

Appendix J. Other Data on the Sensitivity of Saltwater Animals to Low Dissolved Oxygen. Data Are Segregated into Juvenile/adult and Larvae for Ease of Comparison with the Different Protection Limits.

Juvenile/adult

Species	Common Name	Life Stage	Salinity	Temp	Duration	Effect	Conc. mg/L	Reference
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	2 hr	LC5	1.00	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	2 hr	LC50	0.70	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	2 hr	LC95	0.49	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	8 hr	LC5	1.04	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	8 hr	LC50	0.77	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	8 hr	LC95	0.57	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	16 hr	LC5	1.15	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	16 hr	LC50	0.84	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	16 hr	LC95	0.59	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	24 hr	LC5	1.30	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	24 hr	LC95	0.61	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	48 hr	LC5	1.42	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	48 hr	LC50	0.94	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	48 hr	LC95	0.62	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	72 hr	LC5	1.50	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	72 hr	LC50	0.96	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	72 hr	LC95	0.62	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	96 hr	LC5	1.55	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	132 mm total length	7	28	96 hr	LC95	0.69	Burton et al., 1980
<i>Brevoortia tyrannus</i>	Atlantic menhaden	33.8 mm long	30-32	20	6 hr	LC50	1.9	Voyer and Hennekey, 1972
<i>Callinectes sapidus</i>	blue crab	adult	-	31	6 hr	10% mortality	0.98	Carpenter and Cargo, 1957
<i>Callinectes sapidus</i>	blue crab	adult	-	30	6 hr	20% mortality	0.45	Carpenter and Cargo, 1957
<i>Callinectes sapidus</i>	blue crab	adult	-	27.5	8 hr	5% mortality	0.70	Carpenter and Cargo, 1957
<i>Callinectes sapidus</i>	blue crab	adult	-	29.5	9 hr	100% mortality	0.22	Carpenter and Cargo, 1957
<i>Callinectes sapidus</i>	blue crab	adult	-	29.5	10 hr	42% mortality	0.57	Carpenter and Cargo, 1957
<i>Callinectes sapidus</i>	blue crab	adult	-	26	12 hr	20% mortality	0.32	Carpenter and Cargo, 1957
<i>Callinectes sapidus</i>	blue crab	adult	-	30	12 hr	80% mortality	0.45	Carpenter and Cargo, 1957
<i>Callinectes sapidus</i>	blue crab	adult	-	30	14 hr	100% mortality	0.45	Carpenter and Cargo, 1957
<i>Callinectes sapidus</i>	blue crab	adult	-	28	16 hr	50% mortality	0.64	Carpenter and Cargo, 1957
<i>Callinectes sapidus</i>	blue crab	adult	-	26	18 hr	40% mortality	0.32	Carpenter and Cargo, 1957
<i>Callinectes sapidus</i>	blue crab	adult	-	29.5	20 hr	40% mortality	0.62	Carpenter and Cargo, 1957
<i>Callinectes sapidus</i>	blue crab	adult	-	28	21 hr	5% mortality	1.05	Carpenter and Cargo, 1957

Species	Common Name	Life Stage	Salinity	Temp	Duration	Effect	Conc. mg/L	Reference
<i>Callinectes sapidus</i>	blue crab	adult	-	29.5	21 hr	50% mortality	0.63	Carpenter and Cargo, 1957
<i>Callinectes sapidus</i>	blue crab	adult	-	26	24 hr	10% mortality	1.05	Carpenter and Cargo, 1957
<i>Callinectes sapidus</i>	blue crab	adult	-	26	24 hr	100% mortality	0.32	Carpenter and Cargo, 1957
<i>Callinectes sapidus</i>	blue crab	adult	-	30	24 hr	25% mortality	1.01	Carpenter and Cargo, 1957
<i>Callinectes sapidus</i>	blue crab	adult	-	28.5	24 hr	5% mortality	0.98	Carpenter and Cargo, 1957
<i>Carcinus maenas</i>	green crab	adult	15	10	48 hr	LT50	<0.21	Theede et al., 1969
<i>Crangon septemspinosa</i>	sand shrimp	young adult	29-30	20-21	80 hr	LC50	0.91	Poucher and Coiro, 1997
<i>Crassostrea virginica</i>	eastern oyster	juvenile	21	25	131 hr	Time to 50% mortality	1.5	Baker and Mann, 1992
<i>Crassostrea virginica</i>	eastern oyster	juvenile	21	25	144 hr	70% reduction in growth	1.5	Baker and Mann, 1992
<i>Crassostrea virginica</i>	eastern oyster	post settlement (436 µm shell length)	24	20	24 hr	46% reduction in ingestion rate	1.9	Baker and Mann, 1994b
<i>Eurytemora affinis</i>	copepod	adult	5	27	24 hr	LT50	0.6	Davis and Bradley, 1990
<i>Eurytemora affinis</i>	copepod	adult, male	15	5	0.5 hr	LC50	1.23	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, female	15	5	0.5 hr	LC50	1.23	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, male	15	10	0.5 hr	LC50	1.04	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, female	15	10	0.5 hr	LC50	1.20	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, male	15	15	0.5 hr	LC50	1.55	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, female	15	15	0.5 hr	LC50	1.02	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, male	20	5	0.5 hr	LC50	0.67	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, female	20	5	0.5 hr	LC50	0.58	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, male	20	10	0.5 hr	LC50	1.08	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, female	20	10	0.5 hr	LC50	0.93	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, male	20	15	0.5 hr	LC50	0.77	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, female	20	15	0.5 hr	LC50	1.00	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, male	25	5	0.5 hr	LC50	0.7	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, female	25	5	0.5 hr	LC50	0.56	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, male	25	10	0.5 hr	LC50	0.9	Vargo and Sastry, 1978

Species	Common Name	Life Stage	Salinity	Temp	Duration	Effect	Conc. mg/L	Reference
<i>Eurytemora affinis</i>	copepod	adult, female	25	10	0.5 hr	LC50	0.88	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, male	25	15	0.5 hr	LC50	1.1	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, female	25	15	0.5 hr	LC50	1.40	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, male	30	5	0.5 hr	LC50	0.51	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, female	30	5	0.5 hr	LC50	0.69	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, male	30	10	0.5 hr	LC50	0.64	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, female	30	10	0.5 hr	LC50	0.64	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, male	30	15	0.5 hr	LC50	0.78	Vargo and Sastry, 1978
<i>Eurytemora affinis</i>	copepod	adult, female	30	15	0.5 hr	LC50	0.76	Vargo and Sastry, 1978
<i>Fundulus heteroclitus</i>	mummichog	adult	30-32	20	6 hr	LC50	0.74	Voyer and Hennekey, 1972
<i>Fundulus heteroclitus</i>	mummichog	adult	30-32	20	6 hr	LC50	0.76	Voyer and Hennekey, 1972
<i>Fundulus heteroclitus</i>	mummichog	adult	30-32	20	6 hr	LC50	0.89	Voyer and Hennekey, 1972
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	1 hr	LC05	0.56	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	1 hr	LC50	0.49	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	1 hr	LC95	0.43	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	2 hr	LC05	0.57	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	2 hr	LC50	0.5	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	2 hr	LC95	0.43	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	4 hr	LC05	0.6	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	4 hr	LC50	0.53	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	4 hr	LC95	0.47	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	6 hr	LC05	0.64	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	6 hr	LC50	0.57	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	6 hr	LC95	0.51	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	24 hr	LC05	0.76	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	24 hr	LC95	0.59	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	48 hr	LC05	0.76	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	48 hr	LC50	0.67	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	48 hr	LC95	0.59	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	72 hr	LC05	0.77	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	72 hr	LC50	0.68	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	72 hr	LC95	0.6	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	96 hr	LC05	0.81	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	96 hr	LC95	0.60	Burton et al., 1980
<i>Leiostomus xanthurus</i>	spot	88 mm	7	28	24 hr	LC50	0.70	Burton et al., 1980
<i>Littorina littorea</i>	periwinkle	adult	30	10	365 hr	LT50	0.21	Theede et al., 1969

Species	Common Name	Life Stage	Salinity	Temp	Duration	Effect	Conc. mg/L	Reference
<i>Menidia menidia</i>	Atlantic silverside	54.6 mm long	-	-	6 hr	LC50	2.1	Voyer and Hennekey, 1972
<i>Morone saxatilis</i>	striped bass	juvenile	32	18-20	24 hr	100% mortality	1.35	Poucher and Coiro, 1997
<i>Mulinia lateralis</i>	coot clam	juvenile	27-31	20-21	14 days	LC50	<0.9	Poucher and Coiro, 1997
<i>Mulinia lateralis</i>	coot clam	juvenile	27-31	20-21	14 days	LC30, growth	1.04	Poucher and Coiro, 1997
<i>Mya arenaria</i>	softshell clam	adult	15	10	504 hr	LT50	<0.21	Theede et al., 1969
<i>Mytilus edulis</i>	blue mussel	adult	30	10	840 hr	LT50	<0.21	Theede et al., 1969
<i>Nereis diversicolor</i>	polychaete worm	adult	15	10	120 hr	LT50	<0.21	Theede et al., 1969
<i>Palaemonetes pugio</i>	daggerblade grass shrimp	adult	15	28	20 min	65.7% reduction in locomotor activity	1.8	Hutcheson et al., 1985
<i>Palaemonetes pugio</i>	daggerblade grass shrimp	adult	15	28	20 min	84.2% reduction in locomotor activity	0.8	Hutcheson et al., 1985
<i>Palaemonetes pugio</i>	daggerblade grass shrimp	adult	15	28	24 hr	38% mortality	1.2	Hutcheson et al., 1985
<i>Palaemonetes pugio</i>	daggerblade grass shrimp	adult	15	28	24 hr	61% mortality	0.8	Hutcheson et al., 1985
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	juvenile	30-32	24-25	96 hr	100% mortality	0.63	Poucher and Coiro, 1997
<i>Paralichthys dentatus</i>	summer flounder	newly metamorphosed juvenile	29-30	24-25	24 hr	100% mortality	1.30	Poucher and Coiro, 1997
<i>Paralichthys dentatus</i>	summer flounder	newly metamorphosed juvenile	29-30	24-25	72 hr	LC50	1.59	Poucher and Coiro, 1997
<i>Pleuronectes americanus</i>	winter flounder	metamorphosed juvenile	31-32	20-21	6 hr	100% mortality	0.58	Poucher and Coiro, 1997
<i>Prionotus carolinus</i>	sea robin	juvenile	31-32	19-20	2 hr	100% mortality	0.27	Poucher and Coiro, 1997
<i>Spisula solidissima</i>	Atlantic surfclam	juvenile	30-32	22-24	10 days	LC50	0.45	Poucher and Coiro, 1997
<i>Tautoga onitis</i>	tautog	juvenile	31-32	24-25	3.25 hr	100% mortality	0.28	Poucher and Coiro, 1997
<i>Tautoga onitis</i>	tautog	juvenile	31-32	24	4 hr	100% mortality	0.58	Poucher and Coiro, 1997
<i>Tautoga onitis</i>	tautog	juvenile	31-32	24-25	7 hr	100% mortality	0.58	Poucher and Coiro, 1997
<i>Tautoga onitis</i>	tautog	juvenile	31-32	24	24 hr	40% mortality	0.84	Poucher and Coiro, 1997

Larvae

Species	Common name	Life stage	Salinity (ppt)	Temp (/C)	Duration	Effect	D.O. (mg/L)	Reference
<i>Acartia tonsa</i>	copepod	0 to 3.5 hr old eggs	-	20	2.5 days	Estimated EC50 % hatch	0.21	Lutz et al., 1994
<i>Acartia tonsa</i>	copepod	10 to 13.5 hr old eggs	-	20	2.5 days	Estimated EC50 % hatch	0.17	Lutz et al., 1994
<i>Acartia tonsa</i>	copepod	eggs	-	20	5 days	Estimated EC50 % hatch	0.17	Lutz et al., 1992
<i>Anchoa mitchilli</i>	bay anchovy	12 old eggs	-	26.5	12 hr	LC50	2.8	Chesney and Houde, 1989
<i>Anchoa mitchilli</i>	bay anchovy	12-24 hr yolk-sac larvae	15-18	26.5	12 hr	LC50	1.6	Chesney and Houde, 1989
<i>Cancer irroratus</i>	rock crab	megalops	30	10	2 hr	LC50	1.82	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	megalops	30	15	2 hr	LC50	1.99	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	megalops	30	20	2 hr	LC50	2.52	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	megalops	30	25	2 hr	LC50	3.78	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	megalops	30	10	4 hr	LC50	2.38	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	megalops	30	15	4 hr	LC50	2.21	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	megalops	30	20	4 hr	LC50	3.08	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	megalops	30	25	4 hr	LC50	4.69	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 1 larvae	30	10	2 hr	LC50	0.80	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 1 larvae	30	15	2 hr	LC50	1.32	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 1 larvae	30	20	2 hr	LC50	1.57	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 1 larvae	30	25	2 hr	LC50	2.62	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 1 larvae	30	10	4 hr	LC50	0.80	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 1 larvae	30	15	4 hr	LC50	1.67	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 1 larvae	30	20	4 hr	LC50	1.97	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 1 larvae	30	25	4 hr	LC50	2.93	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 2 larvae	30	10	2 hr	LC50	0.64	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 2 larvae	30	15	2 hr	LC50	0.66	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 2 larvae	30	20	2 hr	LC50	2.25	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 2 larvae	30	25	2 hr	LC50	2.95	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 2 larvae	30	10	4 hr	LC50	0.84	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 2 larvae	30	15	4 hr	LC50	1.51	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 2 larvae	30	20	4 hr	LC50	2.25	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 2 larvae	30	25	4 hr	LC50	2.94	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 3 larvae	30	10	2 hr	LC50	0.69	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 3 larvae	30	15	2 hr	LC50	0.34	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 3 larvae	30	20	2 hr	LC50	1.39	Vargo and Sastry, 1977

Species	Common name	Life stage	Salinity (ppt)	Temp (/C)	Duration	Effect	D.O. (mg/L)	Reference
<i>Cancer irroratus</i>	rock crab	stage 3 larvae	30	25	2 hr	LC50	2.35	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 3 larvae	30	10	4 hr	LC50	1.30	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 3 larvae	30	15	4 hr	LC50	0.63	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 3 larvae	30	20	4 hr	LC50	2.44	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 3 larvae	30	25	4 hr	LC50	4.27	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 4 larvae	30	10	2 hr	LC50	0.55	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 4 larvae	30	15	2 hr	LC50	0.62	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 4 larvae	30	20	2 hr	LC50	1.22	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 4 larvae	30	25	2 hr	LC50	2.45	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 4 larvae	30	10	4 hr	LC50	0.80	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 4 larvae	30	15	4 hr	LC50	0.85	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 4 larvae	30	20	4 hr	LC50	1.50	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 4 larvae	30	25	4 hr	LC50	3.36	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 5 larvae	30	10	2 hr	LC50	1.58	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 5 larvae	30	15	2 hr	LC50	0.63	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 5 larvae	30	20	2 hr	LC50	1.54	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 5 larvae	30	25	2 hr	LC50	2.41	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 5 larvae	30	10	4 hr	LC50	1.82	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 5 larvae	30	15	4 hr	LC50	0.95	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 5 larvae	30	20	4 hr	LC50	3.21	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 5 larvae	30	25	4 hr	LC50	5.20	Vargo and Sastry, 1977
<i>Cancer irroratus</i>	rock crab	stage 1 larvae	29-32	17-19	72 hr	LC50	2.71	Poucher and Coiro, 1997
<i>Cancer irroratus</i>	rock crab	stage 5 to megalops	29-32	20-21	7 days	LC50	3.03	Poucher and Coiro, 1997
<i>Cancer irroratus</i>	rock crab	megalop to 1st crab	30-32	19-21	7 days	LC50	2.39	Poucher and Coiro, 1997
<i>Cancer irroratus</i>	rock crab	megalop to 1st crab	30-32	19-21	10 days	LC50	2.58	Poucher and Coiro, 1997
<i>Centropages hamatus</i>	copepod	eggs	-	15	5 days	Estimated EC50 % hatch	0.17	Lutz et al., 1992
<i>Centropages hamatus</i>	copepod	eggs	-	15	11 days	Estimated EC50 % hatch	0.11	Lutz et al., 1992
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	1 hr	100% mortality	0.70	Saksena and Joseph, 1972

Species	Common name	Life stage	Salinity (ppt)	Temp (/C)	Duration	Effect	D.O. (mg/L)	Reference
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	1 hr	5% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	2 hr	5% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	3 hr	5% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	4 hr	5% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	5 hr	10% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	6 hr	10% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	7 hr	10% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	8 hr	15% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	9 hr	20% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	10 hr	20% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	11 hr	20% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	12 hr	20% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	13 hr	20% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	14 hr	25% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	15 hr	30% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	16 hr	40% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	17 hr	40% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	18 hr	55% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	19 hr	55% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	20 hr	55% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	21 hr	55% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	22 hr	55% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	23 hr	60% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	24 hr	65% mortality	2.07	Saksena and Joseph, 1972
<i>Chasmodes bosquianus</i>	striped blenny	newly hatched	20	20-22	24 hr	90% mortality	1.33	Saksena and Joseph, 1972
<i>Clupea harengus</i>	Atlantic herring	yolk-sac larvae	-	-	12 hr	LC50	2.8	DeSilva and Tytler, 1973
<i>Crassostrea virginica</i>	eastern oyster	larvae	21	25	24 hr	53% reduction in settlement	1.5	Baker and Mann, 1992
<i>Crassostrea virginica</i>	eastern oyster	larvae	21	25	96 hr	52% reduction in settlement	1.5	Baker and Mann, 1992
<i>Crassostrea virginica</i>	eastern oyster	post larva	21	25	96 hr	delayed development to dissoconch	1.5	Baker and Mann, 1994a
<i>Cyprinodon variegatus</i>	sheepshead minnow	24 hr old larvae	31-32	20-21	7 days	LC50	0.53	Poucher and Coiro, 1997
<i>Cyprinodon variegatus</i>	sheepshead minnow	embryo-hatch	30-32	22-26	5 days	IC50 delayed hatch	> 3.26	Poucher and Coiro, 1997
<i>Cyprinodon variegatus</i>	sheepshead minnow	24-48 hr old larvae	30-31	20-22	14 days	EC25, growth	2.27	Poucher and Coiro, 1997
<i>Cyprinodon variegatus</i>	sheepshead minnow	embryo-hatch	31-32	20-25	7 days	EC50 hatch	< 1.42	Poucher and Coiro, 1997

Species	Common name	Life stage	Salinity (ppt)	Temp (/C)	Duration	Effect	D.O. (mg/L)	Reference
<i>Dyspanopeus sayi</i>	Say mud crab	1st to 3rd stage	31-32	20-21	7 days	LC50	2.55	Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	1st to 3rd stage	32	19-20	7 days	LC50	1.89	Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	1st to 3rd stage	30-31	19-21	7 days	LC50	2.53	Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	1st to 3rd stage	30-31	25-26	7 days	LC50	2.00	Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	3rd stage to megalops	30-32	23-26	8 days	LC50	4.41	Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	3rd stage to megalops	31-32	24-25	9 days	LC50	3.01	Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	3rd stage to megalops	30-32	20-21	11 days	LC50	2.55	Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	3rd to 4th stage	27-31	20	11 days	LC50	2.83	Poucher and Coiro, 1997
<i>Dyspanopeus sayi</i>	Say mud crab	3rd to 4th stage	28-30	20	7 d	LC50	< 2.34	Poucher and Coiro, 1997
<i>Fundulus heteroclitus</i>	mummichog	embryo	30	20	24 hr	10% mortality	4.5	Voyer and Hennekey, 1972
<i>Fundulus heteroclitus</i>	mummichog	embryo	30	20	24 hr	23.3% mortality	2.4	Voyer and Hennekey, 1972
<i>Fundulus heteroclitus</i>	mummichog	embryo	30	20	14 day	26.7% mortality	2.4	Voyer and Hennekey, 1972
<i>Fundulus heteroclitus</i>	mummichog	embryo	30	20	27 day	EC50, hatch	3.9	Voyer and Hennekey, 1972
<i>Gammarus oceanicus</i>	amphipod	adult	15	10	15 hr	LT50	0.21	Theede et al., 1969
<i>Gobiesox strumosus</i>	skilletfish	newly hatched	20	20-22	1 hr	100% mortality	0.50	Saksena and Joseph, 1972
<i>Gobiesox strumosus</i>	skilletfish	newly hatched	20	20-22	14 hr	100% mortality	0.72	Saksena and Joseph, 1972
<i>Gobiesox strumosus</i>	skilletfish	newly hatched	20	20-22	24 hr	10% mortality	1.23	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	1 hr	100% mortality	0.15	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	1 hr	15% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	2 hr	100% mortality	0.35	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	2 hr	25% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	3 hr	25% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	4 hr	35% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	5 hr	40% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	6 hr	40% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	7 hr	45% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	8 hr	50% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	9 hr	50% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	10 hr	50% mortality	1.02	Saksena and Joseph, 1972

Species	Common name	Life stage	Salinity (ppt)	Temp (/C)	Duration	Effect	D.O. (mg/L)	Reference
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	11 hr	50% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	12 hr	50% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	13 hr	50% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	14 hr	50% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	15 hr	60% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	16 hr	60% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	17 hr	60% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	18 hr	60% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	19 hr	60% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	20 hr	60% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	21 hr	60% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	22 hr	60% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	23 hr	65% mortality	1.02	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	24 hr	100% mortality	0.86	Saksena and Joseph, 1972
<i>Gobiosoma bosc</i>	naked goby	newly hatched	20	20-22	24 hr	65% mortality	1.02	Saksena and Joseph, 1972
<i>Homarus americanus</i>	American lobster	1st to 2nd stage larvae	29-31	18-19	24 hr	95% mortality	1.83	Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	1st to 4th stage	30-31	20-22	15 days	LC50	3.32	Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	3rd to 4th stage larvae	30	19-20	5 days	EC50 molt	3.46	Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	3rd to 4th stage larvae	29-30	21	5 days	LC50	2.46	Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	3rd to 4th stage larvae	31-32	18-19	6 days	LC50	2.13	Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	4th to 5th stage larvae	29-31	18-20	20 days	LC50	1.42	Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	1st to 2nd stage larvae	30	20-21	15 days	Delayed molt	5.40	Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	1st to 2nd stage larvae	29-31	18-19	96 hr	No delayed molt	3.15	Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	2nd to 3rd stage larvae	30-32	18-19	96 hr	Delayed molt	3.91	Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	3rd to 4th stage larvae	30	19-20	5 days	Delayed molt	4.06	Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	4th to 5th stage	29-31	18-20	20 days	Delayed molt	1.59	Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	3rd to 4th stage	31-32	18-19	6 days	Delayed molt	2.46	Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	2nd to 3rd stage larvae	30-31	19-20	96 hr	Delayed molt	3.73	Poucher and Coiro, 1997
<i>Homarus americanus</i>	American lobster	3rd to 4th stage larvae	30-31	20	5 days	Delayed molt	4.90	Poucher and Coiro, 1997
<i>Idotea baltica</i>	isopod	adult	15	10	6 hr	LT50	0.21	Theede et al., 1969
<i>Labidocera aestiva</i>	copepod	0 to 3.5 hr old eggs	-	25	3 days	Estimated EC50 % hatch	0.39	Lutz et al., 1994
<i>Labidocera aestiva</i>	copepod	20 to 23.5 hr old eggs	-	25	3 days	Estimated EC50 % hatch	0.32	Lutz et al., 1994
<i>Labidocera aestiva</i>	copepod	eggs	-	20	5 days	Estimated EC50 % hatch	0.42	Lutz et al., 1992
<i>Labinia dubia</i>	longnose spider crab	megalop to 1st crab	31-32	24-25	72 hr	LC50	2.34	Poucher and Coiro, 1997

Species	Common name	Life stage	Salinity (ppt)	Temp (/C)	Duration	Effect	D.O. (mg/L)	Reference
<i>Loligo pealii</i>	long fin squid	embryo-larvae	30-32	17-20	16 days	LC50	2.11	Poucher and Coiro, 1997
<i>Loligo pealii</i>	long fin squid	embryo-larvae	30-32	17-20	16 days	Hatch delayed 4-5 days	3.50	Poucher and Coiro, 1997
<i>Loligo pealii</i>	long fin squid	embryo-larvae	30-32	19-21	20 days	LC50	1.36	Poucher and Coiro, 1997
<i>Loligo pealii</i>	long fin squid	embryo-larvae	30-32	19-21	20 days	Hatch delayed 2-6 days	2.26	Poucher and Coiro, 1997
<i>Loligo pealii</i>	long fin squid	embryo-hatch	31-32	19-21	25 days	LC50	1.66	Poucher and Coiro, 1997
<i>Loligo pealii</i>	long fin squid	embryo-hatch	31-32	19-21	25 days	Hatch delayed 1-3 days	3.77	Poucher and Coiro, 1997
<i>Menidia beryllina</i>	inland silverside	12 day old larvae	30-31	25	2 hr	100% mortality	0.80	Poucher and Coiro, 1997
<i>Menidia beryllina</i>	inland silverside	12 day old larvae	30-31	25	5 hr	90% mortality	1.23	Poucher and Coiro, 1997
<i>Menidia beryllina</i>	inland silverside	embryo-hatch	29-32	24-25	8 day	33% reduction in hatch	2.70	Poucher and Coiro, 1997
<i>Menidia beryllina</i>	inland silverside	embryo-hatch	29-32	24-25	8 day	LC50	2.38	Poucher and Coiro, 1997
<i>Menidia beryllina</i>	inland silverside	embryo-hatch	30-32	24-26	7 days	LC25	3.62	Poucher and Coiro, 1997
<i>Mercenaria mercenaria</i>	hardshell clam	1-4 day old veliger	-	22	24 hr	No effect on survival	1.0	Huntington and Miller, 1989
<i>Mercenaria mercenaria</i>	hardshell clam	embryo-larvae	28-30	25	24 hr	100% mortality	0.2	Morrison, 1971
<i>Morone saxatilis</i>	striped bass	larvae	4-7	18.5-19	2 hr	100% mortality	1.90	Poucher and Coiro, 1997
<i>Morone saxatilis</i>	striped bass	larvae	4-5	18-19	24 hr	100% mortality	1.50	Poucher and Coiro, 1997
<i>Morone saxatilis</i>	striped bass	larvae	4-5	18-19	24 hr	100% mortality	1.75	Poucher and Coiro, 1997
<i>Mytilus edulis</i>	blue mussel	embryo-larval	31	15	2 days	EC50	< 1.4	Wang and Widdows, 1991
<i>Mytilus edulis</i>	blue mussel	embryo-larval	31	15	48 hr	no development beyond gastrula	0.6	Wang and Widdows, 1991
<i>Mytilus edulis</i>	blue mussel	veliconch larvae, 180 : m	31	15	6 days	14% reduction in shell growth	2.6	Wang and Widdows, 1991
<i>Mytilus edulis</i>	blue mussel	veliconch larvae, 240 : m	31	15	8 days	13% reduction in shell growth	2.6	Wang and Widdows, 1991
<i>Mytilus edulis</i>	blue mussel	prodissoconch larvae, 124 : m	31	15	10 days	21% reduction in shell growth	0.6	Wang and Widdows, 1991
<i>Octopus burryi</i>	Burryi's octopus	embryo-hatch	30-32	24-25.5	48 hr	LC50	> 3.43	Poucher and Coiro, 1997
<i>Palaemonetes pugio</i>	daggerblade grass shrimp	larvae	30-31	24-25	24 hr	100% mortality	0.78	Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	<16 hr old larvae	30-31	24-26	7 days	LC50	2.19	Poucher and Coiro, 1997
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	stage 1 larvae	30-32	29-30	7 days	LC50	2.00	Poucher and Coiro, 1997
<i>Tortanus discaudatus</i>	copepod	eggs	-	10	5 days	Estimated EC50 % hatch	0.28	Lutz et al., 1992

