

**Draft Technical Report  
for  
Tentative Cleanup and Abatement  
Order No. R9-2012-0024**

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**APPENDIX FOR SECTION 24**

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**TIER II BASELINE RISK ASSESSMENT  
FOR AQUATIC-DEPENDENT WILDLIFE**

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**March 14, 2012**

## Tier II - Summary of Hazard Quotients

Receptor: Surf Scoter

Location: Inside NASSCO

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	7.5E-01	--	--	--	5.0E-01	--	--	--	--	--	--
LOAEL HQ:	7.5E-02	--	--	--	9.9E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	3.7E-01	3.2E-02	1.5E-01	#VALUE!	<b>1.8E+00</b>	<b>3.8E+01</b>	2.1E-01	3.2E-01	7.8E-01	3.3E-01
BTAG High HQ:	#VALUE!	2.6E-02	5.1E-04	3.8E-02	#VALUE!	7.9E-02	6.1E-02	4.6E-02	7.9E-03	1.9E-01	3.3E-02
<b>MAXIMUM</b>											
NOAEL HQ:	<b>1.2E+00</b>	--	--	--	6.8E-01	--	--	--	--	--	--
LOAEL HQ:	1.2E-01	--	--	--	1.4E-01	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	4.7E-01	3.9E-02	1.5E-01	#VALUE!	<b>2.4E+00</b>	<b>5.0E+01</b>	3.2E-01	4.2E-01	8.3E-01	4.1E-01
BTAG High HQ:	#VALUE!	3.3E-02	6.3E-04	3.9E-02	#VALUE!	1.1E-01	7.9E-02	7.0E-02	1.0E-02	2.0E-01	4.1E-02

Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	3.0E-01	--	--	--	4.5E-01	--	--	--	--	--	--
LOAEL HQ:	3.0E-02	--	--	--	9.0E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	4.4E-01	1.1E-02	9.5E-02	#DIV/0!	6.7E-01	1.9E+01	1.3E-01	1.5E-01	8.4E-01	2.6E-01
BTAG High HQ:	#DIV/0!	3.1E-02	1.7E-04	2.4E-02	#DIV/0!	2.9E-02	3.0E-02	2.8E-02	3.8E-03	2.1E-01	2.6E-02
<b>MAXIMUM</b>											
NOAEL HQ:	3.0E-01	--	--	--	4.5E-01	--	--	--	--	--	--
LOAEL HQ:	3.0E-02	--	--	--	9.0E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	4.4E-01	1.1E-02	9.5E-02	#DIV/0!	6.7E-01	1.9E+01	1.3E-01	1.5E-01	8.4E-01	2.6E-01
BTAG High HQ:	#DIV/0!	3.1E-02	1.7E-04	2.4E-02	#DIV/0!	2.9E-02	3.0E-02	2.8E-02	3.8E-03	2.1E-01	2.6E-02

**NOTE:**

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Benzo[a]pyrene  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.775
Maximum detected value (mg/kg, dry weight):	2.3

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	4
Maximum detected value (mg/kg, dry weight):	16

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.1E-01	mean
Daily exposure (mg/kg-day)	1.7E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	7.5E-01	mean
LOAEL HQ:	7.5E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	1.2E+00	max
LOAEL HQ:	1.2E-01	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Total PCBs  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.6
Maximum detected value (mg/kg, dry weight):	0.7

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.6
Maximum detected value (mg/kg, dry weight):	1.7

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.4E-02	mean
Daily exposure (mg/kg-day)	4.2E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.7E-01	mean
BTAG High HQ:	2.6E-02	mean
BTAG Low HQ:	4.7E-01	max
BTAG High HQ:	3.3E-02	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Tributyltin  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05	
Food ingestion rate (kg/day dry wt):	0.056	
Sediment ingestion rate (kg/day dry wt):	0.0028	
Area Use Factor (unitless):	1	0.004
Time Use Factor (unitless):	1	

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.425
Maximum detected value (mg/kg, dry weight):	0.47

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.2
Maximum detected value (mg/kg, dry weight):	1.4

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.3E-02	mean
Daily exposure (mg/kg-day)	2.9E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.2E-02	mean
BTAG High HQ:	5.1E-04	mean
BTAG Low HQ:	3.9E-02	max
BTAG High HQ:	6.3E-04	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Arsenic  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	15
Maximum detected value (mg/kg, dry weight):	15

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	11
Maximum detected value (mg/kg, dry weight):	18

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	8.3E-01	mean
Daily exposure (mg/kg-day)	8.5E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.5E-01	mean
BTAG High HQ:	3.8E-02	mean

BTAG Low HQ:	1.5E-01	max
BTAG High HQ:	3.9E-02	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Cadmium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.34
Maximum detected value (mg/kg, dry weight):	0.37

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.31
Maximum detected value (mg/kg, dry weight):	0.46

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.9E-02	mean
Daily exposure (mg/kg-day)	2.1E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.4E-01	mean
BTAG High HQ:	1.8E-03	mean
BTAG Low HQ:	2.6E-01	max
BTAG High HQ:	2.0E-03	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Chromium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	4.5
Maximum detected value (mg/kg, dry weight):	6

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	70
Maximum detected value (mg/kg, dry weight):	100

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.3E-01	mean
Daily exposure (mg/kg-day)	5.9E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	5.0E-01	mean
LOAEL HQ:	9.9E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	6.8E-01	max
LOAEL HQ:	1.4E-01	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max



## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Copper  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	65
Maximum detected value (mg/kg, dry weight):	80

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	250
Maximum detected value (mg/kg, dry weight):	510

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.1E+00	mean
Daily exposure (mg/kg-day)	5.6E+00	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.8E+00	mean
BTAG High HQ:	7.9E-02	mean
BTAG Low HQ:	2.4E+00	max
BTAG High HQ:	1.1E-01	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Lead  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	5.5
Maximum detected value (mg/kg, dry weight):	6.5

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	90
Maximum detected value (mg/kg, dry weight):	130

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.3E-01	mean
Daily exposure (mg/kg-day)	6.9E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.8E+01	mean
BTAG High HQ:	6.1E-02	mean
BTAG Low HQ:	5.0E+01	max
BTAG High HQ:	7.9E-02	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Total Mercury  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.11
Maximum detected value (mg/kg, dry weight):	0.12

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.9
Maximum detected value (mg/kg, dry weight):	2.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	8.3E-03	mean
Daily exposure (mg/kg-day)	1.3E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	2.1E-01	mean
BTAG HQ:	4.6E-02	mean
BTAG Low HQ:	3.2E-01	max
BTAG High HQ:	7.0E-02	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Nickel  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	7.5
Maximum detected value (mg/kg, dry weight):	9.5

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	17
Maximum detected value (mg/kg, dry weight):	27

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.5E-01	mean
Daily exposure (mg/kg-day)	5.8E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.2E-01	mean
BTAG High HQ:	7.9E-03	mean
BTAG Low HQ:	4.2E-01	max
BTAG High HQ:	1.0E-02	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Selenium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	3.3
Maximum detected value (mg/kg, dry weight):	3.5

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1
Maximum detected value (mg/kg, dry weight):	1.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.8E-01	mean
Daily exposure (mg/kg-day)	1.9E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	7.8E-01	mean
BTAG High HQ:	1.9E-01	mean
BTAG Low HQ:	8.3E-01	max
BTAG High HQ:	2.0E-01	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Zinc  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	90
Maximum detected value (mg/kg, dry weight):	100

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	320
Maximum detected value (mg/kg, dry weight):	620

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.7E+00	mean
Daily exposure (mg/kg-day)	7.0E+00	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.3E-01	mean
BTAG High HQ:	3.3E-02	mean
BTAG Low HQ:	4.1E-01	max
BTAG High HQ:	4.1E-02	max

## Tier II - Summary of Hazard Quotients

Receptor: Sea Lion

### Location: Inside NASSCO

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	--	--	--	--	1.2E-02	--	--	--	--	--	--
LOAEL HQ:	--	--	--	--	5.7E-04	--	--	--	--	--	--
BTAG Low HQ:	6.6E-03	2.2E-01	7.1E-03	1.4E-01	#VALUE!	6.8E-02	5.2E-02	4.9E-01	2.1E-01	7.5E-01	1.3E-01
BTAG High HQ:	2.6E-04	6.1E-02	1.2E-04	9.3E-03	#VALUE!	2.9E-04	2.2E-04	4.9E-02	8.6E-04	3.1E-02	3.0E-03
<b>MAXIMUM</b>											
NOAEL HQ:	--	--	--	--	1.6E-02	--	--	--	--	--	--
LOAEL HQ:	--	--	--	--	7.7E-04	--	--	--	--	--	--
BTAG Low HQ:	1.1E-02	4.6E-01	1.5E-02	1.8E-01	#VALUE!	1.5E-01	7.4E-02	6.1E-01	2.7E-01	<b>1.0E+00</b>	1.7E-01
BTAG High HQ:	4.2E-04	1.3E-01	2.6E-04	1.2E-02	#VALUE!	6.1E-04	3.1E-04	6.1E-02	1.1E-03	4.1E-02	3.9E-03

### Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	--	--	--	--	6.9E-03	--	--	--	--	--	--
LOAEL HQ:	--	--	--	--	3.3E-04	--	--	--	--	--	--
BTAG Low HQ:	4.9E-03	8.1E-02	3.4E-03	1.2E-01	#DIV/0!	3.5E-02	1.5E-02	3.2E-01	1.6E-01	2.3E-01	1.2E-01
BTAG High HQ:	2.0E-04	2.3E-02	5.6E-05	7.8E-03	#DIV/0!	1.5E-04	6.4E-05	3.2E-02	6.5E-04	9.3E-03	2.8E-03
<b>MAXIMUM</b>											
NOAEL HQ:	--	--	--	--	1.1E-02	--	--	--	--	--	--
LOAEL HQ:	--	--	--	--	5.3E-04	--	--	--	--	--	--
BTAG Low HQ:	5.4E-03	1.1E-01	6.7E-03	1.4E-01	#DIV/0!	7.0E-02	2.7E-02	4.8E-01	1.8E-01	2.5E-01	1.4E-01
BTAG High HQ:	2.1E-04	3.1E-02	1.1E-04	9.5E-03	#DIV/0!	2.9E-04	1.1E-04	4.8E-02	7.5E-04	1.0E-02	3.2E-03

#### NOTE:

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Benzo[a]pyrene  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.34
Maximum detected value (mg/kg, dry weight):	0.357

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	4
Maximum detected value (mg/kg, dry weight):	16

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.31
BTAG High (mg/kg-day):	32.8

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	8.6E-03	mean
Daily exposure (mg/kg-day)	1.4E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	6.6E-03	mean
BTAG High HQ:	2.6E-04	mean
BTAG Low HQ:	1.1E-02	max
BTAG High HQ:	4.2E-04	max



## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Total PCBs  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	3.763
Maximum detected value (mg/kg, dry weight):	8.108

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.6
Maximum detected value (mg/kg, dry weight):	1.7

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.36
BTAG High (mg/kg-day):	1.28

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	7.8E-02	mean
Daily exposure (mg/kg-day)	1.7E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.2E-01	mean
BTAG High HQ:	6.1E-02	mean
BTAG Low HQ:	4.6E-01	max
BTAG High HQ:	1.3E-01	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Tributyltin  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.083
Maximum detected value (mg/kg, dry weight):	0.16

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.2
Maximum detected value (mg/kg, dry weight):	1.4

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.25
BTAG High (mg/kg-day):	15

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.8E-03	mean
Daily exposure (mg/kg-day)	3.9E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	7.1E-03	mean
BTAG High HQ:	1.2E-04	mean
BTAG Low HQ:	1.5E-02	max
BTAG High HQ:	2.6E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Arsenic  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.9
Maximum detected value (mg/kg, dry weight):	2.5

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	11
Maximum detected value (mg/kg, dry weight):	18

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.32
BTAG High (mg/kg-day):	4.7

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.4E-02	mean
Daily exposure (mg/kg-day)	5.9E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.4E-01	mean
BTAG High HQ:	9.3E-03	mean
BTAG Low HQ:	1.8E-01	max
BTAG High HQ:	1.2E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Cadmium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.084
Maximum detected value (mg/kg, dry weight):	0.084

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.31
Maximum detected value (mg/kg, dry weight):	0.46

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.06
BTAG High (mg/kg-day):	2.64

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.9E-03	mean
Daily exposure (mg/kg-day)	1.9E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.1E-02	mean
BTAG High HQ:	7.0E-04	mean
BTAG Low HQ:	3.2E-02	max
BTAG High HQ:	7.2E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Chromium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75	
Food ingestion rate (kg/day dry wt):	1.54	
Sediment ingestion rate (kg/day dry wt):	0.0308	
Area Use Factor (unitless):	1	0.004
Time Use Factor (unitless):	1	

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.52
Maximum detected value (mg/kg, dry weight):	0.59

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	70
Maximum detected value (mg/kg, dry weight):	100

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	3.3
LOAEL (mg/kg-day):	69
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.9E-02	mean
Daily exposure (mg/kg-day)	5.3E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	1.2E-02	mean
LOAEL HQ:	5.7E-04	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	1.6E-02	max
LOAEL HQ:	7.7E-04	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Copper  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	3.9
Maximum detected value (mg/kg, dry weight):	8.7

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	250
Maximum detected value (mg/kg, dry weight):	510

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.67
BTAG High (mg/kg-day):	632

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.8E-01	mean
Daily exposure (mg/kg-day)	3.9E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	6.8E-02	mean
BTAG High HQ:	2.9E-04	mean
BTAG Low HQ:	1.5E-01	max
BTAG High HQ:	6.1E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Lead  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.74
Maximum detected value (mg/kg, dry weight):	1

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	90
Maximum detected value (mg/kg, dry weight):	130

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1
BTAG High (mg/kg-day):	241

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.2E-02	mean
Daily exposure (mg/kg-day)	7.4E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.2E-02	mean
BTAG High HQ:	2.2E-04	mean
BTAG Low HQ:	7.4E-02	max
BTAG High HQ:	3.1E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Total Mercury  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.62
Maximum detected value (mg/kg, dry weight):	0.75

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.9
Maximum detected value (mg/kg, dry weight):	2.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.027	0.25
BTAG High (mg/kg-day):	0.27	4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.3E-02	mean
Daily exposure (mg/kg-day)	1.6E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	4.9E-01	mean
BTAG HQ:	4.9E-02	mean
BTAG Low HQ:	6.1E-01	max
BTAG High HQ:	6.1E-02	max



## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Nickel  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.99
Maximum detected value (mg/kg, dry weight):	1.2

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	17
Maximum detected value (mg/kg, dry weight):	27

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.133
BTAG High (mg/kg-day):	31.6

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.7E-02	mean
Daily exposure (mg/kg-day)	3.6E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.1E-01	mean
BTAG High HQ:	8.6E-04	mean
BTAG Low HQ:	2.7E-01	max
BTAG High HQ:	1.1E-03	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Selenium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.8
Maximum detected value (mg/kg, dry weight):	2.4

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1
Maximum detected value (mg/kg, dry weight):	1.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.05
BTAG High (mg/kg-day):	1.21

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.7E-02	mean
Daily exposure (mg/kg-day)	5.0E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	7.5E-01	mean
BTAG High HQ:	3.1E-02	mean
BTAG Low HQ:	1.0E+00	max
BTAG High HQ:	4.1E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Zinc  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	54
Maximum detected value (mg/kg, dry weight):	66

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	320
Maximum detected value (mg/kg, dry weight):	620

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	9.6
BTAG High (mg/kg-day):	411

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.2E+00	mean
Daily exposure (mg/kg-day)	1.6E+00	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.3E-01	mean
BTAG High HQ:	3.0E-03	mean
BTAG Low HQ:	1.7E-01	max
BTAG High HQ:	3.9E-03	max

## Tier II - Summary of Hazard Quotients

Receptor: Least Tern

### Location: Inside NASSCO

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	2.9E-01	--	--	--	2.6E-01	--	--	--	--	--	--
LOAEL HQ:	2.9E-02	--	--	--	5.3E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b><u>2.0E+00</u></b>	5.2E-03	5.8E-02	#VALUE!	4.8E-01	<b><u>1.8E+01</u></b>	3.2E-01	7.8E-02	2.5E-01	<b><u>1.0E+00</u></b>
BTAG High HQ:	#VALUE!	1.4E-01	8.2E-05	1.5E-02	#VALUE!	2.1E-02	2.8E-02	7.0E-02	1.9E-03	6.2E-02	1.0E-01
<b>MAXIMUM</b>											
NOAEL HQ:	5.0E-01	--	--	--	3.5E-01	--	--	--	--	--	--
LOAEL HQ:	5.0E-02	--	--	--	7.0E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b><u>2.0E+00</u></b>	9.2E-03	6.2E-02	#VALUE!	7.5E-01	<b><u>2.5E+01</u></b>	4.1E-01	9.6E-02	2.5E-01	<b><u>1.1E+00</u></b>
BTAG High HQ:	#VALUE!	1.4E-01	1.5E-04	1.5E-02	#VALUE!	3.3E-02	4.0E-02	8.9E-02	2.3E-03	6.3E-02	1.1E-01

### Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	2.2E-01	--	--	--	6.0E-01	--	--	--	--	--	--
LOAEL HQ:	2.2E-02	--	--	--	1.2E-01	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	1.3E+00	5.2E-03	5.3E-02	#DIV/0!	4.6E-01	9.5E+00	2.1E-01	1.9E-01	5.2E-01	8.2E-01
BTAG High HQ:	#DIV/0!	9.3E-02	8.2E-05	1.3E-02	#DIV/0!	2.0E-02	1.5E-02	4.5E-02	4.7E-03	1.3E-01	8.2E-02
<b>MAXIMUM</b>											
NOAEL HQ:	2.3E-01	--	--	--	6.0E-01	--	--	--	--	--	--
LOAEL HQ:	2.3E-02	--	--	--	1.2E-01	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	1.4E+00	6.6E-03	5.7E-02	#DIV/0!	5.1E-01	1.3E+01	2.5E-01	2.3E-01	6.7E-01	8.8E-01
BTAG High HQ:	#DIV/0!	1.0E-01	1.1E-04	1.4E-02	#DIV/0!	2.3E-02	2.0E-02	5.5E-02	5.8E-03	1.7E-01	8.8E-02

**NOTE:**

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Benzo[a]pyrene  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.266
Maximum detected value (mg/kg, dry weight):	0.266

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	4
Maximum detected value (mg/kg, dry weight):	16

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.1E-02	mean
Daily exposure (mg/kg-day)	7.0E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	2.9E-01	mean
LOAEL HQ:	2.9E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	5.0E-01	max
LOAEL HQ:	5.0E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Total PCBs  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.505
Maximum detected value (mg/kg, dry weight):	1.505

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.6
Maximum detected value (mg/kg, dry weight):	1.7

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.8E-01	mean
Daily exposure (mg/kg-day)	1.8E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.0E+00	mean
BTAG High HQ:	1.4E-01	mean

BTAG Low HQ:	2.0E+00	max
BTAG High HQ:	1.4E-01	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Tributyltin  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.028
Maximum detected value (mg/kg, dry weight):	0.028

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.2
Maximum detected value (mg/kg, dry weight):	1.4

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.8E-03	mean
Daily exposure (mg/kg-day)	6.7E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.2E-03	mean
BTAG High HQ:	8.2E-05	mean
BTAG Low HQ:	9.2E-03	max
BTAG High HQ:	1.5E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Arsenic  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.5
Maximum detected value (mg/kg, dry weight):	2.5

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	11
Maximum detected value (mg/kg, dry weight):	18

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.2E-01	mean
Daily exposure (mg/kg-day)	3.4E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.8E-02	mean
BTAG High HQ:	1.5E-02	mean
BTAG Low HQ:	6.2E-02	max
BTAG High HQ:	1.5E-02	max



## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Cadmium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.031
Maximum detected value (mg/kg, dry weight):	0.031

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.31
Maximum detected value (mg/kg, dry weight):	0.46

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.4E-03	mean
Daily exposure (mg/kg-day)	4.8E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.5E-02	mean
BTAG High HQ:	4.2E-04	mean
BTAG Low HQ:	6.0E-02	max
BTAG High HQ:	4.6E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Chromium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.47
Maximum detected value (mg/kg, dry weight):	0.47

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	70
Maximum detected value (mg/kg, dry weight):	100

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.3E-01	mean
Daily exposure (mg/kg-day)	3.0E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	2.6E-01	mean
LOAEL HQ:	5.3E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	3.5E-01	max
LOAEL HQ:	7.0E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Copper  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	4.1
Maximum detected value (mg/kg, dry weight):	4.1

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	250
Maximum detected value (mg/kg, dry weight):	510

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.1E+00	mean
Daily exposure (mg/kg-day)	1.7E+00	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	4.8E-01	mean
BTAG High HQ:	2.1E-02	mean
BTAG Low HQ:	7.5E-01	max
BTAG High HQ:	3.3E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Lead  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.24
Maximum detected value (mg/kg, dry weight):	0.24

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	90
Maximum detected value (mg/kg, dry weight):	130

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.5E-01	mean
Daily exposure (mg/kg-day)	3.5E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.8E+01	mean
BTAG High HQ:	2.8E-02	mean
BTAG Low HQ:	2.5E+01	max
BTAG High HQ:	4.0E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Total Mercury  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045	
Food ingestion rate (kg/day dry wt):	0.0053	
Sediment ingestion rate (kg/day dry wt):	0.00011	
Area Use Factor (unitless):	1	0.003
Time Use Factor (unitless):	1	

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.088
Maximum detected value (mg/kg, dry weight):	0.088

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.9
Maximum detected value (mg/kg, dry weight):	2.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.3E-02	mean
Daily exposure (mg/kg-day)	1.6E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	3.2E-01	mean
BTAG HQ:	7.0E-02	mean
BTAG Low HQ:	4.1E-01	max
BTAG High HQ:	8.9E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Nickel  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.56
Maximum detected value (mg/kg, dry weight):	0.56

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	17
Maximum detected value (mg/kg, dry weight):	27

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.1E-01	mean
Daily exposure (mg/kg-day)	1.3E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	7.8E-02	mean
BTAG High HQ:	1.9E-03	mean
BTAG Low HQ:	9.6E-02	max
BTAG High HQ:	2.3E-03	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Selenium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.47
Maximum detected value (mg/kg, dry weight):	0.47

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1
Maximum detected value (mg/kg, dry weight):	1.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.8E-02	mean
Daily exposure (mg/kg-day)	5.9E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.5E-01	mean
BTAG High HQ:	6.2E-02	mean

BTAG Low HQ:	2.5E-01	max
BTAG High HQ:	6.3E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Zinc  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	141
Maximum detected value (mg/kg, dry weight):	141

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	320
Maximum detected value (mg/kg, dry weight):	620

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.7E+01	mean
Daily exposure (mg/kg-day)	1.8E+01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.0E+00	mean
BTAG High HQ:	1.0E-01	mean
BTAG Low HQ:	1.1E+00	max
BTAG High HQ:	1.1E-01	max



## Tier II - Summary of Hazard Quotients

Receptor: Green Turtle

Location: Inside NASSCO

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	2.9E-02	--	--	--	5.7E-02	--	--	--	--	--	--
LOAEL HQ:	2.9E-03	--	--	--	1.1E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	3.3E-03	7.0E-05	3.0E-03	#VALUE!	3.3E-01	<b>6.3E+00</b>	1.7E-02	1.3E-02	1.1E-02	7.8E-02
BTAG High HQ:	#VALUE!	2.3E-04	1.1E-06	7.5E-04	#VALUE!	1.5E-02	1.0E-02	3.6E-03	3.1E-04	2.8E-03	7.8E-03
<b>MAXIMUM</b>											
NOAEL HQ:	4.5E-02	--	--	--	6.4E-02	--	--	--	--	--	--
LOAEL HQ:	4.5E-03	--	--	--	1.3E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	5.7E-03	3.9E-04	3.3E-03	#VALUE!	3.6E-01	<b>6.8E+00</b>	2.4E-02	1.4E-02	1.2E-02	8.1E-02
BTAG High HQ:	#VALUE!	4.0E-04	6.2E-06	8.1E-04	#VALUE!	1.6E-02	1.1E-02	5.2E-03	3.5E-04	2.8E-03	8.1E-03

Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	1.4E-02	--	--	--	2.4E-02	--	--	--	--	--	--
LOAEL HQ:	1.4E-03	--	--	--	4.7E-03	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	2.0E-03	1.7E-05	1.9E-03	#VALUE!	6.0E-02	1.7E+00	5.1E-03	9.2E-03	1.0E-02	3.9E-02
BTAG High HQ:	#VALUE!	1.4E-04	2.8E-07	4.8E-04	#VALUE!	2.6E-03	2.8E-03	1.1E-03	2.2E-04	2.5E-03	3.9E-03
<b>MAXIMUM</b>											
NOAEL HQ:	1.4E-02	--	--	--	2.4E-02	--	--	--	--	--	--
LOAEL HQ:	1.4E-03	--	--	--	4.7E-03	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	2.0E-03	1.7E-05	1.9E-03	#VALUE!	6.0E-02	1.7E+00	5.1E-03	9.2E-03	1.0E-02	3.9E-02
BTAG High HQ:	#VALUE!	1.4E-04	2.8E-07	4.8E-04	#VALUE!	2.6E-03	2.8E-03	1.1E-03	2.2E-04	2.5E-03	3.9E-03

NOTE:

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle  
**Chemical:** Benzo[a]pyrene  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.877
Maximum detected value (mg/kg, dry weight):	0.877

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	4
Maximum detected value (mg/kg, dry weight):	16

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.0E-03	mean
Daily exposure (mg/kg-day)	6.4E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	2.9E-02	mean
LOAEL HQ:	2.9E-03	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	4.5E-02	max
LOAEL HQ:	4.5E-03	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle  
**Chemical:** Total PCBs  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.048
Maximum detected value (mg/kg, dry weight):	0.048

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.6
Maximum detected value (mg/kg, dry weight):	1.7

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.9E-04	mean
Daily exposure (mg/kg-day)	5.1E-04	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.3E-03	mean
BTAG High HQ:	2.3E-04	mean
BTAG Low HQ:	5.7E-03	max
BTAG High HQ:	4.0E-04	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Tributyltin

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.0032
Maximum detected value (mg/kg, dry weight):	0.0032

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.2
Maximum detected value (mg/kg, dry weight):	1.4

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.1E-05	mean
Daily exposure (mg/kg-day)	2.9E-04	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	7.0E-05	mean
BTAG High HQ:	1.1E-06	mean

BTAG Low HQ:	3.9E-04	max
BTAG High HQ:	6.2E-06	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Arsenic

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	3.9
Maximum detected value (mg/kg, dry weight):	3.9

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	11
Maximum detected value (mg/kg, dry weight):	18

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.7E-02	mean
Daily exposure (mg/kg-day)	1.8E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.0E-03	mean
BTAG High HQ:	7.5E-04	mean

BTAG Low HQ:	3.3E-03	max
BTAG High HQ:	8.1E-04	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Cadmium

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.75
Maximum detected value (mg/kg, dry weight):	0.75

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.31
Maximum detected value (mg/kg, dry weight):	0.46

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.8E-03	mean
Daily exposure (mg/kg-day)	2.9E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.5E-02	mean
BTAG High HQ:	2.7E-04	mean

BTAG Low HQ:	3.6E-02	max
BTAG High HQ:	2.7E-04	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Chromium

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	9.7
Maximum detected value (mg/kg, dry weight):	9.7

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	70
Maximum detected value (mg/kg, dry weight):	100

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	--
BTAG High (mg/kg-day):	--

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.9E-02	mean
Daily exposure (mg/kg-day)	5.5E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	5.7E-02	mean
LOAEL HQ:	1.1E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	6.4E-02	max
LOAEL HQ:	1.3E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Copper

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	195
Maximum detected value (mg/kg, dry weight):	195

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	250
Maximum detected value (mg/kg, dry weight):	510

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	7.7E-01	mean
Daily exposure (mg/kg-day)	8.2E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.3E-01	mean
BTAG High HQ:	1.5E-02	mean

BTAG Low HQ:	3.6E-01	max
BTAG High HQ:	1.6E-02	max



## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Lead

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	19
Maximum detected value (mg/kg, dry weight):	19

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	90
Maximum detected value (mg/kg, dry weight):	130

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	8.8E-02	mean
Daily exposure (mg/kg-day)	9.5E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	6.3E+00	mean
BTAG High HQ:	1.0E-02	mean

BTAG Low HQ:	6.8E+00	max
BTAG High HQ:	1.1E-02	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Total Mercury

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.13
Maximum detected value (mg/kg, dry weight):	0.13

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.9
Maximum detected value (mg/kg, dry weight):	2.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	6.6E-04	mean
Daily exposure (mg/kg-day)	9.3E-04	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	1.7E-02	mean
BTAG HQ:	3.6E-03	mean
BTAG Low HQ:	2.4E-02	max
BTAG High HQ:	5.2E-03	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Nickel

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	3.9
Maximum detected value (mg/kg, dry weight):	3.9

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	17
Maximum detected value (mg/kg, dry weight):	27

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.8E-02	mean
Daily exposure (mg/kg-day)	2.0E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.3E-02	mean
BTAG High HQ:	3.1E-04	mean

BTAG Low HQ:	1.4E-02	max
BTAG High HQ:	3.5E-04	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Selenium

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.65
Maximum detected value (mg/kg, dry weight):	0.65

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1
Maximum detected value (mg/kg, dry weight):	1.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.6E-03	mean
Daily exposure (mg/kg-day)	2.6E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.1E-02	mean
BTAG High HQ:	2.8E-03	mean

BTAG Low HQ:	1.2E-02	max
BTAG High HQ:	2.8E-03	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Zinc

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	346
Maximum detected value (mg/kg, dry weight):	346

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	320
Maximum detected value (mg/kg, dry weight):	620

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.3E+00	mean
Daily exposure (mg/kg-day)	1.4E+00	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	7.8E-02	mean
BTAG High HQ:	7.8E-03	mean

BTAG Low HQ:	8.1E-02	max
BTAG High HQ:	8.1E-03	max

## Tier II - Summary of Hazard Quotients

Receptor: **Brown Pelican**

**Location: Inside NASSCO**

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	2.4E-01	--	--	--	1.8E-01	--	--	--	--	--	--
LOAEL HQ:	2.4E-02	--	--	--	3.5E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b><u>3.3E+00</u></b>	9.4E-03	3.0E-02	#VALUE!	3.0E-01	<b><u>1.4E+01</u></b>	<b><u>1.3E+00</u></b>	7.6E-02	6.2E-01	2.8E-01
BTAG High HQ:	#VALUE!	2.3E-01	1.5E-04	7.6E-03	#VALUE!	1.3E-02	2.3E-02	2.8E-01	1.9E-03	1.5E-01	2.8E-02
<b>MAXIMUM</b>											
NOAEL HQ:	3.8E-01	--	--	--	2.4E-01	--	--	--	--	--	--
LOAEL HQ:	3.8E-02	--	--	--	4.7E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b><u>7.1E+00</u></b>	2.0E-02	4.1E-02	#VALUE!	6.5E-01	<b><u>2.0E+01</u></b>	<b><u>1.6E+00</u></b>	9.9E-02	8.3E-01	3.6E-01
BTAG High HQ:	#VALUE!	5.0E-01	3.2E-04	1.0E-02	#VALUE!	2.8E-02	3.2E-02	3.5E-01	2.4E-03	2.1E-01	3.6E-02

**Location: Reference 2240**

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	1.8E-01	--	--	--	1.0E-01	--	--	--	--	--	--
LOAEL HQ:	1.8E-02	--	--	--	2.0E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	1.2E+00	4.4E-03	2.6E-02	#DIV/0!	1.6E-01	4.2E+00	8.6E-01	5.7E-02	1.9E-01	2.5E-01
BTAG High HQ:	#DIV/0!	8.8E-02	7.0E-05	6.4E-03	#DIV/0!	6.9E-03	6.8E-03	1.9E-01	1.4E-03	4.7E-02	2.5E-02
<b>MAXIMUM</b>											
NOAEL HQ:	1.9E-01	--	--	--	1.6E-01	--	--	--	--	--	--
LOAEL HQ:	1.9E-02	--	--	--	3.2E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	1.7E+00	8.9E-03	3.1E-02	#DIV/0!	3.1E-01	7.4E+00	1.3E+00	6.6E-02	2.1E-01	2.9E-01
BTAG High HQ:	#DIV/0!	1.2E-01	1.4E-04	7.8E-03	#DIV/0!	1.4E-02	1.2E-02	2.8E-01	1.6E-03	5.1E-02	2.9E-02

**NOTE:**

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Benzo[a]pyrene  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.34
Maximum detected value (mg/kg, dry weight):	0.357

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	4
Maximum detected value (mg/kg, dry weight):	16

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.3E-02	mean
Daily exposure (mg/kg-day)	5.3E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	2.4E-01	mean
LOAEL HQ:	2.4E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	3.8E-01	max
LOAEL HQ:	3.8E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Total PCBs  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	3.763
Maximum detected value (mg/kg, dry weight):	8.108

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.6
Maximum detected value (mg/kg, dry weight):	1.7

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.0E-01	mean
Daily exposure (mg/kg-day)	6.4E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.3E+00	mean
BTAG High HQ:	2.3E-01	mean
BTAG Low HQ:	7.1E+00	max
BTAG High HQ:	5.0E-01	max



## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Tributyltin  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.083
Maximum detected value (mg/kg, dry weight):	0.16

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.2
Maximum detected value (mg/kg, dry weight):	1.4

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	6.9E-03	mean
Daily exposure (mg/kg-day)	1.5E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	9.4E-03	mean
BTAG High HQ:	1.5E-04	mean

BTAG Low HQ:	2.0E-02	max
BTAG High HQ:	3.2E-04	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Arsenic  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.9
Maximum detected value (mg/kg, dry weight):	2.5

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	11
Maximum detected value (mg/kg, dry weight):	18

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.7E-01	mean
Daily exposure (mg/kg-day)	2.3E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.0E-02	mean
BTAG High HQ:	7.6E-03	mean
BTAG Low HQ:	4.1E-02	max
BTAG High HQ:	1.0E-02	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Cadmium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.084
Maximum detected value (mg/kg, dry weight):	0.084

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.31
Maximum detected value (mg/kg, dry weight):	0.46

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	7.1E-03	mean
Daily exposure (mg/kg-day)	7.3E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	8.9E-02	mean
BTAG High HQ:	6.8E-04	mean
BTAG Low HQ:	9.2E-02	max
BTAG High HQ:	7.1E-04	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Chromium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.52
Maximum detected value (mg/kg, dry weight):	0.59

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	70
Maximum detected value (mg/kg, dry weight):	100

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.5E-01	mean
Daily exposure (mg/kg-day)	2.0E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	1.8E-01	mean
LOAEL HQ:	3.5E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	2.4E-01	max
LOAEL HQ:	4.7E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Copper  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	3.9
Maximum detected value (mg/kg, dry weight):	8.7

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	250
Maximum detected value (mg/kg, dry weight):	510

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	7.0E-01	mean
Daily exposure (mg/kg-day)	1.5E+00	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.0E-01	mean
BTAG High HQ:	1.3E-02	mean
BTAG Low HQ:	6.5E-01	max
BTAG High HQ:	2.8E-02	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Lead  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.74
Maximum detected value (mg/kg, dry weight):	1

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	90
Maximum detected value (mg/kg, dry weight):	130

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.0E-01	mean
Daily exposure (mg/kg-day)	2.8E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.4E+01	mean
BTAG High HQ:	2.3E-02	mean
BTAG Low HQ:	2.0E+01	max
BTAG High HQ:	3.2E-02	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Total Mercury  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.62
Maximum detected value (mg/kg, dry weight):	0.75

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.9
Maximum detected value (mg/kg, dry weight):	2.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.0E-02	mean
Daily exposure (mg/kg-day)	6.3E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	1.3E+00	mean
BTAG HQ:	2.8E-01	mean
BTAG Low HQ:	1.6E+00	max
BTAG High HQ:	3.5E-01	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Nickel  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.99
Maximum detected value (mg/kg, dry weight):	1.2

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	17
Maximum detected value (mg/kg, dry weight):	27

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.0E-01	mean
Daily exposure (mg/kg-day)	1.4E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	7.6E-02	mean
BTAG High HQ:	1.9E-03	mean
BTAG Low HQ:	9.9E-02	max
BTAG High HQ:	2.4E-03	max



## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Selenium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.8
Maximum detected value (mg/kg, dry weight):	2.4

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1
Maximum detected value (mg/kg, dry weight):	1.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.4E-01	mean
Daily exposure (mg/kg-day)	1.9E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	6.2E-01	mean
BTAG High HQ:	1.5E-01	mean
BTAG Low HQ:	8.3E-01	max
BTAG High HQ:	2.1E-01	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Zinc  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	54
Maximum detected value (mg/kg, dry weight):	66

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	320
Maximum detected value (mg/kg, dry weight):	620

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.8E+00	mean
Daily exposure (mg/kg-day)	6.2E+00	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.8E-01	mean
BTAG High HQ:	2.8E-02	mean
BTAG Low HQ:	3.6E-01	max
BTAG High HQ:	3.6E-02	max

## Tier II - Summary of Hazard Quotients and Primary Drivers

Receptor: Western Grebe

Location: Inside NASSCO

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
LOAEL HQ:	1.7E-02	4.4E-02	1.2E-04	3.2E-03	4.8E-02	1.4E-02	#DIV/0!	1.1E-01	6.6E-04	3.4E-02	#DIV/0!
NOAEL HQ:	1.7E-01	--	--	--	2.4E-01	--	--	--	--	--	--
LOAEL HQ:	1.7E-02	--	--	--	4.8E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	8.8E-01	2.7E-03	2.9E-02	#VALUE!	3.7E-01	<b>1.7E+01</b>	1.8E-01	5.3E-02	1.2E-01	4.7E-01
BTAG High HQ:	#VALUE!	6.2E-02	4.3E-05	7.2E-03	#VALUE!	1.6E-02	2.8E-02	3.8E-02	1.3E-03	2.9E-02	4.7E-02
<b>MAXIMUM</b>											
NOAEL HQ:	3.9E-01	--	--	--	3.3E-01	--	--	--	--	--	--
LOAEL HQ:	3.9E-02	--	--	--	6.6E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	9.1E-01	6.9E-03	3.2E-02	#VALUE!	6.6E-01	<b>2.5E+01</b>	2.7E-01	7.2E-02	1.2E-01	5.2E-01
BTAG High HQ:	#VALUE!	6.5E-02	1.1E-04	8.0E-03	#VALUE!	2.9E-02	4.0E-02	5.8E-02	1.8E-03	3.0E-02	5.2E-02

Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	1.0E-01	--	--	--	3.1E-01	--	--	--	--	--	--
LOAEL HQ:	1.0E-02	--	--	--	6.3E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	5.7E-01	2.3E-03	2.5E-02	#DIV/0!	2.4E-01	6.6E+00	1.0E-01	9.0E-02	2.3E-01	3.7E-01
BTAG High HQ:	#DIV/0!	4.1E-02	3.6E-05	6.2E-03	#DIV/0!	1.1E-02	1.1E-02	2.2E-02	2.2E-03	5.7E-02	3.7E-02
<b>MAXIMUM</b>											
NOAEL HQ:	1.1E-01	--	--	--	4.7E-01	--	--	--	--	--	--
LOAEL HQ:	1.1E-02	--	--	--	9.4E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	6.2E-01	2.9E-03	2.8E-02	#DIV/0!	2.9E-01	9.9E+00	1.3E-01	1.2E-01	3.0E-01	4.1E-01
BTAG High HQ:	#DIV/0!	4.4E-02	4.6E-05	6.9E-03	#DIV/0!	1.3E-02	1.6E-02	2.8E-02	2.8E-03	7.4E-02	4.1E-02

**NOTE:**

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Benzo[a]pyrene  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.266
Maximum detected value (mg/kg, dry weight):	0.266

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	4
Maximum detected value (mg/kg, dry weight):	16

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.4E-02	mean
Daily exposure (mg/kg-day)	5.5E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	1.7E-01	mean
LOAEL HQ:	1.7E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	3.9E-01	max
LOAEL HQ:	3.9E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Total PCBs  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.505
Maximum detected value (mg/kg, dry weight):	1.505

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.6
Maximum detected value (mg/kg, dry weight):	1.7

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	7.9E-02	mean
Daily exposure (mg/kg-day)	8.2E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	8.8E-01	mean
BTAG High HQ:	6.2E-02	mean
BTAG Low HQ:	9.1E-01	max
BTAG High HQ:	6.5E-02	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Tributyltin  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.028
Maximum detected value (mg/kg, dry weight):	0.028

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.2
Maximum detected value (mg/kg, dry weight):	1.4

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.0E-03	mean
Daily exposure (mg/kg-day)	5.1E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.7E-03	mean
BTAG High HQ:	4.3E-05	mean
BTAG Low HQ:	6.9E-03	max
BTAG High HQ:	1.1E-04	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Arsenic  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.5
Maximum detected value (mg/kg, dry weight):	2.5

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	11
Maximum detected value (mg/kg, dry weight):	18

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.6E-01	mean
Daily exposure (mg/kg-day)	1.8E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.9E-02	mean
BTAG High HQ:	7.2E-03	mean
BTAG Low HQ:	3.2E-02	max
BTAG High HQ:	8.0E-03	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Cadmium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.031
Maximum detected value (mg/kg, dry weight):	0.031

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.31
Maximum detected value (mg/kg, dry weight):	0.46

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.4E-03	mean
Daily exposure (mg/kg-day)	2.8E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.0E-02	mean
BTAG High HQ:	2.3E-04	mean
BTAG Low HQ:	3.5E-02	max
BTAG High HQ:	2.7E-04	max



## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Chromium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.47
Maximum detected value (mg/kg, dry weight):	0.47

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	70
Maximum detected value (mg/kg, dry weight):	100

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.1E-01	mean
Daily exposure (mg/kg-day)	2.8E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	2.4E-01	mean
LOAEL HQ:	4.8E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	3.3E-01	max
LOAEL HQ:	6.6E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Copper  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	4.1
Maximum detected value (mg/kg, dry weight):	4.1

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	250
Maximum detected value (mg/kg, dry weight):	510

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	8.6E-01	mean
Daily exposure (mg/kg-day)	1.5E+00	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.7E-01	mean
BTAG High HQ:	1.6E-02	mean
BTAG Low HQ:	6.6E-01	max
BTAG High HQ:	2.9E-02	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Lead  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.24
Maximum detected value (mg/kg, dry weight):	0.24

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	90
Maximum detected value (mg/kg, dry weight):	130

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.4E-01	mean
Daily exposure (mg/kg-day)	3.5E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.7E+01	mean
BTAG High HQ:	2.8E-02	mean
BTAG Low HQ:	2.5E+01	max
BTAG High HQ:	4.0E-02	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Total Mercury  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.088
Maximum detected value (mg/kg, dry weight):	0.088

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.9
Maximum detected value (mg/kg, dry weight):	2.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	6.9E-03	mean
Daily exposure (mg/kg-day)	1.0E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	1.8E-01	mean
BTAG HQ:	3.8E-02	mean
BTAG Low HQ:	2.7E-01	max
BTAG High HQ:	5.8E-02	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Nickel  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.56
Maximum detected value (mg/kg, dry weight):	0.56

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	17
Maximum detected value (mg/kg, dry weight):	27

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	7.3E-02	mean
Daily exposure (mg/kg-day)	9.9E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.3E-02	mean
BTAG High HQ:	1.3E-03	mean
BTAG Low HQ:	7.2E-02	max
BTAG High HQ:	1.8E-03	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Selenium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.47
Maximum detected value (mg/kg, dry weight):	0.47

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1
Maximum detected value (mg/kg, dry weight):	1.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.7E-02	mean
Daily exposure (mg/kg-day)	2.8E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.2E-01	mean
BTAG High HQ:	2.9E-02	mean

BTAG Low HQ:	1.2E-01	max
BTAG High HQ:	3.0E-02	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Zinc  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	141
Maximum detected value (mg/kg, dry weight):	141

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	320
Maximum detected value (mg/kg, dry weight):	620

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	8.1E+00	mean
Daily exposure (mg/kg-day)	8.9E+00	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	4.7E-01	mean
BTAG High HQ:	4.7E-02	mean
BTAG Low HQ:	5.2E-01	max
BTAG High HQ:	5.2E-02	max

**[BLANK SHEET]**



## Tier II - Summary of Hazard Quotients

Receptor: **Sea Lion**

### Location: **Outside NASSCO**

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	--	--	--	--	2.2E-02	--	--	--	--	--	--
LOAEL HQ:	--	--	--	--	1.1E-03	--	--	--	--	--	--
BTAG Low HQ:	5.5E-03	9.8E-02	1.3E-02	1.8E-01	#VALUE!	5.4E-02	4.1E-02	4.5E-01	2.1E-01	6.7E-01	1.4E-01
BTAG High HQ:	2.2E-04	2.8E-02	2.2E-04	1.2E-02	#VALUE!	2.3E-04	1.7E-04	4.5E-02	8.7E-04	2.7E-02	3.2E-03
<b>MAXIMUM</b>											
NOAEL HQ:	--	--	--	--	2.5E-02	--	--	--	--	--	--
LOAEL HQ:	--	--	--	--	1.2E-03	--	--	--	--	--	--
BTAG Low HQ:	6.3E-03	1.2E-01	1.8E-02	2.5E-01	#VALUE!	1.0E-01	7.1E-02	6.3E-01	3.2E-01	9.9E-01	1.9E-01
BTAG High HQ:	2.5E-04	3.4E-02	3.0E-04	1.7E-02	#VALUE!	4.2E-04	2.9E-04	6.3E-02	1.3E-03	4.1E-02	4.5E-03

### Location: **Reference 2240**

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	--	--	--	--	6.9E-03	--	--	--	--	--	--
LOAEL HQ:	--	--	--	--	3.3E-04	--	--	--	--	--	--
BTAG Low HQ:	4.9E-03	8.1E-02	3.4E-03	1.2E-01	#DIV/0!	3.5E-02	1.5E-02	3.2E-01	1.6E-01	2.3E-01	1.2E-01
BTAG High HQ:	2.0E-04	2.3E-02	5.6E-05	7.8E-03	#DIV/0!	1.5E-04	6.4E-05	3.2E-02	6.5E-04	9.3E-03	2.8E-03
<b>MAXIMUM</b>											
NOAEL HQ:	--	--	--	--	6.9E-03	--	--	--	--	--	--
LOAEL HQ:	--	--	--	--	3.3E-04	--	--	--	--	--	--
BTAG Low HQ:	5.4E-03	1.1E-01	6.7E-03	1.4E-01	#DIV/0!	7.0E-02	2.7E-02	4.8E-01	1.8E-01	2.5E-01	1.4E-01
BTAG High HQ:	2.1E-04	3.1E-02	1.1E-04	9.5E-03	#DIV/0!	2.9E-04	1.1E-04	4.8E-02	7.5E-04	1.0E-02	3.2E-03

**NOTE:**

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Benzo[a]pyrene  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.321
Maximum detected value (mg/kg, dry weight):	0.34

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.6
Maximum detected value (mg/kg, dry weight):	3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.31
BTAG High (mg/kg-day):	32.8

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	7.2E-03	mean
Daily exposure (mg/kg-day)	8.2E-03	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.5E-03	mean
BTAG High HQ:	2.2E-04	mean
BTAG Low HQ:	6.3E-03	max
BTAG High HQ:	2.5E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Total PCBs  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.711
Maximum detected value (mg/kg, dry weight):	2.129

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.25
Maximum detected value (mg/kg, dry weight):	0.38

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.36
BTAG High (mg/kg-day):	1.28

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.5E-02	mean
Daily exposure (mg/kg-day)	4.4E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	9.8E-02	mean
BTAG High HQ:	2.8E-02	mean
BTAG Low HQ:	1.2E-01	max
BTAG High HQ:	3.4E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Tributyltin  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.161
Maximum detected value (mg/kg, dry weight):	0.213

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.09
Maximum detected value (mg/kg, dry weight):	0.41

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.25
BTAG High (mg/kg-day):	15

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.3E-03	mean
Daily exposure (mg/kg-day)	4.5E-03	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.3E-02	mean
BTAG High HQ:	2.2E-04	mean
BTAG Low HQ:	1.8E-02	max
BTAG High HQ:	3.0E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Arsenic  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.7
Maximum detected value (mg/kg, dry weight):	3.6

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	8
Maximum detected value (mg/kg, dry weight):	11

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.32
BTAG High (mg/kg-day):	4.7

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.9E-02	mean
Daily exposure (mg/kg-day)	7.8E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.8E-01	mean
BTAG High HQ:	1.2E-02	mean
BTAG Low HQ:	2.5E-01	max
BTAG High HQ:	1.7E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Cadmium  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.074
Maximum detected value (mg/kg, dry weight):	0.08

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.2
Maximum detected value (mg/kg, dry weight):	0.39

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.06
BTAG High (mg/kg-day):	2.64

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.6E-03	mean
Daily exposure (mg/kg-day)	1.8E-03	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.7E-02	mean
BTAG High HQ:	6.1E-04	mean
BTAG Low HQ:	3.0E-02	max
BTAG High HQ:	6.8E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Chromium  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.7
Maximum detected value (mg/kg, dry weight):	2.7

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	45
Maximum detected value (mg/kg, dry weight):	67

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	3.3
LOAEL (mg/kg-day):	69
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	7.4E-02	mean
Daily exposure (mg/kg-day)	8.3E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	2.2E-02	mean
LOAEL HQ:	1.1E-03	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	2.5E-02	max
LOAEL HQ:	1.2E-03	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Copper  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	4.6
Maximum detected value (mg/kg, dry weight):	9.4

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	120
Maximum detected value (mg/kg, dry weight):	180

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.67
BTAG High (mg/kg-day):	632

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.4E-01	mean
Daily exposure (mg/kg-day)	2.7E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.4E-02	mean
BTAG High HQ:	2.3E-04	mean
BTAG Low HQ:	1.0E-01	max
BTAG High HQ:	4.2E-04	max



## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Lead  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.84
Maximum detected value (mg/kg, dry weight):	1.8

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	59
Maximum detected value (mg/kg, dry weight):	83

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1
BTAG High (mg/kg-day):	241

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.1E-02	mean
Daily exposure (mg/kg-day)	7.1E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	4.1E-02	mean
BTAG High HQ:	1.7E-04	mean
BTAG Low HQ:	7.1E-02	max
BTAG High HQ:	2.9E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Total Mercury  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.58
Maximum detected value (mg/kg, dry weight):	0.81

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.55
Maximum detected value (mg/kg, dry weight):	0.71

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.027
BTAG High (mg/kg-day):	0.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.2E-02	mean
Daily exposure (mg/kg-day)	1.7E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	4.5E-01	mean
BTAG HQ:	4.5E-02	mean
BTAG Low HQ:	6.3E-01	max
BTAG High HQ:	6.3E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Nickel  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.1
Maximum detected value (mg/kg, dry weight):	1.7

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	12
Maximum detected value (mg/kg, dry weight):	18

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.133
BTAG High (mg/kg-day):	31.6

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.8E-02	mean
Daily exposure (mg/kg-day)	4.2E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.1E-01	mean
BTAG High HQ:	8.7E-04	mean
BTAG Low HQ:	3.2E-01	max
BTAG High HQ:	1.3E-03	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Selenium  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.6
Maximum detected value (mg/kg, dry weight):	2.4

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1
Maximum detected value (mg/kg, dry weight):	1

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.05
BTAG High (mg/kg-day):	1.21

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.3E-02	mean
Daily exposure (mg/kg-day)	5.0E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	6.7E-01	mean
BTAG High HQ:	2.7E-02	mean

BTAG Low HQ:	9.9E-01	max
BTAG High HQ:	4.1E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Zinc  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	60
Maximum detected value (mg/kg, dry weight):	85

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	190
Maximum detected value (mg/kg, dry weight):	290

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	9.6
BTAG High (mg/kg-day):	411

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.3E+00	mean
Daily exposure (mg/kg-day)	1.9E+00	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.4E-01	mean
BTAG High HQ:	3.2E-03	mean
BTAG Low HQ:	1.9E-01	max
BTAG High HQ:	4.5E-03	max

## Tier II - Summary of Hazard Quotients

Receptor: Least Tern

Location: Outside NASSCO

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	2.9E-01	--	--	--	2.0E-01	--	--	--	--	--	--
LOAEL HQ:	2.9E-02	--	--	--	4.1E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b><u>2.4E+00</u></b>	6.9E-03	6.6E-02	#VALUE!	4.1E-01	<b><u>1.3E+01</u></b>	3.1E-01	7.1E-02	3.0E-01	<b><u>1.2E+00</u></b>
BTAG High HQ:	#VALUE!	1.7E-01	1.1E-04	1.6E-02	#VALUE!	1.8E-02	2.1E-02	6.8E-02	1.7E-03	7.4E-02	1.2E-01
<b>MAXIMUM</b>											
NOAEL HQ:	3.4E-01	--	--	--	2.7E-01	--	--	--	--	--	--
LOAEL HQ:	3.4E-02	--	--	--	5.5E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b><u>2.7E+00</u></b>	9.6E-03	7.3E-02	#VALUE!	4.9E-01	<b><u>1.8E+01</u></b>	3.4E-01	1.0E-01	3.2E-01	<b><u>1.3E+00</u></b>
BTAG High HQ:	#VALUE!	1.9E-01	1.5E-04	1.8E-02	#VALUE!	2.1E-02	2.9E-02	7.4E-02	2.5E-03	7.9E-02	1.3E-01

Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	2.2E-01	--	--	--	6.0E-01	--	--	--	--	--	--
LOAEL HQ:	2.2E-02	--	--	--	1.2E-01	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	1.3E+00	5.2E-03	5.3E-02	#DIV/0!	4.6E-01	9.5E+00	2.1E-01	1.9E-01	5.2E-01	8.2E-01
BTAG High HQ:	#DIV/0!	9.3E-02	8.2E-05	1.3E-02	#DIV/0!	2.0E-02	1.5E-02	4.5E-02	4.7E-03	1.3E-01	8.2E-02
<b>MAXIMUM</b>											
NOAEL HQ:	2.3E-01	--	--	--	8.4E-01	--	--	--	--	--	--
LOAEL HQ:	2.3E-02	--	--	--	1.7E-01	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	1.4E+00	6.6E-03	5.7E-02	#DIV/0!	5.1E-01	1.3E+01	2.5E-01	2.3E-01	6.7E-01	8.8E-01
BTAG High HQ:	#DIV/0!	1.0E-01	1.1E-04	1.4E-02	#DIV/0!	2.3E-02	2.0E-02	5.5E-02	5.8E-03	1.7E-01	8.8E-02

### NOTE:

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Benzo[a]pyrene  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.317
Maximum detected value (mg/kg, dry weight):	0.337

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.6
Maximum detected value (mg/kg, dry weight):	3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.1E-02	mean
Daily exposure (mg/kg-day)	4.7E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	2.9E-01	mean
LOAEL HQ:	2.9E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	3.4E-01	max
LOAEL HQ:	3.4E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Total PCBs  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.797
Maximum detected value (mg/kg, dry weight):	2.024

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.25
Maximum detected value (mg/kg, dry weight):	0.38

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.1E-01	mean
Daily exposure (mg/kg-day)	2.4E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.4E+00	mean
BTAG High HQ:	1.7E-01	mean
BTAG Low HQ:	2.7E+00	max
BTAG High HQ:	1.9E-01	max



## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Tributyltin  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.041
Maximum detected value (mg/kg, dry weight):	0.051

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.09
Maximum detected value (mg/kg, dry weight):	0.41

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.0E-03	mean
Daily exposure (mg/kg-day)	7.0E-03	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	6.9E-03	mean
BTAG High HQ:	1.1E-04	mean
BTAG Low HQ:	9.6E-03	max
BTAG High HQ:	1.5E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Arsenic  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.9
Maximum detected value (mg/kg, dry weight):	3.2

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	8
Maximum detected value (mg/kg, dry weight):	11

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.6E-01	mean
Daily exposure (mg/kg-day)	4.0E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	6.6E-02	mean
BTAG High HQ:	1.6E-02	mean
BTAG Low HQ:	7.3E-02	max
BTAG High HQ:	1.8E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Cadmium  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.019
Maximum detected value (mg/kg, dry weight):	0.02

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.2
Maximum detected value (mg/kg, dry weight):	0.39

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.7E-03	mean
Daily exposure (mg/kg-day)	3.3E-03	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.4E-02	mean
BTAG High HQ:	2.6E-04	mean
BTAG Low HQ:	4.1E-02	max
BTAG High HQ:	3.2E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Chromium  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.56
Maximum detected value (mg/kg, dry weight):	0.6

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	45
Maximum detected value (mg/kg, dry weight):	67

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.8E-01	mean
Daily exposure (mg/kg-day)	2.3E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	2.0E-01	mean
LOAEL HQ:	4.1E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	2.7E-01	max
LOAEL HQ:	5.5E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Copper  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	5.5
Maximum detected value (mg/kg, dry weight):	5.8

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	120
Maximum detected value (mg/kg, dry weight):	180

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	9.4E-01	mean
Daily exposure (mg/kg-day)	1.1E+00	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	4.1E-01	mean
BTAG High HQ:	1.8E-02	mean
BTAG Low HQ:	4.9E-01	max
BTAG High HQ:	2.1E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Lead  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.34
Maximum detected value (mg/kg, dry weight):	0.42

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	59
Maximum detected value (mg/kg, dry weight):	83

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.8E-01	mean
Daily exposure (mg/kg-day)	2.5E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.3E+01	mean
BTAG High HQ:	2.1E-02	mean
BTAG Low HQ:	1.8E+01	max
BTAG High HQ:	2.9E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Total Mercury  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.092
Maximum detected value (mg/kg, dry weight):	0.099

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.55
Maximum detected value (mg/kg, dry weight):	0.71

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.2E-02	mean
Daily exposure (mg/kg-day)	1.3E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	3.1E-01	mean
BTAG HQ:	6.8E-02	mean
LOAEL HQ:	2.1E-01	max
BTAG Low HQ:	3.4E-01	max
BTAG High HQ:	7.4E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Nickel  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.58
Maximum detected value (mg/kg, dry weight):	0.83

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	12
Maximum detected value (mg/kg, dry weight):	18

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	9.8E-02	mean
Daily exposure (mg/kg-day)	1.4E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	7.1E-02	mean
BTAG High HQ:	1.7E-03	mean
BTAG Low HQ:	1.0E-01	max
BTAG High HQ:	2.5E-03	max



## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Selenium  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.56
Maximum detected value (mg/kg, dry weight):	0.6

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1
Maximum detected value (mg/kg, dry weight):	1

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	6.8E-02	mean
Daily exposure (mg/kg-day)	7.3E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.0E-01	mean
BTAG High HQ:	7.4E-02	mean
BTAG Low HQ:	3.2E-01	max
BTAG High HQ:	7.9E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Zinc  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	175
Maximum detected value (mg/kg, dry weight):	188

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	190
Maximum detected value (mg/kg, dry weight):	290

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.1E+01	mean
Daily exposure (mg/kg-day)	2.3E+01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.2E+00	mean
BTAG High HQ:	1.2E-01	mean

BTAG Low HQ:	1.3E+00	max
BTAG High HQ:	1.3E-01	max

## Tier II - Summary of Hazard Quotients

Receptor: **Brown Pelican**

Location: **Outside NASSCO**

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	2.0E-01	--	--	--	3.3E-01	--	--	--	--	--	--
LOAEL HQ:	2.0E-02	--	--	--	6.6E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b><u>1.5E+00</u></b>	1.8E-02	4.1E-02	#VALUE!	2.4E-01	<b><u>1.1E+01</u></b>	<b><u>1.2E+00</u></b>	7.6E-02	5.5E-01	2.9E-01
BTAG High HQ:	#VALUE!	1.1E-01	2.8E-04	1.0E-02	#VALUE!	1.1E-02	1.8E-02	2.6E-01	1.9E-03	1.4E-01	2.9E-02
<b>MAXIMUM</b>											
NOAEL HQ:	2.3E-01	--	--	--	3.7E-01	--	--	--	--	--	--
LOAEL HQ:	2.3E-02	--	--	--	7.4E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b><u>1.9E+00</u></b>	2.4E-02	5.5E-02	#VALUE!	4.5E-01	<b><u>1.9E+01</u></b>	<b><u>1.7E+00</u></b>	1.2E-01	8.3E-01	4.2E-01
BTAG High HQ:	#VALUE!	1.3E-01	3.8E-04	1.4E-02	#VALUE!	2.0E-02	3.1E-02	3.6E-01	2.9E-03	2.0E-01	4.2E-02

Location: **Reference 2240**

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	1.8E-01	--	--	--	1.0E-01	--	--	--	--	--	--
LOAEL HQ:	1.8E-02	--	--	--	2.0E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	1.2E+00	4.4E-03	2.6E-02	#DIV/0!	1.6E-01	4.2E+00	8.6E-01	5.7E-02	1.9E-01	2.5E-01
BTAG High HQ:	#DIV/0!	8.8E-02	7.0E-05	6.4E-03	#DIV/0!	6.9E-03	6.8E-03	1.9E-01	1.4E-03	4.7E-02	2.5E-02
<b>MAXIMUM</b>											
NOAEL HQ:	1.9E-01	--	--	--	1.6E-01	--	--	--	--	--	--
LOAEL HQ:	1.9E-02	--	--	--	3.2E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	1.7E+00	8.9E-03	3.1E-02	#DIV/0!	3.1E-01	7.4E+00	1.3E+00	6.6E-02	2.1E-01	2.9E-01
BTAG High HQ:	#DIV/0!	1.2E-01	1.4E-04	7.8E-03	#DIV/0!	1.4E-02	1.2E-02	2.8E-01	1.6E-03	5.1E-02	2.9E-02

### NOTE:

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Benzo[a]pyrene  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174	
Food ingestion rate (kg/day dry wt):	0.25	
Sediment ingestion rate (kg/day dry wt):	0.005	
Area Use Factor (unitless):	1	0.005
Time Use Factor (unitless):	1	

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.321
Maximum detected value (mg/kg, dry weight):	0.34

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.6
Maximum detected value (mg/kg, dry weight):	3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.8E-02	mean
Daily exposure (mg/kg-day)	3.2E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	2.0E-01	mean
LOAEL HQ:	2.0E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	2.3E-01	max
LOAEL HQ:	2.3E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Total PCBs  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.711
Maximum detected value (mg/kg, dry weight):	2.129

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.25
Maximum detected value (mg/kg, dry weight):	0.38

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.4E-01	mean
Daily exposure (mg/kg-day)	1.7E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.5E+00	mean
BTAG High HQ:	1.1E-01	mean
BTAG Low HQ:	1.9E+00	max
BTAG High HQ:	1.3E-01	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Tributyltin  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.161
Maximum detected value (mg/kg, dry weight):	0.213

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.09
Maximum detected value (mg/kg, dry weight):	0.41

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.3E-02	mean
Daily exposure (mg/kg-day)	1.7E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.8E-02	mean
BTAG High HQ:	2.8E-04	mean
BTAG Low HQ:	2.4E-02	max
BTAG High HQ:	3.8E-04	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Arsenic  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.7
Maximum detected value (mg/kg, dry weight):	3.6

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	8
Maximum detected value (mg/kg, dry weight):	11

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.3E-01	mean
Daily exposure (mg/kg-day)	3.0E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	4.1E-02	mean
BTAG High HQ:	1.0E-02	mean
BTAG Low HQ:	5.5E-02	max
BTAG High HQ:	1.4E-02	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Cadmium  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.074
Maximum detected value (mg/kg, dry weight):	0.08

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.2
Maximum detected value (mg/kg, dry weight):	0.39

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	6.1E-03	mean
Daily exposure (mg/kg-day)	6.9E-03	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	7.7E-02	mean
BTAG High HQ:	5.9E-04	mean
BTAG Low HQ:	8.6E-02	max
BTAG High HQ:	6.6E-04	max



## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Chromium  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.7
Maximum detected value (mg/kg, dry weight):	2.7

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	45
Maximum detected value (mg/kg, dry weight):	67

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.8E-01	mean
Daily exposure (mg/kg-day)	3.2E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	3.3E-01	mean
LOAEL HQ:	6.6E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	3.7E-01	max
LOAEL HQ:	7.4E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Copper  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	4.6
Maximum detected value (mg/kg, dry weight):	9.4

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	120
Maximum detected value (mg/kg, dry weight):	180

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.5E-01	mean
Daily exposure (mg/kg-day)	1.0E+00	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.4E-01	mean
BTAG High HQ:	1.1E-02	mean
BTAG Low HQ:	4.5E-01	max
BTAG High HQ:	2.0E-02	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Lead  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.84
Maximum detected value (mg/kg, dry weight):	1.8

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	59
Maximum detected value (mg/kg, dry weight):	83

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.6E-01	mean
Daily exposure (mg/kg-day)	2.7E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.1E+01	mean
BTAG High HQ:	1.8E-02	mean
BTAG Low HQ:	1.9E+01	max
BTAG High HQ:	3.1E-02	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Total Mercury  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.58
Maximum detected value (mg/kg, dry weight):	0.81

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.55
Maximum detected value (mg/kg, dry weight):	0.71

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.7E-02	mean
Daily exposure (mg/kg-day)	6.5E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	1.2E+00	mean
BTAG HQ:	2.6E-01	mean
BTAG Low HQ:	1.7E+00	max
BTAG High HQ:	3.6E-01	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Nickel  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.1
Maximum detected value (mg/kg, dry weight):	1.7

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	12
Maximum detected value (mg/kg, dry weight):	18

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.1E-01	mean
Daily exposure (mg/kg-day)	1.6E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	7.6E-02	mean
BTAG High HQ:	1.9E-03	mean
BTAG Low HQ:	1.2E-01	max
BTAG High HQ:	2.9E-03	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Selenium  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.6
Maximum detected value (mg/kg, dry weight):	2.4

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1
Maximum detected value (mg/kg, dry weight):	1

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.3E-01	mean
Daily exposure (mg/kg-day)	1.9E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.5E-01	mean
BTAG High HQ:	1.4E-01	mean
BTAG Low HQ:	8.3E-01	max
BTAG High HQ:	2.0E-01	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Zinc  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	60
Maximum detected value (mg/kg, dry weight):	85

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	190
Maximum detected value (mg/kg, dry weight):	290

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.0E+00	mean
Daily exposure (mg/kg-day)	7.2E+00	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.9E-01	mean
BTAG High HQ:	2.9E-02	mean
BTAG Low HQ:	4.2E-01	max
BTAG High HQ:	4.2E-02	max

## Tier II - Summary of Hazard Quotients

Receptor: Western Grebe

### Location: Outside NASSCO

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	1.5E-01	--	--	--	1.7E-01	--	--	--	--	--	--
LOAEL HQ:	1.5E-02	--	--	--	3.4E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b>1.0E+00</b>	3.2E-03	3.1E-02	#VALUE!	2.6E-01	<b>1.2E+01</b>	1.6E-01	4.4E-02	1.4E-01	5.5E-01
BTAG High HQ:	#VALUE!	7.4E-02	5.1E-05	7.8E-03	#VALUE!	1.1E-02	1.9E-02	3.4E-02	1.1E-03	3.4E-02	5.5E-02
<b>MAXIMUM</b>											
NOAEL HQ:	1.8E-01	--	--	--	2.4E-01	--	--	--	--	--	--
LOAEL HQ:	1.8E-02	--	--	--	4.7E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b>1.2E+00</b>	5.1E-03	3.5E-02	#VALUE!	3.3E-01	<b>1.7E+01</b>	1.8E-01	6.5E-02	1.5E-01	6.1E-01
BTAG High HQ:	#VALUE!	8.3E-02	8.0E-05	8.8E-03	#VALUE!	1.5E-02	2.7E-02	3.9E-02	1.6E-03	3.6E-02	6.1E-02

### Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	1.0E-01	--	--	--	3.1E-01	--	--	--	--	--	--
LOAEL HQ:	1.0E-02	--	--	--	6.3E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	5.7E-01	2.3E-03	2.5E-02	#DIV/0!	2.4E-01	6.6E+00	1.0E-01	9.0E-02	2.3E-01	3.7E-01
BTAG High HQ:	#DIV/0!	4.1E-02	3.6E-05	6.2E-03	#DIV/0!	1.1E-02	1.1E-02	2.2E-02	2.2E-03	5.7E-02	3.7E-02
<b>MAXIMUM</b>											
NOAEL HQ:	1.1E-01	--	--	--	4.7E-01	--	--	--	--	--	--
LOAEL HQ:	1.1E-02	--	--	--	9.4E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	6.2E-01	2.9E-03	2.8E-02	#DIV/0!	2.9E-01	9.9E+00	1.3E-01	1.2E-01	3.0E-01	4.1E-01
BTAG High HQ:	#DIV/0!	4.4E-02	4.6E-05	6.9E-03	#DIV/0!	1.3E-02	1.6E-02	2.8E-02	2.8E-03	7.4E-02	4.1E-02

#### NOTE:

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.



## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Benzo[a]pyrene  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.317
Maximum detected value (mg/kg, dry weight):	0.337

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.6
Maximum detected value (mg/kg, dry weight):	3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.1E-02	mean
Daily exposure (mg/kg-day)	2.5E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	1.5E-01	mean
LOAEL HQ:	1.5E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	1.8E-01	max
LOAEL HQ:	1.8E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Total PCBs  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.797
Maximum detected value (mg/kg, dry weight):	2.024

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.25
Maximum detected value (mg/kg, dry weight):	0.38

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	9.3E-02	mean
Daily exposure (mg/kg-day)	1.1E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.0E+00	mean
BTAG High HQ:	7.4E-02	mean
BTAG Low HQ:	1.2E+00	max
BTAG High HQ:	8.3E-02	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Tributyltin  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.041
Maximum detected value (mg/kg, dry weight):	0.051

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.09
Maximum detected value (mg/kg, dry weight):	0.41

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.4E-03	mean
Daily exposure (mg/kg-day)	3.7E-03	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.2E-03	mean
BTAG High HQ:	5.1E-05	mean
BTAG Low HQ:	5.1E-03	max
BTAG High HQ:	8.0E-05	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Arsenic  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.9
Maximum detected value (mg/kg, dry weight):	3.2

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	8
Maximum detected value (mg/kg, dry weight):	11

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.7E-01	mean
Daily exposure (mg/kg-day)	1.9E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.1E-02	mean
BTAG High HQ:	7.8E-03	mean
BTAG Low HQ:	3.5E-02	max
BTAG High HQ:	8.8E-03	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Cadmium  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.019
Maximum detected value (mg/kg, dry weight):	0.02

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.2
Maximum detected value (mg/kg, dry weight):	0.39

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.5E-03	mean
Daily exposure (mg/kg-day)	2.0E-03	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.9E-02	mean
BTAG High HQ:	1.4E-04	mean
BTAG Low HQ:	2.6E-02	max
BTAG High HQ:	2.0E-04	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Chromium  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.56
Maximum detected value (mg/kg, dry weight):	0.6

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	45
Maximum detected value (mg/kg, dry weight):	67

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.5E-01	mean
Daily exposure (mg/kg-day)	2.0E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	1.7E-01	mean
LOAEL HQ:	3.4E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	2.4E-01	max
LOAEL HQ:	4.7E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Copper  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	5.5
Maximum detected value (mg/kg, dry weight):	5.8

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	120
Maximum detected value (mg/kg, dry weight):	180

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.9E-01	mean
Daily exposure (mg/kg-day)	7.6E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.6E-01	mean
BTAG High HQ:	1.1E-02	mean
BTAG Low HQ:	3.3E-01	max
BTAG High HQ:	1.5E-02	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Lead  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.34
Maximum detected value (mg/kg, dry weight):	0.42

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	59
Maximum detected value (mg/kg, dry weight):	83

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.7E-01	mean
Daily exposure (mg/kg-day)	2.4E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.2E+01	mean
BTAG High HQ:	1.9E-02	mean
BTAG Low HQ:	1.7E+01	max
BTAG High HQ:	2.7E-02	max



## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Total Mercury  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.092
Maximum detected value (mg/kg, dry weight):	0.099

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.55
Maximum detected value (mg/kg, dry weight):	0.71

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	6.2E-03	mean
Daily exposure (mg/kg-day)	6.9E-03	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	1.6E-01	mean
BTAG HQ:	3.4E-02	mean
BTAG Low HQ:	1.8E-01	max
BTAG High HQ:	3.9E-02	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Nickel  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.58
Maximum detected value (mg/kg, dry weight):	0.83

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	12
Maximum detected value (mg/kg, dry weight):	18

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	6.1E-02	mean
Daily exposure (mg/kg-day)	8.9E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	4.4E-02	mean
BTAG High HQ:	1.1E-03	mean
LOAEL HQ:	8.1E-04	max
BTAG Low HQ:	6.5E-02	max
BTAG High HQ:	1.6E-03	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Selenium  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.56
Maximum detected value (mg/kg, dry weight):	0.6

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1
Maximum detected value (mg/kg, dry weight):	1

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.2E-02	mean
Daily exposure (mg/kg-day)	3.4E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.4E-01	mean
BTAG High HQ:	3.4E-02	mean
BTAG Low HQ:	1.5E-01	max
BTAG High HQ:	3.6E-02	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Zinc  
**Location:** Outside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	175
Maximum detected value (mg/kg, dry weight):	188

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	190
Maximum detected value (mg/kg, dry weight):	290

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	9.5E+00	mean
Daily exposure (mg/kg-day)	1.0E+01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.5E-01	mean
BTAG High HQ:	5.5E-02	mean
BTAG Low HQ:	6.1E-01	max
BTAG High HQ:	6.1E-02	max

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## Tier II - Summary of Hazard Quotients and Primary Drivers

Receptor: Surf Scoter

Location: Inside SWM

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	<b>2.1E+00</b>	--	--	--	3.8E-01	--	--	--	--	--	--
LOAEL HQ:	2.1E-01	--	--	--	7.6E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	5.7E-01	4.0E-02	1.6E-01	#VALUE!	<b>1.6E+00</b>	<b>3.9E+01</b>	2.2E-01	1.9E-01	9.0E-01	3.9E-01
BTAG High HQ:	#VALUE!	4.0E-02	6.3E-04	4.1E-02	#VALUE!	6.9E-02	6.3E-02	4.7E-02	4.5E-03	2.2E-01	3.9E-02
<b>MAXIMUM</b>											
NOAEL HQ:	<b>3.0E+00</b>	--	--	--	5.0E-01	--	--	--	--	--	--
LOAEL HQ:	3.0E-01	--	--	--	1.0E-01	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	7.6E-01	5.2E-02	2.0E-01	#VALUE!	<b>2.9E+00</b>	<b>9.8E+01</b>	4.4E-01	3.4E-01	9.4E-01	8.6E-01
BTAG High HQ:	#VALUE!	5.4E-02	8.3E-04	5.0E-02	#VALUE!	1.3E-01	1.6E-01	9.5E-02	8.4E-03	2.3E-01	8.6E-02

Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	3.0E-01	--	--	--	4.5E-01	--	--	--	--	--	--
LOAEL HQ:	3.0E-02	--	--	--	9.0E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	4.4E-01	1.1E-02	9.5E-02	#DIV/0!	6.7E-01	1.9E+01	1.3E-01	1.5E-01	8.4E-01	2.6E-01
BTAG High HQ:	#DIV/0!	3.1E-02	1.7E-04	2.4E-02	#DIV/0!	2.9E-02	3.0E-02	2.8E-02	3.8E-03	2.1E-01	2.6E-02
<b>MAXIMUM</b>											
NOAEL HQ:	3.0E-01	--	--	--	4.5E-01	--	--	--	--	--	--
LOAEL HQ:	3.0E-02	--	--	--	9.0E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	4.4E-01	1.1E-02	9.5E-02	#DIV/0!	6.7E-01	1.9E+01	1.3E-01	1.5E-01	8.4E-01	2.6E-01
BTAG High HQ:	#DIV/0!	3.1E-02	1.7E-04	2.4E-02	#DIV/0!	2.9E-02	3.0E-02	2.8E-02	3.8E-03	2.1E-01	2.6E-02

### NOTE:

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Benzo[a]pyrene  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	4.814
Maximum detected value (mg/kg, dry weight):	4.895

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	14
Maximum detected value (mg/kg, dry weight):	57

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.9E-01	mean
Daily exposure (mg/kg-day)	4.1E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	2.1E+00	mean
LOAEL HQ:	2.1E-01	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	3.0E+00	max
LOAEL HQ:	3.0E-01	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Total PCBs  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.861
Maximum detected value (mg/kg, dry weight):	0.933

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.9
Maximum detected value (mg/kg, dry weight):	7.1

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.1E-02	mean
Daily exposure (mg/kg-day)	6.9E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.7E-01	mean
BTAG High HQ:	4.0E-02	mean
BTAG Low HQ:	7.6E-01	max
BTAG High HQ:	5.4E-02	max



## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Tributyltin  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.521
Maximum detected value (mg/kg, dry weight):	0.547

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.5
Maximum detected value (mg/kg, dry weight):	3.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.9E-02	mean
Daily exposure (mg/kg-day)	3.8E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	4.0E-02	mean
BTAG High HQ:	6.3E-04	mean
BTAG Low HQ:	5.2E-02	max
BTAG High HQ:	8.3E-04	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Arsenic  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	16
Maximum detected value (mg/kg, dry weight):	17

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	15
Maximum detected value (mg/kg, dry weight):	73

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	8.9E-01	mean
Daily exposure (mg/kg-day)	1.1E+00	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.6E-01	mean
BTAG High HQ:	4.1E-02	mean
BTAG Low HQ:	2.0E-01	max
BTAG High HQ:	5.0E-02	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Cadmium  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.38
Maximum detected value (mg/kg, dry weight):	0.44

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.6
Maximum detected value (mg/kg, dry weight):	2.9

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.2E-02	mean
Daily exposure (mg/kg-day)	3.1E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.7E-01	mean
BTAG High HQ:	2.1E-03	mean
BTAG Low HQ:	3.9E-01	max
BTAG High HQ:	3.0E-03	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Chromium  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.6
Maximum detected value (mg/kg, dry weight):	2.6

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	70
Maximum detected value (mg/kg, dry weight):	110

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.3E-01	mean
Daily exposure (mg/kg-day)	4.3E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	3.8E-01	mean
LOAEL HQ:	7.6E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	5.0E-01	max
LOAEL HQ:	1.0E-01	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Copper  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	48
Maximum detected value (mg/kg, dry weight):	51

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	400
Maximum detected value (mg/kg, dry weight):	1500

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.6E+00	mean
Daily exposure (mg/kg-day)	6.7E+00	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.6E+00	mean
BTAG High HQ:	6.9E-02	mean
BTAG Low HQ:	2.9E+00	max
BTAG High HQ:	1.3E-01	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Lead  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	4.3
Maximum detected value (mg/kg, dry weight):	4.3

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	120
Maximum detected value (mg/kg, dry weight):	430

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.5E-01	mean
Daily exposure (mg/kg-day)	1.4E+00	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.9E+01	mean
BTAG High HQ:	6.3E-02	mean
BTAG Low HQ:	9.8E+01	max
BTAG High HQ:	1.6E-01	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Total Mercury  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.1
Maximum detected value (mg/kg, dry weight):	0.11

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.2
Maximum detected value (mg/kg, dry weight):	4.2

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	8.5E-03	mean
Daily exposure (mg/kg-day)	1.7E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	2.2E-01	mean
BTAG HQ:	4.7E-02	mean
BTAG Low HQ:	4.4E-01	max
BTAG High HQ:	9.5E-02	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Nickel  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	3.8
Maximum detected value (mg/kg, dry weight):	3.9

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	20
Maximum detected value (mg/kg, dry weight):	100

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.6E-01	mean
Daily exposure (mg/kg-day)	4.7E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.9E-01	mean
BTAG High HQ:	4.5E-03	mean
BTAG Low HQ:	3.4E-01	max
BTAG High HQ:	8.4E-03	max



## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Selenium  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	3.8
Maximum detected value (mg/kg, dry weight):	4

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.2
Maximum detected value (mg/kg, dry weight):	1.5

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.1E-01	mean
Daily exposure (mg/kg-day)	2.2E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	9.0E-01	mean
BTAG High HQ:	2.2E-01	mean
BTAG Low HQ:	9.4E-01	max
BTAG High HQ:	2.3E-01	max

## Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Zinc  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	101
Maximum detected value (mg/kg, dry weight):	107

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	500
Maximum detected value (mg/kg, dry weight):	3400

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	6.7E+00	mean
Daily exposure (mg/kg-day)	1.5E+01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.9E-01	mean
BTAG High HQ:	3.9E-02	mean
BTAG Low HQ:	8.6E-01	max
BTAG High HQ:	8.6E-02	max

## Tier II - Summary of Hazard Quotients

Receptor: Sea Lion

### Location: Inside SWM

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	--	--	--	--	1.9E-02	--	--	--	--	--	--
LOAEL HQ:	--	--	--	--	8.9E-04	--	--	--	--	--	--
BTAG Low HQ:	9.9E-03	2.3E-01	1.1E-02	1.7E-01	#VALUE!	1.3E-01	7.0E-02	4.1E-01	2.3E-01	1.0E+00	1.5E-01
BTAG High HQ:	3.9E-04	6.5E-02	1.9E-04	1.1E-02	#VALUE!	5.5E-04	2.9E-04	4.1E-02	9.7E-04	4.3E-02	3.5E-03
<b>MAXIMUM</b>											
NOAEL HQ:	--	--	--	--	2.4E-02	--	--	--	--	--	--
LOAEL HQ:	--	--	--	--	1.1E-03	--	--	--	--	--	--
BTAG Low HQ:	2.4E-02	4.7E-01	2.7E-02	2.6E-01	#VALUE!	4.4E-01	2.1E-01	5.7E-01	5.1E-01	<b>1.5E+00</b>	3.2E-01
BTAG High HQ:	9.5E-04	1.3E-01	4.4E-04	1.8E-02	#VALUE!	1.9E-03	8.5E-04	5.7E-02	2.1E-03	6.3E-02	7.4E-03

### Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	--	--	--	--	6.9E-03	--	--	--	--	--	--
LOAEL HQ:	--	--	--	--	3.3E-04	--	--	--	--	--	--
BTAG Low HQ:	4.9E-03	8.1E-02	3.4E-03	1.2E-01	#DIV/0!	3.5E-02	1.5E-02	3.2E-01	1.6E-01	2.3E-01	1.2E-01
BTAG High HQ:	2.0E-04	2.3E-02	5.6E-05	7.8E-03	#DIV/0!	1.5E-04	6.4E-05	3.2E-02	6.5E-04	9.3E-03	2.8E-03
<b>MAXIMUM</b>											
NOAEL HQ:	--	--	--	--	1.1E-02	--	--	--	--	--	--
LOAEL HQ:	--	--	--	--	5.3E-04	--	--	--	--	--	--
BTAG Low HQ:	5.4E-03	1.1E-01	6.7E-03	1.4E-01	#DIV/0!	7.0E-02	2.7E-02	4.8E-01	1.8E-01	2.5E-01	1.4E-01
BTAG High HQ:	2.1E-04	3.1E-02	1.1E-04	9.5E-03	#DIV/0!	2.9E-04	1.1E-04	4.8E-02	7.5E-04	1.0E-02	3.2E-03

#### NOTE:

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Benzo[a]pyrene  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.349
Maximum detected value (mg/kg, dry weight):	0.379

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	14
Maximum detected value (mg/kg, dry weight):	57

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.31
BTAG High (mg/kg-day):	32.8

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.3E-02	mean
Daily exposure (mg/kg-day)	3.1E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	9.9E-03	mean
BTAG High HQ:	3.9E-04	mean
BTAG Low HQ:	2.4E-02	max
BTAG High HQ:	9.5E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Total PCBs  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	4.009
Maximum detected value (mg/kg, dry weight):	8.17

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.9
Maximum detected value (mg/kg, dry weight):	7.1

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.36
BTAG High (mg/kg-day):	1.28

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	8.3E-02	mean
Daily exposure (mg/kg-day)	1.7E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.3E-01	mean
BTAG High HQ:	6.5E-02	mean
BTAG Low HQ:	4.7E-01	max
BTAG High HQ:	1.3E-01	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Tributyltin  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.129
Maximum detected value (mg/kg, dry weight):	0.258

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.5
Maximum detected value (mg/kg, dry weight):	3.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.25
BTAG High (mg/kg-day):	15

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.9E-03	mean
Daily exposure (mg/kg-day)	6.7E-03	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.1E-02	mean
BTAG High HQ:	1.9E-04	mean

BTAG Low HQ:	2.7E-02	max
BTAG High HQ:	4.4E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Arsenic  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.3
Maximum detected value (mg/kg, dry weight):	2.6

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	15
Maximum detected value (mg/kg, dry weight):	73

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.32
BTAG High (mg/kg-day):	4.7

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.3E-02	mean
Daily exposure (mg/kg-day)	8.3E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.7E-01	mean
BTAG High HQ:	1.1E-02	mean
BTAG Low HQ:	2.6E-01	max
BTAG High HQ:	1.8E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Cadmium  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.11
Maximum detected value (mg/kg, dry weight):	0.16

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.6
Maximum detected value (mg/kg, dry weight):	2.9

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.06
BTAG High (mg/kg-day):	2.64

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.5E-03	mean
Daily exposure (mg/kg-day)	4.5E-03	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	4.2E-02	mean
BTAG High HQ:	9.5E-04	mean
BTAG Low HQ:	7.5E-02	max
BTAG High HQ:	1.7E-03	max



## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Chromium  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.6
Maximum detected value (mg/kg, dry weight):	1.6

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	70
Maximum detected value (mg/kg, dry weight):	110

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	3.3
LOAEL (mg/kg-day):	69
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	6.2E-02	mean
Daily exposure (mg/kg-day)	7.8E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	1.9E-02	mean
LOAEL HQ:	8.9E-04	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	2.4E-02	max
LOAEL HQ:	1.1E-03	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Copper  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	9
Maximum detected value (mg/kg, dry weight):	27

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	400
Maximum detected value (mg/kg, dry weight):	1500

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.67
BTAG High (mg/kg-day):	632

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.5E-01	mean
Daily exposure (mg/kg-day)	1.2E+00	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.3E-01	mean
BTAG High HQ:	5.5E-04	mean
BTAG Low HQ:	4.4E-01	max
BTAG High HQ:	1.9E-03	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Lead  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.99
Maximum detected value (mg/kg, dry weight):	1.4

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	120
Maximum detected value (mg/kg, dry weight):	430

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1
BTAG High (mg/kg-day):	241

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	7.0E-02	mean
Daily exposure (mg/kg-day)	2.1E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	7.0E-02	mean
BTAG High HQ:	2.9E-04	mean
BTAG Low HQ:	2.1E-01	max
BTAG High HQ:	8.5E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Total Mercury  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.52
Maximum detected value (mg/kg, dry weight):	0.66

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.2
Maximum detected value (mg/kg, dry weight):	4.2

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.027
BTAG High (mg/kg-day):	0.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.1E-02	mean
Daily exposure (mg/kg-day)	1.5E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	4.1E-01	mean
BTAG HQ:	4.1E-02	mean
BTAG Low HQ:	5.7E-01	max
BTAG High HQ:	5.7E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Nickel  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.1
Maximum detected value (mg/kg, dry weight):	1.3

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	20
Maximum detected value (mg/kg, dry weight):	100

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.133
BTAG High (mg/kg-day):	31.6

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.1E-02	mean
Daily exposure (mg/kg-day)	6.8E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.3E-01	mean
BTAG High HQ:	9.7E-04	mean
BTAG Low HQ:	5.1E-01	max
BTAG High HQ:	2.1E-03	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Selenium  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.5
Maximum detected value (mg/kg, dry weight):	3.7

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.2
Maximum detected value (mg/kg, dry weight):	1.5

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.05
BTAG High (mg/kg-day):	1.21

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.2E-02	mean
Daily exposure (mg/kg-day)	7.7E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.0E+00	mean
BTAG High HQ:	4.3E-02	mean
BTAG Low HQ:	1.5E+00	max
BTAG High HQ:	6.3E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Zinc  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	60
Maximum detected value (mg/kg, dry weight):	81

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	500
Maximum detected value (mg/kg, dry weight):	3400

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	9.6
BTAG High (mg/kg-day):	411

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.4E+00	mean
Daily exposure (mg/kg-day)	3.1E+00	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.5E-01	mean
BTAG High HQ:	3.5E-03	mean
BTAG Low HQ:	3.2E-01	max
BTAG High HQ:	7.4E-03	max

## Tier II - Summary of Hazard Quotients

Receptor: Least Tern

Location: Inside SWM

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	5.2E-01	--	--	--	2.7E-01	--	--	--	--	--	--
LOAEL HQ:	5.2E-02	--	--	--	5.4E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b>3.0E+00</b>	1.2E-02	7.7E-02	#VALUE!	9.3E-01	<b>3.3E+01</b>	3.4E-01	1.1E-01	2.7E-01	<b>1.0E+00</b>
BTAG High HQ:	#VALUE!	2.1E-01	1.9E-04	1.9E-02	#VALUE!	4.1E-02	5.2E-02	7.4E-02	2.6E-03	6.8E-02	1.0E-01
<b>MAXIMUM</b>											
NOAEL HQ:	<b>1.3E+00</b>	--	--	--	3.8E-01	--	--	--	--	--	--
LOAEL HQ:	1.3E-01	--	--	--	7.7E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b>3.4E+00</b>	2.3E-02	1.1E-01	#VALUE!	<b>2.2E+00</b>	<b>8.8E+01</b>	5.7E-01	2.6E-01	2.8E-01	<b>1.5E+00</b>
BTAG High HQ:	#VALUE!	2.4E-01	3.7E-04	2.7E-02	#VALUE!	9.5E-02	1.4E-01	1.2E-01	6.4E-03	7.0E-02	1.5E-01

Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	2.2E-01	--	--	--	6.0E-01	--	--	--	--	--	--
LOAEL HQ:	2.2E-02	--	--	--	1.2E-01	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	1.3E+00	5.2E-03	5.3E-02	#DIV/0!	4.6E-01	9.5E+00	2.1E-01	1.9E-01	5.2E-01	8.2E-01
BTAG High HQ:	#DIV/0!	9.3E-02	8.2E-05	1.3E-02	#DIV/0!	2.0E-02	1.5E-02	4.5E-02	4.7E-03	1.3E-01	8.2E-02
<b>MAXIMUM</b>											
NOAEL HQ:	2.3E-01	--	--	--	8.4E-01	--	--	--	--	--	--
LOAEL HQ:	2.3E-02	--	--	--	1.7E-01	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	1.4E+00	6.6E-03	5.7E-02	#DIV/0!	5.1E-01	1.3E+01	2.5E-01	2.3E-01	6.7E-01	8.8E-01
BTAG High HQ:	#DIV/0!	1.0E-01	1.1E-04	1.4E-02	#DIV/0!	2.3E-02	2.0E-02	5.5E-02	5.8E-03	1.7E-01	8.8E-02

### NOTE:

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.



## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Benzo[a]pyrene  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.326
Maximum detected value (mg/kg, dry weight):	0.331

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	14
Maximum detected value (mg/kg, dry weight):	57

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	7.3E-02	mean
Daily exposure (mg/kg-day)	1.8E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	5.2E-01	mean
LOAEL HQ:	5.2E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	1.3E+00	max
LOAEL HQ:	1.3E-01	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Total PCBs  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.273
Maximum detected value (mg/kg, dry weight):	2.415

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.9
Maximum detected value (mg/kg, dry weight):	7.1

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.7E-01	mean
Daily exposure (mg/kg-day)	3.0E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.0E+00	mean
BTAG High HQ:	2.1E-01	mean
BTAG Low HQ:	3.4E+00	max
BTAG High HQ:	2.4E-01	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Tributyltin  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.065
Maximum detected value (mg/kg, dry weight):	0.076

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.5
Maximum detected value (mg/kg, dry weight):	3.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	8.9E-03	mean
Daily exposure (mg/kg-day)	1.7E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.2E-02	mean
BTAG High HQ:	1.9E-04	mean

BTAG Low HQ:	2.3E-02	max
BTAG High HQ:	3.7E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Arsenic  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	3.3
Maximum detected value (mg/kg, dry weight):	3.6

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	15
Maximum detected value (mg/kg, dry weight):	73

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.3E-01	mean
Daily exposure (mg/kg-day)	6.0E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	7.7E-02	mean
BTAG High HQ:	1.9E-02	mean
BTAG Low HQ:	1.1E-01	max
BTAG High HQ:	2.7E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Cadmium  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.022
Maximum detected value (mg/kg, dry weight):	0.033

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.6
Maximum detected value (mg/kg, dry weight):	2.9

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.1E-03	mean
Daily exposure (mg/kg-day)	1.1E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

LOAEL HQ:	2.0E-04	mean
BTAG Low HQ:	5.1E-02	mean
BTAG High HQ:	3.9E-04	mean
BTAG Low HQ:	1.4E-01	max
BTAG High HQ:	1.1E-03	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Chromium  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.51
Maximum detected value (mg/kg, dry weight):	0.52

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	70
Maximum detected value (mg/kg, dry weight):	110

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.3E-01	mean
Daily exposure (mg/kg-day)	3.3E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	2.7E-01	mean
LOAEL HQ:	5.4E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	3.8E-01	max
LOAEL HQ:	7.7E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Copper  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	9.9
Maximum detected value (mg/kg, dry weight):	11

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	400
Maximum detected value (mg/kg, dry weight):	1500

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.1E+00	mean
Daily exposure (mg/kg-day)	5.0E+00	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	9.3E-01	mean
BTAG High HQ:	4.1E-02	mean
BTAG Low HQ:	2.2E+00	max
BTAG High HQ:	9.5E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern

**Chemical:** Lead

**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.4
Maximum detected value (mg/kg, dry weight):	1.5

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	120
Maximum detected value (mg/kg, dry weight):	430

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.6E-01	mean
Daily exposure (mg/kg-day)	1.2E+00	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.3E+01	mean
BTAG High HQ:	5.2E-02	mean

BTAG Low HQ:	8.8E+01	max
BTAG High HQ:	1.4E-01	max



## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Total Mercury  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.088
Maximum detected value (mg/kg, dry weight):	0.1

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.2
Maximum detected value (mg/kg, dry weight):	4.2

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.3E-02	mean
Daily exposure (mg/kg-day)	2.2E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	3.4E-01	mean
BTAG HQ:	7.4E-02	mean
BTAG Low HQ:	5.7E-01	max
BTAG High HQ:	1.2E-01	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Nickel  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.84
Maximum detected value (mg/kg, dry weight):	0.96

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	20
Maximum detected value (mg/kg, dry weight):	100

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.5E-01	mean
Daily exposure (mg/kg-day)	3.6E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.1E-01	mean
BTAG High HQ:	2.6E-03	mean
BTAG Low HQ:	2.6E-01	max
BTAG High HQ:	6.4E-03	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Selenium  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.51
Maximum detected value (mg/kg, dry weight):	0.52

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.2
Maximum detected value (mg/kg, dry weight):	1.5

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	6.3E-02	mean
Daily exposure (mg/kg-day)	6.5E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.7E-01	mean
BTAG High HQ:	6.8E-02	mean
BTAG Low HQ:	2.8E-01	max
BTAG High HQ:	7.0E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Zinc  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	142
Maximum detected value (mg/kg, dry weight):	150

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	500
Maximum detected value (mg/kg, dry weight):	3400

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.8E+01	mean
Daily exposure (mg/kg-day)	2.6E+01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.0E+00	mean
BTAG High HQ:	1.0E-01	mean
BTAG Low HQ:	1.5E+00	max
BTAG High HQ:	1.5E-01	max

## Tier II - Summary of Hazard Quotients and Primary Drivers

Receptor: Green Turtle

Location: Inside SWM

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	9.0E-02	--	--	--	9.3E-02	--	--	--	--	--	--
LOAEL HQ:	9.0E-03	--	--	--	1.9E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	9.2E-03	2.4E-04	4.2E-03	#VALUE!	3.7E-01	<b>8.3E+00</b>	3.1E-02	2.0E-02	1.1E-02	8.2E-02
BTAG High HQ:	#VALUE!	6.5E-04	3.7E-06	1.1E-03	#VALUE!	1.6E-02	1.3E-02	6.6E-03	4.8E-04	2.8E-03	8.2E-03
<b>MAXIMUM</b>											
NOAEL HQ:	1.5E-01	--	--	--	1.0E-01	--	--	--	--	--	--
LOAEL HQ:	1.5E-02	--	--	--	2.0E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	2.0E-02	9.9E-04	6.3E-03	#VALUE!	4.6E-01	<b>1.3E+01</b>	4.6E-02	3.1E-02	1.2E-02	1.1E-01
BTAG High HQ:	#VALUE!	1.5E-03	1.6E-05	1.6E-03	#VALUE!	2.0E-02	2.0E-02	9.9E-03	7.6E-04	2.9E-03	1.1E-02

Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	1.4E-02	--	--	--	2.4E-02	--	--	--	--	--	--
LOAEL HQ:	1.4E-03	--	--	--	4.7E-03	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	2.0E-03	1.7E-05	1.9E-03	#VALUE!	6.0E-02	1.7E+00	5.1E-03	9.2E-03	1.0E-02	3.9E-02
BTAG High HQ:	#VALUE!	1.4E-04	2.8E-07	4.8E-04	#VALUE!	2.6E-03	2.8E-03	1.1E-03	2.2E-04	2.5E-03	3.9E-03
<b>MAXIMUM</b>											
NOAEL HQ:	1.4E-02	--	--	--	2.4E-02	--	--	--	--	--	--
LOAEL HQ:	1.4E-03	--	--	--	4.7E-03	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	2.0E-03	1.7E-05	1.9E-03	#VALUE!	6.0E-02	1.7E+00	5.1E-03	9.2E-03	1.0E-02	3.9E-02
BTAG High HQ:	#VALUE!	1.4E-04	2.8E-07	4.8E-04	#VALUE!	2.6E-03	2.8E-03	1.1E-03	2.2E-04	2.5E-03	3.9E-03

### NOTE:

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Benzo[a]pyrene

**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.665
Maximum detected value (mg/kg, dry weight):	2.665

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	14
Maximum detected value (mg/kg, dry weight):	57

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.3E-02	mean
Daily exposure (mg/kg-day)	2.1E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	9.0E-02	mean
LOAEL HQ:	9.0E-03	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	1.5E-01	max
LOAEL HQ:	1.5E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Total PCBs

**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.123
Maximum detected value (mg/kg, dry weight):	0.123

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.9
Maximum detected value (mg/kg, dry weight):	7.1

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	8.3E-04	mean
Daily exposure (mg/kg-day)	1.8E-03	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	9.2E-03	mean
BTAG High HQ:	6.5E-04	mean

BTAG Low HQ:	2.0E-02	max
BTAG High HQ:	1.5E-03	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle  
**Chemical:** Tributyltin  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.02
Maximum detected value (mg/kg, dry weight):	0.02

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.5
Maximum detected value (mg/kg, dry weight):	3.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.7E-04	mean
Daily exposure (mg/kg-day)	7.2E-04	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

LOAEL HQ:	1.0E-05	mean
BTAG Low HQ:	2.4E-04	mean
BTAG High HQ:	3.7E-06	mean
LOAEL HQ:	4.2E-05	max
BTAG Low HQ:	9.9E-04	max
BTAG High HQ:	1.6E-05	max



## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Arsenic

**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	5.5
Maximum detected value (mg/kg, dry weight):	5.5

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	15
Maximum detected value (mg/kg, dry weight):	73

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.3E-02	mean
Daily exposure (mg/kg-day)	3.5E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	4.2E-03	mean
BTAG High HQ:	1.1E-03	mean

BTAG Low HQ:	6.3E-03	max
BTAG High HQ:	1.6E-03	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle  
**Chemical:** Cadmium  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.77
Maximum detected value (mg/kg, dry weight):	0.77

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.6
Maximum detected value (mg/kg, dry weight):	2.9

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.0E-03	mean
Daily exposure (mg/kg-day)	3.4E-03	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.7E-02	mean
BTAG High HQ:	2.8E-04	mean
BTAG Low HQ:	4.3E-02	max
BTAG High HQ:	3.3E-04	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle  
**Chemical:** Chromium  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	18
Maximum detected value (mg/kg, dry weight):	18

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	70
Maximum detected value (mg/kg, dry weight):	110

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	8.0E-02	mean
Daily exposure (mg/kg-day)	8.8E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	9.3E-02	mean
LOAEL HQ:	1.9E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	1.0E-01	max
LOAEL HQ:	2.0E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle  
**Chemical:** Copper  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	209
Maximum detected value (mg/kg, dry weight):	209

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	400
Maximum detected value (mg/kg, dry weight):	1500

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	8.5E-01	mean
Daily exposure (mg/kg-day)	1.1E+00	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.7E-01	mean
BTAG High HQ:	1.6E-02	mean
BTAG Low HQ:	4.6E-01	max
BTAG High HQ:	2.0E-02	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Lead

**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	25
Maximum detected value (mg/kg, dry weight):	25

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	120
Maximum detected value (mg/kg, dry weight):	430

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.2E-01	mean
Daily exposure (mg/kg-day)	1.8E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	8.3E+00	mean
BTAG High HQ:	1.3E-02	mean

BTAG Low HQ:	1.3E+01	max
BTAG High HQ:	2.0E-02	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Total Mercury

**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.26
Maximum detected value (mg/kg, dry weight):	0.26

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.2
Maximum detected value (mg/kg, dry weight):	4.2

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.2E-03	mean
Daily exposure (mg/kg-day)	1.8E-03	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	3.1E-02	mean
BTAG HQ:	6.6E-03	mean
BTAG Low HQ:	4.6E-02	max
BTAG High HQ:	9.9E-03	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Nickel

**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	6.3
Maximum detected value (mg/kg, dry weight):	6.3

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	20
Maximum detected value (mg/kg, dry weight):	100

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.7E-02	mean
Daily exposure (mg/kg-day)	4.3E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.0E-02	mean
BTAG High HQ:	4.8E-04	mean

BTAG Low HQ:	3.1E-02	max
BTAG High HQ:	7.6E-04	max

## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle  
**Chemical:** Selenium  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.65
Maximum detected value (mg/kg, dry weight):	0.65

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.2
Maximum detected value (mg/kg, dry weight):	1.5

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.6E-03	mean
Daily exposure (mg/kg-day)	2.7E-03	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.1E-02	mean
BTAG High HQ:	2.8E-03	mean
BTAG Low HQ:	1.2E-02	max
BTAG High HQ:	2.9E-03	max



## Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle  
**Chemical:** Zinc  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	354
Maximum detected value (mg/kg, dry weight):	354

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	500
Maximum detected value (mg/kg, dry weight):	3400

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.4E+00	mean
Daily exposure (mg/kg-day)	2.0E+00	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	8.2E-02	mean
BTAG High HQ:	8.2E-03	mean
BTAG Low HQ:	1.1E-01	max
BTAG High HQ:	1.1E-02	max

## Tier II - Summary of Hazard Quotients

Receptor: **Brown Pelican**

**Location: Inside SWM**

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	3.5E-01	--	--	--	2.7E-01	--	--	--	--	--	--
LOAEL HQ:	3.5E-02	--	--	--	5.5E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b><u>3.5E+00</u></b>	1.5E-02	3.7E-02	#VALUE!	5.8E-01	<b><u>1.9E+01</u></b>	<b><u>1.1E+00</u></b>	8.6E-02	8.6E-01	3.2E-01
BTAG High HQ:	#VALUE!	2.5E-01	2.4E-04	9.3E-03	#VALUE!	2.6E-02	3.1E-02	2.4E-01	2.1E-03	2.1E-01	3.2E-02
<b>MAXIMUM</b>											
NOAEL HQ:	8.5E-01	--	--	--	3.5E-01	--	--	--	--	--	--
LOAEL HQ:	8.5E-02	--	--	--	7.0E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b><u>7.3E+00</u></b>	3.5E-02	5.8E-02	#VALUE!	<b><u>2.0E+00</u></b>	<b><u>5.6E+01</u></b>	<b><u>1.5E+00</u></b>	1.9E-01	<b><u>1.3E+00</u></b>	6.8E-01
BTAG High HQ:	#VALUE!	5.2E-01	5.6E-04	1.5E-02	#VALUE!	8.6E-02	9.0E-02	3.3E-01	4.6E-03	3.2E-01	6.8E-02

**Location: Reference 2240**

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	1.8E-01	--	--	--	1.0E-01	--	--	--	--	--	--
LOAEL HQ:	1.8E-02	--	--	--	2.0E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	1.2E+00	4.4E-03	2.6E-02	#DIV/0!	1.6E-01	4.2E+00	8.6E-01	5.7E-02	1.9E-01	2.5E-01
BTAG High HQ:	#DIV/0!	8.8E-02	7.0E-05	6.4E-03	#DIV/0!	6.9E-03	6.8E-03	1.9E-01	1.4E-03	4.7E-02	2.5E-02
<b>MAXIMUM</b>											
NOAEL HQ:	1.9E-01	--	--	--	1.6E-01	--	--	--	--	--	--
LOAEL HQ:	1.9E-02	--	--	--	3.2E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	1.7E+00	8.9E-03	3.1E-02	#DIV/0!	3.1E-01	7.4E+00	1.3E+00	6.6E-02	2.1E-01	2.9E-01
BTAG High HQ:	#DIV/0!	1.2E-01	1.4E-04	7.8E-03	#DIV/0!	1.4E-02	1.2E-02	2.8E-01	1.6E-03	5.1E-02	2.9E-02

**NOTE:**

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Benzo[a]pyrene  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174	
Food ingestion rate (kg/day dry wt):	0.25	
Sediment ingestion rate (kg/day dry wt):	0.005	
Area Use Factor (unitless):	1	0.002
Time Use Factor (unitless):	1	

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.349
Maximum detected value (mg/kg, dry weight):	0.379

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	14
Maximum detected value (mg/kg, dry weight):	57

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.0E-02	mean
Daily exposure (mg/kg-day)	1.2E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	3.5E-01	mean
LOAEL HQ:	3.5E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	8.5E-01	max
LOAEL HQ:	8.5E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Total PCBs  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	4.009
Maximum detected value (mg/kg, dry weight):	8.17

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.9
Maximum detected value (mg/kg, dry weight):	7.1

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.2E-01	mean
Daily exposure (mg/kg-day)	6.5E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.5E+00	mean
BTAG High HQ:	2.5E-01	mean
BTAG Low HQ:	7.3E+00	max
BTAG High HQ:	5.2E-01	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Tributyltin  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.129
Maximum detected value (mg/kg, dry weight):	0.258

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.5
Maximum detected value (mg/kg, dry weight):	3.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.1E-02	mean
Daily exposure (mg/kg-day)	2.6E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.5E-02	mean
BTAG High HQ:	2.4E-04	mean
LOAEL HQ:	1.5E-03	max
BTAG Low HQ:	3.5E-02	max
BTAG High HQ:	5.6E-04	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Arsenic  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.3
Maximum detected value (mg/kg, dry weight):	2.6

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	15
Maximum detected value (mg/kg, dry weight):	73

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.0E-01	mean
Daily exposure (mg/kg-day)	3.2E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.7E-02	mean
BTAG High HQ:	9.3E-03	mean
BTAG Low HQ:	5.8E-02	max
BTAG High HQ:	1.5E-02	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Cadmium  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.11
Maximum detected value (mg/kg, dry weight):	0.16

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.6
Maximum detected value (mg/kg, dry weight):	2.9

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	9.6E-03	mean
Daily exposure (mg/kg-day)	1.7E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.2E-01	mean
BTAG High HQ:	9.2E-04	mean
LOAEL HQ:	8.6E-04	max
BTAG Low HQ:	2.1E-01	max
BTAG High HQ:	1.7E-03	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Chromium  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.6
Maximum detected value (mg/kg, dry weight):	1.6

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	70
Maximum detected value (mg/kg, dry weight):	110

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.4E-01	mean
Daily exposure (mg/kg-day)	3.0E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	2.7E-01	mean
LOAEL HQ:	5.5E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	3.5E-01	max
LOAEL HQ:	7.0E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max



## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Copper  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	9
Maximum detected value (mg/kg, dry weight):	27

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	400
Maximum detected value (mg/kg, dry weight):	1500

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.3E+00	mean
Daily exposure (mg/kg-day)	4.5E+00	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.8E-01	mean
BTAG High HQ:	2.6E-02	mean
BTAG Low HQ:	2.0E+00	max
BTAG High HQ:	8.6E-02	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Lead  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.99
Maximum detected value (mg/kg, dry weight):	1.4

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	120
Maximum detected value (mg/kg, dry weight):	430

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.7E-01	mean
Daily exposure (mg/kg-day)	7.9E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.9E+01	mean
BTAG High HQ:	3.1E-02	mean
BTAG Low HQ:	5.6E+01	max
BTAG High HQ:	9.0E-02	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Total Mercury  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.52
Maximum detected value (mg/kg, dry weight):	0.66

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.2
Maximum detected value (mg/kg, dry weight):	4.2

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.3E-02	mean
Daily exposure (mg/kg-day)	5.9E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	1.1E+00	mean
BTAG HQ:	2.4E-01	mean
BTAG Low HQ:	1.5E+00	max
BTAG High HQ:	3.3E-01	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Nickel  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.1
Maximum detected value (mg/kg, dry weight):	1.3

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	20
Maximum detected value (mg/kg, dry weight):	100

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.2E-01	mean
Daily exposure (mg/kg-day)	2.6E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	8.6E-02	mean
BTAG High HQ:	2.1E-03	mean
BTAG Low HQ:	1.9E-01	max
BTAG High HQ:	4.6E-03	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Selenium  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.5
Maximum detected value (mg/kg, dry weight):	3.7

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.2
Maximum detected value (mg/kg, dry weight):	1.5

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.0E-01	mean
Daily exposure (mg/kg-day)	2.9E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	8.6E-01	mean
BTAG High HQ:	2.1E-01	mean
BTAG Low HQ:	1.3E+00	max
BTAG High HQ:	3.2E-01	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Zinc  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	60
Maximum detected value (mg/kg, dry weight):	81

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	500
Maximum detected value (mg/kg, dry weight):	3400

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.5E+00	mean
Daily exposure (mg/kg-day)	1.2E+01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.2E-01	mean
BTAG High HQ:	3.2E-02	mean
BTAG Low HQ:	6.8E-01	max
BTAG High HQ:	6.8E-02	max

## Tier II - Summary of Hazard Quotients

Receptor: Western Grebe

Location: Inside SWM

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	3.8E-01	--	--	--	2.4E-01	--	--	--	--	--	--
LOAEL HQ:	3.8E-02	--	--	--	4.8E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b>1.4E+00</b>	6.4E-03	3.8E-02	#VALUE!	6.7E-01	<b>2.7E+01</b>	2.0E-01	6.9E-02	1.3E-01	5.0E-01
BTAG High HQ:	#VALUE!	9.6E-02	1.0E-04	9.5E-03	#VALUE!	3.0E-02	4.4E-02	4.2E-02	1.7E-03	3.2E-02	5.0E-02
<b>MAXIMUM</b>											
NOAEL HQ:	<b>1.2E+00</b>	--	--	--	3.6E-01	--	--	--	--	--	--
LOAEL HQ:	1.2E-01	--	--	--	7.2E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b>1.6E+00</b>	1.7E-02	6.8E-02	#VALUE!	<b>1.9E+00</b>	<b>8.5E+01</b>	4.1E-01	2.2E-01	1.3E-01	9.6E-01
BTAG High HQ:	#VALUE!	1.1E-01	2.7E-04	1.7E-02	#VALUE!	8.5E-02	1.4E-01	8.9E-02	5.5E-03	3.3E-02	9.6E-02

Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	1.0E-01	--	--	--	3.1E-01	--	--	--	--	--	--
LOAEL HQ:	1.0E-02	--	--	--	6.3E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	5.7E-01	2.3E-03	2.5E-02	#DIV/0!	2.4E-01	6.6E+00	1.0E-01	9.0E-02	2.3E-01	3.7E-01
BTAG High HQ:	#DIV/0!	4.1E-02	3.6E-05	6.2E-03	#DIV/0!	1.1E-02	1.1E-02	2.2E-02	2.2E-03	5.7E-02	3.7E-02
<b>MAXIMUM</b>											
NOAEL HQ:	1.1E-01	--	--	--	4.7E-01	--	--	--	--	--	--
LOAEL HQ:	1.1E-02	--	--	--	9.4E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	6.2E-01	2.9E-03	2.8E-02	#DIV/0!	2.9E-01	9.9E+00	1.3E-01	1.2E-01	3.0E-01	4.1E-01
BTAG High HQ:	#DIV/0!	4.4E-02	4.6E-05	6.9E-03	#DIV/0!	1.3E-02	1.6E-02	2.8E-02	2.8E-03	7.4E-02	4.1E-02

### NOTE:

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Benzo[a]pyrene  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.326
Maximum detected value (mg/kg, dry weight):	0.331

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	14
Maximum detected value (mg/kg, dry weight):	57

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.3E-02	mean
Daily exposure (mg/kg-day)	1.6E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	3.8E-01	mean
LOAEL HQ:	3.8E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	1.2E+00	max
LOAEL HQ:	1.2E-01	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max



## Hazard Quotient Calculation

**Receptor:** Western Grebe

**Chemical:** Total PCBs

**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.273
Maximum detected value (mg/kg, dry weight):	2.415

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.9
Maximum detected value (mg/kg, dry weight):	7.1

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.2E-01	mean
Daily exposure (mg/kg-day)	1.4E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.4E+00	mean
BTAG High HQ:	9.6E-02	mean

BTAG Low HQ:	1.6E+00	max
BTAG High HQ:	1.1E-01	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe

**Chemical:** Tributyltin

**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.065
Maximum detected value (mg/kg, dry weight):	0.076

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.5
Maximum detected value (mg/kg, dry weight):	3.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.7E-03	mean
Daily exposure (mg/kg-day)	1.2E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	6.4E-03	mean
BTAG High HQ:	1.0E-04	mean

BTAG Low HQ:	1.7E-02	max
BTAG High HQ:	2.7E-04	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Arsenic  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	3.3
Maximum detected value (mg/kg, dry weight):	3.6

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	15
Maximum detected value (mg/kg, dry weight):	73

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.1E-01	mean
Daily exposure (mg/kg-day)	3.7E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.8E-02	mean
BTAG High HQ:	9.5E-03	mean
BTAG Low HQ:	6.8E-02	max
BTAG High HQ:	1.7E-02	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe

**Chemical:** Cadmium

**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.022
Maximum detected value (mg/kg, dry weight):	0.033

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.6
Maximum detected value (mg/kg, dry weight):	2.9

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.7E-03	mean
Daily exposure (mg/kg-day)	9.2E-03	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.4E-02	mean
BTAG High HQ:	2.6E-04	mean
BTAG Low HQ:	1.1E-01	max
BTAG High HQ:	8.8E-04	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Chromium  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.51
Maximum detected value (mg/kg, dry weight):	0.52

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	70
Maximum detected value (mg/kg, dry weight):	110

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.1E-01	mean
Daily exposure (mg/kg-day)	3.1E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	2.4E-01	mean
LOAEL HQ:	4.8E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	3.6E-01	max
LOAEL HQ:	7.2E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Copper  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	9.9
Maximum detected value (mg/kg, dry weight):	11

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	400
Maximum detected value (mg/kg, dry weight):	1500

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.5E+00	mean
Daily exposure (mg/kg-day)	4.4E+00	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	6.7E-01	mean
BTAG High HQ:	3.0E-02	mean
BTAG Low HQ:	1.9E+00	max
BTAG High HQ:	8.5E-02	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe

**Chemical:** Lead

**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.4
Maximum detected value (mg/kg, dry weight):	1.5

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	120
Maximum detected value (mg/kg, dry weight):	430

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.8E-01	mean
Daily exposure (mg/kg-day)	1.2E+00	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.7E+01	mean
BTAG High HQ:	4.4E-02	mean

BTAG Low HQ:	8.5E+01	max
BTAG High HQ:	1.4E-01	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Total Mercury  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.088
Maximum detected value (mg/kg, dry weight):	0.1

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.2
Maximum detected value (mg/kg, dry weight):	4.2

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	7.6E-03	mean
Daily exposure (mg/kg-day)	1.6E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	2.0E-01	mean
BTAG HQ:	4.2E-02	mean
BTAG Low HQ:	4.1E-01	max
BTAG High HQ:	8.9E-02	max



## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Nickel  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.84
Maximum detected value (mg/kg, dry weight):	0.96

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	20
Maximum detected value (mg/kg, dry weight):	100

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	9.5E-02	mean
Daily exposure (mg/kg-day)	3.1E-01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	6.9E-02	mean
BTAG High HQ:	1.7E-03	mean
BTAG Low HQ:	2.2E-01	max
BTAG High HQ:	5.5E-03	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Selenium  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.51
Maximum detected value (mg/kg, dry weight):	0.52

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.2
Maximum detected value (mg/kg, dry weight):	1.5

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.9E-02	mean
Daily exposure (mg/kg-day)	3.1E-02	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.3E-01	mean
BTAG High HQ:	3.2E-02	mean

BTAG Low HQ:	1.3E-01	max
BTAG High HQ:	3.3E-02	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Zinc  
**Location:** Inside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	142
Maximum detected value (mg/kg, dry weight):	150

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	500
Maximum detected value (mg/kg, dry weight):	3400

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	8.6E+00	mean
Daily exposure (mg/kg-day)	1.7E+01	max

### Hazard Quotients (values listed in Table 10-13 of NASSCO/SWM DSI Volume 1)

LOAEL HQ:	#DIV/0!	mean
BTAG Low HQ:	5.0E-01	mean
BTAG High HQ:	5.0E-02	mean
BTAG Low HQ:	9.6E-01	max
BTAG High HQ:	9.6E-02	max

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## Tier II - Summary of Hazard Quotients

Receptor: **Sea Lion**

**Location: Outside SWM**

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	--	--	--	--	8.5E-03	--	--	--	--	--	--
LOAEL HQ:	--	--	--	--	4.1E-04	--	--	--	--	--	--
BTAG Low HQ:	5.7E-03	1.4E-01	1.0E-02	1.7E-01	#VALUE!	7.0E-02	3.8E-02	4.2E-01	1.8E-01	5.0E-01	1.1E-01
BTAG High HQ:	2.3E-04	3.9E-02	1.7E-04	1.2E-02	#VALUE!	3.0E-04	1.6E-04	4.2E-02	7.7E-04	2.1E-02	2.6E-03
<b>MAXIMUM</b>											
NOAEL HQ:	--	--	--	--	1.2E-02	--	--	--	--	--	--
LOAEL HQ:	--	--	--	--	5.9E-04	--	--	--	--	--	--
BTAG Low HQ:	7.0E-03	2.3E-01	1.5E-02	2.3E-01	#VALUE!	1.4E-01	6.7E-02	5.7E-01	2.6E-01	5.4E-01	1.3E-01
BTAG High HQ:	2.8E-04	6.5E-02	2.5E-04	1.6E-02	#VALUE!	6.0E-04	2.8E-04	5.7E-02	1.1E-03	2.2E-02	3.0E-03

**Location: Reference 2240**

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	--	--	--	--	6.9E-03	--	--	--	--	--	--
LOAEL HQ:	--	--	--	--	3.3E-04	--	--	--	--	--	--
BTAG Low HQ:	4.9E-03	8.1E-02	3.4E-03	1.2E-01	#DIV/0!	3.5E-02	1.5E-02	3.2E-01	1.6E-01	2.3E-01	1.2E-01
BTAG High HQ:	2.0E-04	2.3E-02	5.6E-05	7.8E-03	#DIV/0!	1.5E-04	6.4E-05	3.2E-02	6.5E-04	9.3E-03	2.8E-03
<b>MAXIMUM</b>											
NOAEL HQ:	--	--	--	--	1.1E-02	--	--	--	--	--	--
LOAEL HQ:	--	--	--	--	5.3E-04	--	--	--	--	--	--
BTAG Low HQ:	5.4E-03	1.1E-01	6.7E-03	1.4E-01	#DIV/0!	7.0E-02	2.7E-02	4.8E-01	1.8E-01	2.5E-01	1.4E-01
BTAG High HQ:	2.1E-04	3.1E-02	1.1E-04	9.5E-03	#DIV/0!	2.9E-04	1.1E-04	4.8E-02	7.5E-04	1.0E-02	3.2E-03

### NOTE:

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Benzo[a]pyrene  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.325
Maximum detected value (mg/kg, dry weight):	0.359

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.9
Maximum detected value (mg/kg, dry weight):	4.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.31
BTAG High (mg/kg-day):	32.8

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	7.5E-03	mean
Daily exposure (mg/kg-day)	9.1E-03	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.7E-03	mean
BTAG High HQ:	2.3E-04	mean
BTAG Low HQ:	7.0E-03	max
BTAG High HQ:	2.8E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Total PCBs  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.424
Maximum detected value (mg/kg, dry weight):	4.025

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.25
Maximum detected value (mg/kg, dry weight):	0.33

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.36
BTAG High (mg/kg-day):	1.28

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.0E-02	mean
Daily exposure (mg/kg-day)	8.3E-02	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.4E-01	mean
BTAG High HQ:	3.9E-02	mean
BTAG Low HQ:	2.3E-01	max
BTAG High HQ:	6.5E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Tributyltin  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.126
Maximum detected value (mg/kg, dry weight):	0.182

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.037
Maximum detected value (mg/kg, dry weight):	0.049

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.25
BTAG High (mg/kg-day):	15

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.6E-03	mean
Daily exposure (mg/kg-day)	3.8E-03	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.0E-02	mean
BTAG High HQ:	1.7E-04	mean
BTAG Low HQ:	1.5E-02	max
BTAG High HQ:	2.5E-04	max



## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Arsenic  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.5
Maximum detected value (mg/kg, dry weight):	3.4

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	8
Maximum detected value (mg/kg, dry weight):	10

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.32
BTAG High (mg/kg-day):	4.7

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.5E-02	mean
Daily exposure (mg/kg-day)	7.4E-02	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.7E-01	mean
BTAG High HQ:	1.2E-02	mean
BTAG Low HQ:	2.3E-01	max
BTAG High HQ:	1.6E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Cadmium  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.066
Maximum detected value (mg/kg, dry weight):	0.084

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.13
Maximum detected value (mg/kg, dry weight):	0.21

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.06
BTAG High (mg/kg-day):	2.64

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.4E-03	mean
Daily exposure (mg/kg-day)	1.8E-03	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.3E-02	mean
BTAG High HQ:	5.3E-04	mean
BTAG Low HQ:	3.0E-02	max
BTAG High HQ:	6.9E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Chromium  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.49
Maximum detected value (mg/kg, dry weight):	0.57

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	44
Maximum detected value (mg/kg, dry weight):	70

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	3.3
LOAEL (mg/kg-day):	69
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.8E-02	mean
Daily exposure (mg/kg-day)	4.0E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	8.5E-03	mean
LOAEL HQ:	4.1E-04	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	1.2E-02	max
LOAEL HQ:	5.9E-04	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Copper  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	6.3
Maximum detected value (mg/kg, dry weight):	12

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	140
Maximum detected value (mg/kg, dry weight):	320

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.67
BTAG High (mg/kg-day):	632

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.9E-01	mean
Daily exposure (mg/kg-day)	3.8E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	7.0E-02	mean
BTAG High HQ:	3.0E-04	mean
BTAG Low HQ:	1.4E-01	max
BTAG High HQ:	6.0E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Lead  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.68
Maximum detected value (mg/kg, dry weight):	1.3

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	59
Maximum detected value (mg/kg, dry weight):	99

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1
BTAG High (mg/kg-day):	241

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.8E-02	mean
Daily exposure (mg/kg-day)	6.7E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.8E-02	mean
BTAG High HQ:	1.6E-04	mean

BTAG Low HQ:	6.7E-02	max
BTAG High HQ:	2.8E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Total Mercury  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.54
Maximum detected value (mg/kg, dry weight):	0.71

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.7
Maximum detected value (mg/kg, dry weight):	2.1

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.027
BTAG High (mg/kg-day):	0.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.1E-02	mean
Daily exposure (mg/kg-day)	1.5E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	4.2E-01	mean
BTAG HQ:	4.2E-02	mean
BTAG Low HQ:	5.7E-01	max
BTAG High HQ:	5.7E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Nickel  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.96
Maximum detected value (mg/kg, dry weight):	1.4

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	11
Maximum detected value (mg/kg, dry weight):	13

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.133
BTAG High (mg/kg-day):	31.6

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.4E-02	mean
Daily exposure (mg/kg-day)	3.4E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.8E-01	mean
BTAG High HQ:	7.7E-04	mean
BTAG Low HQ:	2.6E-01	max
BTAG High HQ:	1.1E-03	max

## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Selenium  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.2
Maximum detected value (mg/kg, dry weight):	1.3

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.2
Maximum detected value (mg/kg, dry weight):	1.2

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.05
BTAG High (mg/kg-day):	1.21

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.5E-02	mean
Daily exposure (mg/kg-day)	2.7E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.0E-01	mean
BTAG High HQ:	2.1E-02	mean
BTAG Low HQ:	5.4E-01	max
BTAG High HQ:	2.2E-02	max



## Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Zinc  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	48
Maximum detected value (mg/kg, dry weight):	53

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	190
Maximum detected value (mg/kg, dry weight):	310

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	9.6
BTAG High (mg/kg-day):	411

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.1E+00	mean
Daily exposure (mg/kg-day)	1.2E+00	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.1E-01	mean
BTAG High HQ:	2.6E-03	mean
BTAG Low HQ:	1.3E-01	max
BTAG High HQ:	3.0E-03	max

## Tier II - Summary of Hazard Quotients

Receptor: Least Tern

Location: Outside SWM

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	3.2E-01	--	--	--	2.1E-01	--	--	--	--	--	--
LOAEL HQ:	3.2E-02	--	--	--	4.1E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b>2.3E+00</b>	2.0E-02	8.7E-02	#VALUE!	5.1E-01	<b>1.7E+01</b>	3.8E-01	7.7E-02	3.1E-01	<b>1.0E+00</b>
BTAG High HQ:	#VALUE!	1.6E-01	3.2E-04	2.2E-02	#VALUE!	2.2E-02	2.7E-02	8.1E-02	1.9E-03	7.8E-02	1.0E-01
<b>MAXIMUM</b>											
NOAEL HQ:	3.6E-01	--	--	--	2.8E-01	--	--	--	--	--	--
LOAEL HQ:	3.6E-02	--	--	--	5.6E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b>2.3E+00</b>	2.0E-02	8.8E-02	#VALUE!	7.0E-01	<b>2.4E+01</b>	4.6E-01	8.0E-02	3.1E-01	<b>1.1E+00</b>
BTAG High HQ:	#VALUE!	1.6E-01	3.2E-04	2.2E-02	#VALUE!	3.1E-02	3.8E-02	1.0E-01	2.0E-03	7.8E-02	1.1E-01

Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	2.2E-01	--	--	--	6.0E-01	--	--	--	--	--	--
LOAEL HQ:	2.2E-02	--	--	--	1.2E-01	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	1.3E+00	5.2E-03	5.3E-02	#DIV/0!	4.6E-01	9.5E+00	2.1E-01	1.9E-01	5.2E-01	8.2E-01
BTAG High HQ:	#DIV/0!	9.3E-02	8.2E-05	1.3E-02	#DIV/0!	2.0E-02	1.5E-02	4.5E-02	4.7E-03	1.3E-01	8.2E-02
<b>MAXIMUM</b>											
NOAEL HQ:	2.3E-01	--	--	--	8.4E-01	--	--	--	--	--	--
LOAEL HQ:	2.3E-02	--	--	--	1.7E-01	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	1.4E+00	6.6E-03	5.7E-02	#DIV/0!	5.1E-01	1.3E+01	2.5E-01	2.3E-01	6.7E-01	8.8E-01
BTAG High HQ:	#DIV/0!	1.0E-01	1.1E-04	1.4E-02	#DIV/0!	2.3E-02	2.0E-02	5.5E-02	5.8E-03	1.7E-01	8.8E-02

### NOTE:

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Benzo[a]pyrene  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.335
Maximum detected value (mg/kg, dry weight):	0.335

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.9
Maximum detected value (mg/kg, dry weight):	4.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.4E-02	mean
Daily exposure (mg/kg-day)	5.0E-02	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	3.2E-01	mean
LOAEL HQ:	3.2E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	3.6E-01	max
LOAEL HQ:	3.6E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Total PCBs  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.772
Maximum detected value (mg/kg, dry weight):	1.772

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.25
Maximum detected value (mg/kg, dry weight):	0.33

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.1E-01	mean
Daily exposure (mg/kg-day)	2.1E-01	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.3E+00	mean
BTAG High HQ:	1.6E-01	mean
BTAG Low HQ:	2.3E+00	max
BTAG High HQ:	1.6E-01	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Tributyltin  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.122
Maximum detected value (mg/kg, dry weight):	0.122

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.037
Maximum detected value (mg/kg, dry weight):	0.049

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.4E-02	mean
Daily exposure (mg/kg-day)	1.4E-02	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.0E-02	mean
BTAG High HQ:	3.2E-04	mean

BTAG Low HQ:	2.0E-02	max
BTAG High HQ:	3.2E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Arsenic  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	3.9
Maximum detected value (mg/kg, dry weight):	3.9

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	8
Maximum detected value (mg/kg, dry weight):	10

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.8E-01	mean
Daily exposure (mg/kg-day)	4.8E-01	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	8.7E-02	mean
BTAG High HQ:	2.2E-02	mean
BTAG Low HQ:	8.8E-02	max
BTAG High HQ:	2.2E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Cadmium  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.02
Maximum detected value (mg/kg, dry weight):	0.02

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.13
Maximum detected value (mg/kg, dry weight):	0.21

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.7E-03	mean
Daily exposure (mg/kg-day)	2.9E-03	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.3E-02	mean
BTAG High HQ:	2.6E-04	mean
BTAG Low HQ:	3.6E-02	max
BTAG High HQ:	2.8E-04	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Chromium  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.59
Maximum detected value (mg/kg, dry weight):	0.59

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	44
Maximum detected value (mg/kg, dry weight):	70

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.8E-01	mean
Daily exposure (mg/kg-day)	2.4E-01	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	2.1E-01	mean
LOAEL HQ:	4.1E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	2.8E-01	max
LOAEL HQ:	5.6E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max



## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Copper  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	7
Maximum detected value (mg/kg, dry weight):	7

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	140
Maximum detected value (mg/kg, dry weight):	320

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.2E+00	mean
Daily exposure (mg/kg-day)	1.6E+00	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.1E-01	mean
BTAG High HQ:	2.2E-02	mean
BTAG Low HQ:	7.0E-01	max
BTAG High HQ:	3.1E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Lead  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.8
Maximum detected value (mg/kg, dry weight):	0.8

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	59
Maximum detected value (mg/kg, dry weight):	99

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.4E-01	mean
Daily exposure (mg/kg-day)	3.4E-01	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.7E+01	mean
BTAG High HQ:	2.7E-02	mean

BTAG Low HQ:	2.4E+01	max
BTAG High HQ:	3.8E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Total Mercury  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.11
Maximum detected value (mg/kg, dry weight):	0.11

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.7
Maximum detected value (mg/kg, dry weight):	2.1

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.5E-02	mean
Daily exposure (mg/kg-day)	1.8E-02	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	3.8E-01	mean
BTAG HQ:	8.1E-02	mean
BTAG Low HQ:	4.6E-01	max
BTAG High HQ:	1.0E-01	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Nickel  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.67
Maximum detected value (mg/kg, dry weight):	0.67

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	11
Maximum detected value (mg/kg, dry weight):	13

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.1E-01	mean
Daily exposure (mg/kg-day)	1.1E-01	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	7.7E-02	mean
BTAG High HQ:	1.9E-03	mean
BTAG Low HQ:	8.0E-02	max
BTAG High HQ:	2.0E-03	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Selenium  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.59
Maximum detected value (mg/kg, dry weight):	0.59

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.2
Maximum detected value (mg/kg, dry weight):	1.2

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	7.2E-02	mean
Daily exposure (mg/kg-day)	7.2E-02	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.1E-01	mean
BTAG High HQ:	7.8E-02	mean

BTAG Low HQ:	3.1E-01	max
BTAG High HQ:	7.8E-02	max

## Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Zinc  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	149
Maximum detected value (mg/kg, dry weight):	149

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	190
Maximum detected value (mg/kg, dry weight):	310

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.8E+01	mean
Daily exposure (mg/kg-day)	1.8E+01	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.0E+00	mean
BTAG High HQ:	1.0E-01	mean
BTAG Low HQ:	1.1E+00	max
BTAG High HQ:	1.1E-01	max

## Tier II - Summary of Hazard Quotients

Receptor: **Brown Pelican**

**Location: Outside SWM**

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	2.0E-01	--	--	--	1.3E-01	--	--	--	--	--	--
LOAEL HQ:	2.0E-02	--	--	--	2.5E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b><u>2.1E+00</u></b>	1.4E-02	3.8E-02	#VALUE!	3.1E-01	<b><u>1.0E+01</u></b>	<b><u>1.1E+00</u></b>	6.7E-02	4.2E-01	2.4E-01
BTAG High HQ:	#VALUE!	1.5E-01	2.2E-04	9.5E-03	#VALUE!	1.4E-02	1.7E-02	2.4E-01	1.7E-03	1.0E-01	2.4E-02
<b>MAXIMUM</b>											
NOAEL HQ:	2.5E-01	--	--	--	1.8E-01	--	--	--	--	--	--
LOAEL HQ:	2.5E-02	--	--	--	3.6E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b><u>3.5E+00</u></b>	2.0E-02	5.2E-02	#VALUE!	6.3E-01	<b><u>1.8E+01</u></b>	<b><u>1.5E+00</u></b>	9.5E-02	4.5E-01	2.7E-01
BTAG High HQ:	#VALUE!	2.5E-01	3.1E-04	1.3E-02	#VALUE!	2.8E-02	3.0E-02	3.3E-01	2.3E-03	1.1E-01	2.7E-02

**Location: Reference 2240**

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	1.8E-01	--	--	--	1.0E-01	--	--	--	--	--	--
LOAEL HQ:	1.8E-02	--	--	--	2.0E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	1.2E+00	4.4E-03	2.6E-02	#DIV/0!	1.6E-01	4.2E+00	8.6E-01	5.7E-02	1.9E-01	2.5E-01
BTAG High HQ:	#DIV/0!	8.8E-02	7.0E-05	6.4E-03	#DIV/0!	6.9E-03	6.8E-03	1.9E-01	1.4E-03	4.7E-02	2.5E-02
<b>MAXIMUM</b>											
NOAEL HQ:	1.9E-01	--	--	--	1.6E-01	--	--	--	--	--	--
LOAEL HQ:	1.9E-02	--	--	--	3.2E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	1.7E+00	8.9E-03	3.1E-02	#DIV/0!	3.1E-01	7.4E+00	1.3E+00	6.6E-02	2.1E-01	2.9E-01
BTAG High HQ:	#DIV/0!	1.2E-01	1.4E-04	7.8E-03	#DIV/0!	1.4E-02	1.2E-02	2.8E-01	1.6E-03	5.1E-02	2.9E-02

**NOTE:**

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Benzo[a]pyrene  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.325
Maximum detected value (mg/kg, dry weight):	0.359

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.9
Maximum detected value (mg/kg, dry weight):	4.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.9E-02	mean
Daily exposure (mg/kg-day)	3.5E-02	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	2.0E-01	mean
LOAEL HQ:	2.0E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	2.5E-01	max
LOAEL HQ:	2.5E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max



## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Total PCBs  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.424
Maximum detected value (mg/kg, dry weight):	4.025

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.25
Maximum detected value (mg/kg, dry weight):	0.33

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.9E-01	mean
Daily exposure (mg/kg-day)	3.2E-01	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.1E+00	mean
BTAG High HQ:	1.5E-01	mean
BTAG Low HQ:	3.5E+00	max
BTAG High HQ:	2.5E-01	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Tributyltin  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.126
Maximum detected value (mg/kg, dry weight):	0.182

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.037
Maximum detected value (mg/kg, dry weight):	0.049

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.0E-02	mean
Daily exposure (mg/kg-day)	1.4E-02	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.4E-02	mean
BTAG High HQ:	2.2E-04	mean
BTAG Low HQ:	2.0E-02	max
BTAG High HQ:	3.1E-04	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Arsenic  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.5
Maximum detected value (mg/kg, dry weight):	3.4

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	8
Maximum detected value (mg/kg, dry weight):	10

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.1E-01	mean
Daily exposure (mg/kg-day)	2.8E-01	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.8E-02	mean
BTAG High HQ:	9.5E-03	mean
BTAG Low HQ:	5.2E-02	max
BTAG High HQ:	1.3E-02	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Cadmium  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.066
Maximum detected value (mg/kg, dry weight):	0.084

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.13
Maximum detected value (mg/kg, dry weight):	0.21

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.4E-03	mean
Daily exposure (mg/kg-day)	6.9E-03	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	6.8E-02	mean
BTAG High HQ:	5.2E-04	mean
BTAG Low HQ:	8.7E-02	max
BTAG High HQ:	6.7E-04	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Chromium  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.49
Maximum detected value (mg/kg, dry weight):	0.57

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	44
Maximum detected value (mg/kg, dry weight):	70

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.1E-01	mean
Daily exposure (mg/kg-day)	1.6E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	1.3E-01	mean
LOAEL HQ:	2.5E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	1.8E-01	max
LOAEL HQ:	3.6E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Copper  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	6.3
Maximum detected value (mg/kg, dry weight):	12

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	140
Maximum detected value (mg/kg, dry weight):	320

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	7.2E-01	mean
Daily exposure (mg/kg-day)	1.4E+00	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.1E-01	mean
BTAG High HQ:	1.4E-02	mean
BTAG Low HQ:	6.3E-01	max
BTAG High HQ:	2.8E-02	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Lead  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.68
Maximum detected value (mg/kg, dry weight):	1.3

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	59
Maximum detected value (mg/kg, dry weight):	99

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.5E-01	mean
Daily exposure (mg/kg-day)	2.6E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.0E+01	mean
BTAG High HQ:	1.7E-02	mean
BTAG Low HQ:	1.8E+01	max
BTAG High HQ:	3.0E-02	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Total Mercury  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.54
Maximum detected value (mg/kg, dry weight):	0.71

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.7
Maximum detected value (mg/kg, dry weight):	2.1

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.4E-02	mean
Daily exposure (mg/kg-day)	5.9E-02	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	1.1E+00	mean
BTAG HQ:	2.4E-01	mean
BTAG Low HQ:	1.5E+00	max
BTAG High HQ:	3.3E-01	max



## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Nickel  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.96
Maximum detected value (mg/kg, dry weight):	1.4

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	11
Maximum detected value (mg/kg, dry weight):	13

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	9.3E-02	mean
Daily exposure (mg/kg-day)	1.3E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	6.7E-02	mean
BTAG High HQ:	1.7E-03	mean

BTAG Low HQ:	9.5E-02	max
BTAG High HQ:	2.3E-03	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Selenium  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.2
Maximum detected value (mg/kg, dry weight):	1.3

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.2
Maximum detected value (mg/kg, dry weight):	1.2

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	9.6E-02	mean
Daily exposure (mg/kg-day)	1.0E-01	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	4.2E-01	mean
BTAG High HQ:	1.0E-01	mean
BTAG Low HQ:	4.5E-01	max
BTAG High HQ:	1.1E-01	max

## Hazard Quotient Calculation

**Receptor:** American Brown Pelican  
**Chemical:** Zinc  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	48
Maximum detected value (mg/kg, dry weight):	53

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	190
Maximum detected value (mg/kg, dry weight):	310

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

LOAEL (mg/kg-day):	
BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.1E+00	mean
Daily exposure (mg/kg-day)	4.7E+00	max

### Hazard Quotients (values listed in Table 10-12 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.4E-01	mean
BTAG High HQ:	2.4E-02	mean
BTAG Low HQ:	2.7E-01	max
BTAG High HQ:	2.7E-02	max

## Tier II - Summary of Hazard Quotients

Receptor: Western Grebe

Location: Outside SWM

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	1.6E-01	--	--	--	1.7E-01	--	--	--	--	--	--
LOAEL HQ:	1.6E-02	--	--	--	3.4E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b>1.0E+00</b>	8.8E-03	4.0E-02	#VALUE!	3.1E-01	<b>1.4E+01</b>	1.9E-01	4.6E-02	1.5E-01	4.8E-01
BTAG High HQ:	#VALUE!	7.3E-02	1.4E-04	1.0E-02	#VALUE!	1.4E-02	2.2E-02	4.2E-02	1.1E-03	3.6E-02	4.8E-02
<b>MAXIMUM</b>											
NOAEL HQ:	2.0E-01	--	--	--	2.5E-01	--	--	--	--	--	--
LOAEL HQ:	2.0E-02	--	--	--	4.9E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	<b>1.1E+00</b>	8.8E-03	4.1E-02	#VALUE!	5.2E-01	<b>2.1E+01</b>	2.8E-01	4.9E-02	1.5E-01	4.9E-01
BTAG High HQ:	#VALUE!	7.9E-02	1.4E-04	1.0E-02	#VALUE!	2.3E-02	3.4E-02	6.2E-02	1.2E-03	3.6E-02	4.9E-02

Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	1.0E-01	--	--	--	3.1E-01	--	--	--	--	--	--
LOAEL HQ:	1.0E-02	--	--	--	6.3E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	5.7E-01	2.3E-03	2.5E-02	#DIV/0!	2.4E-01	6.6E+00	1.0E-01	9.0E-02	2.3E-01	3.7E-01
BTAG High HQ:	#DIV/0!	4.1E-02	3.6E-05	6.2E-03	#DIV/0!	1.1E-02	1.1E-02	2.2E-02	2.2E-03	5.7E-02	3.7E-02
<b>MAXIMUM</b>											
NOAEL HQ:	1.1E-01	--	--	--	4.7E-01	--	--	--	--	--	--
LOAEL HQ:	1.1E-02	--	--	--	9.4E-02	--	--	--	--	--	--
BTAG Low HQ:	#DIV/0!	6.2E-01	2.9E-03	2.8E-02	#DIV/0!	2.9E-01	9.9E+00	1.3E-01	1.2E-01	3.0E-01	4.1E-01
BTAG High HQ:	#DIV/0!	4.4E-02	4.6E-05	6.9E-03	#DIV/0!	1.3E-02	1.6E-02	2.8E-02	2.8E-03	7.4E-02	4.1E-02

### NOTE:

HQ values bold faced, underlined, and shaded are greater than an HQ threshold value of 1 and greater than the reference HQ value.

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Benzo[a]pyrene  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.335
Maximum detected value (mg/kg, dry weight):	0.335

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.9
Maximum detected value (mg/kg, dry weight):	4.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.2E-02	mean
Daily exposure (mg/kg-day)	2.8E-02	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	1.6E-01	mean
LOAEL HQ:	1.6E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	2.0E-01	max
LOAEL HQ:	2.0E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Total PCBs  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.772
Maximum detected value (mg/kg, dry weight):	1.772

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.25
Maximum detected value (mg/kg, dry weight):	3.3

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	9.2E-02	mean
Daily exposure (mg/kg-day)	1.0E-01	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.0E+00	mean
BTAG High HQ:	7.3E-02	mean
BTAG Low HQ:	1.1E+00	max
BTAG High HQ:	7.9E-02	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Tributyltin  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.122
Maximum detected value (mg/kg, dry weight):	0.122

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.037
Maximum detected value (mg/kg, dry weight):	0.049

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	6.4E-03	mean
Daily exposure (mg/kg-day)	6.4E-03	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	8.8E-03	mean
BTAG High HQ:	1.4E-04	mean

BTAG Low HQ:	8.8E-03	max
BTAG High HQ:	1.4E-04	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Arsenic  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	3.9
Maximum detected value (mg/kg, dry weight):	3.9

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	8
Maximum detected value (mg/kg, dry weight):	10

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.2E-01	mean
Daily exposure (mg/kg-day)	2.3E-01	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	4.0E-02	mean
BTAG High HQ:	1.0E-02	mean
BTAG Low HQ:	4.1E-02	max
BTAG High HQ:	1.0E-02	max



## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Cadmium  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.02
Maximum detected value (mg/kg, dry weight):	0.02

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.13
Maximum detected value (mg/kg, dry weight):	0.21

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.4E-03	mean
Daily exposure (mg/kg-day)	1.6E-03	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.7E-02	mean
BTAG High HQ:	1.3E-04	mean
BTAG Low HQ:	2.0E-02	max
BTAG High HQ:	1.5E-04	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Chromium  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.59
Maximum detected value (mg/kg, dry weight):	0.59

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	44
Maximum detected value (mg/kg, dry weight):	70

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.4E-01	mean
Daily exposure (mg/kg-day)	2.1E-01	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	1.7E-01	mean
LOAEL HQ:	3.4E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	2.5E-01	max
LOAEL HQ:	4.9E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Copper  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	7
Maximum detected value (mg/kg, dry weight):	7

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	140
Maximum detected value (mg/kg, dry weight):	320

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	7.2E-01	mean
Daily exposure (mg/kg-day)	1.2E+00	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.1E-01	mean
BTAG High HQ:	1.4E-02	mean
BTAG Low HQ:	5.2E-01	max
BTAG High HQ:	2.3E-02	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Lead  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.8
Maximum detected value (mg/kg, dry weight):	0.8

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	59
Maximum detected value (mg/kg, dry weight):	99

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.9E-01	mean
Daily exposure (mg/kg-day)	3.0E-01	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.4E+01	mean
BTAG High HQ:	2.2E-02	mean
BTAG Low HQ:	2.1E+01	max
BTAG High HQ:	3.4E-02	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Total Mercury  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.11
Maximum detected value (mg/kg, dry weight):	0.11

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.7
Maximum detected value (mg/kg, dry weight):	2.1

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	7.5E-03	mean
Daily exposure (mg/kg-day)	1.1E-02	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	1.9E-01	mean
BTAG HQ:	4.2E-02	mean
BTAG Low HQ:	2.8E-01	max
BTAG High HQ:	6.2E-02	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Nickel  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.67
Maximum detected value (mg/kg, dry weight):	0.67

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	11
Maximum detected value (mg/kg, dry weight):	13

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	6.3E-02	mean
Daily exposure (mg/kg-day)	6.8E-02	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	4.6E-02	mean
BTAG High HQ:	1.1E-03	mean
BTAG Low HQ:	4.9E-02	max
BTAG High HQ:	1.2E-03	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Selenium  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.59
Maximum detected value (mg/kg, dry weight):	0.59

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.2
Maximum detected value (mg/kg, dry weight):	1.2

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.4E-02	mean
Daily exposure (mg/kg-day)	3.4E-02	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.5E-01	mean
BTAG High HQ:	3.6E-02	mean

BTAG Low HQ:	1.5E-01	max
BTAG High HQ:	3.6E-02	max

## Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Zinc  
**Location:** Outside SWM

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	149
Maximum detected value (mg/kg, dry weight):	149

### Sediment Chemical Concentrations (from Table 10-5 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	190
Maximum detected value (mg/kg, dry weight):	310

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	8.2E+00	mean
Daily exposure (mg/kg-day)	8.5E+00	max

### Hazard Quotients (values listed in Table 10-14 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	4.8E-01	mean
BTAG High HQ:	4.8E-02	mean
BTAG Low HQ:	4.9E-01	max
BTAG High HQ:	4.9E-02	max



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## Tier II - Summary of Hazard Quotients

Receptor: Surf Scoter

Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	3.0E-01	--	--	--	4.5E-01	--	--	--	--	--	--
LOAEL HQ:	3.0E-02	--	--	--	9.0E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	4.4E-01	1.1E-02	9.5E-02	#VALUE!	6.7E-01	1.9E+01	1.3E-01	1.5E-01	8.4E-01	2.6E-01
BTAG High HQ:	#VALUE!	3.1E-02	1.7E-04	2.4E-02	#VALUE!	2.9E-02	3.0E-02	2.8E-02	3.8E-03	2.1E-01	2.6E-02
<b>MAXIMUM</b>											
NOAEL HQ:	3.0E-01	--	--	--	4.5E-01	--	--	--	--	--	--
LOAEL HQ:	3.0E-02	--	--	--	9.0E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	4.4E-01	1.1E-02	9.5E-02	#VALUE!	6.7E-01	1.9E+01	1.3E-01	1.5E-01	8.4E-01	2.6E-01
BTAG High HQ:	#VALUE!	3.1E-02	1.7E-04	2.4E-02	#VALUE!	2.9E-02	3.0E-02	2.8E-02	3.8E-03	2.1E-01	2.6E-02

## Revised Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Benzo[a]pyrene  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.778
Maximum detected value (mg/kg, dry weight):	0.778

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	0.36
Maximum detected value (mg/kg, dry weight):	0.36

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.2E-02	mean
Daily exposure (mg/kg-day)	4.2E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	3.0E-01	mean
LOAEL HQ:	3.0E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	3.0E-01	max
LOAEL HQ:	3.0E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Revised Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Total PCBs  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.722
Maximum detected value (mg/kg, dry weight):	0.722

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	0.36
Maximum detected value (mg/kg, dry weight):	0.36

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.9E-02	mean
Daily exposure (mg/kg-day)	3.9E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	4.4E-01	mean
BTAG High HQ:	3.1E-02	mean
BTAG Low HQ:	4.4E-01	max
BTAG High HQ:	3.1E-02	max

## Revised Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Tributyltin  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.144
Maximum detected value (mg/kg, dry weight):	0.144

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	0.0028
Maximum detected value (mg/kg, dry weight):	0.0028

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	7.7E-03	mean
Daily exposure (mg/kg-day)	7.7E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.1E-02	mean
BTAG High HQ:	1.7E-04	mean

BTAG Low HQ:	1.1E-02	max
BTAG High HQ:	1.7E-04	max

## Revised Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Arsenic  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	9.4
Maximum detected value (mg/kg, dry weight):	9.4

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	8.8
Maximum detected value (mg/kg, dry weight):	8.8

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.2E-01	mean
Daily exposure (mg/kg-day)	5.2E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	9.5E-02	mean
BTAG High HQ:	2.4E-02	mean

BTAG Low HQ:	9.5E-02	max
BTAG High HQ:	2.4E-02	max

## Revised Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Cadmium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.29
Maximum detected value (mg/kg, dry weight):	0.29

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	0.22
Maximum detected value (mg/kg, dry weight):	0.22

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.6E-02	mean
Daily exposure (mg/kg-day)	1.6E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.0E-01	mean
BTAG High HQ:	1.5E-03	mean
BTAG Low HQ:	2.0E-01	max
BTAG High HQ:	1.5E-03	max

## Revised Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Chromium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	4.3
Maximum detected value (mg/kg, dry weight):	4.3

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	59
Maximum detected value (mg/kg, dry weight):	59

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.9E-01	mean
Daily exposure (mg/kg-day)	3.9E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	4.5E-01	mean
LOAEL HQ:	9.0E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	4.5E-01	max
LOAEL HQ:	9.0E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max



## Revised Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Copper  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	24
Maximum detected value (mg/kg, dry weight):	24

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	98
Maximum detected value (mg/kg, dry weight):	98

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.5E+00	mean
Daily exposure (mg/kg-day)	1.5E+00	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	6.7E-01	mean
BTAG High HQ:	2.9E-02	mean
BTAG Low HQ:	6.7E-01	max
BTAG High HQ:	2.9E-02	max

## Revised Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Lead  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.9
Maximum detected value (mg/kg, dry weight):	2.9

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	40
Maximum detected value (mg/kg, dry weight):	40

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.6E-01	mean
Daily exposure (mg/kg-day)	2.6E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.9E+01	mean
BTAG High HQ:	3.0E-02	mean
BTAG Low HQ:	1.9E+01	max
BTAG High HQ:	3.0E-02	max

## Revised Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Total Mercury  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.072
Maximum detected value (mg/kg, dry weight):	0.072

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	0.46
Maximum detected value (mg/kg, dry weight):	0.46

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.1E-03	mean
Daily exposure (mg/kg-day)	5.1E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	1.3E-01	mean
BTAG HQ:	2.8E-02	mean
BTAG Low HQ:	1.3E-01	max
BTAG High HQ:	2.8E-02	max

## Revised Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Nickel  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	3.4
Maximum detected value (mg/kg, dry weight):	3.4

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	12
Maximum detected value (mg/kg, dry weight):	12

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.1E-01	mean
Daily exposure (mg/kg-day)	2.1E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.5E-01	mean
BTAG High HQ:	3.8E-03	mean
BTAG Low HQ:	1.5E-01	max
BTAG High HQ:	3.8E-03	max

## Revised Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Selenium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	3.6
Maximum detected value (mg/kg, dry weight):	3.6

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	0.55
Maximum detected value (mg/kg, dry weight):	0.55

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.9E-01	mean
Daily exposure (mg/kg-day)	1.9E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	8.4E-01	mean
BTAG High HQ:	2.1E-01	mean
BTAG Low HQ:	8.4E-01	max
BTAG High HQ:	2.1E-01	max

## Revised Hazard Quotient Calculation

**Receptor:** Surf Scoter  
**Chemical:** Zinc  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.05
Food ingestion rate (kg/day dry wt):	0.056
Sediment ingestion rate (kg/day dry wt):	0.0028
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-4 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	72
Maximum detected value (mg/kg, dry weight):	72

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	260
Maximum detected value (mg/kg, dry weight):	260

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.5E+00	mean
Daily exposure (mg/kg-day)	4.5E+00	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.6E-01	mean
BTAG High HQ:	2.6E-02	mean
BTAG Low HQ:	2.6E-01	max
BTAG High HQ:	2.6E-02	max

## Tier II - Summary of Hazard Quotients

Receptor: Sea Lion

Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	--	--	--	--	6.9E-03	--	--	--	--	--	--
LOAEL HQ:	--	--	--	--	3.3E-04	--	--	--	--	--	--
BTAG Low HQ:	4.9E-03	8.1E-02	3.4E-03	1.2E-01	#VALUE!	3.5E-02	1.5E-02	3.2E-01	1.6E-01	2.3E-01	1.2E-01
BTAG High HQ:	2.0E-04	2.3E-02	5.6E-05	7.8E-03	#VALUE!	1.5E-04	6.4E-05	3.2E-02	6.5E-04	9.3E-03	2.8E-03
<b>MAXIMUM</b>											
NOAEL HQ:	--	--	--	--	1.1E-02	--	--	--	--	--	--
LOAEL HQ:	--	--	--	--	5.3E-04	--	--	--	--	--	--
BTAG Low HQ:	5.4E-03	1.1E-01	6.7E-03	1.4E-01	#VALUE!	7.0E-02	2.7E-02	4.8E-01	1.8E-01	2.5E-01	1.4E-01
BTAG High HQ:	2.1E-04	3.1E-02	1.1E-04	9.5E-03	#VALUE!	2.9E-04	1.1E-04	4.8E-02	7.5E-04	1.0E-02	3.2E-03

## Revised Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Benzo[a]pyrene  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.308
Maximum detected value (mg/kg, dry weight):	0.336

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.211667
Maximum detected value (mg/kg, dry weight):	0.36

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.31
BTAG High (mg/kg-day):	32.8

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	6.4E-03	mean
Daily exposure (mg/kg-day)	7.0E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	4.9E-03	mean
BTAG High HQ:	2.0E-04	mean

BTAG Low HQ:	5.4E-03	max
BTAG High HQ:	2.1E-04	max



## Revised Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Total PCBs  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.425
Maximum detected value (mg/kg, dry weight):	1.911

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.055
Maximum detected value (mg/kg, dry weight):	0.13

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.36
BTAG High (mg/kg-day):	1.28

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.9E-02	mean
Daily exposure (mg/kg-day)	3.9E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	8.1E-02	mean
BTAG High HQ:	2.3E-02	mean
BTAG Low HQ:	1.1E-01	max
BTAG High HQ:	3.1E-02	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Tributyltin  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.041
Maximum detected value (mg/kg, dry weight):	0.082

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.002667
Maximum detected value (mg/kg, dry weight):	0.0035

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.25
BTAG High (mg/kg-day):	15

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	8.4E-04	mean
Daily exposure (mg/kg-day)	1.7E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.4E-03	mean
BTAG High HQ:	5.6E-05	mean

BTAG Low HQ:	6.7E-03	max
BTAG High HQ:	1.1E-04	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Arsenic  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1.7
Maximum detected value (mg/kg, dry weight):	2

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	4.733333
Maximum detected value (mg/kg, dry weight):	8.8

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.32
BTAG High (mg/kg-day):	4.7

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.7E-02	mean
Daily exposure (mg/kg-day)	4.5E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.2E-01	mean
BTAG High HQ:	7.8E-03	mean
BTAG Low HQ:	1.4E-01	max
BTAG High HQ:	9.5E-03	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Cadmium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.09
Maximum detected value (mg/kg, dry weight):	0.12

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.13
Maximum detected value (mg/kg, dry weight):	0.22

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.06
BTAG High (mg/kg-day):	2.64

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.9E-03	mean
Daily exposure (mg/kg-day)	2.6E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.2E-02	mean
BTAG High HQ:	7.2E-04	mean
BTAG Low HQ:	4.3E-02	max
BTAG High HQ:	9.7E-04	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Chromium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.54
Maximum detected value (mg/kg, dry weight):	0.59

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	28.16667
Maximum detected value (mg/kg, dry weight):	59

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	3.3
LOAEL (mg/kg-day):	69
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.3E-02	mean
Daily exposure (mg/kg-day)	3.6E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	6.9E-03	mean
LOAEL HQ:	3.3E-04	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	1.1E-02	max
LOAEL HQ:	5.3E-04	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Copper  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	3.4
Maximum detected value (mg/kg, dry weight):	7.1

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	59.16667
Maximum detected value (mg/kg, dry weight):	98

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.67
BTAG High (mg/kg-day):	632

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	9.4E-02	mean
Daily exposure (mg/kg-day)	1.9E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.5E-02	mean
BTAG High HQ:	1.5E-04	mean
BTAG Low HQ:	7.0E-02	max
BTAG High HQ:	2.9E-04	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Lead  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.31
Maximum detected value (mg/kg, dry weight):	0.51

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	22.16667
Maximum detected value (mg/kg, dry weight):	40

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1
BTAG High (mg/kg-day):	241

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.5E-02	mean
Daily exposure (mg/kg-day)	2.7E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.5E-02	mean
BTAG High HQ:	6.4E-05	mean
BTAG Low HQ:	2.7E-02	max
BTAG High HQ:	1.1E-04	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Total Mercury  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.42
Maximum detected value (mg/kg, dry weight):	0.62

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.263333
Maximum detected value (mg/kg, dry weight):	0.46

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.027	0.25
BTAG High (mg/kg-day):	0.27	4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	8.7E-03	mean
Daily exposure (mg/kg-day)	1.3E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	3.2E-01	mean
BTAG HQ:	3.2E-02	mean
BTAG Low HQ:	4.8E-01	max
BTAG High HQ:	4.8E-02	max



## Revised Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Nickel  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.88
Maximum detected value (mg/kg, dry weight):	0.92

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	6.216667
Maximum detected value (mg/kg, dry weight):	12

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.133
BTAG High (mg/kg-day):	31.6

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.1E-02	mean
Daily exposure (mg/kg-day)	2.4E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.6E-01	mean
BTAG High HQ:	6.5E-04	mean
BTAG Low HQ:	1.8E-01	max
BTAG High HQ:	7.5E-04	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Selenium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.54
Maximum detected value (mg/kg, dry weight):	0.59

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.508333
Maximum detected value (mg/kg, dry weight):	0.55

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.05
BTAG High (mg/kg-day):	1.21

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.1E-02	mean
Daily exposure (mg/kg-day)	1.2E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.3E-01	mean
BTAG High HQ:	9.3E-03	mean

BTAG Low HQ:	2.5E-01	max
BTAG High HQ:	1.0E-02	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Sea Lion  
**Chemical:** Zinc  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	75
Food ingestion rate (kg/day dry wt):	1.54
Sediment ingestion rate (kg/day dry wt):	0.0308
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	53
Maximum detected value (mg/kg, dry weight):	58

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	127.1667
Maximum detected value (mg/kg, dry weight):	260

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	9.6
BTAG High (mg/kg-day):	411

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.1E+00	mean
Daily exposure (mg/kg-day)	1.3E+00	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.2E-01	mean
BTAG High HQ:	2.8E-03	mean
BTAG Low HQ:	1.4E-01	max
BTAG High HQ:	3.2E-03	max

## Tier II - Summary of Hazard Quotients

Receptor: Least Tern

Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	2.2E-01	--	--	--	6.0E-01	--	--	--	--	--	--
LOAEL HQ:	2.2E-02	--	--	--	1.2E-01	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	1.3E+00	5.2E-03	5.3E-02	#VALUE!	4.6E-01	9.5E+00	2.1E-01	1.9E-01	5.2E-01	8.2E-01
BTAG High HQ:	#VALUE!	9.3E-02	8.2E-05	1.3E-02	#VALUE!	2.0E-02	1.5E-02	4.5E-02	4.7E-03	1.3E-01	8.2E-02
<b>MAXIMUM</b>											
NOAEL HQ:	2.3E-01	--	--	--	8.4E-01	--	--	--	--	--	--
LOAEL HQ:	2.3E-02	--	--	--	1.7E-01	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	1.4E+00	6.6E-03	5.7E-02	#VALUE!	5.1E-01	1.3E+01	2.5E-01	2.3E-01	6.7E-01	8.8E-01
BTAG High HQ:	#VALUE!	1.0E-01	1.1E-04	1.4E-02	#VALUE!	2.3E-02	2.0E-02	5.5E-02	5.8E-03	1.7E-01	8.8E-02

## Revised Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Benzo[a]pyrene  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.261
Maximum detected value (mg/kg, dry weight):	0.269

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.211667
Maximum detected value (mg/kg, dry weight):	0.36

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.1E-02	mean
Daily exposure (mg/kg-day)	3.3E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	2.2E-01	mean
LOAEL HQ:	2.2E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	2.3E-01	max
LOAEL HQ:	2.3E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Total PCBs  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.997
Maximum detected value (mg/kg, dry weight):	1.079

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.055
Maximum detected value (mg/kg, dry weight):	0.13

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.2E-01	mean
Daily exposure (mg/kg-day)	1.3E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.3E+00	mean
BTAG High HQ:	9.3E-02	mean
BTAG Low HQ:	1.4E+00	max
BTAG High HQ:	1.0E-01	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Tributyltin  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.032
Maximum detected value (mg/kg, dry weight):	0.041

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.002667
Maximum detected value (mg/kg, dry weight):	0.0035

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.8E-03	mean
Daily exposure (mg/kg-day)	4.8E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.2E-03	mean
BTAG High HQ:	8.2E-05	mean

BTAG Low HQ:	6.6E-03	max
BTAG High HQ:	1.1E-04	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Arsenic  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.4
Maximum detected value (mg/kg, dry weight):	2.5

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	4.733333
Maximum detected value (mg/kg, dry weight):	8.8

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.9E-01	mean
Daily exposure (mg/kg-day)	3.2E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.3E-02	mean
BTAG High HQ:	1.3E-02	mean
BTAG Low HQ:	5.7E-02	max
BTAG High HQ:	1.4E-02	max



## Revised Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Cadmium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.031
Maximum detected value (mg/kg, dry weight):	0.032

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.13
Maximum detected value (mg/kg, dry weight):	0.22

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.0E-03	mean
Daily exposure (mg/kg-day)	4.3E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.0E-02	mean
BTAG High HQ:	3.8E-04	mean

BTAG Low HQ:	5.4E-02	max
BTAG High HQ:	4.1E-04	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Chromium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	3.8
Maximum detected value (mg/kg, dry weight):	4.9

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	28.16667
Maximum detected value (mg/kg, dry weight):	59

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.2E-01	mean
Daily exposure (mg/kg-day)	7.2E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	6.0E-01	mean
LOAEL HQ:	1.2E-01	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	8.4E-01	max
LOAEL HQ:	1.7E-01	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Copper  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	7.7
Maximum detected value (mg/kg, dry weight):	8

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	59.16667
Maximum detected value (mg/kg, dry weight):	98

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.1E+00	mean
Daily exposure (mg/kg-day)	1.2E+00	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	4.6E-01	mean
BTAG High HQ:	2.0E-02	mean
BTAG Low HQ:	5.1E-01	max
BTAG High HQ:	2.3E-02	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Lead  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.67
Maximum detected value (mg/kg, dry weight):	0.68

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	22.16667
Maximum detected value (mg/kg, dry weight):	40

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.3E-01	mean
Daily exposure (mg/kg-day)	1.8E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	9.5E+00	mean
BTAG High HQ:	1.5E-02	mean
BTAG Low HQ:	1.3E+01	max
BTAG High HQ:	2.0E-02	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Arsenic  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.4
Maximum detected value (mg/kg, dry weight):	2.5

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	4.733333
Maximum detected value (mg/kg, dry weight):	8.8

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.9E-01	mean
Daily exposure (mg/kg-day)	3.2E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.3E-02	mean
BTAG High HQ:	1.3E-02	mean
BTAG Low HQ:	5.7E-02	max
BTAG High HQ:	1.4E-02	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Cadmium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.031
Maximum detected value (mg/kg, dry weight):	0.032

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.13
Maximum detected value (mg/kg, dry weight):	0.22

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.0E-03	mean
Daily exposure (mg/kg-day)	4.3E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.0E-02	mean
BTAG High HQ:	3.8E-04	mean
BTAG Low HQ:	5.4E-02	max
BTAG High HQ:	4.1E-04	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Copper  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	7.7
Maximum detected value (mg/kg, dry weight):	8

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	59.16667
Maximum detected value (mg/kg, dry weight):	98

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.1E+00	mean
Daily exposure (mg/kg-day)	1.2E+00	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	4.6E-01	mean
BTAG High HQ:	2.0E-02	mean
BTAG Low HQ:	5.1E-01	max
BTAG High HQ:	2.3E-02	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Lead  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.67
Maximum detected value (mg/kg, dry weight):	0.68

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	22.16667
Maximum detected value (mg/kg, dry weight):	40

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.3E-01	mean
Daily exposure (mg/kg-day)	1.8E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	9.5E+00	mean
BTAG High HQ:	1.5E-02	mean
BTAG Low HQ:	1.3E+01	max
BTAG High HQ:	2.0E-02	max



## Revised Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Total Mercury  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.063
Maximum detected value (mg/kg, dry weight):	0.074

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.263333
Maximum detected value (mg/kg, dry weight):	0.46

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	8.1E-03	mean
Daily exposure (mg/kg-day)	9.8E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	2.1E-01	mean
BTAG HQ:	4.5E-02	mean
BTAG Low HQ:	2.5E-01	max
BTAG High HQ:	5.5E-02	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Nickel  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.1
Maximum detected value (mg/kg, dry weight):	2.5

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	6.216667
Maximum detected value (mg/kg, dry weight):	12

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.6E-01	mean
Daily exposure (mg/kg-day)	3.2E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.9E-01	mean
BTAG High HQ:	4.7E-03	mean

BTAG Low HQ:	2.3E-01	max
BTAG High HQ:	5.8E-03	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Selenium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1
Maximum detected value (mg/kg, dry weight):	1.3

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.508333
Maximum detected value (mg/kg, dry weight):	0.55

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.2E-01	mean
Daily exposure (mg/kg-day)	1.5E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.2E-01	mean
BTAG High HQ:	1.3E-01	mean
BTAG Low HQ:	6.7E-01	max
BTAG High HQ:	1.7E-01	max

## Revised Hazard Quotient Calculation

**Receptor:** CA Least Tern  
**Chemical:** Zinc  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	0.045
Food ingestion rate (kg/day dry wt):	0.0053
Sediment ingestion rate (kg/day dry wt):	0.00011
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	117
Maximum detected value (mg/kg, dry weight):	123

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	127.1667
Maximum detected value (mg/kg, dry weight):	260

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.4E+01	mean
Daily exposure (mg/kg-day)	1.5E+01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	8.2E-01	mean
BTAG High HQ:	8.2E-02	mean

BTAG Low HQ:	8.8E-01	max
BTAG High HQ:	8.8E-02	max

## Tier II - Summary of Hazard Quotients

Receptor: Green Turtle

Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	1.4E-02	--	--	--	2.4E-02	--	--	--	--	--	--
LOAEL HQ:	1.4E-03	--	--	--	4.7E-03	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	2.0E-03	1.7E-05	1.9E-03	#VALUE!	6.0E-02	1.7E+00	5.1E-03	9.2E-03	1.0E-02	3.9E-02
BTAG High HQ:	#VALUE!	1.4E-04	2.8E-07	4.8E-04	#VALUE!	2.6E-03	2.8E-03	1.1E-03	2.2E-04	2.5E-03	3.9E-03
<b>MAXIMUM</b>											
NOAEL HQ:	1.4E-02	--	--	--	2.4E-02	--	--	--	--	--	--
LOAEL HQ:	1.4E-03	--	--	--	4.7E-03	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	2.0E-03	1.7E-05	1.9E-03	#VALUE!	6.0E-02	1.7E+00	5.1E-03	9.2E-03	1.0E-02	3.9E-02
BTAG High HQ:	#VALUE!	1.4E-04	2.8E-07	4.8E-04	#VALUE!	2.6E-03	2.8E-03	1.1E-03	2.2E-04	2.5E-03	3.9E-03

## Revised Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Benzo[a]pyrene

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.506
Maximum detected value (mg/kg, dry weight):	0.506

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	0.36
Maximum detected value (mg/kg, dry weight):	0.36

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.9E-03	mean
Daily exposure (mg/kg-day)	1.9E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	1.4E-02	mean
LOAEL HQ:	1.4E-03	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	1.4E-02	max
LOAEL HQ:	1.4E-03	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Revised Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Total PCBs

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.03
Maximum detected value (mg/kg, dry weight):	0.03

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	0.36
Maximum detected value (mg/kg, dry weight):	0.36

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.8E-04	mean
Daily exposure (mg/kg-day)	1.8E-04	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.0E-03	mean
BTAG High HQ:	1.4E-04	mean

BTAG Low HQ:	2.0E-03	max
BTAG High HQ:	1.4E-04	max

## Revised Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Tributyltin

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.0033
Maximum detected value (mg/kg, dry weight):	0.0033

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	0.0028
Maximum detected value (mg/kg, dry weight):	0.0028

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.3E-05	mean
Daily exposure (mg/kg-day)	1.3E-05	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.7E-05	mean
BTAG High HQ:	2.8E-07	mean

BTAG Low HQ:	1.7E-05	max
BTAG High HQ:	2.8E-07	max



## Revised Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle  
**Chemical:** Arsenic  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.4
Maximum detected value (mg/kg, dry weight):	2.4

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	8.8
Maximum detected value (mg/kg, dry weight):	8.8

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.1E-02	mean
Daily exposure (mg/kg-day)	1.1E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.9E-03	mean
BTAG High HQ:	4.8E-04	mean
BTAG Low HQ:	1.9E-03	max
BTAG High HQ:	4.8E-04	max

## Revised Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Cadmium

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.42
Maximum detected value (mg/kg, dry weight):	0.42

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	0.22
Maximum detected value (mg/kg, dry weight):	0.22

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.6E-03	mean
Daily exposure (mg/kg-day)	1.6E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.0E-02	mean
BTAG High HQ:	1.5E-04	mean

BTAG Low HQ:	2.0E-02	max
BTAG High HQ:	1.5E-04	max

## Revised Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Chromium

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.4
Maximum detected value (mg/kg, dry weight):	2.4

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	59
Maximum detected value (mg/kg, dry weight):	59

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.0E-02	mean
Daily exposure (mg/kg-day)	2.0E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Revised Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Copper

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	32
Maximum detected value (mg/kg, dry weight):	32

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	98
Maximum detected value (mg/kg, dry weight):	98

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.4E-01	mean
Daily exposure (mg/kg-day)	1.4E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	6.0E-02	mean
BTAG High HQ:	2.6E-03	mean

BTAG Low HQ:	6.0E-02	max
BTAG High HQ:	2.6E-03	max

## Revised Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Lead

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	4.5
Maximum detected value (mg/kg, dry weight):	4.5

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	40
Maximum detected value (mg/kg, dry weight):	40

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.4E-02	mean
Daily exposure (mg/kg-day)	2.4E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.7E+00	mean
BTAG High HQ:	2.8E-03	mean
BTAG Low HQ:	1.7E+00	max
BTAG High HQ:	2.8E-03	max

## Revised Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Total Mercury

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.03
Maximum detected value (mg/kg, dry weight):	0.03

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	0.46
Maximum detected value (mg/kg, dry weight):	0.46

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.0E-04	mean
Daily exposure (mg/kg-day)	2.0E-04	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	5.1E-03	mean
BTAG HQ:	1.1E-03	mean
BTAG Low HQ:	5.1E-03	max
BTAG High HQ:	1.1E-03	max

## Revised Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Nickel

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.8
Maximum detected value (mg/kg, dry weight):	2.8

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	12
Maximum detected value (mg/kg, dry weight):	12

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.3E-02	mean
Daily exposure (mg/kg-day)	1.3E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	9.2E-03	mean
BTAG High HQ:	2.2E-04	mean

BTAG Low HQ:	9.2E-03	max
BTAG High HQ:	2.2E-04	max

## Revised Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Selenium

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.6
Maximum detected value (mg/kg, dry weight):	0.6

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	0.55
Maximum detected value (mg/kg, dry weight):	0.55

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.3E-03	mean
Daily exposure (mg/kg-day)	2.3E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	1.0E-02	mean
BTAG High HQ:	2.5E-03	mean

BTAG Low HQ:	1.0E-02	max
BTAG High HQ:	2.5E-03	max



## Revised Hazard Quotient Calculation

**Receptor:** East Pacific Green Turtle

**Chemical:** Zinc

**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	95
Food ingestion rate (kg/day dry wt):	0.35
Sediment ingestion rate (kg/day dry wt):	0.0186
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-1 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	170
Maximum detected value (mg/kg, dry weight):	170

### Sediment Chemical Concentrations (from 2240)

Mean detected value (mg/kg, dry weight):	260
Maximum detected value (mg/kg, dry weight):	260

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	6.8E-01	mean
Daily exposure (mg/kg-day)	6.8E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.9E-02	mean
BTAG High HQ:	3.9E-03	mean

BTAG Low HQ:	3.9E-02	max
BTAG High HQ:	3.9E-03	max

## Revised Hazard Quotient Calculation

**Receptor:** American Brown Pelican

**Chemical:** Zinc

**Location:** Reference 2240

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	3.174
Food ingestion rate (kg/day dry wt):	0.25
Sediment ingestion rate (kg/day dry wt):	0.005
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-3 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	53
Maximum detected value (mg/kg, dry weight):	58

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	127.1667
Maximum detected value (mg/kg, dry weight):	260

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	4.4E+00	mean
Daily exposure (mg/kg-day)	5.0E+00	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.5E-01	mean
BTAG High HQ:	2.5E-02	mean

BTAG Low HQ:	2.9E-01	max
BTAG High HQ:	2.9E-02	max

## Tier II - Summary of Hazard Quotients

Receptor: Western Grebe

Location: Reference 2240

	BAP	PCBs	TBT	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
<b>MEAN</b>											
NOAEL HQ:	1.0E-01	--	--	--	3.1E-01	--	--	--	--	--	--
LOAEL HQ:	1.0E-02	--	--	--	6.3E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	5.7E-01	2.3E-03	2.5E-02	#VALUE!	2.4E-01	6.6E+00	1.0E-01	9.0E-02	2.3E-01	3.7E-01
BTAG High HQ:	#VALUE!	4.1E-02	3.6E-05	6.2E-03	#VALUE!	1.1E-02	1.1E-02	2.2E-02	2.2E-03	5.7E-02	3.7E-02
<b>MAXIMUM</b>											
NOAEL HQ:	1.1E-01	--	--	--	4.7E-01	--	--	--	--	--	--
LOAEL HQ:	1.1E-02	--	--	--	9.4E-02	--	--	--	--	--	--
BTAG Low HQ:	#VALUE!	6.2E-01	2.9E-03	2.8E-02	#VALUE!	2.9E-01	9.9E+00	1.3E-01	1.2E-01	3.0E-01	4.1E-01
BTAG High HQ:	#VALUE!	4.4E-02	4.6E-05	6.9E-03	#VALUE!	1.3E-02	1.6E-02	2.8E-02	2.8E-03	7.4E-02	4.1E-02

## Revised Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Benzo[a]pyrene  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.261
Maximum detected value (mg/kg, dry weight):	0.269

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.211667
Maximum detected value (mg/kg, dry weight):	0.36

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.14
LOAEL (mg/kg-day):	1.4
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.4E-02	mean
Daily exposure (mg/kg-day)	1.5E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	1.0E-01	mean
LOAEL HQ:	1.0E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	1.1E-01	max
LOAEL HQ:	1.1E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Revised Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Total PCBs  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.997
Maximum detected value (mg/kg, dry weight):	1.079

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.055
Maximum detected value (mg/kg, dry weight):	0.13

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.09
BTAG High (mg/kg-day):	1.27

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.2E-02	mean
Daily exposure (mg/kg-day)	5.6E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	5.7E-01	mean
BTAG High HQ:	4.1E-02	mean
BTAG Low HQ:	6.2E-01	max
BTAG High HQ:	4.4E-02	max

## Revised Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Tributyltin  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.032
Maximum detected value (mg/kg, dry weight):	0.041

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.002667
Maximum detected value (mg/kg, dry weight):	0.0035

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.73
BTAG High (mg/kg-day):	45.9

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.7E-03	mean
Daily exposure (mg/kg-day)	2.1E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.3E-03	mean
BTAG High HQ:	3.6E-05	mean
BTAG Low HQ:	2.9E-03	max
BTAG High HQ:	4.6E-05	max

## Revised Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Arsenic  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.4
Maximum detected value (mg/kg, dry weight):	2.5

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	4.733333
Maximum detected value (mg/kg, dry weight):	8.8

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	5.5
BTAG High (mg/kg-day):	22

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.4E-01	mean
Daily exposure (mg/kg-day)	1.5E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.5E-02	mean
BTAG High HQ:	6.2E-03	mean
BTAG Low HQ:	2.8E-02	max
BTAG High HQ:	6.9E-03	max

## Revised Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Cadmium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.031
Maximum detected value (mg/kg, dry weight):	0.032

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.13
Maximum detected value (mg/kg, dry weight):	0.22

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.08
BTAG High (mg/kg-day):	10.4

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.9E-03	mean
Daily exposure (mg/kg-day)	2.2E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.4E-02	mean
BTAG High HQ:	1.9E-04	mean
BTAG Low HQ:	2.8E-02	max
BTAG High HQ:	2.1E-04	max



## Revised Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Chromium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	3.8
Maximum detected value (mg/kg, dry weight):	4.9

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	28.16667
Maximum detected value (mg/kg, dry weight):	59

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

NOAEL (mg/kg-day):	0.86
LOAEL (mg/kg-day):	4.3
BTAG Low (mg/kg-day):	Not Available
BTAG High (mg/kg-day):	Not Available

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	2.7E-01	mean
Daily exposure (mg/kg-day)	4.1E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

NOAEL HQ:	3.1E-01	mean
LOAEL HQ:	6.3E-02	mean
BTAG Low HQ:	#VALUE!	mean
BTAG High HQ:	#VALUE!	mean

NOAEL HQ:	4.7E-01	max
LOAEL HQ:	9.4E-02	max
BTAG Low HQ:	#VALUE!	max
BTAG High HQ:	#VALUE!	max

## Revised Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Copper  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	7.7
Maximum detected value (mg/kg, dry weight):	8

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	59.16667
Maximum detected value (mg/kg, dry weight):	98

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	2.3
BTAG High (mg/kg-day):	52.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.5E-01	mean
Daily exposure (mg/kg-day)	6.7E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.4E-01	mean
BTAG High HQ:	1.1E-02	mean
BTAG Low HQ:	2.9E-01	max
BTAG High HQ:	1.3E-02	max

## Revised Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Lead  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.67
Maximum detected value (mg/kg, dry weight):	0.68

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	22.16667
Maximum detected value (mg/kg, dry weight):	40

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.014
BTAG High (mg/kg-day):	8.75

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	9.2E-02	mean
Daily exposure (mg/kg-day)	1.4E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	6.6E+00	mean
BTAG High HQ:	1.1E-02	mean
BTAG Low HQ:	9.9E+00	max
BTAG High HQ:	1.6E-02	max

## Revised Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Total Mercury  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	0.063
Maximum detected value (mg/kg, dry weight):	0.074

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.263333
Maximum detected value (mg/kg, dry weight):	0.46

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.039
BTAG High (mg/kg-day):	0.18

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	3.9E-03	mean
Daily exposure (mg/kg-day)	5.0E-03	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG HQ:	1.0E-01	mean
BTAG HQ:	2.2E-02	mean
BTAG Low HQ:	1.3E-01	max
BTAG High HQ:	2.8E-02	max

## Revised Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Nickel  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	2.1
Maximum detected value (mg/kg, dry weight):	2.5

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	6.216667
Maximum detected value (mg/kg, dry weight):	12

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	1.38
BTAG High (mg/kg-day):	56.3

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	1.2E-01	mean
Daily exposure (mg/kg-day)	1.6E-01	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	9.0E-02	mean
BTAG High HQ:	2.2E-03	mean
BTAG Low HQ:	1.2E-01	max
BTAG High HQ:	2.8E-03	max

## Revised Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Selenium  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	1
Maximum detected value (mg/kg, dry weight):	1.3

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	0.508333
Maximum detected value (mg/kg, dry weight):	0.55

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	0.23
BTAG High (mg/kg-day):	0.93

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	5.3E-02	mean
Daily exposure (mg/kg-day)	6.9E-02	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	2.3E-01	mean
BTAG High HQ:	5.7E-02	mean
BTAG Low HQ:	3.0E-01	max
BTAG High HQ:	7.4E-02	max

## Revised Hazard Quotient Calculation

**Receptor:** Western Grebe  
**Chemical:** Zinc  
**Location:** Inside NASSCO

### Exposure Parameters (from Table 10-6 of NASSCO/SWM DSI Volume 1)

Body weight (kg):	1.2
Food ingestion rate (kg/day dry wt):	0.062
Sediment ingestion rate (kg/day dry wt):	0.0031
Area Use Factor (unitless):	1
Time Use Factor (unitless):	1

### Prey Chemical Concentrations (from Table 10-2 of NASSCO/SWM DSI Volume 1)

Mean detected value (mg/kg, dry weight):	117
Maximum detected value (mg/kg, dry weight):	123

### Sediment Chemical Concentrations (from 2240, 2241, 2243, and 2244)

Mean detected value (mg/kg, dry weight):	127.1667
Maximum detected value (mg/kg, dry weight):	260

### Toxicity Reference Values (from Table 10-8 of NASSCO/SWM DSI Volume 1)

BTAG Low (mg/kg-day):	17.2
BTAG High (mg/kg-day):	172

### Daily Exposure Rate using average chemical concentrations and area-use-factors

Daily exposure (mg/kg-day)	6.4E+00	mean
Daily exposure (mg/kg-day)	7.0E+00	max

### Hazard Quotients (values listed in Table 10-11 of NASSCO/SWM DSI Volume 1)

BTAG Low HQ:	3.7E-01	mean
BTAG High HQ:	3.7E-02	mean
BTAG Low HQ:	4.1E-01	max
BTAG High HQ:	4.1E-02	max