



US Army Corps
of Engineers
Fort Worth District

Intake Sampling



Field Studies Designed to ID Exposure Pathways

<i>Study</i>	<i>Pathway Elements Addressed by Study</i>			
	Source	Medium	Exposure Point	Exposure Route
Stream Sampling	+	+	+	
Groundwater / Surface Water Levels		+		
ADCP Study		+	+	
Intake Sampling			+	
★ Delta Areas Study		+	+	
★ Sediment Pore Water Sampling		+	+	
Anoxic Study, Perchlorate Transformation		+		
Vegetation Sampling / Laboratory Studies		+	+	
Market Basket Study		+	+	
Animal Sampling (Fish, Amphibians, Birds, Mammals) / Laboratory Studies		+	+	+

Nearly 40 individual field, laboratory, and modeling studies completed



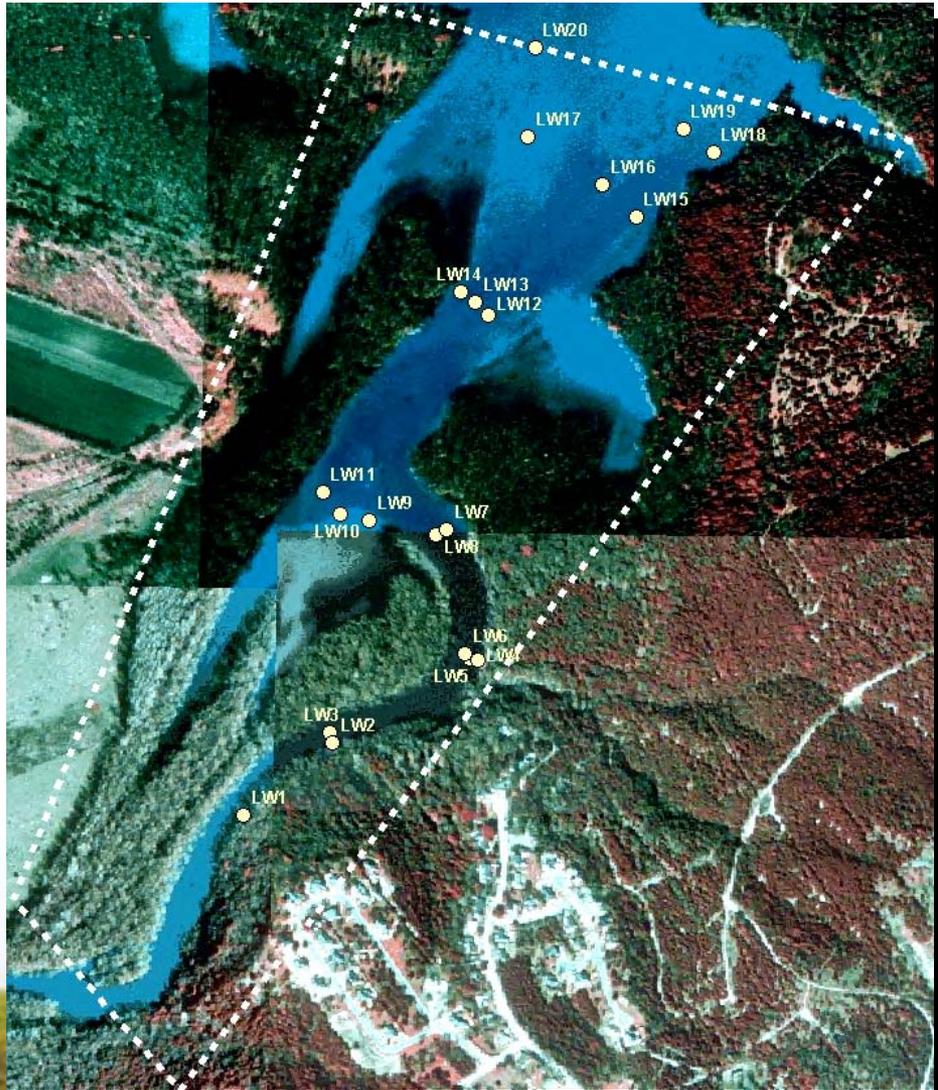


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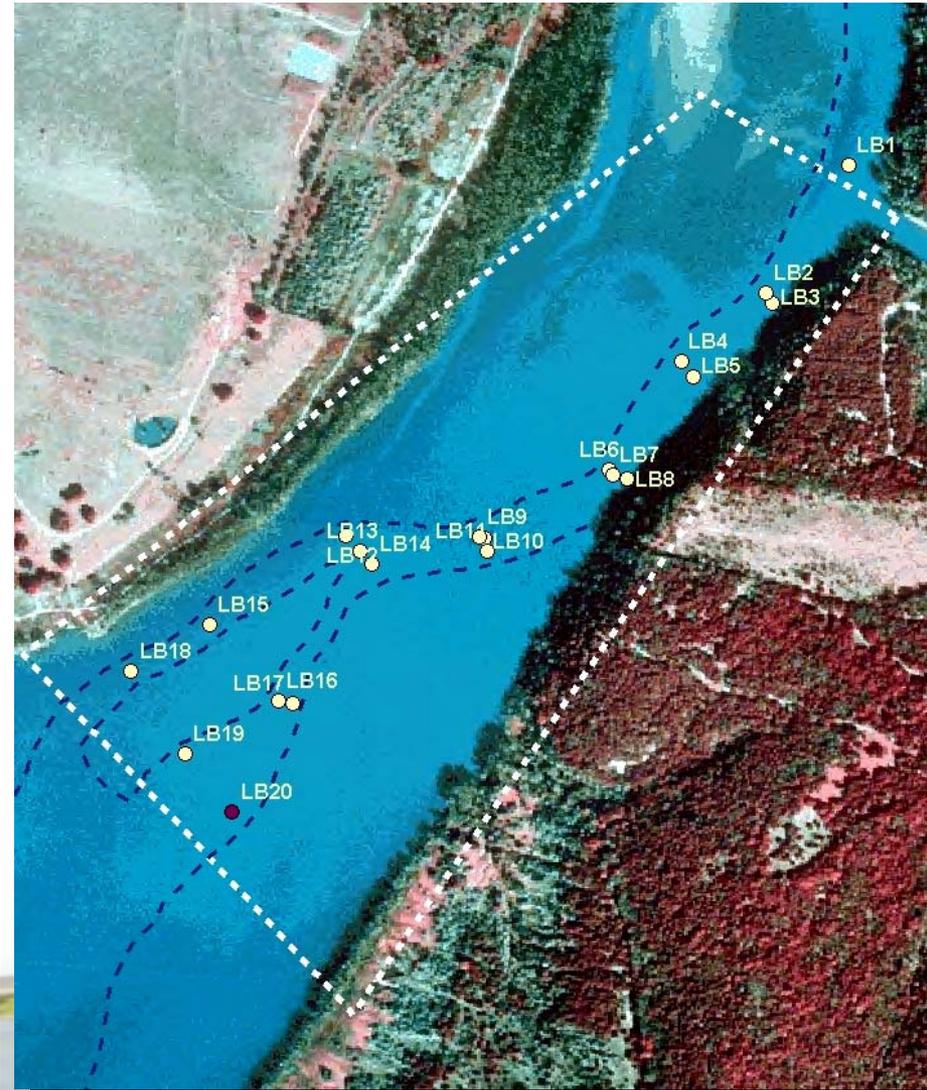
Delta Areas Sampling

(Surface Water and Sediment Pore Water)

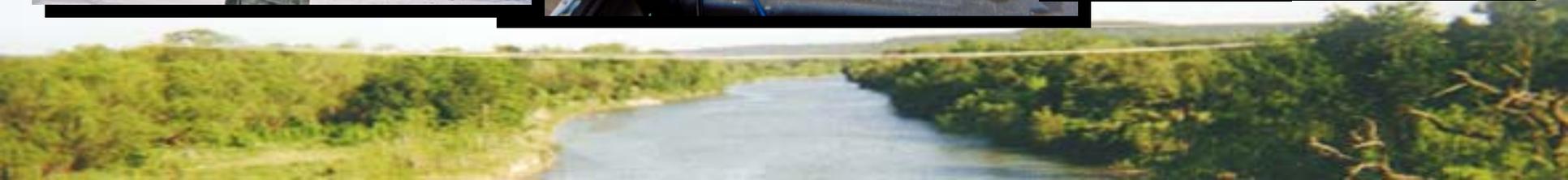
Lake Waco



Lake Belton



Sediment Pore Water, Streams and Delta Areas





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Stream Sampling	+	+	+	
Groundwater / Surface Water Levels		+		
ADCP Study		+	+	
Intake Sampling			+	
Delta Areas Study		+	+	
Sediment Pore Water Sampling		+	+	
★ Anoxic Study, Perchlorate Transformation		+		
Vegetation Sampling / Laboratory Studies		+	+	
Market Basket Study		+	+	
Animal Sampling (Fish, Amphibians, Birds, Mammals) / Laboratory Studies		+	+	+

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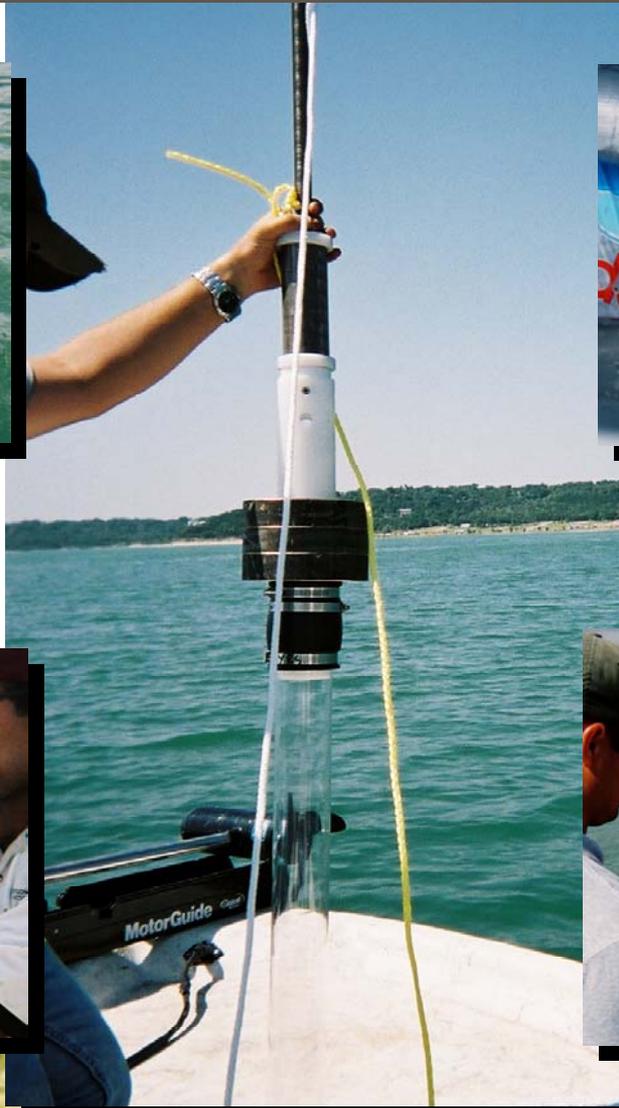




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Lake Belton Anoxic Study

(Retrieval of Sediment and Surface Water samples from Lake Belton)



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<i>Study</i>	<i>Pathway Elements Addressed by Study</i>			
	Source	Medium	Exposure Point	Exposure Route
Stream Sampling	+	+	+	
Groundwater / Surface Water Levels		+		
ADCP Study		+	+	
Intake Sampling			+	
Delta Areas Study		+	+	
Sediment Pore Water Sampling		+	+	
Anoxic Study, Perchlorate Transformation		+		
★ Vegetation Sampling / Laboratory Studies		+	+	
★ Market Basket Study		+	+	
★ Animal Sampling (Fish, Amphibians, Birds, Mammals) / Laboratory Studies		+	+	+

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Field Sampling of Plants and Animals



General Exposure Pathway Findings

- NWIRP McGregor considered source in study area; No evidence that Fort Hood is a source of perchlorate to Lake Belton based on limited sampling
- Studies used to determine if exposure pathways were complete for receptor groups
- Two general groups of receptors: human and ecological
- Ingestion appears to be the only viable exposure route for humans
- Complete exposure pathways exist to both human and ecological receptors



Potential Human Receptor Groups

Six groups of potential human receptors:

Potential Human Receptor	Description
1. Public Water Supply Users	Users of publicly provided water
2. Residential Users of Local Surface Water and/or Shallow Groundwater	Individuals in impacted areas not connected to public water system
3. Commercial/Industrial Workers	Workers in the study area - Does not include NWIRP site workers
4. Agricultural Workers	Agricultural workers in the study area
5. Recreational Users	Fishers, hunters, swimmers, etc. in the study area
6. NWIRP Vicinity Residents	Individuals living near NWIRP, particularly along streams draining from the NWIRP area

