

# Andrew J Esbaugh

## List of Publications by Year in descending order

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95  
papers

3,737  
citations

136950  
32  
h-index

138484  
58  
g-index

95  
all docs

95  
docs citations

95  
times ranked

2883  
citing authors

#	ARTICLE	IF	CITATIONS
1	<i>Deepwater Horizon</i> crude oil impacts the developing hearts of large predatory pelagic fish. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, E1510-8.	7.1	359
2	Oxygen- and capacity-limited thermal tolerance: blurring ecology and physiology. <i>Journal of Experimental Biology</i> , 2018, 221, .	1.7	204
3	Acute Embryonic or Juvenile Exposure to <i>Deepwater Horizon</i> Crude Oil Impairs the Swimming Performance of Mahi-Mahi ( <i>Coryphaena hippurus</i> ). <i>Environmental Science &amp; Technology</i> , 2014, 48, 7053-7061.	10.0	200
4	The effects of weathering and chemical dispersion on <i>Deepwater Horizon</i> crude oil toxicity to mahi-mahi ( <i>Coryphaena hippurus</i> ) early life stages. <i>Science of the Total Environment</i> , 2016, 543, 644-651.	8.0	159
5	Impacts of ocean acidification on respiratory gas exchange and acid–base balance in a marine teleost, <i>Opsanus beta</i> . <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2012, 182, 921-934.	1.5	157
6	The structure and function of carbonic anhydrase isozymes in the respiratory system of vertebrates. <i>Respiratory Physiology and Neurobiology</i> , 2006, 154, 185-198.	1.6	133
7	Oxygen-dependence of upper thermal limits in fishes. <i>Journal of Experimental Biology</i> , 2016, 219, 3376-3383.	1.7	110
8	Branchial expression and localization of SLC9A2 and SLC9A3 sodium/hydrogen exchangers and their possible role in acid–base regulation in freshwater rainbow trout ( <i>Oncorhynchus mykiss</i> ). <i>Journal of Experimental Biology</i> , 2008, 211, 2467-2477.	1.7	108
9	Corresponding morphological and molecular indicators of crude oil toxicity to the developing hearts of mahi mahi. <i>Scientific Reports</i> , 2015, 5, 17326.	3.3	93
10	Larval Red Drum ( <i>Sciaenops ocellatus</i> ) Sublethal Exposure to Weathered <i>Deepwater Horizon</i> Crude Oil: Developmental and Transcriptomic Consequences. <i>Environmental Science &amp; Technology</i> , 2017, 51, 10162-10172.	10.0	91
11	Cardiac function and survival are affected by crude oil in larval red drum, <i>Sciaenops ocellatus</i> . <i>Science of the Total Environment</i> , 2017, 579, 797-804.	8.0	87
12	Physiological implications of ocean acidification for marine fish: emerging patterns and new insights. <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2018, 188, 1-13.	1.5	80
13	Sustained impairment of respiratory function and swim performance following acute oil exposure in a coastal marine fish. <i>Aquatic Toxicology</i> , 2017, 187, 82-89.	4.0	73
14	Respiratory plasticity is insufficient to alleviate blood acid–base disturbances after acclimation to ocean acidification in the estuarine red drum, <i>Sciaenops ocellatus</i> . <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2016, 186, 97-109.	1.5	67
15	The involvement of SLC26 anion transporters in chloride uptake in zebrafish ( <i>Danio rerio</i> ) larvae. <i>Journal of Experimental Biology</i> , 2009, 212, 3283-3295.	1.7	66
16	Cytoplasmic carbonic anhydrase isozymes in rainbow trout <i>Oncorhynchus mykiss</i> : comparative physiology and molecular evolution. <i>Journal of Experimental Biology</i> , 2005, 208, 1951-1961.	1.7	64
17	Oil exposure disrupts early life-history stages of coral reef fishes via behavioural impairments. <i>Nature Ecology and Evolution</i> , 2017, 1, 1146-1152.	7.8	60
18	Impact of Oil Spills on Marine Life in the Gulf of Mexico: Effects on Plankton, Nekton, and Deep-Sea Benthos. <i>Oceanography</i> , 2016, 29, 174-181.	1.0	58

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19	Effects of Deepwater Horizon crude oil on ocular development in two estuarine fish species, red drum ( <i>Sciaenops ocellatus</i> ) and sheepshead minnow ( <i>Cyprinodon variegatus</i> ). <i>Ecotoxicology and Environmental Safety</i> , 2018, 166, 186-191.	6.0	58
20	Regulation of apical H <sup>+</sup> -ATPase activity and intestinal HCO <sub>3</sub> <sup>-</sup> secretion in marine fish osmoregulation. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2011, 301, R1682-R1691.	1.8	55
21	Acid-base physiology and CO <sub>2</sub> homeostasis: Regulation and compensation in response to elevated environmental CO <sub>2</sub> . <i>Fish Physiology</i> , 2019, , 69-132.	0.8	49
22	Intestinal transport following transfer to increased salinity in an anadromous fish ( <i>Oncorhynchus</i> ) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 159, 150-158.	1.8	46
23	Physiological impacts of Deepwater Horizon oil on fish. <i>Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology</i> , 2019, 224, 108558.	2.6	46
24	Modulation of hypothalamicâ€“pituitaryâ€“interrenal axis function by social status in rainbow trout. <i>General and Comparative Endocrinology</i> , 2012, 176, 201-210.	1.8	44
25	The toxicity and physiological effects of copper on the freshwater pulmonate snail, <i>Lymnaea stagnalis</i> . <i>Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology</i> , 2011, 154, 261-267.	2.6	41
26	Ocean Acidification Leads to Counterproductive Intestinal Base Loss in the Gulf Toadfish ( <i>Opsanus</i> ) Tj ETQq0 0 0 rgBT /Overlock 10 T 1.5 39	1.5	39
27	Effects of hypoxia and ocean acidification on the upper thermal niche boundaries of coral reef fishes. <i>Biology Letters</i> , 2017, 13, 20170135.	2.3	38
28	Comparative physiology and molecular evolution of carbonic anhydrase in the erythrocytes of early vertebrates. <i>Comparative Biochemistry and Physiology Part A, Molecular &amp; Integrative Physiology</i> , 2003, 136, 259-269.	1.8	37
29	Comparative physiology and molecular analysis of carbonic anhydrase from the red blood cells of teleost fish. <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2004, 174, 429-38.	1.5	36
30	Osmoregulation and branchial plasticity after acute freshwater transfer in red drum, <i>Sciaenops ocellatus</i> . <i>Comparative Biochemistry and Physiology Part A, Molecular &amp; Integrative Physiology</i> , 2014, 178, 82-89.	1.8	34
31	Detecting the Unexpected: A Research Framework for Ocean Acidification. <i>Environmental Science &amp; Technology</i> , 2014, 48, 9982-9994.	10.0	34
32	Hypoxia tolerance decreases with body size in red drum <i>Sciaenops ocellatus</i> . <i>Journal of Fish Biology</i> , 2016, 89, 1488-1493.	1.6	34
33	Hyperventilation and blood acidâ€“base balance in hypercapnia exposed red drum ( <i>Sciaenops ocellatus</i> ). <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2016, 186, 447-460.	1.5	34
34	Development and validation of a biotic ligand model for predicting chronic toxicity of lead to <i>Ceriodaphnia dubia</i> . <i>Environmental Toxicology and Chemistry</i> , 2014, 33, 394-403.	4.3	32
35	Acclimation to prolonged hypoxia alters hemoglobin isoform expression and increases hemoglobin oxygen affinity and aerobic performance in a marine fish. <i>Scientific Reports</i> , 2017, 7, 7834.	3.3	31
36	The early life stages of an estuarine fish, the red drum ( <i>Sciaenops ocellatus</i> ), are tolerant to high pCO <sub>2</sub> . <i>ICES Journal of Marine Science</i> , 2017, 74, 1042-1050.	2.5	30

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37	Mechanisms of acid–base regulation in the African lungfish <i>Protopterus annectens</i> . Journal of Experimental Biology, 2007, 210, 1944-1959.	1.7	29
38	Investigations into the mechanism of lead toxicity to the freshwater pulmonate snail, <i>Lymnaea stagnalis</i> . Aquatic Toxicology, 2012, 106-107, 147-156.	4.0	29
39	mRNA-miRNA-Seq Reveals Neuro-Cardio Mechanisms of Crude Oil Toxicity in Red Drum ( <i>Sciaenops ocellatus</i> ). Journal of Experimental Biology, 2019, 232, 100-110.	10.0	29
40	A review of the toxicology of oil in vertebrates: what we have learned following the Deepwater Horizon oil spill. Journal of Toxicology and Environmental Health - Part B: Critical Reviews, 2021, 24, 355-394.	6.5	28
41	Carbonic anhydrase expression and CO <sub>2</sub> excretion during early development in zebrafish <i>Danio rerio</i> . Journal of Experimental Biology, 2009, 212, 3837-3845.	1.7	27
42	A novel system for embryo-larval toxicity testing of pelagic fish: Applications for impact assessment of Deepwater Horizon crude oil. Chemosphere, 2016, 162, 261-268.	8.2	27
43	Oil exposure alters social group cohesion in fish. Scientific Reports, 2019, 9, 13520.	3.3	27
44	Compensatory regulation of acid–base balance during salinity transfer in rainbow trout ( <i>Oncorhynchus mykiss</i> ). Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology, 2012, 182, 259-274.	1.5	26
45	Intestinal Na <sup>+</sup> , K <sup>+</sup> , 2Cl <sup>-</sup> cotransporter 2 plays a crucial role in hyperosmotic transitions of a euryhaline teleost. Physiological Reports, 2016, 4, e13028.	1.7	26
46	Multi-linear regression analysis, preliminary biotic ligand modeling, and cross species comparison of the effects of water chemistry on chronic lead toxicity in invertebrates. Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology, 2012, 155, 423-431.	2.6	25
47	Effects of salinity and hypoxia-induced hyperventilation on oxygen consumption and cost of osmoregulation in the estuarine red drum ( <i>Sciaenops ocellatus</i> ). Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2018, 222, 52-59.	1.8	25
48	The effects of oil induced respiratory impairment on two indices of hypoxia tolerance in Atlantic croaker ( <i>Micropogonias undulatus</i> ). Chemosphere, 2018, 200, 143-150.	8.2	25
49	Using aerobic exercise to evaluate sub-lethal tolerance of acute warming in fishes. Journal of Experimental Biology, 2020, 223, .	1.7	25
50	Membrane-associated carbonic anhydrase in the respiratory system of the Pacific hagfish ( <i>Eptatretus</i> ). Journal of Experimental Biology, 2019, 232, 100-110.	1.8	23
51	Carbon dioxide induced plasticity of branchial acid-base pathways in an estuarine teleost. Scientific Reports, 2017, 7, 45680.	3.3	23
52	Gas Transport and Gill Function in Water-Breathing Fish. , 2009, , 5-42.		22
53	Tribute to R. G. Boutilier: Evidence of a high activity carbonic anhydrase isozyme in the red blood cells of an ancient vertebrate, the sea lamprey <i>Petromyzon marinus</i> . Journal of Experimental Biology, 2006, 209, 1169-1178.	1.7	21
54	Influences of water chemistry on the acute toxicity of lead to <i>Pimephales promelas</i> and <i>Ceriodaphnia dubia</i> . Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology, 2011, 153, 82-90.	2.6	21

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55	The additive effects of oil exposure and hypoxia on aerobic performance in red drum ( <i>Sciaenops</i> ) TJ ETQq1 1 0.784314 rgBT /Overlock 10	8.0	21
56	Guanylin peptides regulate electrolyte and fluid transport in the Gulf toadfish ( <i>Opsanus beta</i> ) posterior intestine. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2014, 307, R1167-R1179.	1.8	20
57	Social competition in red drum ( <i>Sciaenops ocellatus</i> ) is influenced by crude oil exposure. <i>Aquatic Toxicology</i> , 2018, 203, 194-201.	4.0	20
58	Hypoxia-inducible carbonic anhydrase IX expression is insufficient to alleviate intracellular metabolic acidosis in the muscle of zebrafish, <i>Danio rerio</i> . <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2009, 296, R150-R160.	1.8	19
59	Esophageal desalination is mediated by Na <sup>+</sup> , H <sup>+</sup> exchanger-2 in the gulf toadfish ( <i>Opsanus beta</i> ). <i>Comparative Biochemistry and Physiology Part A, Molecular &amp; Integrative Physiology</i> , 2014, 171, 57-63.	1.8	19
60	Characterization and expression of a myosin heavy chain isoform in juvenile walleye ( <i>Sander vitreus</i> ). <i>Journal of Fish Biology</i> , 2009, 75, 1048-1062.	1.6	16
61	Evidence for transcriptional regulation of the urea transporter in the gill of the Gulf toadfish, <i>Opsanus beta</i> . <i>Comparative Biochemistry and Physiology - B Biochemistry and Molecular Biology</i> , 2011, 160, 72-80.	1.6	16
62	Implications of pH manipulation methods for metal toxicity: Not all acidic environments are created equal. <i>Aquatic Toxicology</i> , 2013, 130-131, 27-30.	4.0	16
63	Transport, Fate and Impacts of the Deep Plume of Petroleum Hydrocarbons Formed During the Macondo Blowout. <i>Frontiers in Marine Science</i> , 2020, 7, .	2.5	16
64	Revisiting the effects of crowding and feeding in the gulf toadfish, <i>Opsanus beta</i> : the role of Rhesus glycoproteins in nitrogen metabolism and excretion. <i>Journal of Experimental Biology</i> , 2012, 215, 301-313.	1.7	13
65	A methodological evaluation of the determination of critical oxygen threshold in an estuarine teleost. <i>Biology Open</i> , 2019, 8, .	1.2	13
66	Aggression supersedes individual oxygen demand to drive group air breathing in a social catfish. <i>Journal of Animal Ecology</i> , 2018, 87, 223-234.	2.8	12
67	A solution to nature's haemoglobin knockout: a plasma-accessible carbonic anhydrase catalyses CO <sub>2</sub> excretion in Antarctic icefish gills. <i>Journal of Experimental Biology</i> , 2018, 221, .	1.7	12
68	Na <sup>+</sup> K <sup>+</sup> ATPase isoform switching in zebrafish during transition to dilute freshwater habitats. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2019, 286, 20190630.	2.6	12
69	Blood and Gill Carbonic Anhydrase in the Context of a Chondrichthyan Model of CO <sub>2</sub> Excretion. <i>Physiological and Biochemical Zoology</i> , 2019, 92, 554-566.	1.5	12
70	The effects of acute crude oil exposure on growth and competition in red drum, <i>Sciaenops ocellatus</i> . <i>Science of the Total Environment</i> , 2021, 751, 141804.	8.0	12
71	Comparative evaluation of Na <sup>+</sup> uptake in <i>Cyprinodon variegatus variegatus</i> (Lacepede) and <i>Cyprinodon variegatus hubbsi</i> (Carr) (Cyprinodontiformes, Teleostei): Evaluation of NHE function in high and low Na <sup>+</sup> freshwater. <i>Comparative Biochemistry and Physiology Part A, Molecular &amp; Integrative Physiology</i> , 2015, 185, 115-124.	1.8	11
72	Oil toxicity and implications for environmental tolerance in fish. <i>Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology</i> , 2019, 220, 52-61.	2.6	11

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73	Evidence for a membrane-bound carbonic anhydrase in the heart of an ancient vertebrate, the sea lamprey ( <i>Petromyzon marinus</i> ). <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2004, 174, 399-406.	1.5	10
74	Multi-linear regression models predict the effects of water chemistry on acute lead toxicity to <i>Ceriodaphnia dubia</i> and <i>Pimephales promelas</i> . <i>Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology</i> , 2011, 154, 137-145.	2.6	10
75	Is hypoxia vulnerability in fishes a by-product of maximum metabolic rate?. <i>Journal of Experimental Biology</i> , 2021, 224, .	1.7	10
76	Identification of two glucocorticoid response elements in the promoter region of the ubiquitous isoform of glutamine synthetase in gulf toadfish, <i>Opsanus beta</i> . <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2009, 297, R1075-R1081.	1.8	8
77	The effects of sustained aerobic swimming on osmoregulatory pathways in Atlantic salmon <i>Salmo salar</i> smolts. <i>Journal of Fish Biology</i> , 2014, 85, 1355-1368.	1.6	8
78	Red blood cell carbonic anhydrase mediates oxygen delivery via the Root effect in red drum. <i>Journal of Experimental Biology</i> , 2020, 223, .	1.7	8
79	The importance of a single amino acid substitution in reduced red blood cell carbonic anhydrase function of early-diverging fish. <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2020, 190, 287-296.	1.5	8
80	Osmoregulatory plasticity during hypersaline acclimation in red drum, <i>Sciaenops ocellatus</i> . <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2021, 191, 731-740.	1.5	8
81	Behavioral Changes in a Coastal Marine Fish Lead to Increased Predation Risk Following Oil Exposure. <i>Environmental Science &amp; Technology</i> , 2021, 55, 8119-8127.	10.0	8
82	Physiological Responses of an Arctic Crustose Coralline Alga ( <i>Leptophytum foecundum</i> ) to Variations in Salinity. <i>Frontiers in Plant Science</i> , 2020, 11, 1272.	3.6	7
83	The effects of temperature on oil-induced respiratory impairment in red drum ( <i>Sciaenops ocellatus</i> ). <i>Aquatic Toxicology</i> , 2021, 233, 105773.	4.0	7
84	Evidence for a carbonic anhydrase-related protein in the brain of rainbow trout ( <i>Oncorhynchus</i> ). <i>Journal of Experimental Biology</i> , 2010, 223, 105773.	1.0	5
85	Characterization of carbonic anhydrase XIII in the erythrocytes of the Burmese python, <i>Python molurus bivittatus</i> . <i>Comparative Biochemistry and Physiology - B Biochemistry and Molecular Biology</i> , 2015, 187, 71-77.	1.6	4
86	The effects of warming on red blood cell carbonic anhydrase activity and respiratory performance in a marine fish. <i>Comparative Biochemistry and Physiology Part A, Molecular &amp; Integrative Physiology</i> , 2021, 260, 111033.	1.8	4
87	Toxicity in Aquatic Environments: The Cocktail Effect. , 2018, , 203-234.		3
88	Assessment of hypoxia avoidance behaviours in a eurythermal fish at two temperatures using a modified shuttlebox system. <i>Journal of Fish Biology</i> , 2021, 99, 264-270.	1.6	3
89	Pyrene drives reduced brain size during early life exposure in an estuarine fish, the red drum ( <i>Sciaenops ocellatus</i> ). <i>Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology</i> , 2022, 259, 109397.	2.6	3
90	Aspects of lymph-heart function in <i>Rana catesbeiana</i> . <i>Canadian Journal of Zoology</i> , 2002, 80, 2125-2130.	1.0	2

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91	Renal plasticity in response to feeding in the Burmese python, <i>Python molurus bivittatus</i> . <i>Comparative Biochemistry and Physiology Part A, Molecular &amp; Integrative Physiology</i> , 2015, 188, 120-126.	1.8	2
92	Exposure to Deepwater Horizon crude oil increases free cholesterol in larval red drum ( <i>Sciaenops</i> ) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	4.6	2
93	Mechanisms of acid-base regulation following respiratory alkalosis in red drum ( <i>Sciaenops</i> ) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 2020, 250, 110779.	1.8	1
94	The early life stages of the orange-spotted grouper, <i>Epinephelus coioides</i> , exhibit robustness to hypercapnia. <i>ICES Journal of Marine Science</i> , 2020, 77, 1066-1074.	2.5	0
95	Early life-stage Deepwater Horizon crude oil exposure induces latent osmoregulatory defects in larval red drum ( <i>Sciaenops ocellatus</i> ). <i>Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology</i> , 2022, 260, 109405.	2.6	0