

**Responses to RAB comments, dated July 25, 2001,
on the draft Mattawoman Creek Study Work Plan
IHDIV-NSWC
Indian Head, Maryland**

Comment #1:

Mr. Bohli's letter indicates that one of the items not included in the plan is the "planned use of rapid characterization of water and sediment quality and hydrodynamic properties through an innovative technology from the Space and Naval Warfare Systems Command." Why isn't this included as a part of the study? When will this be done? The results from this approach may well require a modification of the main study. Will it include mapping of the Mattawoman Creek for both water and sediment qualities? Will we be given an opportunity of knowing more about the technology involved in this approach and its reliability?

Response to Comment #1:

A discussion of the rapid sediment screening was not included in the draft Work Plan because this is a new technology that was not planned for use in this study at the time the draft Work Plan was developed. The rapid sediment screening will be performed prior to the main field event to obtain a better understanding of the nature and extent of sediment contamination. Thus, the data from the rapid sediment screening field event will be used, in part, to better focus the biological and toxicological samples collected as part of the main field event. The final Work Plan will contain a discussion of the rapid sediment screening methodology. However, a stand-alone, rapid sediment screening Work Plan is also under development by those with expertise in the technology.

Comment #2

Chapter 1.0 Introduction, 1.2 Site Description – The description of the site “rambles” without any clear indication of the area actually being studied. I assume the study will address only the tidal portion of the 79 square mile water shed. Is this correct? The study Area should be more clearly identified.

Response to Comment #2:

Section 1.2 was intended to give the reader an overview of the Mattawoman Creek physical and ecological setting before presentation of a discussion regarding the specific nature of the study. In addition, the presentation of the Summary of Previous Investigations (Section 1.3) was necessary before providing a discussion of specific study boundaries so the reader could obtain knowledge of the potentially impacted areas. These sections set the backdrop for the study so that the rationale behind the study boundaries is clearer when discussed. Section 2.4 (Areas of Study) presents a detailed discussion of the study boundaries. As stated in the Work Plan, the tidal portion of Mattawoman Creek will be the only portion of the creek that is studied, though the sampling will focus primarily, though not exclusively, on the section of Mattawoman Creek near the base (please see response to comment #3d).

Comment #3

Chapter 2.0 Field Investigation Scope Development

a. 2.3.3.1 Conceptual Site Model. On page 2-7 (Hypothetical future on-site residents (adults and children)). It is suggested that “a future residential scenario is not considered to be likely but will be evaluated to aid in risk management decisions.” My question is – what are we evaluating? The definition of the site must include those land areas that border it, correct? This would include those areas of the NSWC base as well as those land areas that are under private ownership. The impact of any health hazards resulting from the Mattawoman Creek is a concern to us whether they be construction workers, adolescents, recreational users of residents residing or working in the Navy base as well as those who may be affected who live or work on private land in close

proximity to Mattawoman Creek. We currently have residents who live on land abutting tidal Mattawoman Creek and these individuals should be recognized in the study.

b. 2.3.3.1 This paragraph incorrectly states that “Potential dermal exposure to surface water by current/future recreational users or future residents will be limited to wading since Mattawoman Creek is not used for swimming”. This statement is false. Residents on the south side of the Mattawoman Creek routinely swim in the Creek, I am also aware that youth groups from a national environmental organization periodically canoe/kayak and swim in the Mattawoman. The swimming is done from Marsh and/or Thoroughfare Islands.

c. 2.3.3.1 The last sentence in this paragraph suggests that “future residents may also consume fish caught from Mattawoman Creek...” and implies that we have no current residents who consume fish. This is incorrect. We currently have individuals who live in the area who are dependent on Mattawoman Creek as a primary food source (i.e. herring, perch, shad, bass, etc.).

d. 2.4 Areas of Study—The plan states that “sampling will focus primarily on the portion of Mattawoman Creek near the base because this is the most likely area of chemical impacts”. While this may be true it is also recognized that there may have been some movement or shifting of sediments due to tidal or storm action, etc. In fact this is acknowledged in your work plan. See page A-10 which states “Furthermore, the hydrological conditions in Mattawoman Creek have changed over time, including movement of the main channel, sediment loading from on-base and off-base sources and dynamic movement of sediment depositional areas. The creek is also subject to tidal influences. Therefore, difficulties arise when attempting to associate particular base-related chemicals that could be present in Mattawoman Creek medial with certain segments of Mattawoman Creek near the base.” I strongly recommend that the areas of study be expanded to include areas on the south side of tidal Mattawoman Creek particularly those near existing residential development.

Response to Comment #3:

- a. For the purpose of this study, the “site” is confined to Mattawoman Creek and does not include adjacent land. The residents who currently reside on land adjacent to the study area are considered off-site residents. The list of potential exposures has been modified to include fish ingestion. The hypothetical future on-site resident has been removed from the work plan.
- b. Potential exposures while swimming by adolescent and adult recreational users will be added to the human health risk assessment.
- c. The work plan is being modified to reflect human health scenarios for “residents.” As currently framed, “residents” are considered to live off-site (i.e., not on Mattawoman Creek itself), but experience exposures that include ingestion of fish caught in Mattawoman Creek.
- d. The area of study will focus primarily on the portion of Mattawoman Creek near the base because this is the most likely area of chemical impact. This was concluded mainly because the data from the recent Toxicity Identification Evaluation (TIE) study and the Sites 39 and 41 Remedial Investigation (RI) indicated that contamination due to chemicals released from these sites does not extend long distances into the creek from the points of origin. Therefore, it is assumed that contamination from chemicals released from other facility sites and outfalls does not extend long distances from the point of entry, especially across the entire width of Mattawoman Creek. Existing information regarding the hydrology of Mattawoman Creek suggests that if significant movement of chemicals in sediments were to occur, it would likely be up- or downgradient in Mattawoman Creek, as opposed to movement across the entire width of Mattawoman Creek (and thus across the plane of stream flow).

It should be noted that samples will not be collected only parallel to, and close to, the shoreline of the base. Figure 3-1 presents generalized sampling locations. The rapid sediment screening effort conducted prior to the main field investigation event is expected to provide additional data regarding the potential extent of contamination

across the creek. During the main field event, samples will also be collected in a perpendicular plane from the shoreline; extending out into Mattawoman Creek as the sediment screening data indicates is appropriate.

Comment #4:

a. 3.1 Surface Water Sampling—Samples will be sensitive to the variability of weather, water flow, tidal action, etc. The Work Plan should specifically state how extremes in the above will be avoided.

b. General—I am particularly concerned by the heavy concentration of both surface water and sediment sampling being concentrated along the north shore of the Mattawoman. See Figure 3-1. I recommend that some surface water and sediment sampling be conducted in other areas of the creek as well—particularly near areas of residential use.

Response to Comment #4:

Comment #4a:

If possible, sampling will be avoided during extremes in physical conditions and for the duration of their ultimate effects on hydrology, such as directly after a heavy rainfall. However, it may be difficult to fully accommodate these criteria into the sampling schedule. For example, heavy rainfall in the watershed may continue to have effects on Mattawoman Creek hydrology for several days. This would cause logistical problems (and loss of resources) with regard to maintaining the sampling schedule. In these instances, field conditions during sampling will be noted and discussed in the report.

Comment #4b:

Please see response to comment #3d.

Comment #5:

Page 2-23, Table 2-2 Selection of Human Health Exposure Pathways—Table should be revised to reflect under “Medium- Surface Water” recognition that there are currently residents within the site area.

Response to Comment #5:

Please see response to comment #3a.

Comment #6:

Page 2-25, Figure 2-2 Human Health Conceptual Site Model...—Revise chart to more accurately reflect Human Receptors.

Response to Comment #6:

Figure 2-2 will be revised.

Comment #7:

General—Nowhere in the plan do we find a “time line” for the work to be done. This is an important consideration. Such factors as season of the year, weather, tidal action, storms, etc. may have a significant effect in the validity of any samples taken. The Work Plan should be modified accordingly.

Response to Comment #7:

An exact schedule was not presented in the draft Work Plan because refinement of technical and logistical issues was still in progress. The rapid sediment screening fieldwork was conducted during the week of August 13th, and the main field investigation event occurred during the week of September 4th (after Labor Day). Throughout the duration of the project planning, the Navy has been cognizant of the potential impacts of field event scheduling on the logistical and scientific aspects of the project. Late summer should be optimal for sampling due to the abundance of fish, wildlife, and aquatic vegetation, as well as favorable physical conditions, during that time frame.