

**Hylebos Waterway Fish Inju'ry Studies  
Individual Data and Quality Assurance Results  
CASE NARRATIVE**

**Reproductive Injury in Flatfish  
DNA Adducts**

**DNA Adducts**

*Performance Evaluation*

The PPL performance standard met <sup>32</sup>P-labeling criteria.

*Calibration*

There were no deviations from the QA/SOP calibration criteria. All the calibration data that were used to quantitate DNA adducts met the initial and continuing criteria detailed in the "Commencement Bay Quality Assurance Plan" (QA Plan).

*Method Blank*

The acceptance criteria were met for the method blank.

*Sample Duplicates*

Two samples were processed and analyzed in duplicate. The relative percent differences (RPD) for all analytes were less than 50%.

*Commentary on Samples:*

Data for sample 153-93 (#94-3568) was inadvertently left out of the initial draft and is now included.

Further inspection of the chromatograms for samples 153-22 (#94-3540), 62 (#94.3656) and 108 (#94-3690) indicated that that quantitation was not practical and the results were changed to CNQ (chromatogram not quantifiable).

*Missing sample analyses:*

Several samples (n=4) were lost because sufficient DNA could not be extracted. In addition, twenty-seven samples were lost because the chromatograms were not quantifiable.

*Values reported that are less than 10 nmo/lmol.*

If the storage phosphor images of the radioactivity distribution on the chromatograms are sufficiently clean and distinct, then values less than 10 nmols DNA adducts/mol DNA for the large diagonal radioactive zone containing adducts derived from polycyclic aromatic compounds can be obtained. For the chromatography standards, the limit of detection for a single, well resolved spot is 0.1 nmol DNA adduct/mol DNA.

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ppl#	sample#	species	capture date	capture site	nmol DNA adducts/mol DNA bases
PPL set 1					
153-01	94.3514	English sole	Dec-94	Colvos Passage	10
153-02	94.3515	English sole	Dec-94	Colvos Passage	7
153-03	94.3516	English sole	Dec-94	Colvos Passage	7
153-04	94.3518	English sole	Dec-94	Colvos Passage	CNQ*
153-05	94.3520	English sole	Dec-94	Colvos Passage	6
153-06	94.3521	English sole	Dec-94	Colvos Passage	5
153-07	94.3523	English sole	Dec-94	Colvos Passage	6
153-08	94.3526	English sole	Dec-94	Colvos Passage	5
153-09	94.3527	English sole	Dec-94	Colvos Passage	4
153-10	94.3528	English sole	Dec-94	Colvos Passage	4
153-11	94.3529	English sole	Dec-94	Colvos Passage	5
153-12	94.3530	English sole	Dec-94	Colvos Passage	6
153-13	94.3531	English sole	Dec-94	Colvos Passage	8
153-14	94.3532	English sole	Dec-94	Colvos Passage	8
153-15	94.3533	English sole	Dec-94	Colvos Passage	8
153-16	94.3534	English sole	Dec-94	Colvos Passage	7
153-17	94.3535	English sole	Dec-94	Colvos Passage	6
153-18	94.3536	English sole	Dec-94	Colvos Passage	6
153-19	94.3537	English sole	Dec-94	Colvos Passage	CNQ
153-20	94.3538	English sole	Dec-94	Colvos Passage	CNQ
153-21	94.3539	English sole	Dec-94	Colvos Passage	<10
153-22	94.3540	English sole	Dec-94	Colvos Passage	CNQ
153-23	94.3541	English sole	Dec-94	Colvos Passage	<11
153-24	94.3542	English sole	Dec-94	Colvos Passage	<10
153-25	94.3543	English sole	Dec-94	Colvos Passage	<10
153-26	94.3544	English sole	Dec-94	Hylebos	CNQ
153-27	94.3546	English sole	Dec-94	Hylebos	CNQ
153-28	94.3548	English sole	Dec-94	Hylebos	39
153-29	94.3550	English sole	Dec-94	Hylebos	88
153-30	94.3552	English sole	Dec-94	Hylebos	75
153-31a	94.3554	English sole	Dec-94	Hylebos	63
153-31b	"	replicate	"	"	83
153-32	94.3558	English sole	Dec-94	Hylebos	CNQ
153-33	94.3560	English sole	Dec-94	Hylebos	11
153-34	94.3562	English sole	Dec-94	Hylebos	33
153-35	94.3564	English sole	Dec-94	Hylebos	28
153-36	94.3565	English sole	Dec-94	Hylebos	17
153-37	94.3566	English sole	Dec-94	Hylebos	22
153-38	94.3567	English sole	Dec-94	Hylebos	CNQ
153-39	94.3568	English sole	Dec-94	Hylebos	27
153-40	94.3569	English sole	Dec-94	Hylebos	33
153-41a	94.3572	English sole	Dec-94	Hylebos	47
153-41b	"	replicate	"	"	44
153-42	94.3574	English sole	Dec-94	Hylebos	69

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ppl#	sample#	species	capture date	capture site	nmol DNA adducts/mol DNA bases
153-43	94.3575	English sole	Dec-94	Hylebos	177
153-44	94.3576	English sole	Dec-94	Hylebos	59
153-45	94.3577	English sole	Dec-94	Hylebos	104
153-46	94.3578	English sole	Dec-94	Hylebos	68
153-47	94.3581	English sole	Dec-94	Hylebos	88
153-48	94.3586	English sole	Dec-94	Hylebos	32
153-49	94.3587	English sole	Dec-94	Hylebos	21
153-50	94.3589	English sole	Dec-94	Hylebos	13
153-51	94.3590	English sole	Dec-94	Hylebos	91
153-52	94.3591	English sole	Dec-94	Hylebos	NDR**
153-53	94.3592	English sole	Dec-94	Hylebos	CNQ
153-54	94.3593	English sole	Dec-94	Hylebos	17
153-55	94.3594	English sole	Dec-94	Hylebos	13
salmon sperm DNA blank					<5
Benzo[a]pyrene-DNA adduct standard 5 uL					1.19
Benzo[a]pyrene-DNA adduct standard 5 uL					1.26
Benzo[a]pyrene-DNA adduct standard 10 uL					2.70
Benzo[a]pyrene-DNA adduct standard 10 uL					2.51
<b>PPL set 2</b>					
153-56	94.3650	English sole	Jan-95	Colvos Passage	4
153-57	94.3651	English sole	Jan-95	Colvos Passage	4
153-58	94.3652	English sole	Jan-95	Colvos Passage	5
153-59	94.3653	English sole	Jan-95	Colvos Passage	CNQ
153-60	94.3654	English sole	Jan-95	Colvos Passage	CNQ
153-61	94.3655	English sole	Jan-95	Colvos Passage	CNQ
153-62	94.3656	English sole	Jan-95	Colvos Passage	CNQ
153-63	94.3657	English sole	Jan-95	Colvos Passage	CNQ
153-64	94.3658	English sole	Jan-95	Colvos Passage	<3
153-65	94.3659	English sole	Jan-95	Colvos Passage	5
153-66	94.3660	English sole	Jan-95	Colvos Passage	4
153-67	94.3661	English sole	Jan-95	Colvos Passage	4
153-68	94.3662	English sole	Jan-95	Colvos Passage	CNQ
153-69	94.3663	English sole	Jan-95	Colvos Passage	CNQ
153-70	94.3664	English sole	Jan-95	Colvos Passage	3
153-71	94.3666	English sole	Jan-95	Colvos Passage	4
153-72	94.3669	English sole	Jan-95	Colvos Passage	5
153-73	94.3670	English sole	Jan-95	Colvos Passage	CNQ
153-74	94.3672	English sole	Jan-95	Colvos Passage	NDR
153-75	94.3681	English sole	Jan-95	Colvos Passage	NDR
153-76	94.3682	English sole	Jan-95	Colvos Passage	CNQ
153-77	94.3683	English sole	Jan-95	Colvos Passage	6
153-78	94.3684	English sole	Jan-95	Colvos Passage	5
153-79	94.3685	English sole	Jan-95	Colvos Passage	NDR

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ppl#	sample#	species	capture date	capture site	nmol DNA adducts/mol DNA bases
153-80	94.3687	English sole	Jan-95	Colvos Passage	CNQ
153-81	94.3688	English sole	Jan-95	Colvos Passage	3
153-82	94.3689	English sole	Jan-95	Colvos Passage	3
153-83	94.3690	English sole	Jan-95	Colvos Passage	CNQ
153-84	94.3594	English sole	Jan-95	Hylebos	CNQ
153-85	94.3595	English sole	Jan-95	Hylebos	58
153-86	94.3596	English sole	Jan-95	Hylebos	36
153-87	94.3598	English sole	Jan-95	Hylebos	9
153-88	94.3600	English sole	Jan-95	Hylebos	34
153-89	94.3602	English sole	Jan-95	Hylebos	22
153-90	94.3603	English sole	Jan-95	Hylebos	26
153-91	94.3604	English sole	Jan-95	Hylebos	12
153-92	94.3605	English sole	Jan-95	Hylebos	7
153-93	94.3607	English sole	Jan-95	Hylebos	CNQ
153-94	94.3615	English sole	Jan-95	Hylebos	31
153-95	94.3616	English sole	Jan-95	Hylebos	9
153-96	94.3617	English sole	Jan-95	Hylebos	47
153-97	94.3618	English sole	Jan-95	Hylebos	8
153-98	94.3628	English sole	Jan-95	Hylebos	CNQ
153-99	94.3629	English sole	Jan-95	Hylebos	11
153-99a	94.3629	English sole	Jan-95	Hylebos	CNQ
153-100	94.3630	English sole	Jan-95	Hylebos	11
153-101	94.3631	English sole	Jan-95	Hylebos	20
153-102	94.3632	English sole	Jan-95	Hylebos	47
153-103	94.3633	English sole	Jan-95	Hylebos	11
153-104	94.3634	English sole	Jan-95	Hylebos	20
153-105	94.3635	English sole	Jan-95	Hylebos	6
153-106	94.3636	English sole	Jan-95	Hylebos	32
153-107	94.3637	English sole	Jan-95	Hylebos	10
153-108	94.3639	English sole	Jan-95	Hylebos	<10
153-109	94.3644	English sole	Jan-95	Hylebos	11
153-110	94.3645	English sole	Jan-95	Hylebos	31
153-111a	94.3647	English sole	Jan-95	Hylebos	CNQ
153-111b	94.3647	English sole	Jan-95	Hylebos	CNQ
153-112	94.3648	English sole	Jan-95	Hylebos	CNQ
153-113	94.3649	English sole	Jan-95	Hylebos	7
salmon sperm DNA blank					1
Benzo[a]pyrene-DNA adduct standard 5 uL					1.34
Benzo[a]pyrene-DNA adduct standard 5 uL					1.43
Benzo[a]pyrene-DNA adduct standard 10 uL					2.68
Benzo[a]pyrene-DNA adduct standard 10 uL					2.78
*CNQ = chromatogram not quantifiable					
**NDR = No DNA recovered					