

Table 1. DDT Cleanup Levels for Sediment - Records of Decision

Site Name	City or County	State	EPA Region	ROD Year	Operable Unit	Parameter	Clean up Level (ppm)	Sediment Type	Application	Receptor of Concern	Comments
Baird & McGuire	Holbrook	MA	1	1986		DDTr	19	River	Clean up goal (10 <sup>-6</sup> cancer risk)	Human - direct contact	Excavated the top 6 inches of sediment in the river to achieve human health and ecological protection. The ecological risk value was the benthic SQG, but the value was not in the ROD. Excavation occurred in sediments near the site, but not in the larger sections of the river that had DDT; EPA stated that there would be too much environmental damage to dredge in these areas. EPA also stated that remediation was not needed to address site contamination because there were other sources of contamination in the River, located in an urban basin with a variety of point and non-point sources of contamination, and a number of chemicals not attributed to the site. Concentrations as high as 48 ppm DDT were left in river sediment without remediation. The overall mean of sampled river sediments (which were not remediated) was 1.2 ppm.
Pristine, Inc.	Reading	OH	5	1987	1,2	DDT	0.487	Soil/sediment	Target soil concentration (cancer risk)	Human - direct contact	10 <sup>-6</sup> cancer risk basis.
Commencement Bay, Near Shore/Tide Flats	Pierce County	WA	10	1989	1, 5	4,4'-DDT	0.034	Waterway sediment	Sediment quality values	Ecological - benthic infauna	Sediment quality values represented the sediment cleanup objectives related to environmental risks.
"	"	"	"	"	"	4,4'-DDE	0.016	"	"	"	"
"	"	"	"	"	"	4,4'-DDD	0.009	"	"	"	"
Camp Lejeune Military Res. (U.S. Navy)	Onslow County	NC	4	1992	3	DDT	60	Riverbank sediment/soil	Clean up goal (cancer risk)	Human - direct contact	
Ott/Story/Cordova Chemical Co.	Dalton Township	MI	5	1993	3	DDT	0.002	Soil/sediment	Target soil concentration (cancer risk)	Human - direct contact	The clean up value of 0.002 ppm in soil was for protection of human health based on Michigan soils standards and direct contact by future residents; The ROD is unclear though, as the summary states 2 ppm and a table implies 0.002 ppm. Other documents indicate 0.002 ppm is the correct clean up value.
Wash King Laundry	Pleasant Plains Township	MI	5	1993	1	DDE, DDD	0.002	Lagoon	Clean up level	Human - direct contact	The clean up level of 0.002 ppm in soil was for protection of human health based on Michigan soils standards and direct contact by future residents.
Ciba-Geigy Corp. (McIntosh Plant)	McIntosh	AL	4	1995	3	DDTr	15	River	Post remediation average	Ecological	Applied as a post remediation average to be achieved; regarded as a balance of risk and remediation impacts.
Ciba-Geigy Corp. (McIntosh Plant)	McIntosh	AL	4	1995	3	DDTr	1	River	Ecological risk based number	Ecological	This standard was not used as it was deemed that application would destroy too much valuable habitat.
TH Agriculture and Nutrition	Montgomery	AL	4	1998	2	DDT,DDE,DDD	94,94,132	Seasonal wetland sediments and drainage ditch	Clean up level	Human and Ecological	10 <sup>-5</sup> cancer risk basis.
United Heckathorn Co.	Richmond	CA	9	1995	1	DDTr	0.59	Marine	Average residual concentration	Fish bioaccumulation - birds and humans	The clean-up was based on WQC for DDT for protection of human health. The WQC for ecological receptors and protection of fish eating birds would result in a sediment cleanup level of 1 ppm. Other sediment standards were then used to see if remedy would be effective. They also evaluated whether WQC would achieve a marine fish standard of 0.05 ppm developed by the National Academy of Sciences to protect fish eating birds, including the brown pelican.
Stauffer Chemical Co. (Tampa)	Tampa	FL	4	1995	1	DDT, DDD, DDE	0.003	Ponds/ditch	Clean up goal (cancer risk)	Human - direct contact	10 <sup>-6</sup> cancer risk basis.
Vesicol Chemical Site	St. Louis	MI	5	1999	2	DDTr	5	River	Excavation standard	Fish bioaccumulation - humans	Protection of public health.
USA Vint Hill Farms Station	Warrenton	VA	3	1999	2	DDTr	0.015	Creek		Benthic aquatic life	
Tracy Defense Depot (U.S. Army)	Tracy	CA	9	2004	1	DDx	0.241	Unlined stormwater detention pond sediment		Ecological - mallard ducks and great blue herons	The 0.241 mg/kg cleanup standard for DDx is an ecological risk-based concentration, but were estimated using literature values rather than site-specific bioaccumulation factors.
Shpack Landfill	Norton/Attleboro	MA	1	2004	1	DDT	0.027	Seasonal wetland sediments	Food chain model, LOAEL	Ecological - wetland songbirds	Excavation of source materials within on-site seasonal wetlands (0.027 mg/kg in sediment cleanup level corresponds to the protective level for ecological receptors [songbirds]). Assessment endpoint: "sustainability (survival, growth, reproduction) of local populations of wetland songbirds."
Patuxent River Naval Air Station	Patuxent	MD	3	2006	Site 17, OU 2	Total DDT	2.1	Pond and two tributaries that feed it	Established remediation goal	Fish bioaccumulation - human fish consumption	Excavation and disposal (removal) of contaminated sediments exceeding the established remediation goal of 2,100 ug/kg of total DDT, and establishing a LUC (Land Use Control) limiting fish consumption.

Notes:  
 DDD - dichloro-diphenyl-dichloroethane  
 DDE - dichloro-diphenyl-dichloroethane  
 DDTr - total of DDD, DDE, DDT  
 DDx - total of DDD, DDE, DDT  
 WQC - water quality criteria

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DDT - dichloro-diphenyl-trichloroethane	EPA - U.S. Environmental Protection Agency										
ROD - record of decision	ppm - parts per million										