Highlights of LWG predicted recovery of small mouth bass tissue for no action and other alternatives at key source areas

LWG
LOWER WILLAMETTE GROUP

PORTLAND HARBOR RI/FS

ATTACHMENT 1
ADDITIONAL INFORMATION FOR THE DYNAMIC BIOACCUMULATION MODEL
DRAFT FEASIBILITY STUDY

DRAFT

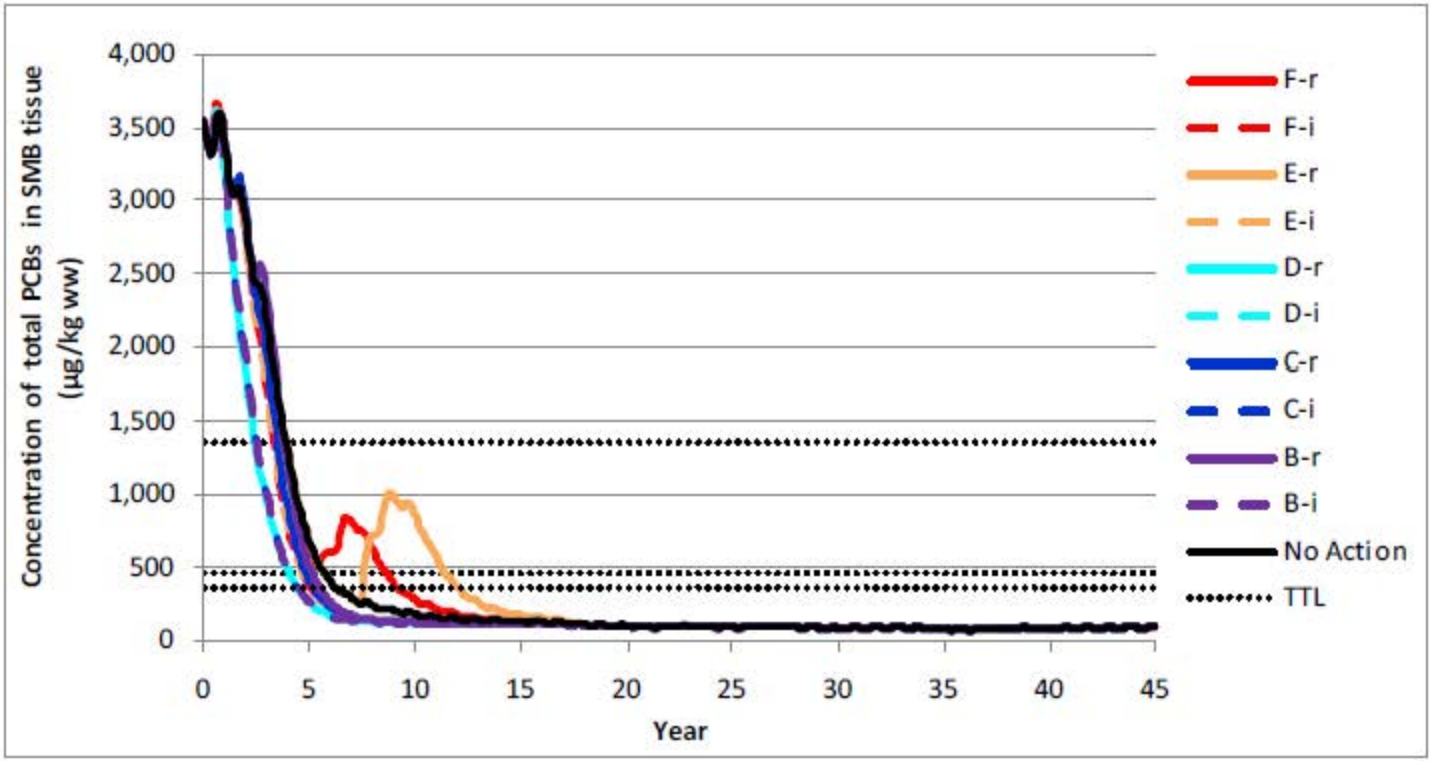
DO NOT QUOTE OR CITE
This document is currently under review by US EPA and its federal, state, and tribal partners, and is subject to change in whole or in part.

RM11E Area

Alt A predicted 99% recovery and background levels achieved in 10 years

LWG
Lower Willamette Group

Portland Harbor RI/FS
Attachment 1: Additional Information for Dynamic Bioaccumulation Model
Draft Feasibility Study
March 30, 2012

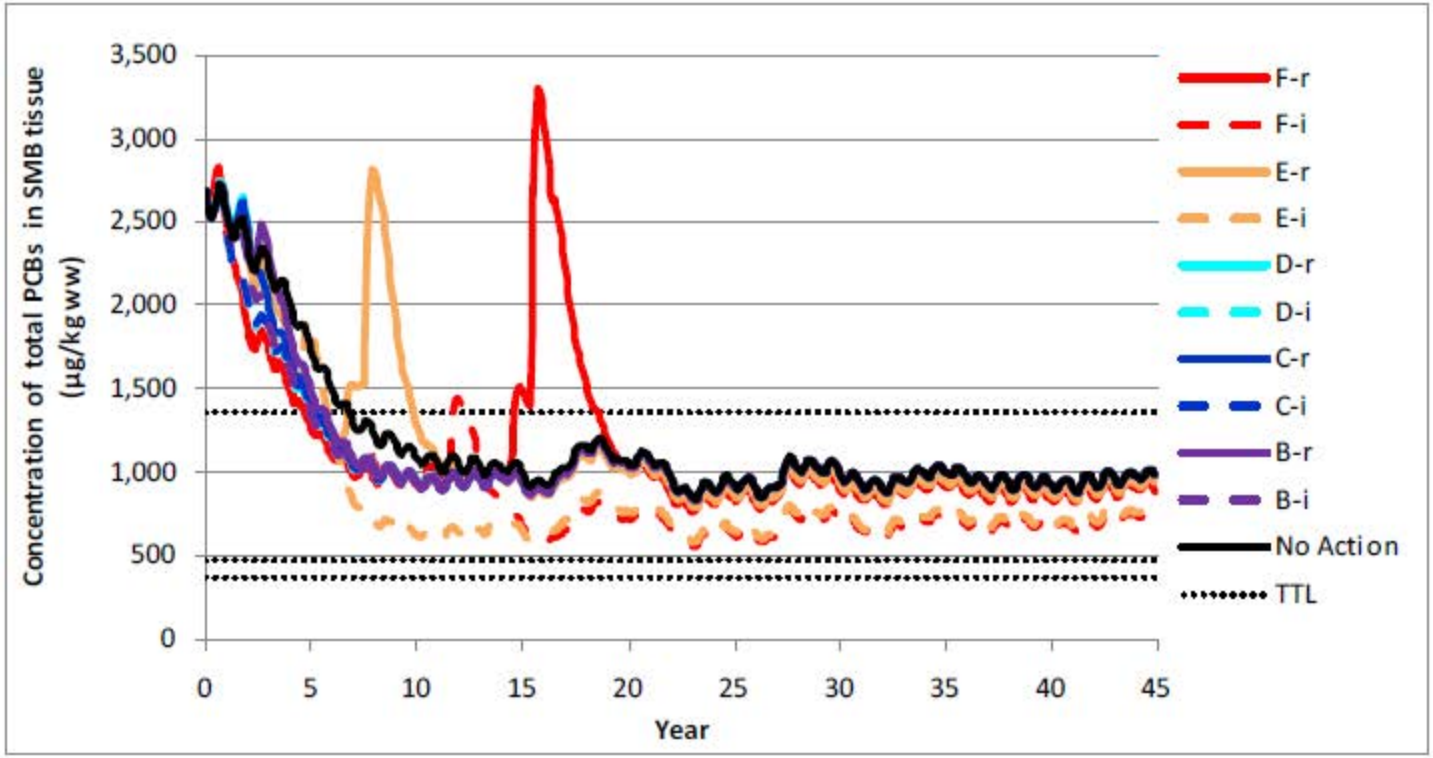


Note: i – integrated, r – removal, SMB – smallmouth bass, TTL – target tissue level

Dotted horizontal lines indicate SMB TTLs for the 10^{-4} excess cancer risk level, corresponding to the 90th percentile (4,140 µg/kg ww), point estimate (1,356 µg/kg ww), 95th percentile (470 µg/kg ww), and 99th percentile (372 µg/kg ww). TTLs are only shown on the graph if they fit within the scale shown.

Figure 3-1. Comparison of Alternatives for Smallmouth Bass for RM 11 to RM 11.8 E

Upper Gunderson Area
Alt A predicted 65% recovery in 10 years

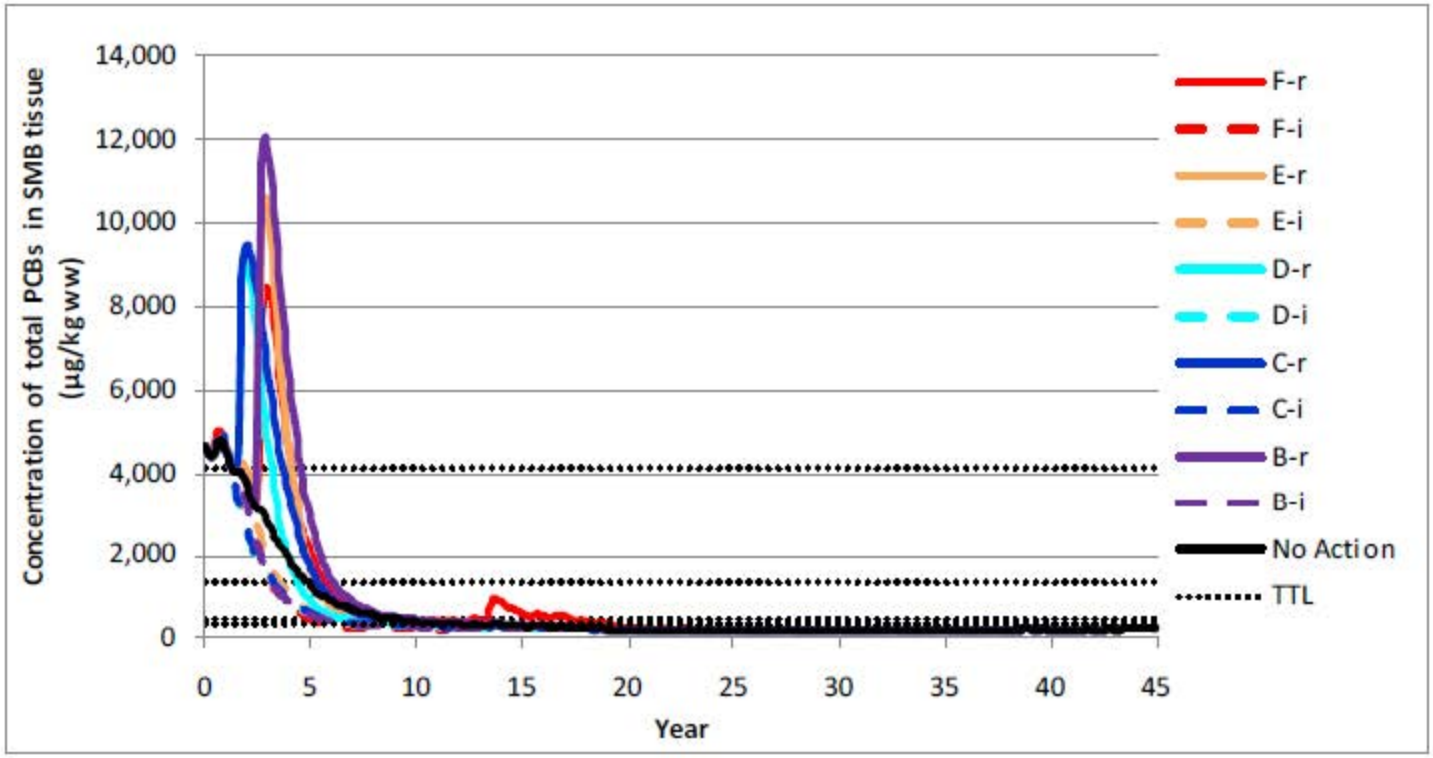


Note: i – integrated, r – removal, SMB – smallmouth bass; TTL – target tissue level

Dotted horizontal lines indicate SMB TTLs for the 10^{-4} excess cancer risk level, corresponding to the 90th percentile (4,140 µg/kg ww), point estimate (1,356 µg/kg ww), 95th percentile (470 µg/kg ww), and 99th percentile (372 µg/kg ww). TTLs are only shown on the graph if they fit within the scale shown.

Figure 3-9. Comparison of Alternatives for Smallmouth Bass for RM 9 to RM 10 W

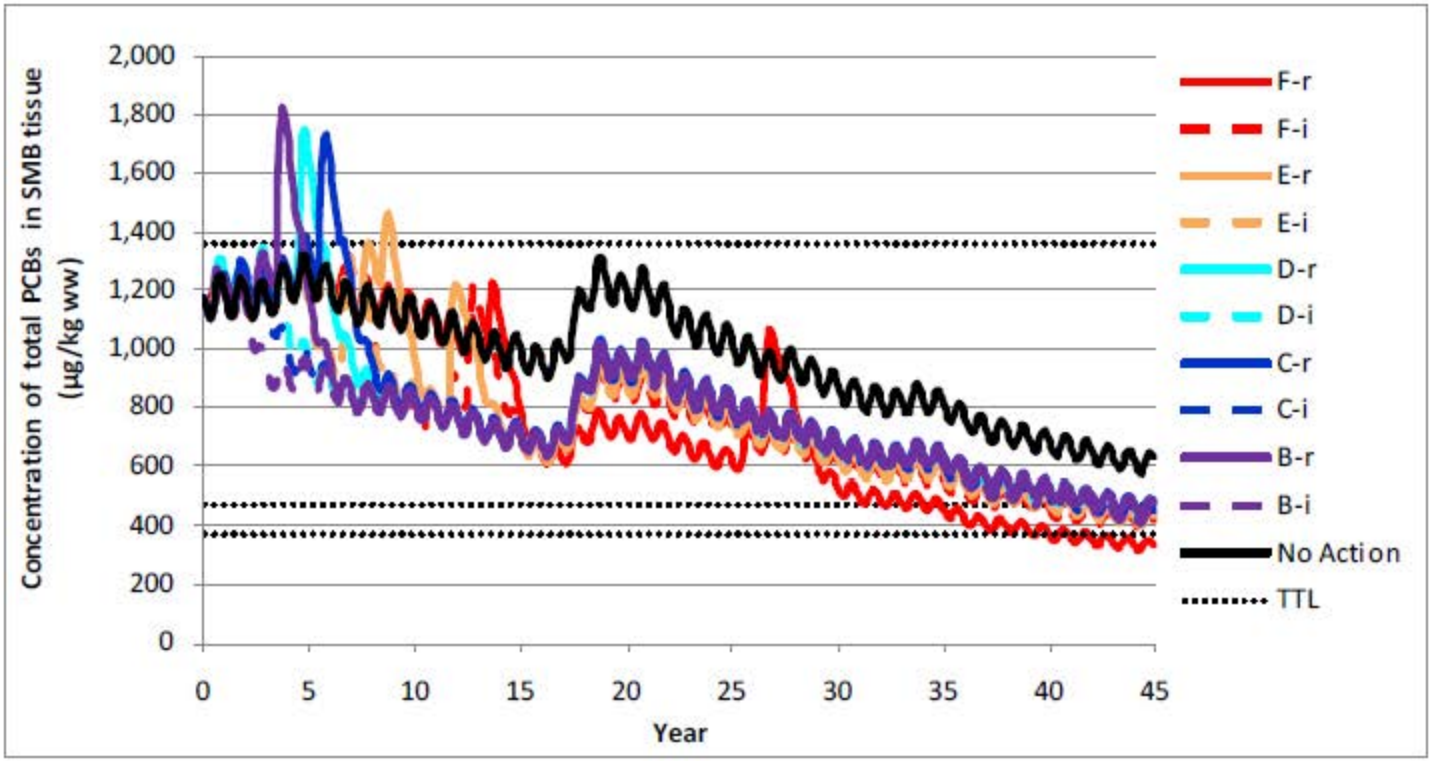
Lower Gunderson Area
Alt A predicted 99% recovery and background levels achieved in 10 years



Note: i – integrated, r – removal, SMB – smallmouth bass; TTL – target tissue level
Dotted horizontal lines indicate SMB TTLs for the 10^{-4} excess cancer risk level, corresponding to the 90th percentile (4,140 µg/kg ww), point estimate (1,356 µg/kg ww), 95th percentile (470 µg/kg ww), and 99th percentile (372 µg/kg ww). TTLs are only shown on the graph if they fit within the scale shown.

Figure 3-12. Comparison of Alternatives for Smallmouth Bass for RM 8 to RM 9 W

Willamette Cove Area
Very little natural recover within 10 years



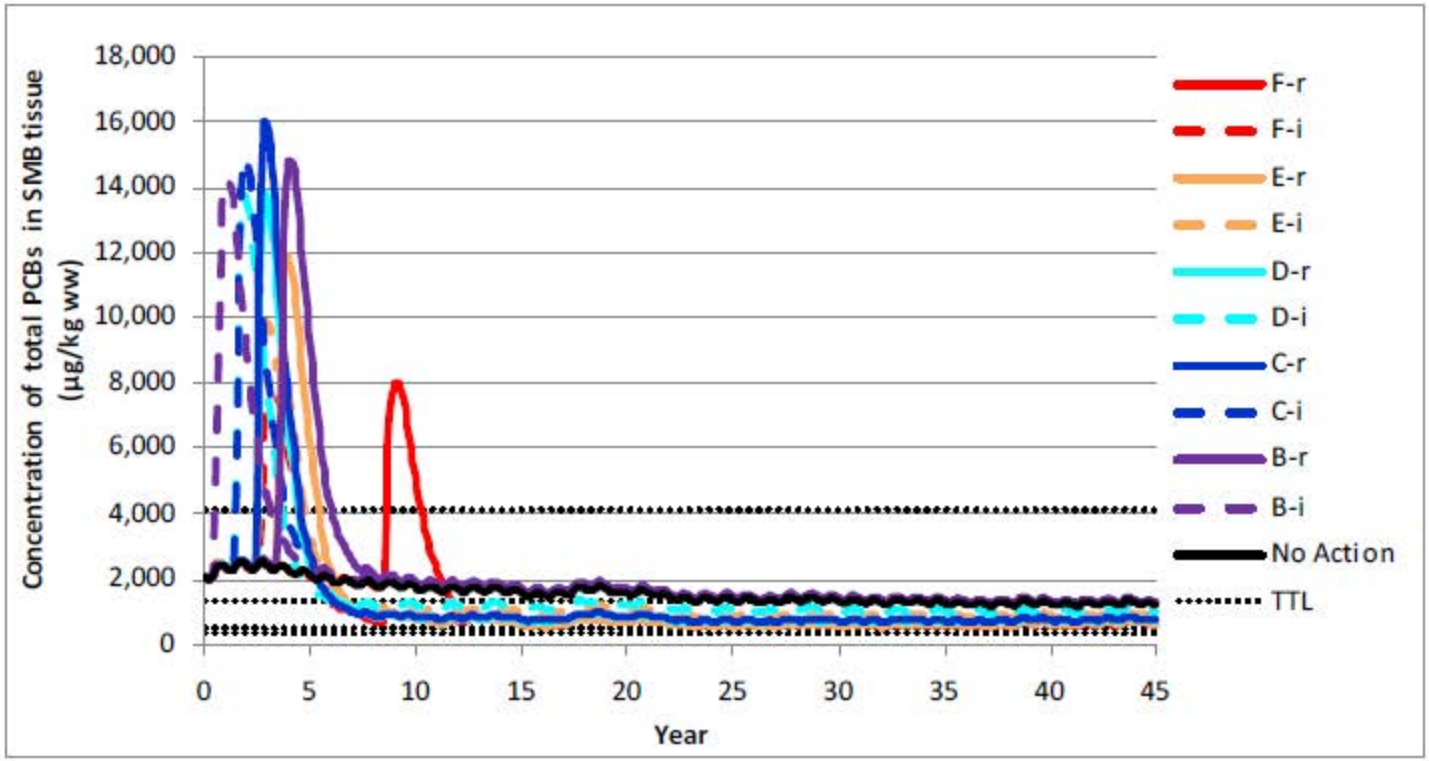
Note: i – integrated, r – removal, SMB – smallmouth bass; TTL – target tissue level

Dotted horizontal lines indicate SMB TTLs for the 10^{-4} excess cancer risk level, corresponding to the 90th percentile (4,140 µg/kg ww), point estimate (1,356 µg/kg ww), 95th percentile (470 µg/kg ww), and 99th percentile (372 µg/kg ww). TTLs are only shown on the graph if they fit within the scale shown.

Figure 3-16. Comparison of Alternatives for Smallmouth Bass for RM 6 to RM 7 E

Upper Schnitzer/International Slip Area

Very little natural recover within 10 years – Significant recontamination with active remediation



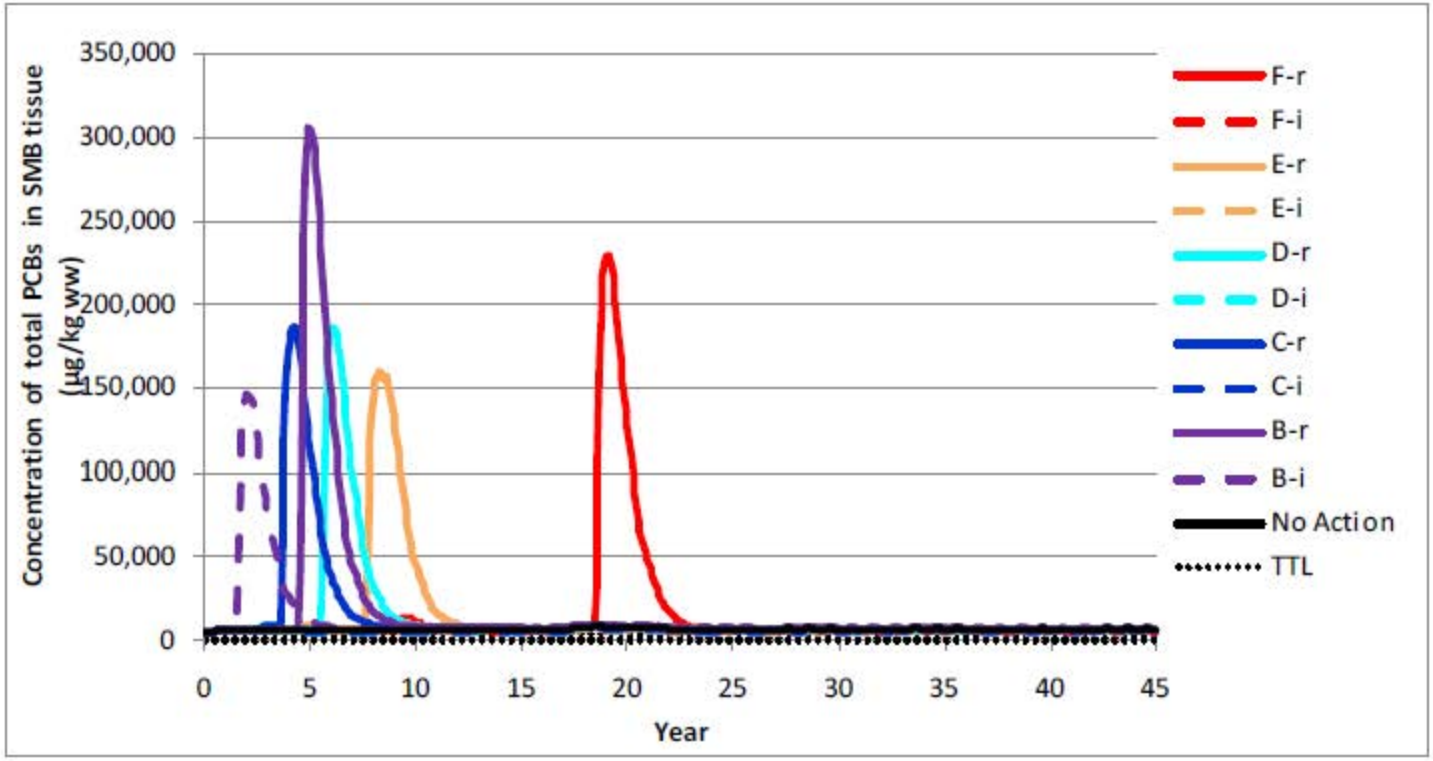
Note: i – integrated, r – removal, SMB – smallmouth bass; TTL – target tissue level

Dotted horizontal lines indicate SMB TTLs for the 10^{-4} excess cancer risk level, corresponding to the 90th percentile (4,140 µg/kg ww), point estimate (1,356 µg/kg ww), 95th percentile (470 µg/kg ww), and 99th percentile (372 µg/kg ww). TTLs are only shown on the graph if they fit within the scale shown.

Figure 3-22. Comparison of Alternatives for Smallmouth Bass for RM 4 to RM 5 E

Schnitzer/International Slip Area

Very little natural recover (scaling issue) – Significant recontamination with active remediation



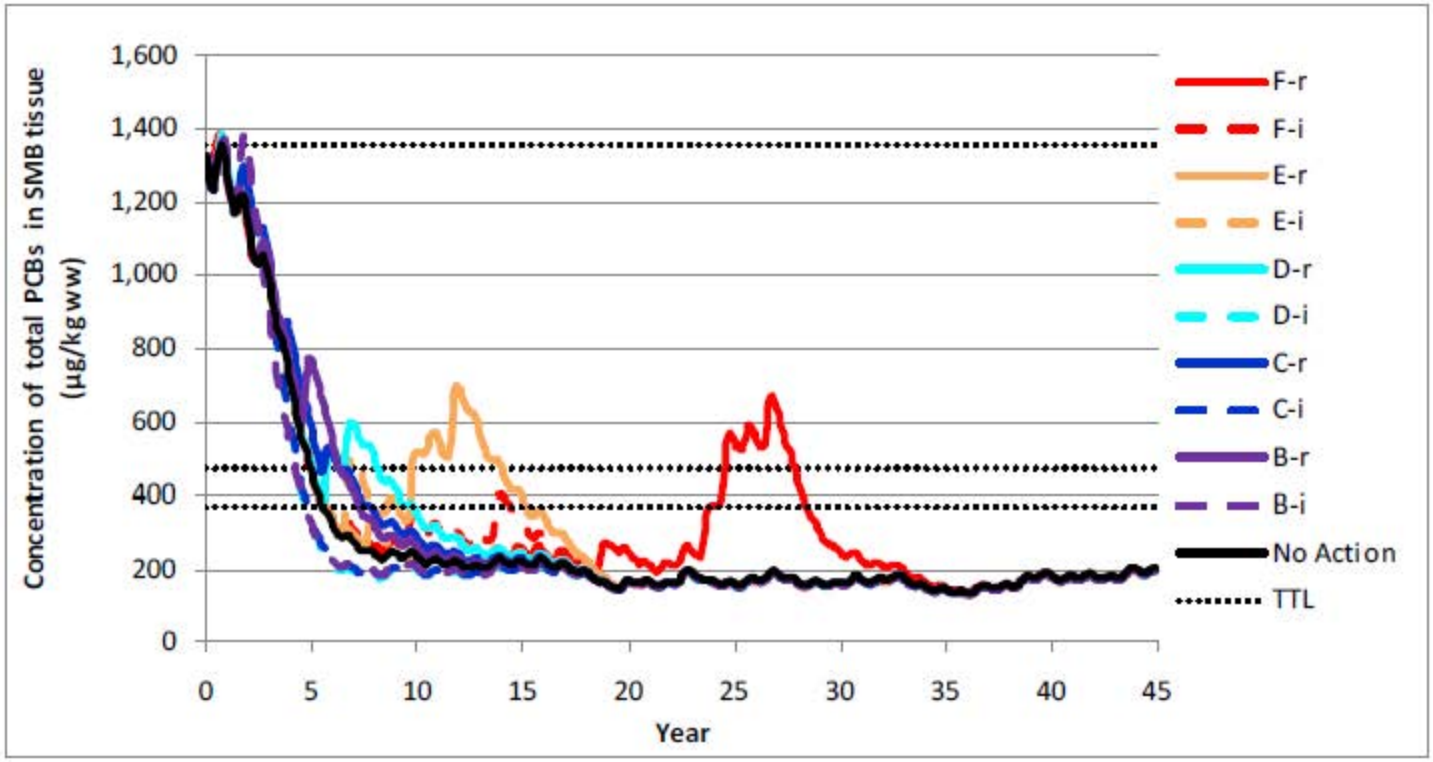
Note: i – integrated, r – removal, SMB – smallmouth bass; TTL – target tissue level

Dotted horizontal lines indicate SMB TTLs for the 10^{-4} excess cancer risk level, corresponding to the 90th percentile (4,140 µg/kg ww), point estimate (1,356 µg/kg ww), 95th percentile (470 µg/kg ww), and 99th percentile (372 µg/kg ww). TTLs are only shown on the graph if they fit within the scale shown.

Figure 3-25. Comparison of Alternatives for Smallmouth Bass for RM 3 to RM 4 E

EVRAZ Area

Alt A predicted 85% recovery and background levels achieved in 10 years

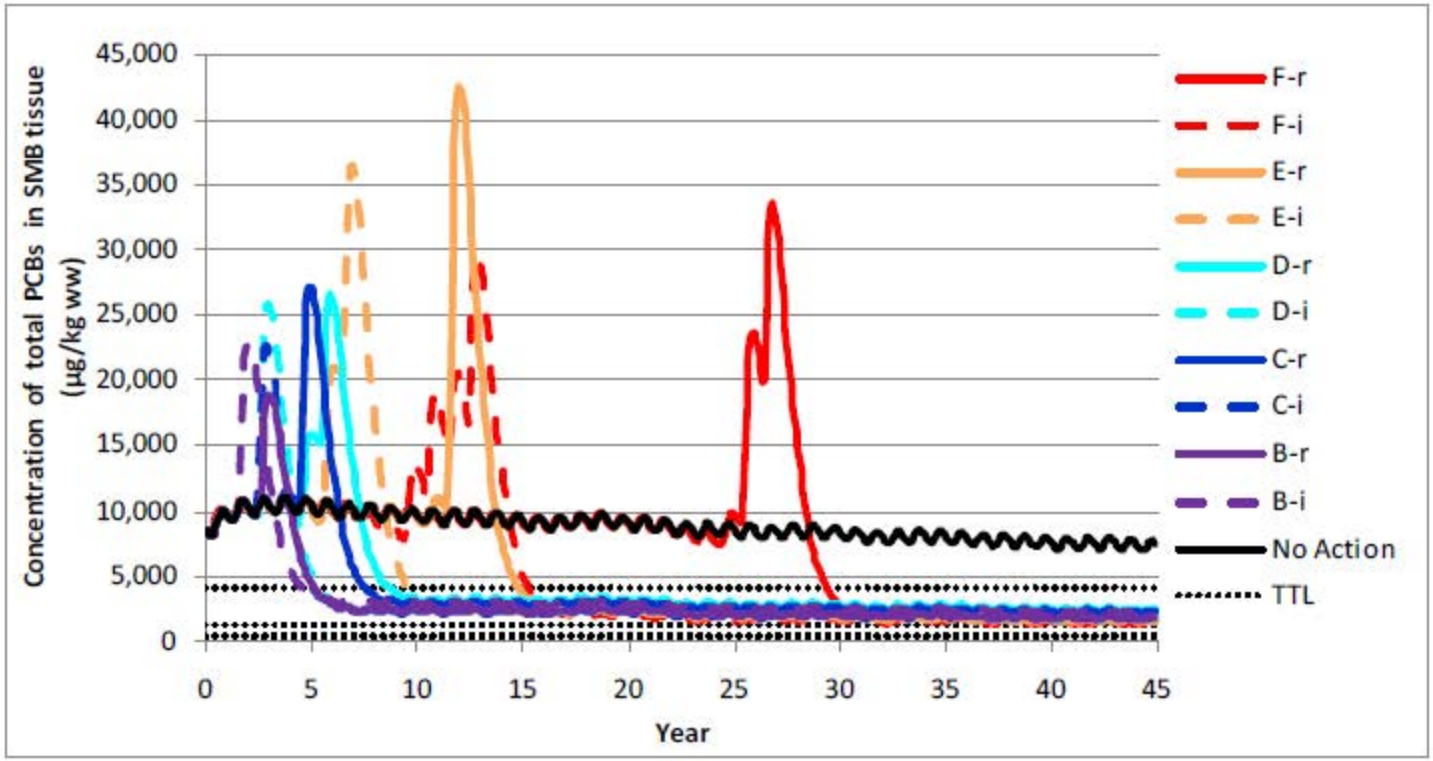


Note: i – integrated, r – removal, SMB – smallmouth bass; TTL – target tissue level

Dotted horizontal lines indicate SMB TTLs for the 10^{-4} excess cancer risk level, corresponding to the 90th percentile (4,140 µg/kg ww), point estimate (1,356 µg/kg ww), 95th percentile (470 µg/kg ww), and 99th percentile (372 µg/kg ww). TTLs are only shown on the graph if they fit within the scale shown.

Figure 3-28. Comparison of Alternatives for Smallmouth Bass for RM 1.9 to RM 3 E

Swan Island Lagoon
No appreciable natural recovery



Note: i – integrated, r – removal, SMB – smallmouth bass; TTL – target tissue level

Dotted horizontal lines indicate SMB TTLs for the 10^{-4} excess cancer risk level, corresponding to the 90th percentile (4,140 µg/kg ww), point estimate (1,356 µg/kg ww), 95th percentile (470 µg/kg ww), and 99th percentile (372 µg/kg ww). TTLs are only shown on the graph if they fit within the scale shown.

Figure 3-31. Comparison of Alternatives for Smallmouth Bass for Swan Island Lagoon