



West Coast Sea Turtle Symposium

On the Road to Recovery: Green Sea Turtles
in Southern California

October 19-20, 2022

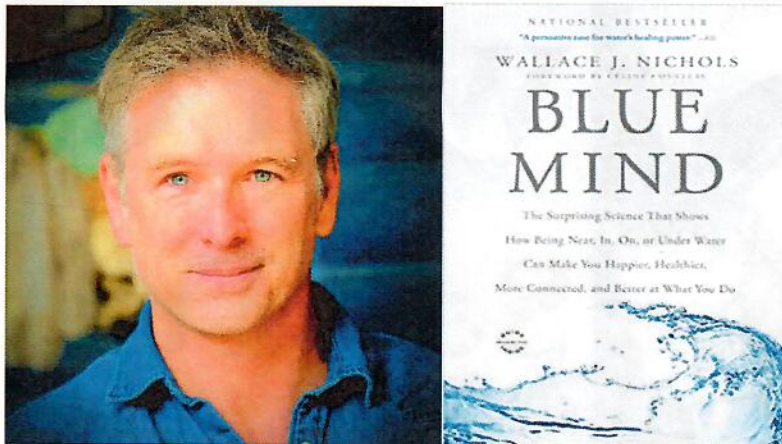
Aquarium of the Pacific

Long Beach, California



**NOAA
FISHERIES**





KEYNOTE ADDRESS (7pm October 20, 2022): Dr. Wallace "J" Nichols
Blue Mind: Sea Turtles & Aquariums are Good Medicine for Uncertain Times

Dr. Wallace "J" Nichols — called a "Keeper of the Sea" by *GQ Magazine*, "a visionary" by *Outside Magazine*, a "water warrior" by *AQUATICS International*, a "friend of the sea" by *Experience Life Magazine*, and "the godfather of water" by *Irish Life Health* and *Santa Cruz Waves Magazine* — is an innovative, silo-busting, entrepreneurial scientist, movement maker, renown marine biologist, voracious Earth and idea explorer, wild water advocate, bestselling author, sought after lecturer, and fun-loving Dad. He also likes turtles (a lot).

Formerly a Senior Scientist at Ocean Conservancy, Nichols holds a B.A. degree from DePauw University in Biology and Spanish, an M.E.M. degree in Natural Resource Economics and Policy from Duke University, and a Ph.D. degree in Wildlife Ecology and Evolutionary Biology from the University of Arizona. He received a Bradley Fellowship to study the impacts of sea level rise at Duke University Marine Lab, a Marshall Fellowship to study conservation while at the University of Arizona, and a Fulbright Fellowship to study at the Universidad Autonoma de Mexico marine station in Mazatlan. He has authored more than 200 scientific papers, technical reports, book chapters, and popular publications; lectured in more than 30 countries and nearly all 50 states; and appeared in hundreds of [print](#), [film](#), [radio](#), and [television](#) media outlets including NPR, BBC, PBS, CNN, MSNBC, National Geographic, Animal Planet, Time, Newsweek, GQ, Outside Magazine, USA Today, Elle, Vogue, Fast Company, Surfer Magazine, Scientific American, and New Scientist, among many others.

His current focus is on what he refers to as *Blue Mind*, a powerful new universal story of water. In this story society accurately describes all of the physical, ecological, economic, cognitive, emotional, psychological, physical, and social benefits of healthy oceans and waterways. By connecting neuroscientists and psychologists with aquatic experts and artists to ask and answer exciting new questions his work is transforming many sectors, including: health and wellness; education and parenting; arts, architecture and design; real estate and urban planning; travel and leisure; and sports and recreation. His book *Blue Mind*, published in summer 2014 by Little, Brown & Company, quickly became a national bestseller and has been translated to numerous languages and inspired a wave of media and practical application.

Day 1 OCTOBER 19, 2022 Workshops

Ocean Theater

9:00 – 9:15 **Opening Remarks: Cassandra Davis (Aquarium of the Pacific), Jeffrey Seminoff (NOAA SWFSC)**

9:15 – 11:15 **Workshop #1: Community/Citizen Science**

Organizer: Cassandra Davis (Aquarium of the Pacific)

Description: Community (Citizen) Science connects communities and science, builds science literacy, and creates inclusive opportunities for people to engage. Learn about the partnership between the Aquarium of the Pacific and NOAA's Southwest Fisheries Science Center and the lessons learned while monitoring nearshore green sea turtle populations in southern California. Participants will work together to explore best practices in community science, discover tools to help projects succeed, and gather ideas on leveraging community science and collaboration with marine science research.

11:15 – 12:30 **Lunch (on your own)**

12:30 – 2:30 **Workshop #2: Outreach and Education**

Organizer: Sabrina Mashburn (SoCal Sea Turtles)

Description: This workshop will bring together outreach and education professionals working with all ages, backgrounds, and levels of knowledge about sea turtles and their conservation. We will begin by sharing our most popular and engaging activities, exhibits, or experiences, so every participant can learn new strategies to improve their own institution's outreach and education programs. Then, we will break into small groups to work through a series of case studies. Solutions will be shared, culminating in a discussion centered on engaging members of the public in sea turtle science and conservation in both formal and informal settings. Materials from the workshop will be available for download after the Symposium so that findings can be shared with the greater sea turtle outreach and education community.

2:30 – 3:00 **~Break~**

3:00 – 5:00 **Workshop #3: Origin Stories in Sea Turtle Biology and Conservation**

Organizers: Sabrina Mashburn (SoCal Sea Turtles) and Suzanne Graham (Naval Information Warfare Systems)

Description: Have you ever wondered how someone became a leader in their field? What moments and experiences drove them towards a lifelong pursuit of sea turtle knowledge and understanding? Our origin story workshop will give everyone an opportunity to hear foundational stories from leaders in the field, and to share their own stories with the group.

Day 2 OCTOBER 20, 2022 Oral Presentations

Ocean Theater

- 9:00 – 9:15** **Opening Remarks: Cassandra Davis and Nicole Leier: (Aquarium of the Pacific (AOP)), Barbara Schroeder (NOAA Fisheries Headquarters), Chris Yates (NOAA Fisheries West Coast Region (WCR))**
- 9:15 – 10:30** **Session 1: Green Turtle Biology I (Session Chair: Christina Fahy)**
- Jeffrey A. Seminoff** (NOAA Southwest Fisheries Science Center (SWFSC)), Jessica Curran, Peter H. Dutton, Tomoharu Eguchi, Suzanne Graham, Megan Hanna, Brittany L. Hanser, Alaina Harmon, Erin LaCasella, Garrett E. Lemons, Robin LeRoux, Andrew Maurer, Erica Pollard, Suzanne Roden, Tracy Tempest, and Calandra Turner Tomaszewicz: *So excellent a Fishe: The green sea turtle in southern California*
- Peter Dutton** (NOAA SWFSC): *What we've learned about eastern Pacific green turtles from deciphering their DNA over the last 30 years*
- John B. Horne** (NOAA SWFSC), Suzanne Roden, Amy Frey, Michael P. Jensen, Erin LaCasella, Summer Martin, T. Todd Jones, Shawn Murakawa, Shandell Brunson, George H. Balazs, and Peter H. Dutton: *Far from home: Origin of Pacific green turtles on the high seas and other stories*
- Calandra N. Turner-Tomaszewicz** (NOAA SWFSC): *Understanding sea turtle age and growth, one ring at a time*
- 10:30 – 10:45** **Coffee Break**
- 10:45 – 12:30** **Session 2: Sea Turtle Conservation and Husbandry (Session Chair: Lauren Saez)**
- Christina Fahy** (NOAA WCR): *Evolution of sea turtle conservation off the U.S. West Coast*
- Angela Kemsley** (WILDCOAST): *The benefits of marine protected areas*
- Jesse Senko** (Arizona State University): *Optimizing sea turtle bycatch reduction technologies in coastal net fisheries*
- Robin LeRoux** (NOAA SWFSC), Erin LaCasella, Tomo Eguchi, Christina Fahy, Garrett Lemons, Calandra Turner-Tomaszewicz, Justin Viezbicke, Justin Greenman, Joe Cordaro, Kristin Wilkinson, Heather Harris, Peter Dutton, and Jeffrey Seminoff: *Sea turtle strandings along the U.S. West Coast: 1958-2022*
- Justin Greenman** (NOAA WCR): *West Coast Region Sea Turtle Stranding Network: Response, rescue, rehabilitation and release*
- Brittany Stevens** (AOP): *General principles of sea turtle care/rehabilitation*
- 12:30 – 2:00** **Lunch (on your own) and Poster Viewing**
- 2:00 – 3:15** **Session 3: Loggerheads & Leatherbacks (Session Chair: Yonat Swimmer)**
- Aiyana Reissman** (Living Coast Discovery Center): *A sea turtle wetsuit as a therapeutic for buoyancy issue*
- Tomo Eguchi** (NOAA SWFSC), Sam McClatchie, Cara Wilson, Scott Benson, Jeffrey Seminoff, and Robin LeRoux: *Density, abundance, and distribution of loggerheads off SoCal during an extremely warm period*

Larry B. Crowder (Stanford University), Dana W. Briscoe, George H. Balazs, Jeffrey J. Polovina, and Jeffrey A. Seminoff: *Unraveling the migratory mysteries of North Pacific loggerheads using experimental oceanography*

Cassandra L. Williams (National Marine Mammal Foundation), Paul. J. Ponganis, and Katsufumi Sato: *Heart rates of loggerhead and green turtles: Impact of disturbances*

Scott R. Benson, Peter Dutton, and Jeffrey Seminoff (NOAA SWFSC): *Biology and conservation of leatherback turtles along the U.S. West Coast*

3:15 – 3:30 Break

3:30 – 5:00 **Session 4: Green Turtle Biology and Social Science (Session Chair: Sabrina Mashburn)**

Lynn Massey (NOAA WCR), Robin LeRoux, Jeffrey A. Seminoff, and Tomo Eguchi: *I didn't know there were sea turtles in southern California!*

Stephen Dunbar (Loma Linda University): *Using community science and photo-ID to increase understanding of sea turtles*

Daylyn Rose (Aquarium of the Pacific): *San Gabriel River photo ID and community science project*

Megan E. Hanna (National Marine Mammal Foundation), Jessica J. Curran, Suzanne E. Graham, Brendan P. Saunders, Tomoharu Eguchi, Garrett E. Lemons, Calandra N. Turner Tomaszewicz, and Jeffrey A. Seminoff: *Home range and movements of green sea turtles at a protected estuary in southern California*

Andrew Maurer (NOAA SWFSC), Cameron Mullaney, Garrett Lemons, and Jeffrey Seminoff: *Foraging ecology of green turtles in an urban bay: Preliminary insights into dive behavior, energetics, and interspecific interactions revealed by an animal-borne camera*

Michelle Early Capistrán (Stanford University): *Integrating local ecological knowledge and mathematical models to evaluate conservation outcomes for green turtles*

5:00 – 6:30 **Dinner Break [please note the Aquarium closes at 6p, will reopen at 6:30p]**

6:30 – 9:00 **Meet the Poster Authors, Non-Profit Organization Info Tables, and Full Cash Bar – Before and after Keynote Address, outside the Pacific Visions Theater –**

Tables by SoCal Sea Turtles Inc., OC Coast Keeper, CA Turtle & Tortoise Club, and OC Habitats

7:00 – 8:00 **Keynote Address by Dr. Wallace J. Nichols** – Pacific Visions Theater

Blue Mind: Sea turtles & aquariums are good medicine for uncertain times

8:00 – 9:00 **Book Signing**

Join Dr. Nichols to celebrate his landmark publication, and National Best Seller:

“Blue Mind: The Surprising Science That Shows How Being Near, In, On, or Under Water Can Make You Happier, Healthier, More Connected, and Better at What You Do”

POSTER PRESENTATIONS (All day on Day 2 outside Pacific Visions Theater)

George H. Balazs (Golden Honu Services of Oceania): *A lifelong relationship with Hawaiian and French Polynesia green turtles*

Dustin Baumbach (Loma Linda University), Renwu Zhang, Christian T. Hayes, Marsha K. Wright, and Stephen G. Dunbar: *Sponge vs. algae: Diet composition and prey items energetics in Honduran juvenile hawksbills.*

Cassandra Davis (Aquarium of the Pacific), Barbara Ramon, Jennifer Lentz, and Dan Lawson: *Data quality in citizen science: Applying technology to assess and analyze volunteer participation in marine wildlife research*

Dan Lawson (NOAA WCR), Christina C. Fahy, Jeffrey A. Seminoff, Tomo Eguchi, Robin A. LeRoux, Pam Ryono, Lance Adams, and Melissa Henderson. *A report on recent green sea turtle presence and activity in the San Gabriel River and vicinity of Long Beach, California.*

Robin A. LeRoux (NOAA SWFSC), Erin L. LaCasella, Tomoharu Eguchi, Garrett E. Lemons, Calandra N. Turner Tomaszewicz, Dan Lawson, Justin Greenman, Justin Viezbicke, Jeffrey A. Seminoff, and Peter H. Dutton: *Evaluating stock origin of juvenile east Pacific green turtles off southern California, USA, using mtDNA.*

Cameron Mullaney (University of California – San Diego), Garrett Lemons, Jeffrey Seminoff, and Andrew Maurer: *Studying green turtle foraging with an animal-borne camera.*

Suzanne E. Roden (NOAA SWFSC), John B. Horne, Michael P. Jensen, Nancy N. FitzSimmons, Amy Frey, Lisa M. Komoroske, Maïke Heidemeyer, George H. Balazs, Cristian M. Cayan, I-Juinn Cheng, Richard Farman, Jessy R. Hapdei, Jennifer Cruce Horeg, Brian Peck, Rotney Piedra, Tammy M. Summers, Miri Tatarata, Shawn B. Wusstig, T. Todd Jones, Summer L. Martin, Shawn Murakawa, Elizabeth Velez, Patricia Zárate, Adriana Laura Sarti-Martínez, and Peter H. Dutton: *Nuclear DNA markers provide further insight into Pacific green turtle population structure.*

Calandra N. Turner Tomaszewicz (NOAA SWFSC), Tomo Eguchi, Erin L. LaCasella, Robin A. LeRoux, Larisa Avens, and Jeffrey A. Seminoff: *Skeletochronology and annual growth marks: Validation for a temperate green turtle population.*

Cindy Vargas (Arizona State University), Jeffrey A. Seminoff, Grupo Tortuguero de Las Californias, and Jesse Senko: *Advancing emerging gear modifications to mitigate sea turtle bycatch in gillnet fisheries.*



At the end of the Symposium please fill out our post-meeting on-line survey (scan QR Code above) so we can better plan for our next Symposium!