Table 9
Summary of Risks - Food Chain Modeling (HQ 1.0 threshold)
Mercury Refining Company
Colonie, New York

	Mink					Raccoon					Great Blue Heron				
	Inga's Pond	Background Unnamed Tributary	Unnamed Tributary	Patroon Creek downstream Confluence	I-90 Pond	Inga's Pond	Background Unnamed Tributary	Unnamed Tributary	Patroon Creek downstream Confluence	I-90 Pond	Inga's Pond	Background Unnamed Tributary	Unnamed Tributary	Patroon Creek downstream Confluence	I-90 Pond
Methyl mercury Scenario 1	Based on SFF = Area of site (subarea) / Area Foraging or Home Range (EPA 1993) - Sediment source = methylmercury														
NOAEL HQ	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**2.6**	**1.4**	**8.0**	NM	<1
LOAEL HQ	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NM	<1
Methyl mercury Scenario 2	Based on estimated SFF which considers habitat availability and suitability (mink/raccoon = 0.20, GBH = 0.667, kingfisher = 1.0) - Sediment source = methylmercury														
NOAEL HQ	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**2.4**	<1	**6.5**	NM	**1.63**
LOAEL HQ	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NM	<1
Total Mercury Scenario 1	Based on SFF = Area of site (subarea) / Area Foraging or Home Range (EPA 1993) - Sediment source = total mercury														
NOAEL HQ	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**2.6**	**1.4**	**8.2**	NM	<1
LOAEL HQ	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NM	<1
Total Mercury Scenario 2	Based on estimated SFF which considers habitat availability and suitability (mink/raccoon = 0.20, GBH = 0.667, kingfisher = 1.0) - Sediment source = total mercury														
NOAEL HQ	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**2.4**	<1	**6.5**	NM	**1.7**
LOAEL HQ	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NM	<1
Aroclor 1260 Scenario 1	Based on SFF = Area of site (subarea) / Area Foraging or Home Range (EPA 1993)														
NOAEL HQ	NM	<1	NM	NM	<1	NM	<1	NM	NM	<1	NM	<1	NM	NM	<1
LOAEL HQ	NM	<1	NM	NM	<1	NM	<1	NM	NM	<1	NM	<1	NM	NM	<1
Aroclor 1260 Scenario 2	Based on estimated SFF which considers habitat availability and suitability (mink/raccoon = 0.20, GBH = 0.667, kingfisher = 1.0)														
NOAEL HQ	NM	<1	NM	NM	<1	NM	<1	NM	NM	<1	NM	<1	NM	NM	<1
LOAEL HQ	NM	<1	NM	NM	<1	NM	<1	NM	NM	<1	NM	<1	NM	NM	<1

	Mallard					Belted Kingfisher				
	Inga's Pond	Background Unnamed Tributary	Unnamed Tributary	Patroon Creek downstream Confluence	I-90 Pond	Inga's Pond	Background Unnamed Tributary	Unnamed Tributary	Patroon Creek downstream Confluence	I-90 Pond
Methyl mercury Scenario 1	Based on SFF = Area of site (subarea) / Area Foraging or Home Range (EPA 1993)									
NOAEL HQ	<1	<1	<1	<1	<1	**9.8**	**4.0**	**14.6**	NM	**8.5**
LOAEL HQ	<1	<1	<1	<1	<1	<1	<1	**1.4**	NM	<1
Methyl mercury Scenario 2	Based on estimated SFF which considers habitat availability and suitability (mink/raccoon = 0.20, GBH = 0.667, kingfisher = 1.0)									
NOAEL HQ	<1	<1	**1.8**	**1.3**	<1	**9.8**	**4.0**	**14.6**	NM	**8.5**
LOAEL HQ	<1	<1	<1	<1	<1	<1	<1	**1.4**	NM	<1
Total Mercury Scenario 1	Based on SFF = Area of site (subarea) / Area Foraging or Home Range (EPA 1993)									
NOAEL HQ	<1	<1	<1	<1	<1	**9.9**	**4.0**	**14.8**	NM	**8.6**
LOAEL HQ	<1	<1	<1	<1	<1	<1	<1	**1.4**	NM	<1
Total Mercury Scenario 2	Based on estimated SFF which considers habitat availability and suitability (mink/raccoon = 0.20, GBH = 0.667, kingfisher = 1.0)									
NOAEL HQ	<1	<1	**1.9**	**1.3**	<1	**9.9**	**4.0**	**14.8**	NM	**8.6**
LOAEL HQ	<1	<1	<1	<1	<1	<1	<1	**1.4**	NM	<1
Aroclor 1260 Scenario 1	Based on SFF = Area of site (subarea) / Area Foraging or Home Range (EPA 1993)									
NOAEL HQ	NM	<1	NM	NM	<1	NM	<1	NM	NM	<1
LOAEL HQ	NM	<1	NM	NM	<1	NM	<1	NM	NM	<1
Aroclor 1260 Scenario 2	Based on estimated SFF which considers habitat availability and suitability (mink/raccoon = 0.20, GBH = 0.667, kingfisher = 1.0)									
NOAEL HQ	NM	<1	NM	NM	<1	NM	<1	NM	NM	<1
LOAEL HQ	NM	<1	NM	NM	<1	NM	<1	NM	NM	<1

Notes:

NM = not modeled (input data insufficient or all non-detect)

NOAEL = No observed adverse effect level

LOAEL = Low observed adverse effect level

Red indicates that the hazard quotient is greater than 1

HQ: Hazard Quotient

SFF: Site foraging factor

The difference between Scenarios 1 and 2 is based on different assumptions regarding Site Foraging Factors (SFFs)

The difference between total mercury and methyl mercury risk estimates is from differences in sediment mercury concentrations (total vs methyl). In both cases the dose-based TRVs are based on methyl mercury

Risk Summary Bullets:

Mink	No Risk - All COCs/Scenarios
Raccoon	No Risk - All COCs/Scenarios
Great Blue Heron	Risk for Hg only (Max HQ = 8.1, HQs at UT>IP>I-90>BkgUT)
Mallard	Slight risk (HQ near or slightly exceeds 1.0) for Hg only (Max HQ = 1.9, HQ at UT>PCdsConf.>BkgUT>1-90)
Belted Kingfisher	No Risk Aroclor 1260
Conclusion:	Risk for Hg, highest of all receptors (Max HQ = 14.7, HQ at UT>IP>I-90>BkgUT)