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NCBC GULFPORT
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FACT SHEET 21 REGARDING UPGRADING SEDIMENT RECOVERY TRAPS AND RESULTS
OF TRAP EVALUATION SITE 8 NCBC GULFPORT MS
9/1/1997
NCBC GULFPORT



NAVAL CONSTRUCTION BATTALION CENTER

Gulfport, Mississippi
Installation Restoration Program

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This fact sheet is one in a series informing interested citizens of the environmental investigations and remedial actions at Naval Construction Battalion Center (NCBC) Gulfport. Fact sheets will be produced at program milestones and in response to other items of public interest. Distribution is coordinated through the Public Affairs Office at NCBC Gulfport, (601) 871-2393.

FACT SHEET 21: Upgrading Sediment Recovery Traps and Results of the Sediment Recovery Trap Evaluation

Background

Through the Seabee Center's environmental cleanup program, the presence of dioxin was discovered at Site 8, the Former Herbicide Orange Storage and Handling Site. Because dioxin attaches to soil (instead of water), it can be picked up and carried by "muddy" stormwater and moved along through ditches. The Seabee Center has installed barriers, called sediment recovery traps (SRTs), to slow down the movement of sediment (wet soil) off the base. Figures 1 through 3 illustrate how the SRTs work.



Sediment Recovery Trap (SRT)

New and Improved SRTs

In 1995, SRTs were installed in ditches connected to Site 8. These SRTs were effective (see "SRT Effectiveness," below) but some were washed away or

damaged because of the rapid flow of water in the ditches. The SRTs will have since been redesigned to stand up to greater wear and tear from the flowing water (see Figure 4). Construction of the new SRTs will begin in the fall of 1997 and be completed by the end of the year. SRTs are strategically placed where they can best stop a portion of the sediment before it flows off the base, as shown in Figure 5.

SRT Effectiveness

Samples were collected during the week of April 21, 1997, to determine how effective the SRTs were at slowing the movement of contaminated sediment. The sampling consisted of collecting sediment samples directly upstream and directly downstream of the SRTs and then analyzing them for dioxin content. Five SRT locations were tested for dioxin content, and the results showed that each was indeed effective in controlling the movement of sediment and, therefore, the dioxin, as shown on Figure 6. It was also noted that the SRTs reduced dioxin concentrations as the water flowed further from the source area. As the water flowed and encountered the SRTs (SRT-N1, -N2, -5, -4, -13) the concentrations diminished from 1006.5 parts per trillion (ppt) to 468.6 ppt, 204.9 ppt, 61.9 ppt, 9.9 ppt, and 6.8 ppt, respectively.

How Do SRTs Work?

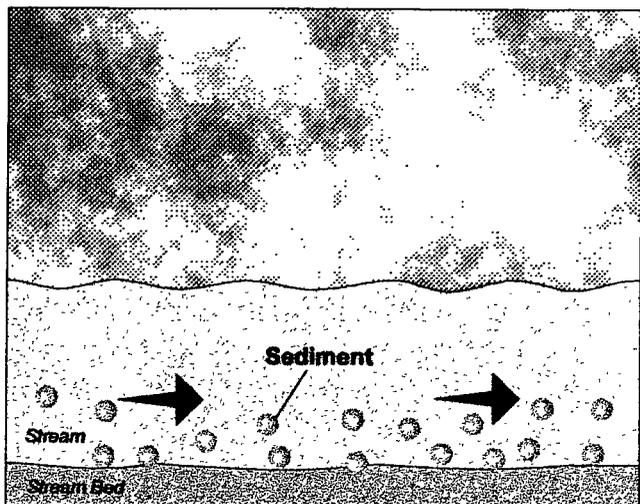


Figure 1. Sediment is the mud and/or sand that is carried along the bottom of streams and ditches by the flow of water.

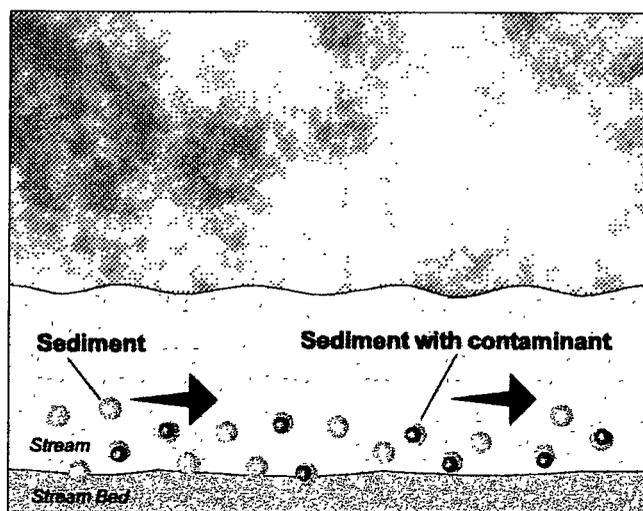


Figure 2. Dioxin does not dissolve very well in water. However, it does attach very strongly to soil and sediment.

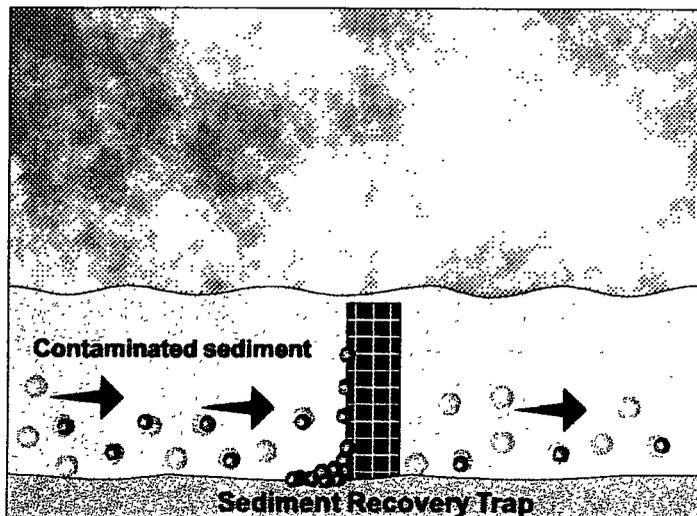


Figure 3. The SRTs slow down the water, which gives the sediment time to settle to the bottom. The sediment collects behind the SRTs as the water is allowed to flow over the top.

New and Improved SRTs

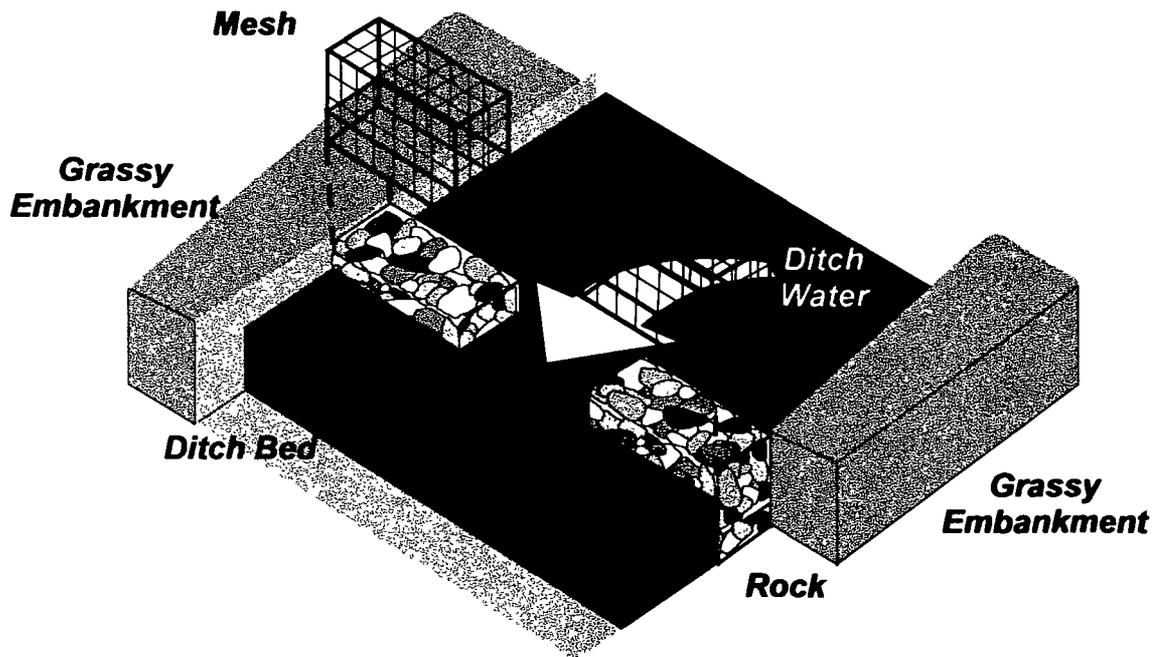


Figure 4. Two new SRTs will be built, and three existing SRTs will be upgraded. The existing SRTs were installed in 1995. These SRTs were effective, but some were washed away or damaged. The newly designed SRTs will be able to stand up to greater wear and tear from the flowing water. Construction of the new and upgrading of the existing SRTs will begin in the fall of 1997 and be completed by the end of the year.

How Well Do SRTs Work?

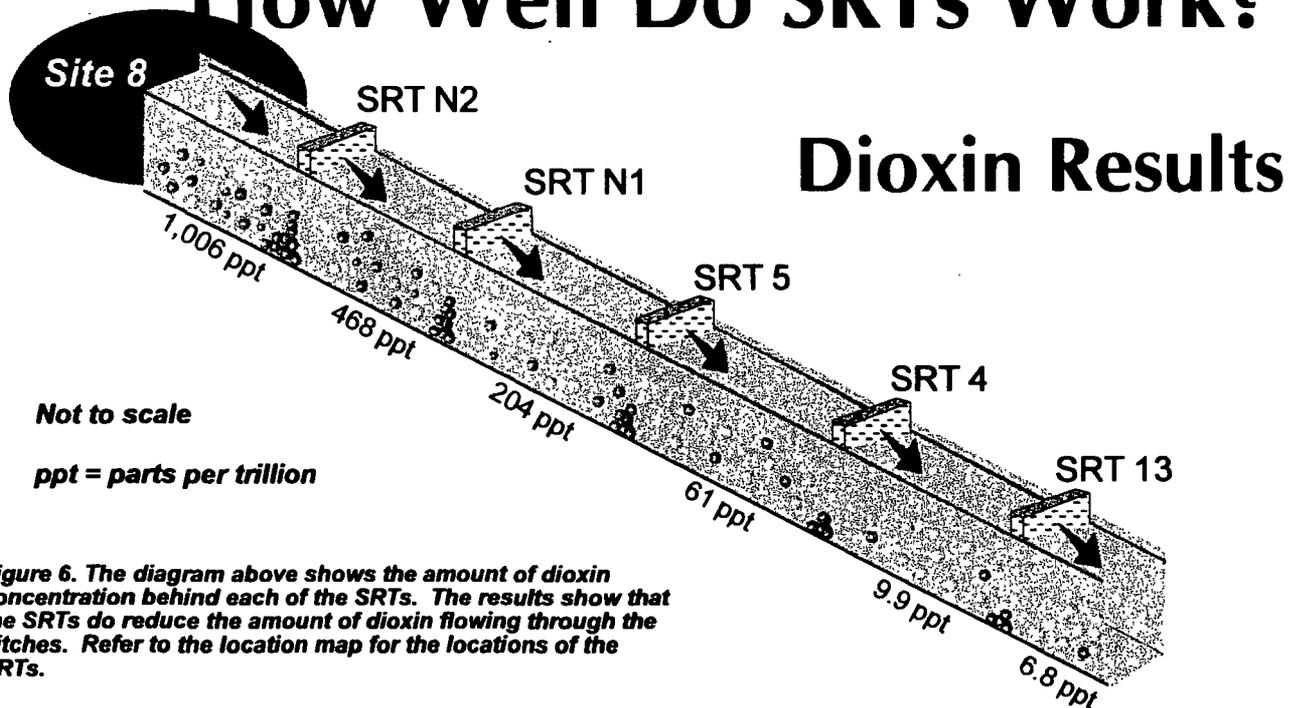


Figure 6. The diagram above shows the amount of dioxin concentration behind each of the SRTs. The results show that the SRTs do reduce the amount of dioxin flowing through the ditches. Refer to the location map for the locations of the SRTs.

SRT Locations

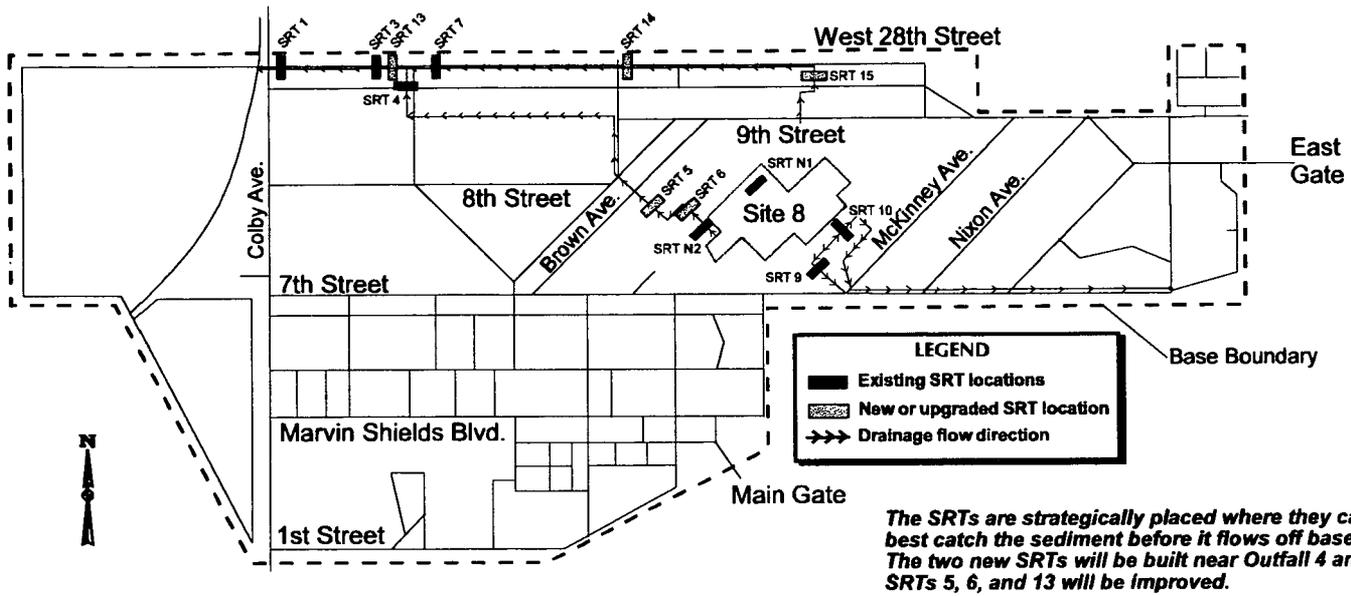


Figure 5. SRT location map.

For More Information ...

If you have any questions about the SRTs or any of the associated activities, additional information can be obtained by contacting the Seabee Center's Public Affairs Office, (601) 871-2393. Or visit your local information repository at the following location:

*Gulfport-Harrison County Library
Reference Section
21st Avenue
Gulfport, MS 39501
Telephone: (601) 863-6411*