers asked if the roadway through the Rubble Disposal Area will cut through and break it up again. R. Kleiman said the parkway does not go through the RDA. The roadway will cross over Old Swamp River where the existing road and crossover is now, and will not disturb the RDA cap. B. Olsen commented that a roadbed cap would be just as effective, as or more effective than the RDA cap, so EPA would be OK with it.

Topics for future RAB Meetings

The following action items and topics were suggested for future meetings:

- June meeting – West Gate Landfill Proposed Plan

Conclusion/Next Meeting

The meeting concluded at approximately 8:45 pm. The next meeting was set for Thursday, June 14, 2007 and will be the public meeting for the West Gate Landfill Proposed Plan, in lieu of a RAB meeting.

Naval Air Station South Weymouth
Weymouth, MA
Restoration Advisory Board
RAB Meeting Agenda

12 April 2007 **Conference Center on Shea Memorial Drive** **7:00 PM**

Agenda Items	*Item Lead*	*Projected Time*
1. Introduction, Review of Meeting Notes	**Facilitator**	**7:00 - 7:15**
2. French Stream Human Health Risk Assessment	**Navy**	**7:15 - 7:45**
3. Updates and Action Items	**Navy**	**7:45 - 8:15**
4. Questions, Agenda Items, Next Meeting	**Facilitator**	**8:15 - 8:30**

Facilitator: Massachusetts Office of Dispute Resolution: Mary Skelton-Roberts

Restoration Advisory Board (RAB) Members:

Abington: James Lavin, (Alternate: Steve Ivas); Phil Sortin (Alternate: Beth Sortin)
Hingham: no current representation
Rockland: no current representation
Weymouth: James Cunningham (Community Co-Chair); Ken Hayes; Dan McCormack; Steve White
Navy: Dave Barney (Navy Co-Chair)
EPA: Patty Marajh-Whittemore (Alternate: Pamela Harting-Barrat)
MA DEP: David Chaffin (Alternate: Ann Malewicz)

BRAC Cleanup Team (BCT) Points of Contact:

Navy: Dave Barney, BRAC Environmental Coordinator, Base Realignment and Closure Office, Program Management Office, Northeast (617) 753-4656

Brian Helland, Remedial Project Manager, Base Realignment and Closure Office, Program Management Office, Northeast (215) 897-4912
Email: brian.helland@navy.mil

MA DEP: David Chaffin, Environmental Engineer, Federal Facilities (617) 348-4005
Email: david.chaffin@state.ma.us

EPA: Patty Marajh-Whittemore, Remedial Project Manager, Federal Facilities Section (617) 918-1382 Email: whittemore.patty@epamail.epa.gov

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Naval Air Station South Weymouth
Restoration Advisory Board
Action Item Tracking List

12 April 2007 – Next RAB Meeting

Action Item	Item Lead	Deadline
ACTION ITEMS		
MDPH MS Study update	D. Barney	Next RAB
List of AULs; what and where they are	D. Barney	Next RAB
Provide vernal pools map to J. Cunningham	S. Ivas	Next RAB
UPDATES		
RAB Administrative Actions	D. Barney	Each RAB
MA DEP Update	D. Chaffin	Each RAB
Coast Guard Buoy Facility Update	R. Marino	Each RAB
IR Program Sites Update	D. Barney	Each RAB
MCP Release Areas Update	D. Barney	Each RAB
EBS Review Item Areas/ Various Removal Action Update	D. Barney	Each RAB
FOST/FOSL/CDR Update	D. Barney	Each RAB
SSTTDC Update	J. Lavin/ S. Ivas	Each RAB
COMPLETED ITEMS		
Copies of figures from Old Swamp River Study by Beta Group, Inc (03/07)		
Provide Hydrogeologic Investigation Tech Memo to D. Galluzzo (03/07)		
Distribute monthly Navy program status/administrative items update (03/07)		
Provide blueprint of old STP to H. Welch (01/07)		
Distribute monthly Navy program status/administrative items update (01/07)		
Check status of NAS South Weymouth website (01/07)		
P. Scannell to provide the reference for the 1995 EPA study to D. Barney (11/06)		
Distribute monthly Navy program status/administrative items update (11/06)		
Were runways in the transferred land tested for fuel oil and PCBs? (11/06)		
1997 DEP letter re: non-potable drinking water source areas on the Base (11/06)		
Map showing sampling locations on the Base (11/06)		
Old Swamp River additional sample collection; data available? (11/06)		
Status of release of MDPH ALS/MS study (11/06)		
Contact Dr. Knorr regarding access to NAS South Weymouth EGIS (7/06)		
Distribute monthly Navy program status/administrative items update (7/06)		
Check availability of MDPH to give a presentation on MS/ALS data (5/06)		
Distribute monthly Navy program status/administrative items update (3/06; 4/06)		
Provide copies of SSTTDC and Mayor Madden letters re: Small Landfill CAAA to M. Parsons (2/06)		
Provide information on vernal pools to M. Byram (2/06)		
Distribute monthly Navy program status/administrative items update (2/06)		
Small Landfill CAAA Update (12/05)		
Distribute monthly Navy program status/administrative items update (12/05)		
Provide details of RDA contractor's upcoming work (10/05)		
Provide details about SSTTDC's unescorted access policy (10/05)		
Provide turtle activity update (8/05)		
Check where upcoming RAB meeting times are posted (8/05)		
Distribute monthly Navy program status/administrative items update (8/05)		