

Tank #: 15

Injection date: 10/12/95

Injected with: PAH model mix

Challenge date: 10/20/95

Date	Mortalities	Cumulative Survival	Sampler
12-Oct	-	30	
13-Oct	0	30	PH
14-Oct	1	29	PH
15-Oct	0	29	PH
16-Oct	0	29	ANK
17-Oct	3	26	PH
18-Oct	0	26	ANK
19-Oct	0	26	ANK

Vibrio Treatment: LC30

Date	Mortalities	Cumulative Survival	Sampler
20-Oct	0	26	ERC
21-Oct	0	26	ERC
22-Oct	0	26	ANK
23-Oct	0	26	PH
24-Oct	0	26	ERC
25-Oct	0	26	ANK
26-Oct	0	26	ANK
27-Oct	2	24	PH
28-Oct	1	23	ERC
29-Oct	0	23	ERC
30-Oct	0	23	ERC
31-Oct	0	23	PH
1-Nov	0	23	ANK
2-Nov	0	23	PH
3-Nov	0	23	ANK

Tank #: 21

Injection date: 10/12/95

Injected with: PAH model mix

Challenge date: 10/20/95

Date	Mortalities	Cumulative Survival	Sampler
12-Oct	-	30	
13-Oct	0	30	PH
14-Oct	0	30	PH
15-Oct	0	30	PH
16-Oct	0	30	ANK
17-Oct	0	30	PH
18-Oct	0	30	ANK
19-Oct	1	29	ANK

Vibrio Treatment: LC30

Date	Mortalities	Cumulative Survival	Sampler
20-Oct	0	29	ERC
21-Oct	0	29	ERC
22-Oct	0	29	ANK
23-Oct	0	29	PH
24-Oct	0	29	ERC
25-Oct	0	29	ANK
26-Oct	0	29	ANK
27-Oct	0	29	PH
28-Oct	2	27	ERC
29-Oct	0	27	ERC
30-Oct	0	27	ERC
31-Oct	1	26	PH
1-Nov	1	25	ANK
2-Nov	0	25	PH
3-Nov	0	25	ANK

Tank #: 24

Injection date: 10/12/95

Injected with: PAH model mix

Challenge date: 10/20/95

Date	Mortalities	Cumulative Survival	Sampler
12-Oct	-	30	
13-Oct	0	30	PH
14-Oct	0	30	PH
15-Oct	0	30	PH
16-Oct	0	30	ANK
17-Oct	0	30	PH
18-Oct	0	30	ANK
19-Oct	0	30	ANK

Vibrio Treatment: LC30

Date	Mortalities	Cumulative Survival	Sampler
20-Oct	4	26	ERC
21-Oct	0	26	ERC
22-Oct	0	26	ANK
23-Oct	0	26	PH
24-Oct	0	26	ERC
25-Oct	0	26	ANK
26-Oct	0	26	ANK
27-Oct	0	26	PH
28-Oct	0	26	ERC
29-Oct	2	24	ERC
30-Oct	0	24	ERC
31-Oct	1	23	PH
1-Nov	0	23	ANK
2-Nov	0	23	PH
3-Nov	0	23	ANK

Tank #: 9

Injection date: 10/12/95

Injected with: PAH model mix

Challenge date: 10/20/95

Date	Mortalities	Cumulative Survival	Sampler
12-Oct	-	30	
13-Oct	0	30	PH
14-Oct	0	30	PH
15-Oct	0	30	PH
16-Oct	0	30	ANK
17-Oct	0	30	PH
18-Oct	0	30	ANK
19-Oct	0	30	ANK

Vibrio Treatment: LC50

Date	Mortalities	Cumulative Survival	Sampler
20-Oct	0	30	ERC
21-Oct	0	30	ERC
22-Oct	0	30	ANK
23-Oct	0	30	PH
24-Oct	2	28	ERC
25-Oct	4	24	ANK
26-Oct	3	21	ANK
27-Oct	2	19	PH
28-Oct	0	19	ERC
29-Oct	0	19	ERC
30-Oct	0	19	ERC
31-Oct	0	19	PH
1-Nov	0	19	ANK
2-Nov	0	19	PH
3-Nov	0	19	ANK

Tank #: 12

Injection date: 10/12/95

Injected with: PAH model mix

Challenge date: 10/20/95

Date	Mortalities	Cumulative Survival	Sampler
12-Oct	-	30	
13-Oct	0	30	PH
14-Oct	0	30	PH
15-Oct	0	30	PH
16-Oct	0	30	ANK
17-Oct	0	30	PH
18-Oct	0	30	ANK
19-Oct	0	30	ANK

Vibrio Treatment: LC50

Date	Mortalities	Cumulative Survival	Sampler
20-Oct	0	30	ERC
21-Oct	0	30	ERC
22-Oct	0	30	ANK
23-Oct	1	29	PH
24-Oct	1	28	ERC
25-Oct	1	27	ANK
26-Oct	3	24	ANK
27-Oct	2	22	PH
28-Oct	0	22	ERC
29-Oct	0	22	ERC
30-Oct	0	22	ERC
31-Oct	0	22	PH
1-Nov	0	22	ANK
2-Nov	2	20	PH
3-Nov	0	20	ANK

Tank #: 18

Injection date: 10/12/95

Injected with: PAH model mix

Challenge date: 10/20/95

Date	Mortalities	Cumulative Survival	Sampler
12-Oct	-	30	
13-Oct	0	30	PH
14-Oct	1	29	PH
15-Oct	0	29	PH
16-Oct	0	29	ANK
17-Oct	0	29	PH
18-Oct	0	29	ANK
19-Oct	0	29	ANK

Vibrio Treatment: LC50

Date	Mortalities	Cumulative Survival	Sampler
20-Oct	1	28	ERC
21-Oct	0	28	ERC
22-Oct	0	28	ANK
23-Oct	0	28	PH
24-Oct	2	26	ERC
25-Oct	0	26	ANK
26-Oct	2	24	ANK
27-Oct	2	22	PH
28-Oct	0	22	ERC
29-Oct	0	22	ERC
30-Oct	0	22	ERC
31-Oct	0	22	PH
1-Nov	1	21	ANK
2-Nov	0	21	PH
3-Nov	0	21	ANK

Effects of chemical contaminants from the Hylebos Waterway on disease resistance of juvenile chinook salmon.

Data table documenting the average number of salmon deaths in non-vibrio exposed fish after a 7 day period. This number is used as a correction factor to correct for mortalities not attributable to exposure to *Vibrio anguillarum* in the challenge study where juvenile salmon are exposed to *V. anguillarum* via waterborne exposure.

Treatment	Tank #s	Average Mortality ^a
Acetone:Emulphor	49, 50, 51	1
HCBd	25, 28, 37	1
CHWSE	26, 29, 38	1
PAH model mixture	27, 30, 39	0

^a The value represents the average mortality of juvenile chinook salmon in all tanks for fish receiving either the carrier compound (acetone:emulphor), HCBd, CHWSE, or the PAH model mixture but was not exposed to *Vibrio anguillarum*. The average values were rounded up to the next whole number.

Effects of chemical contaminants from the Hylebos Waterway on disease resistance of juvenile chinook salmon.

Data table documenting the number of juvenile salmon mortalities and survivors before and after correcting for the background mortalities not attributable to *Vibrio anguillarum* exposure after a 7 day period.

Treatment	Tank #	LC ₅₀ ^a			
		Uncorrected ^b		Corrected ^c	
		survivors	mortalities	survivors	mortalities
Acetone:Emulphor	46	26	3	27	2
	47	21	8	22	7
	48	26	4	27	3
	Total	73	14	76	12
HCBD	7	19	11	20	10
	10	18	12	19	11
	16	17	3	18	2
	Total	54	53	57	23
CHWSE	8	16	13	17	12
	11	22	7	21	6
	17	19	6	20	5
	Total	57	26	58	23
PAH model mixture	9	18	11	18	11
	12	22	8	22	8
	18	22	6	22	6
	Total	62	25	62	25

^a Represents the *Vibrio anguillarum* exposure concentration. Uncorrected and corrected survival and mortalities for juvenile salmon exposed to the LC₃₀ *V. anguillarum* exposure concentration were not reported because the loss of all control fish at this *V. anguillarum* exposure level.

^b Represents the cumulative raw data of mortality and survival of juvenile salmon exposed to *Vibrio anguillarum* after a 7 day period after preexposure to either the carrier compound (acetone:emulphor), HCBD, CHWSE, or the PAH model mixture.

^c Represents the cumulative corrected data (corrected for mortalities not attributable to exposure to *Vibrio anguillarum*) of mortality and survival of juvenile salmon exposed to *Vibrio anguillarum* after a 7 day period after preexposure to either the carrier compound (acetone:emulphor), HCBD, CHWSE, or the PAH model mixture.

Effects of chemical contaminants from the Hylebos Waterway on disease resistance of juvenile chinook salmon.

Data table documenting test results to confirm the presence of *Vibrio anguillarum* in juvenile salmon previously exposed to *V. anguillarum* via waterborne exposure.

Date of Mortality	Tank#	Injected Compound	<i>Vibrio</i> Treatment	^a Fish tested (Total Morts)	Agglutination Test (+/-)	Oxidase Test (+/-)	<i>Vibrio</i> (yes/no)
21-Oct	54	AE	0	1(1)	No plate	No plate	No
22-Oct	25	HCBD	0	1(2)	-	+	No
24-Oct	7	HCBD	50	1(5)	-	+	No
24-Oct	10	HCBD	50	1(6)	+	+	Yes
24-Oct	10	HCBD	50	1(6)	-	+	No
24-Oct	8	CHWSE	50	1(5)	+	+	Yes
24-Oct	17	CHWSE	50	1(2)	+	+	Yes
24-Oct	9	PAH	50	1(2)	+	+	Yes
24-Oct	12	PAH	50	1(1)	-	+	No
24-Oct	18	PAH	50	1(2)	+	+	Yes
24-Oct	48	AE	50	1(1)	+	+	Yes
25-Oct	7	HCBD	50	1(3)	-	+	No
25-Oct	10	HCBD	50	1(4)	-	+	No
25-Oct	16	HCBD	50	1(1)	+	+	Yes
25-Oct	8	CHWSE	50	1(2)	+	+	Yes
25-Oct	11	CHWSE	50	1(5)	+	+	Yes
25-Oct	17	CHWSE	50	1(2)	+	+	Yes
25-Oct	9	PAH	50	1(4)	+	+	Yes
25-Oct	12	PAH	50	1(1)	+	+	Yes
25-Oct	46	AE	50	1(1)	-	+	No
25-Oct	47	AE	50	1(6) ^b	+	+	Yes
25-Oct	48	AE	50	1(2)	-	+	No
26-Oct	7	HCBD	50	1(1)	+	+	Yes
26-Oct	10	HCBD	50	1(1)	+	+	Yes
26-Oct	8	CHWSE	50	1(3)	+	+	Yes
26-Oct	11	CHWSE	50	1(1)	+	+	Yes
26-Oct	17	CHWSE	50	1(1)	+	+	Yes
26-Oct	9	PAH	50	1(3)	+	+	Yes
26-Oct	12	PAH	50	1(1)	+	+	Yes
26-Oct	18	PAH	50	1(2)	-	+	No
26-Oct	46	AE	50	1(2)	+	+	Yes
26-Oct	47	AE	50	1(1)	+	+	Yes
26-Oct	48	AE	50	1(2)	+	+	Yes

Cont.

Date of Mortality	Tank#	Injected Compound	<i>Vibrio</i> Treatment	^a Fish tested (Total Morts)	Agglutination Test (+/-)	Oxidase Test (+/-)	<i>Vibrio</i> (yes/no)
27-Oct	8	CHWSE	50	1(1)	+	+	Yes
27-Oct	11	CHWSE	50	1(1)	+	+	Yes
27-Oct	17	CHWSE	50	1(1)	+	+	Yes
27-Oct	9	PAH	50	1(2)	+	+	Yes
27-Oct	12	PAH	50	1(2)	-	+	No
27-Oct	18	PAH	50	1(2)	+	+	Yes
27-Oct	10	HCBD	50	1(1)	+	+	Yes
27-Oct	16	HCBD	50	1(2)	-	+	No
27-Oct	47	AE	50	1(1)	+	+	Yes
28-Oct	11	CHWSE	50	1(1)	+	+	Yes
28-Oct	46	AE	50	1(2)	-	+	No
28-Oct	48	AE	50	1(1)	+	+	Yes
29-Oct	30	PAH	0	1(1)	+	-	Yes
30-Oct	8	CHWSE	50	1(1)	+	+	Yes
30-Oct	17	CHWSE	50	1(1)	+	+	Yes
30-Oct	26	CHWSE	0	1(2)	-	+	No
30-Oct	49	AE	0	1(2)	-	+	No
31-Oct	27	PAH	0	1(1)	-	+	No
31-Oct	47	AE	50	1(1)	-	-	No
31-Oct	48	AE	50	1(1)	+	+	Yes
31-Oct	50	AE	0	1(1)	-	+	No
1-Nov	18	PAH	50	1(1)	-	+	No
2-Nov	12	PAH	50	1(2)	-	+	No
2-Nov	37	HCBD	0	1(1)	-	+	No
2-Nov	47	AE	50	1(1)	-	+	No
2-Nov	48	AE	50	1(1)	-	+	No
2-Nov	50	AE	0	1(2)	+	+	Yes
3-Nov	26	CHWSE	0	1(1)	-	+	No
3-Nov	27	PAH	0	1(1)	-	+	No
3-Nov	47	AE	50	1(1)	-	+	No
3-Nov	49	AE	0	1(1)	-	+	No
3-Nov	51	AE	0	1(1)	-	+	No

^a Represents the result for one fish subsampled from the group of fish that died on one day for each tank. The value in parentheses represents the total number of fish that died on the particular day that a subsample was assessed to confirm the presence of *Vibrio anguillarum*.

^b Only 1 of 6 fish subsampled to identify and confirm the presence of *Vibrio anguillarum* rather than 1 of 3 as stated in the SAP.

Calculation of the GLM statistic

As described in the Sampling and Analysis Plan, the GLMStat computer application was used to generate the information needed to assess the statistical significance of the challenge studies at day 7 of the challenge as follows:

Acetone:Emulphor-injected fish vrs HCBD-injected fish

Source	Degrees of freedom (DF)	Deviance	mean square (dev/DF)	F Value	a = 0.05	significantly different?
Total	167	127.5				
Ace:emulphor vrs HCBD inj.	1	5.179	5.179	F _{1,166} = 7.03	3.90	yes
residual	166	122.3	0.737			

Acetone:Emulphor-injected fish vrs CHWSE-injected fish

Source	Degrees of freedom (DF)	Deviance	mean square (dev/DF)	F Value	a = 0.05	significantly different?
Total	170	128.8				
Ace:Emul vrs CHWSE-inj.	1	4.662	4.662	F _{1,169} = 6.349	3.90	yes
residual	169	124.1	0.7343			

Acetone:Emulphor-injected fish vrs PAH model mixture-injected fish

Source	Degrees of freedom (DF)	Deviance	mean square (dev/DF)	F Value	a = 0.05	significantly different?
Total	174	13306				
Ace:Emul vrs PAH-inj.	1	5.374	5.374	F _{1,173} = 7.24	3.89	yes
residual	173	128.3	0.742			

Effects of chemical contaminants from the Hylebos Waterway on disease resistance of juvenile chinook salmon.

Data tables documenting the GLMStat data files used to assess the significance of exposure to *Vibrio anguillarum* after exposure to acetone:emulphor (carrier), HCBBD, CHWSE, or a PAH model mixture. Data for the exposure using a *V. anguillarum* exposure challenge equivalent to the LC₃₀ dose was not included in this data file as statistical testing of this group was not evaluated due to loss of the corresponding acetone:emulphor control group during the actual *Vibrio* challenge.

The key to the data table is as follows:

Column 1 = Round: An internal record of the challenge experiment

Column 2 = Contaminant: Treatment group

- 1 = acetone:emulphor
- 2 = HCBBD
- 3 = CHWSE
- 4 = PAH model mixture

Column 3 = Treatment: *Vibrio anguillarum* exposure group

- 1 = LC₀
- 2 = LC₅₀

Column 4 = Tank #: Tank number

Column 5 = D/A(4day): a fish that is dead or alive after 4 days exposure to *V. anguillarum*

- 1 = dead
- 2 = alive

Column 6 = D/A(7day): a fish that is dead or alive after 7 days exposure to *V. anguillarum*

- 1 = dead
- 2 = alive

Column 7 = D/A(14day): a fish that is dead or alive after 14 days exposure to *V. anguillarum*

- 1 = dead
- 2 = alive

Column 8 = D/A(4day)-BKD: a fish that is dead or alive after 4 days exposure to *V. anguillarum*, corrected for background mortality

- 1 = dead
- 2 = alive

Column 9 = D/A(7day)-BKD: a fish that is dead or alive after 7 days exposure to *V. anguillarum*, corrected for background mortality

- 1 = dead
- 2 = alive

Column 10 = D/A(14day)-BKD: a fish that is dead or alive after 14 days exposure to *V. anguillarum*, corrected for background mortality

- 1 = dead
- 2 = alive

Column 11 = binomialn: The binomial n value of 2 used for derivation of the statistic based on the binomial distribution.



Round	Contaminant [4]	Treatment [2]	Tank#	D/A(4day)	D/A(7day)	D/A(14day)	D/A(4)-Bkd	D/A(7)-Bkd	D/A(14)-Bkd	binomia(n)
1	5.000	2	2	7	1	1	1	1	1	2.000
2	5.000	2	2	7	1	1	1	1	1	2.000
3	5.000	2	2	7	1	1	1	1	1	2.000
4	5.000	2	2	7	1	1	1	1	1	2.000
5	5.000	2	2	7	1	1	1	1	1	2.000
6	5.000	2	2	7	1	1	1	1	1	2.000
7	5.000	2	2	7	1	1	1	2	1	2.000
8	5.000	2	2	7	2	1	1	2	1	2.000
9	5.000	2	2	7	2	1	1	2	1	2.000
10	5.000	2	2	7	2	1	1	2	1	2.000
11	5.000	2	2	7	2	1	1	2	2	2.000
12	5.000	2	2	7	2	2	2	2	2	2.000
13	5.000	2	2	7	2	2	2	2	2	2.000
14	5.000	2	2	7	2	2	2	2	2	2.000
15	5.000	2	2	7	2	2	2	2	2	2.000
16	5.000	2	2	7	2	2	2	2	2	2.000
17	5.000	2	2	7	2	2	2	2	2	2.000
18	5.000	2	2	7	2	2	2	2	2	2.000
19	5.000	2	2	7	2	2	2	2	2	2.000
20	5.000	2	2	7	2	2	2	2	2	2.000
21	5.000	2	2	7	2	2	2	2	2	2.000
22	5.000	2	2	7	2	2	2	2	2	2.000
23	5.000	2	2	7	2	2	2	2	2	2.000
24	5.000	2	2	7	2	2	2	2	2	2.000
25	5.000	2	2	7	2	2	2	2	2	2.000
26	5.000	2	2	7	2	2	2	2	2	2.000
27	5.000	2	2	7	2	2	2	2	2	2.000
28	5.000	2	2	7	2	2	2	2	2	2.000
29	5.000	2	2	7	2	2	2	2	2	2.000
30	5.000	2	2	7	2	2	2	2	2	2.000
31	5.000	3	2	8	1	1	1	1	1	2.000
32	5.000	3	2	8	1	1	1	1	1	2.000
33	5.000	3	2	8	1	1	1	1	1	2.000
34	5.000	3	2	8	1	1	1	1	1	2.000
35	5.000	3	2	8	1	1	1	1	1	2.000
36	5.000	3	2	8	1	1	1	1	1	2.000
37	5.000	3	2	8	1	1	1	2	1	2.000
38	5.000	3	2	8	2	1	1	2	1	2.000
39	5.000	3	2	8	2	1	1	2	1	2.000
40	5.000	3	2	8	2	1	1	2	1	2.000
41	5.000	3	2	8	2	1	1	2	1	2.000
42	5.000	3	2	8	2	1	1	2	1	2.000
43	5.000	3	2	8	2	1	1	2	2	2.000
44	5.000	3	2	8	2	1	1	2	2	2.000
45	5.000	3	2	8	2	2	2	2	2	2.000
46	5.000	3	2	8	2	2	2	2	2	2.000
47	5.000	3	2	8	2	2	2	2	2	2.000
48	5.000	3	2	8	2	2	2	2	2	2.000
49	5.000	3	2	8	2	2	2	2	2	2.000
50	5.000	3	2	8	2	2	2	2	2	2.000
51	5.000	3	2	8	2	2	2	2	2	2.000
52	5.000	3	2	8	2	2	2	2	2	2.000
53	5.000	3	2	8	2	2	2	2	2	2.000
54	5.000	3	2	8	2	2	2	2	2	2.000
55	5.000	3	2	8	2	2	2	2	2	2.000
56	5.000	3	2	8	2	2	2	2	2	2.000
57	5.000	3	2	8	2	2	2	2	2	2.000
58	5.000	3	2	8	2	2	2	2	2	2.000
59	5.000	3	2	8	2	2	2	2	2	2.000
60	5.000	4	2	9	1	1	1	1	1	2.000
61	5.000	4	2	9	1	1	1	1	1	2.000
62	5.000	4	2	9	2	1	1	2	1	2.000
63	5.000	4	2	9	2	1	1	2	1	2.000
64	5.000	4	2	9	2	1	1	2	1	2.000
65	5.000	4	2	9	2	1	1	2	1	2.000
66	5.000	4	2	9	2	1	1	2	1	2.000
67	5.000	4	2	9	2	1	1	2	1	2.000
68	5.000	4	2	9	2	1	1	2	1	2.000
69	5.000	4	2	9	2	1	1	2	1	2.000
70	5.000	4	2	9	2	1	1	2	1	2.000
71	5.000	4	2	9	2	2	2	2	2	2.000
72	5.000	4	2	9	2	2	2	2	2	2.000
73	5.000	4	2	9	2	2	2	2	2	2.000
74	5.000	4	2	9	2	2	2	2	2	2.000
75	5.000	4	2	9	2	2	2	2	2	2.000
76	5.000	4	2	9	2	2	2	2	2	2.000
77	5.000	4	2	9	2	2	2	2	2	2.000
78	5.000	4	2	9	2	2	2	2	2	2.000
79	5.000	4	2	9	2	2	2	2	2	2.000
80	5.000	4	2	9	2	2	2	2	2	2.000
81	5.000	4	2	9	2	2	2	2	2	2.000
82	5.000	4	2	9	2	2	2	2	2	2.000
83	5.000	4	2	9	2	2	2	2	2	2.000
84	5.000	4	2	9	2	2	2	2	2	2.000
85	5.000	4	2	9	2	2	2	2	2	2.000
86	5.000	4	2	9	2	2	2	2	2	2.000
87	5.000	4	2	9	2	2	2	2	2	2.000
88	5.000	4	2	9	2	2	2	2	2	2.000

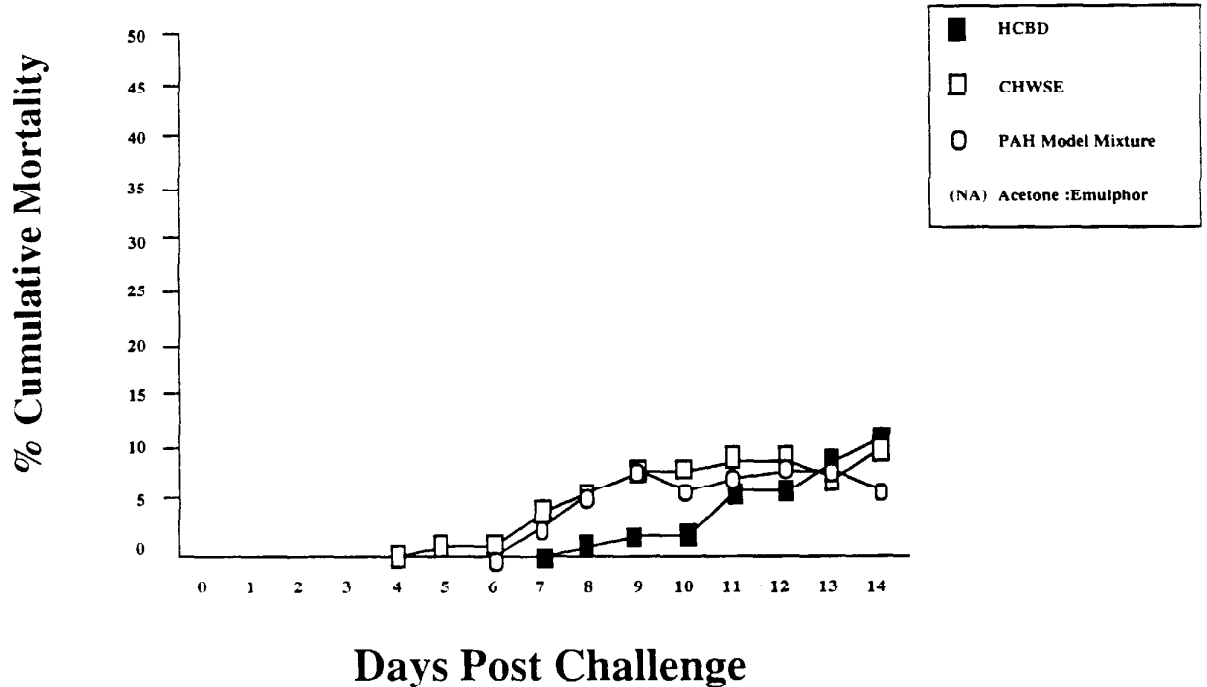
	Round	Contaminant [4]	Treatment [2]	Tank#	D/A(4day)	D/A(7day)	D/A(14day)	D/A(4)-Bkd	D/A(7)-Bkd	D/A(14)-Bkd	binomlatn
177	5.000	4	2	12	2	2	2	2	2	2	2.000
178	5.000	2	2	16	2	1	1	2	1	1	2.000
179	5.000	2	2	16	2	1	1	2	1	1	2.000
180	5.000	2	2	16	2	1	1	2	2	2	2.000
181	5.000	2	2	16	2	2	2	2	2	2	2.000
182	5.000	2	2	16	2	2	2	2	2	2	2.000
183	5.000	2	2	16	2	2	2	2	2	2	2.000
184	5.000	2	2	16	2	2	2	2	2	2	2.000
185	5.000	2	2	16	2	2	2	2	2	2	2.000
186	5.000	2	2	16	2	2	2	2	2	2	2.000
187	5.000	2	2	16	2	2	2	2	2	2	2.000
188	5.000	2	2	16	2	2	2	2	2	2	2.000
189	5.000	2	2	16	2	2	2	2	2	2	2.000
190	5.000	2	2	16	2	2	2	2	2	2	2.000
191	5.000	2	2	16	2	2	2	2	2	2	2.000
192	5.000	2	2	16	2	2	2	2	2	2	2.000
193	5.000	2	2	16	2	2	2	2	2	2	2.000
194	5.000	2	2	16	2	2	2	2	2	2	2.000
195	5.000	2	2	16	2	2	2	2	2	2	2.000
196	5.000	2	2	16	2	2	2	2	2	2	2.000
197	5.000	2	2	16	2	2	2	2	2	2	2.000
198	5.000	3	2	17	1	1	1	1	1	1	2.000
199	5.000	3	2	17	1	1	1	2	1	1	2.000
200	5.000	3	2	17	2	1	1	2	1	1	2.000
201	5.000	3	2	17	2	1	1	2	1	2	2.000
202	5.000	3	2	17	2	1	1	2	1	2	2.000
203	5.000	3	2	17	2	1	1	2	2	2	2.000
204	5.000	3	2	17	2	2	1	2	2	2	2.000
205	5.000	3	2	17	2	2	2	2	2	2	2.000
206	5.000	3	2	17	2	2	2	2	2	2	2.000
207	5.000	3	2	17	2	2	2	2	2	2	2.000
208	5.000	3	2	17	2	2	2	2	2	2	2.000
209	5.000	3	2	17	2	2	2	2	2	2	2.000
210	5.000	3	2	17	2	2	2	2	2	2	2.000
211	5.000	3	2	17	2	2	2	2	2	2	2.000
212	5.000	3	2	17	2	2	2	2	2	2	2.000
213	5.000	3	2	17	2	2	2	2	2	2	2.000
214	5.000	3	2	17	2	2	2	2	2	2	2.000
215	5.000	3	2	17	2	2	2	2	2	2	2.000
216	5.000	3	2	17	2	2	2	2	2	2	2.000
217	5.000	3	2	17	2	2	2	2	2	2	2.000
218	5.000	3	2	17	2	2	2	2	2	2	2.000
219	5.000	3	2	17	2	2	2	2	2	2	2.000
220	5.000	3	2	17	2	2	2	2	2	2	2.000
221	5.000	3	2	17	2	2	2	2	2	2	2.000
222	5.000	3	2	17	2	2	2	2	2	2	2.000
223	5.000	4	2	18	1	1	1	1	1	1	2.000
224	5.000	4	2	18	1	1	1	1	1	1	2.000
225	5.000	4	2	18	2	1	1	2	1	1	2.000
226	5.000	4	2	18	2	1	1	2	1	1	2.000
227	5.000	4	2	18	2	1	1	2	1	1	2.000
228	5.000	4	2	18	2	1	1	2	1	2	2.000
229	5.000	4	2	18	2	2	1	2	2	2	2.000
230	5.000	4	2	18	2	2	2	2	2	2	2.000
231	5.000	4	2	18	2	2	2	2	2	2	2.000
232	5.000	4	2	18	2	2	2	2	2	2	2.000
233	5.000	4	2	18	2	2	2	2	2	2	2.000
234	5.000	4	2	18	2	2	2	2	2	2	2.000
235	5.000	4	2	18	2	2	2	2	2	2	2.000
236	5.000	4	2	18	2	2	2	2	2	2	2.000
237	5.000	4	2	18	2	2	2	2	2	2	2.000
238	5.000	4	2	18	2	2	2	2	2	2	2.000
239	5.000	4	2	18	2	2	2	2	2	2	2.000
240	5.000	4	2	18	2	2	2	2	2	2	2.000
241	5.000	4	2	18	2	2	2	2	2	2	2.000
242	5.000	4	2	18	2	2	2	2	2	2	2.000
243	5.000	4	2	18	2	2	2	2	2	2	2.000
244	5.000	4	2	18	2	2	2	2	2	2	2.000
245	5.000	4	2	18	2	2	2	2	2	2	2.000
246	5.000	4	2	18	2	2	2	2	2	2	2.000
247	5.000	4	2	18	2	2	2	2	2	2	2.000
248	5.000	4	2	18	2	2	2	2	2	2	2.000
249	5.000	4	2	18	2	2	2	2	2	2	2.000
250	5.000	4	2	18	2	2	2	2	2	2	2.000
251	5.000	2	1	25	1	1	1	1	1	1	2.000
252	5.000	2	1	25	1	1	1	2	2	2	2.000
253	5.000	2	1	25	2	2	2	2	2	2	2.000
254	5.000	2	1	25	2	2	2	2	2	2	2.000
255	5.000	2	1	25	2	2	2	2	2	2	2.000
256	5.000	2	1	25	2	2	2	2	2	2	2.000
257	5.000	2	1	25	2	2	2	2	2	2	2.000
258	5.000	2	1	25	2	2	2	2	2	2	2.000
259	5.000	2	1	25	2	2	2	2	2	2	2.000
260	5.000	2	1	25	2	2	2	2	2	2	2.000
261	5.000	2	1	25	2	2	2	2	2	2	2.000
262	5.000	2	1	25	2	2	2	2	2	2	2.000
263	5.000	2	1	25	2	2	2	2	2	2	2.000
264	5.000	2	1	25	2	2	2	2	2	2	2.000

	Round	Contaminant [1]	Treatment [2]	Tank#	D/A(4day)	D/A(7day)	D/A(14day)	D/A(4)-Bkd	D/A(7)-Bkd	D/A(14)-Bkd	binomial
441	5.000	3	1	38	2	2	2	2	2	2	2.000
442	5.000	3	1	38	2	2	2	2	2	2	2.000
443	5.000	3	1	38	2	2	2	2	2	2	2.000
444	5.000	3	1	38	2	2	2	2	2	2	2.000
445	5.000	3	1	38	2	2	2	2	2	2	2.000
446	5.000	3	1	38	2	2	2	2	2	2	2.000
447	5.000	3	1	38	2	2	2	2	2	2	2.000
448	5.000	3	1	38	2	2	2	2	2	2	2.000
449	5.000	3	1	38	2	2	2	2	2	2	2.000
450	5.000	3	1	38	2	2	2	2	2	2	2.000
451	5.000	3	1	38	2	2	2	2	2	2	2.000
452	5.000	3	1	38	2	2	2	2	2	2	2.000
453	5.000	3	1	38	2	2	2	2	2	2	2.000
454	5.000	3	1	38	2	2	2	2	2	2	2.000
455	5.000	3	1	38	2	2	2	2	2	2	2.000
456	5.000	3	1	38	2	2	2	2	2	2	2.000
457	5.000	3	1	38	2	2	2	2	2	2	2.000
458	5.000	3	1	38	2	2	2	2	2	2	2.000
459	5.000	3	1	38	2	2	2	2	2	2	2.000
460	5.000	4	1	39	2	2	2	2	2	2	2.000
461	5.000	4	1	39	2	2	2	2	2	2	2.000
462	5.000	4	1	39	2	2	2	2	2	2	2.000
463	5.000	4	1	39	2	2	2	2	2	2	2.000
464	5.000	4	1	39	2	2	2	2	2	2	2.000
465	5.000	4	1	39	2	2	2	2	2	2	2.000
466	5.000	4	1	39	2	2	2	2	2	2	2.000
467	5.000	4	1	39	2	2	2	2	2	2	2.000
468	5.000	4	1	39	2	2	2	2	2	2	2.000
469	5.000	4	1	39	2	2	2	2	2	2	2.000
470	5.000	4	1	39	2	2	2	2	2	2	2.000
471	5.000	4	1	39	2	2	2	2	2	2	2.000
472	5.000	4	1	39	2	2	2	2	2	2	2.000
473	5.000	4	1	39	2	2	2	2	2	2	2.000
474	5.000	4	1	39	2	2	2	2	2	2	2.000
475	5.000	4	1	39	2	2	2	2	2	2	2.000
476	5.000	4	1	39	2	2	2	2	2	2	2.000
477	5.000	4	1	39	2	2	2	2	2	2	2.000
478	5.000	4	1	39	2	2	2	2	2	2	2.000
479	5.000	4	1	39	2	2	2	2	2	2	2.000
480	5.000	4	1	39	2	2	2	2	2	2	2.000
481	5.000	4	1	39	2	2	2	2	2	2	2.000
482	5.000	4	1	39	2	2	2	2	2	2	2.000
483	5.000	4	1	39	2	2	2	2	2	2	2.000
484	5.000	4	1	39	2	2	2	2	2	2	2.000
485	5.000	4	1	39	2	2	2	2	2	2	2.000
486	5.000	4	1	39	2	2	2	2	2	2	2.000
487	5.000	4	1	39	2	2	2	2	2	2	2.000
488	5.000	4	1	39	2	2	2	2	2	2	2.000
489	5.000	1	2	46	2	1	1	2	1	1	2.000
490	5.000	1	2	46	2	1	1	2	2	2	2.000
491	5.000	1	2	46	2	1	1	2	2	2	2.000
492	5.000	1	2	46	2	2	1	2	2	2	2.000
493	5.000	1	2	46	2	2	1	2	2	2	2.000
494	5.000	1	2	46	2	2	2	2	2	2	2.000
495	5.000	1	2	46	2	2	2	2	2	2	2.000
496	5.000	1	2	46	2	2	2	2	2	2	2.000
497	5.000	1	2	46	2	2	2	2	2	2	2.000
498	5.000	1	2	46	2	2	2	2	2	2	2.000
499	5.000	1	2	46	2	2	2	2	2	2	2.000
500	5.000	1	2	46	2	2	2	2	2	2	2.000
501	5.000	1	2	46	2	2	2	2	2	2	2.000
502	5.000	1	2	46	2	2	2	2	2	2	2.000
503	5.000	1	2	46	2	2	2	2	2	2	2.000
504	5.000	1	2	46	2	2	2	2	2	2	2.000
505	5.000	1	2	46	2	2	2	2	2	2	2.000
506	5.000	1	2	46	2	2	2	2	2	2	2.000
507	5.000	1	2	46	2	2	2	2	2	2	2.000
508	5.000	1	2	46	2	2	2	2	2	2	2.000
509	5.000	1	2	46	2	2	2	2	2	2	2.000
510	5.000	1	2	46	2	2	2	2	2	2	2.000
511	5.000	1	2	46	2	2	2	2	2	2	2.000
512	5.000	1	2	46	2	2	2	2	2	2	2.000
513	5.000	1	2	46	2	2	2	2	2	2	2.000
514	5.000	1	2	46	2	2	2	2	2	2	2.000
515	5.000	1	2	46	2	2	2	2	2	2	2.000
516	5.000	1	2	46	2	2	2	2	2	2	2.000
517	5.000	1	2	46	2	2	2	2	2	2	2.000
518	5.000	1	2	47	2	1	1	2	1	1	2.000
519	5.000	1	2	47	2	1	1	2	1	1	2.000
520	5.000	1	2	47	2	1	1	2	1	1	2.000
521	5.000	1	2	47	2	1	1	2	1	1	2.000
522	5.000	1	2	47	2	1	1	2	1	1	2.000
523	5.000	1	2	47	2	1	1	2	1	1	2.000
524	5.000	1	2	47	2	1	1	2	1	1	2.000
525	5.000	1	2	47	2	1	1	2	1	1	2.000
526	5.000	1	2	47	2	1	1	2	2	2	2.000
527	5.000	1	2	47	2	2	1	2	2	2	2.000
528	5.000	1	2	47	2	2	1	2	2	2	2.000

	Round	Contaminant [4]	Treatment [2]	Tank#	D/A(4day)	D/A(7day)	D/A(14day)	D/A(4)-Bkd	D/A(7)-Bkd	D/A(14)-Bkd	binomial
529	5.000	1	2	47	2	2	2	2	2	2	2.000
530	5.000	1	2	47	2	2	2	2	2	2	2.000
531	5.000	1	2	47	2	2	2	2	2	2	2.000
532	5.000	1	2	47	2	2	2	2	2	2	2.000
533	5.000	1	2	47	2	2	2	2	2	2	2.000
534	5.000	1	2	47	2	2	2	2	2	2	2.000
535	5.000	1	2	47	2	2	2	2	2	2	2.000
536	5.000	1	2	47	2	2	2	2	2	2	2.000
537	5.000	1	2	47	2	2	2	2	2	2	2.000
538	5.000	1	2	47	2	2	2	2	2	2	2.000
539	5.000	1	2	47	2	2	2	2	2	2	2.000
540	5.000	1	2	47	2	2	2	2	2	2	2.000
541	5.000	1	2	47	2	2	2	2	2	2	2.000
542	5.000	1	2	47	2	2	2	2	2	2	2.000
543	5.000	1	2	47	2	2	2	2	2	2	2.000
544	5.000	1	2	47	2	2	2	2	2	2	2.000
545	5.000	1	2	47	2	2	2	2	2	2	2.000
546	5.000	1	2	47	2	2	2	2	2	2	2.000
547	5.000	1	2	48	1	1	1	2	1	1	2.000
548	5.000	1	2	48	2	1	1	2	1	1	2.000
549	5.000	1	2	48	2	1	1	2	1	1	2.000
550	5.000	1	2	48	2	1	1	2	2	1	2.000
551	5.000	1	2	48	2	2	1	2	2	2	2.000
552	5.000	1	2	48	2	2	1	2	2	2	2.000
553	5.000	1	2	48	2	2	1	2	2	2	2.000
554	5.000	1	2	48	2	2	2	2	2	2	2.000
555	5.000	1	2	48	2	2	2	2	2	2	2.000
556	5.000	1	2	48	2	2	2	2	2	2	2.000
557	5.000	1	2	48	2	2	2	2	2	2	2.000
558	5.000	1	2	48	2	2	2	2	2	2	2.000
559	5.000	1	2	48	2	2	2	2	2	2	2.000
560	5.000	1	2	48	2	2	2	2	2	2	2.000
561	5.000	1	2	48	2	2	2	2	2	2	2.000
562	5.000	1	2	48	2	2	2	2	2	2	2.000
563	5.000	1	2	48	2	2	2	2	2	2	2.000
564	5.000	1	2	48	2	2	2	2	2	2	2.000
565	5.000	1	2	48	2	2	2	2	2	2	2.000
566	5.000	1	2	48	2	2	2	2	2	2	2.000
567	5.000	1	2	48	2	2	2	2	2	2	2.000
568	5.000	1	2	48	2	2	2	2	2	2	2.000
569	5.000	1	2	48	2	2	2	2	2	2	2.000
570	5.000	1	2	48	2	2	2	2	2	2	2.000
571	5.000	1	2	48	2	2	2	2	2	2	2.000
572	5.000	1	2	48	2	2	2	2	2	2	2.000
573	5.000	1	2	48	2	2	2	2	2	2	2.000
574	5.000	1	2	48	2	2	2	2	2	2	2.000
575	5.000	1	2	48	2	2	2	2	2	2	2.000
576	5.000	1	2	48	2	2	2	2	2	2	2.000
577	5.000	1	1	49	1	1	1	2	2	1	2.000
578	5.000	1	1	49	2	2	1	2	2	2	2.000
579	5.000	1	1	49	2	2	1	2	2	2	2.000
580	5.000	1	1	49	2	2	1	2	2	2	2.000
581	5.000	1	1	49	2	2	2	2	2	2	2.000
582	5.000	1	1	49	2	2	2	2	2	2	2.000
583	5.000	1	1	49	2	2	2	2	2	2	2.000
584	5.000	1	1	49	2	2	2	2	2	2	2.000
585	5.000	1	1	49	2	2	2	2	2	2	2.000
586	5.000	1	1	49	2	2	2	2	2	2	2.000
587	5.000	1	1	50	2	2	1	2	2	2	2.000
588	5.000	1	1	50	2	2	1	2	2	2	2.000
589	5.000	1	1	50	2	2	1	2	2	2	2.000
590	5.000	1	1	50	2	2	2	2	2	2	2.000
591	5.000	1	1	50	2	2	2	2	2	2	2.000
592	5.000	1	1	50	2	2	2	2	2	2	2.000
593	5.000	1	1	50	2	2	2	2	2	2	2.000
594	5.000	1	1	50	2	2	2	2	2	2	2.000
595	5.000	1	1	50	2	2	2	2	2	2	2.000
596	5.000	1	1	50	2	2	2	2	2	2	2.000
597	5.000	1	1	50	2	2	2	2	2	2	2.000
598	5.000	1	1	50	2	2	2	2	2	2	2.000
599	5.000	1	1	50	2	2	2	2	2	2	2.000
600	5.000	1	1	50	2	2	2	2	2	2	2.000
601	5.000	1	1	50	2	2	2	2	2	2	2.000
602	5.000	1	1	50	2	2	2	2	2	2	2.000
603	5.000	1	1	50	2	2	2	2	2	2	2.000
604	5.000	1	1	50	2	2	2	2	2	2	2.000
605	5.000	1	1	50	2	2	2	2	2	2	2.000
606	5.000	1	1	50	2	2	2	2	2	2	2.000
607	5.000	1	1	50	2	2	2	2	2	2	2.000
608	5.000	1	1	50	2	2	2	2	2	2	2.000
609	5.000	1	1	50	2	2	2	2	2	2	2.000
610	5.000	1	1	50	2	2	2	2	2	2	2.000
611	5.000	1	1	50	2	2	2	2	2	2	2.000
612	5.000	1	1	50	2	2	2	2	2	2	2.000
613	5.000	1	1	50	2	2	2	2	2	2	2.000
614	5.000	1	1	50	2	2	2	2	2	2	2.000
615	5.000	1	1	50	2	2	2	2	2	2	2.000
616	5.000	1	1	50	2	2	2	2	2	2	2.000

	Round	Contaminant [4]	Treatment [5]	Tank#	D/A(4day)	D/A(7day)	D/A(14day)	D/A(4)-Bkd	D/A(7)-Bkd	D/A(14)-Bkd	binomial
617	5.000	1	1	51	2	2	1	2	2	2	2.000
618	5.000	1	1	51	2	2	2	2	2	2	2.000
619	5.000	1	1	51	2	2	2	2	2	2	2.000
620	5.000	1	1	51	2	2	2	2	2	2	2.000
621	5.000	1	1	51	2	2	2	2	2	2	2.000
622	5.000	1	1	51	2	2	2	2	2	2	2.000
623	5.000	1	1	51	2	2	2	2	2	2	2.000
624	5.000	1	1	51	2	2	2	2	2	2	2.000
625	5.000	1	1	51	2	2	2	2	2	2	2.000
626	5.000	1	1	51	2	2	2	2	2	2	2.000
627	5.000	1	1	51	2	2	2	2	2	2	2.000
628	5.000	1	1	51	2	2	2	2	2	2	2.000
629	5.000	1	1	51	2	2	2	2	2	2	2.000
630	5.000	1	1	51	2	2	2	2	2	2	2.000
631	5.000	1	1	51	2	2	2	2	2	2	2.000
632	5.000	1	1	51	2	2	2	2	2	2	2.000
633	5.000	1	1	51	2	2	2	2	2	2	2.000
634	5.000	1	1	51	2	2	2	2	2	2	2.000
635	5.000	1	1	51	2	2	2	2	2	2	2.000
636	5.000	1	1	51	2	2	2	2	2	2	2.000
637	5.000	1	1	51	2	2	2	2	2	2	2.000
638	5.000	1	1	51	2	2	2	2	2	2	2.000
639	5.000	1	1	51	2	2	2	2	2	2	2.000
640	5.000	1	1	51	2	2	2	2	2	2	2.000
641	5.000	1	1	51	2	2	2	2	2	2	2.000
642	5.000	1	1	51	2	2	2	2	2	2	2.000
643	5.000	1	1	51	2	2	2	2	2	2	2.000
644	5.000	1	1	51	2	2	2	2	2	2	2.000
645	5.000	1	1	51	2	2	2	2	2	2	2.000
646	5.000	1	1	51	2	2	2	2	2	2	2.000

Lethal Concentration₃₀



Effects of chemical contaminants from the Hylebos Waterway on disease resistance of juvenile chinook salmon. Percent cumulative mortality of juvenile chinook salmon injected with either HCBd, a chlorinated-enriched sediment extract from the Hylebos Waterway (CHWSE), a model mixture of PAHs, or the carrier control (acetone:emulphor) during a 14 day exposure to 1×10^{-6} ml bacterial solution/ml seawater (LC_{30}). The net cumulative mortalities due to the bacteria are corrected by subtracting mortalities observed in juvenile chinook salmon injected with either HCBd, CHWSE, the model mixture of PAHs, or the carrier control (acetone:emulphor) but not exposed to *Vibrio anguillarum*. NA signifies data not available. * indicates significantly ($p \leq 0.05$) different from acetone:emulphor control group.