

Appendix D. Acute Sensitivity of Larval Saltwater Animals to Low Dissolved Oxygen at 24 and 96 Hr.

Species	Common Name	Life Stage	Salinity (g/kg)	Temp. (/C)	DO (mg/L)	SMAV ^a	GMAV ^a	Reference
24 hr LC50s								
<i>Cancer irroratus</i>	rock crab	larval, stage 1-2	30-32	20-22	2.20	< 1.92	< 1.92	Poucher and Coiro, 1997
<i>Cancer irroratus</i>	rock crab	larval, stage 3-4	30-31	19-21	2.14			Poucher and Coiro, 1997
<i>Cancer irroratus</i>	rock crab	larval, stage 3-4	29-31	20-21	< 1.75			Poucher and Coiro, 1997
<i>Cancer irroratus</i>	rock crab	larval, stage 3-5	31-32	20-21	< 1.72			Poucher and Coiro, 1997
<i>Cancer irroratus</i>	rock crab	megalopae-crab	30-32	19-21	1.85			Poucher and Coiro, 1997
<i>Cancer irroratus</i>	rock crab	stage 5-megalopae	29-32	20-21	< 1.89			Poucher and Coiro, 1997
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20-21	20-22	2.50	2.50	2.50	Saksena and Joseph, 1972
<i>Dyspanopeus sayi</i>	Say mud crab	larval, stage 1-3	30-31	25-26	1.95	< 1.65	< 1.65	Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	larval, stage 1	30-32	25	< 1.55			Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	larval, stage 3	30-32	20-21	< 1.18			Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	larval, stage 3	28-30	20-22	1.61			Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	larval, stage 3	31-32	24-25	1.88			Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	larval, stage 3	30-32	23-26	< 1.83			Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	larval, stage 4	30-31	19-21	1.66			Poucher and Coiro, 1997
<i>Eurypanopeus depressus</i>	flat mud crab	larval, stage 3	30-32	20-21	2.09	2.09	2.09	Poucher and Coiro, 1997
<i>Fundulus heteroclitus</i>	mummichog	embryo	30	20	< 2.40	< 2.40	< 2.40	Voyer and Henneky, 1972
<i>Gobiesox strumosus</i>	skilletfish	newly hatched	20-21	20-22	1	1	1	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20-21	20-22	1.30	1.30	1.30	Saksena and Joseph, 1972
<i>Homarus americanus</i>	American lobster	larval, stage 1	30-32	18	2.44	< 2.29	< 2.29	Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	larval, stage 1	30	20-21	< 2.32			Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	larval, stage 1	29-31	18-19	2.66			Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	larval, stage 2	30-31	20-21	2.14			Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	larval, stage 2	30-32	18-19	2.46			Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	larval, stage 2	30-31	19-20	3.31			Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	larval, stage 3	30	19-20	2.27			Poucher and Coiro, 1997

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<i>Homarus americanus</i>	American lobster	larval, stage 3	30-31	20	2.47			Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	larval, stage 3	29-31	22-24	2.36			Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	larval, stage 3	29-30	21	1.92			Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	postlarval, stage 4	29-31	18-20	1.38			Poucher and Coiro, 1997
<i>Labinia dubia</i>	longnose spider crab	larval, stage 1	31-32	20-21	1.83	2.05	2.05	Poucher and Coiro, 1997
<i>Labinia dubia</i>	longnose spider crab	larval, megalop	31-32	24-25	1.97			Poucher and Coiro, 1997
<i>Labinia dubia</i>	longnose spider crab	larval, megalop	31	25	2.40			Poucher and Coiro, 1997
<i>Loligo pealii</i>	long fin squid	newly hatched	30	19-20	< 1.00	< 1.00	1.00	Poucher and Coiro, 1997
<i>Menidia beryllina</i>	inland silverside	embryo-hatch	29-32	24-25	< 1.59	< 1.33	< 1.33	Poucher and Coiro, 1997
<i>Menidia beryllina</i>	inland silverside	larval (12 days old)	30-31	25	1.43			Poucher and Coiro, 1997
<i>Menidia beryllina</i>	inland silverside	newly hatched	29-31	28-29	1.25			Poucher and Coiro, 1997
<i>Menidia beryllina</i>	inland silverside	newly hatched	31-32	19-21	1.10			Poucher and Coiro, 1997
<i>Mercenaria mercenaria</i>	hardshell clam	1-4 day old veliger	-	22	< 1.00	< 0.71	< 0.71	Huntington and Miller, 1989
<i>Mercenaria mercenaria</i>	hardshell clam	embryo-larval	28-30	25	< 0.50			Morrison, 1971
<i>Morone saxatilis</i>	striped bass	postlarval	5-6	20-21	1.96	2.39	2.39	Poucher and Coiro, 1997
<i>Morone saxatilis</i>	striped bass	postlarval	4-7	19	3.15			Poucher and Coiro, 1997
<i>Morone saxatilis</i>	striped bass	postlarval	4-5	18-19	2.22			Poucher and Coiro, 1997
<i>Octopus burryi</i>	Burry's octopus	embryo-hatch	30-32	24-26	2.54	2.54	2.54	Poucher and Coiro, 1997
<i>Palaemonetes pugio</i>	daggerblade grass shrimp	<24 hr old larvae	30-31	24-25	1.24	1.24	< 1.39	Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	larval, stage 1	30-31	30	< 1.40	< 1.56		Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	larval, stage 1-2	32.0	25	1.89			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	<16 hr old larvae	30-31	26	< 1.79			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	<24 hr old larvae	30-31	24-25	1.50			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	<16 hr old larvae	30-31	24-26	< 2.05			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	<24 hr old larvae	32	25	< 1.56			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	<24 hr old larvae	30-32	29-30	< 1.54			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	<20 hr old larvae	29-31	20-21	1.66			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	<24 hr old larvae	32	26	< 1.59			Poucher and Coiro, 1997

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<i>Palaemonetes vulgaris</i>	marsh grass shrimp	larval, stage 1-4	29-32	24-26	1.95			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	larval, stage 1	31-32	24-26	1.89			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	larval, stage 3	31	25	1.77			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	larval, stage 6	30-32	25-26	1.70			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	postlarval	31-32	18-19	< 0.48			Poucher and Coiro, 1997
<i>Scianops ocellatus</i>	red drum	larval	31	28-29	1.76	1.76	1.76	Poucher and Coiro, 1997
96 hr LC50s								
<i>Cancer irroratus</i>	rock crab	larval, stage 1-2	30-32	20-22	3.09	2.47	2.47	Poucher and Coiro, 1997
<i>Cancer irroratus</i>	rock crab	larval, stage 3-4	30-31	19-21	2.80			Poucher and Coiro, 1997
<i>Cancer irroratus</i>	rock crab	larval, stage 3-5	29-31	20-21	2.22			Poucher and Coiro, 1997
<i>Cancer irroratus</i>	rock crab	larval, stage 3	31-32	20-21	2.17			Poucher and Coiro, 1997
<i>Cancer irroratus</i>	rock crab	megalops to 1st crab	30-32	19-21	2.20			Poucher and Coiro, 1997
<i>Cyprinodon variegatus</i>	sheepshead minnow	24 hr old larvae	31-32	20-21	< 0.40	< 0.76	< 0.76	Poucher and Coiro, 1997
<i>Cyprinodon variegatus</i>	sheepshead minnow	24-48 hr old larvae	20-22	30-31	< 1.45			Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	larval, stage 1	30-31	25-26	1.97	1.98	1.98	Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	larval, stage 1	30-32	25	1.57			Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	larval, stage 3	30-32	23-26	2.40			Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	larval, stage 3	31-32	24-25	2.13			Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	larval, stage 3	28-30	20-22	1.73			Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	larval, stage 3	30-32	20-21	1.73			Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	larval, stage 4	30-31	19-21	2.50			Poucher and Coiro, 1997
<i>Eurypanopeus depressus</i>	flat mud crab	larval, stage 2	29-30	20-21	2.20	2.15	2.15	Poucher and Coiro, 1997
<i>Eurypanopeus depressus</i>	flat mud crab	larval, stage 3	30-32	20-21	2.10			Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	larval, stage 1	30	20-21	3.19	2.78	2.78	Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	larval, stage 1	29-31	18-19	3.21			Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	larval, stage 1	30-32	18	2.83			Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	larval, stage 2	30-31	19-20	3.43			Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	larval, stage 2	30-31	20-21	3.08			Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	larval, stage 2	30-32	18-19	2.82			Poucher and Coiro, 1997

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<i>Homarus americanus</i>	American lobster	larval, stage 3	31-32	18-19	2.13			Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	larval, stage 3	29-30	21	2.36			Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	larval, stage 3	30	19-20	2.27			Poucher and Coiro, 1997
<i>Labinia dubia</i>	longnose spider crab	larval, stage 1	31-32	20-21	2.71	2.06	2.06	Poucher and Coiro, 1997
<i>Labinia dubia</i>	longnose spider crab	larval, stage 1	31	19-20	1.77			Poucher and Coiro, 1997
<i>Labinia dubia</i>	longnose spider crab	larval stage 2 to megalop	31-32	20-21	1.81			Poucher and Coiro, 1997
<i>Menidia beryllina</i>	inland silverside	larval, 12 day old	30-31	25	1.44	1.44	< 1.57	Poucher and Coiro, 1997
<i>Menidia menidia</i>	Atlantic silverside	embryo-larval	30-32	20-23	< 1.71	< 1.71		Poucher and Coiro, 1997
<i>Morone saxatilis</i>	striped bass	postlarval	5-6	20-21	1.96	2.43	2.43	Poucher and Coiro, 1997
<i>Morone saxatilis</i>	striped bass	postlarval	4-5	19	2.18			Poucher and Coiro, 1997
<i>Morone saxatilis</i>	striped bass	larval	4-5	18-19	2.34			Poucher and Coiro, 1997
<i>Morone saxatilis</i>	striped bass	larval	4-7	19	3.46			Poucher and Coiro, 1997
<i>Palaemonetes pugio</i>	daggerblade grass shrimp	<24 hr old larvae	30-31	24-25	1.58	1.58	< 1.71	Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	<24 hr old larvae	30-31	24-25	2.18	< 1.85		Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	<16 hr old larvae	30-31	26	< 1.79			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	<16 hr old larvae	30-31	24-26	2.16			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	<20 hr old larvae	29-31	20-21	2.15			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	larval, stage 1	29-32	24-26	2.10			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	<24 hr old larvae	31-32	25	2.05			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	<24 hr old larvae	30-32	29-30	1.96			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	larval, stage 3	31	25	1.87			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	larval, stage 6	30-32	25-26	1.72			Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	post larval	31-32	18-19	0.98			Poucher and Coiro, 1997

^aGeometric means are used for Species Mean Acute Values (SMAV) and Genus Mean Acute Values (GMAV).