



the true value of sea turtles

By WALLACE J. NICHOLS

Can you recall a time that you glimpsed a sea turtle swimming away from you under water? Or you witnessed the multimillion-year-old ritual of a nesting turtle burying 100 glistening white eggs under the sand and moon? Or the first time you carefully placed a baby sea turtle, hatched minutes prior, on the sand and watched it duck-dive wave after wave as it pushed its way seaward to begin an uncertain decades-long journey?

Of course you can. It's moments like those that led you to the curiosity and exploration you're having now with this volume of *SWOT Report*.

Those experiences transformed us, made us into the turtle warriors we are. Face it, how many of your high school friends are reading about global sea turtle population trends right now? None, that's how many.

So, how did that feeling of awe convert into what may be best described as a life dedicated to turtle-centric altruism?

A typical, oft-repeated, and unquestioned adage is "If you can't measure it, you can't manage it." Those of us who *do* environmental management, who have been involved with successful conservation work and movement building, know that statement is BS. The most important things we manage are not (easily) measurable—from the quality of our new team members to the awe and wonder that's at the root of why we care in the first place. Our greatest successes sometimes occur (a) in spite of government agencies' denials of decades of well-considered science, (b) in the face of barely quantified threats, or (c) alongside massive holes in our understanding of basic sea turtle biology and life history.

The "measure to manage" dogma found its place as militaristic styles expanded into business, and business expanded into our professional relationship with nature in the post-World War II industrial era. The language of targets, tactics, strategies, and enemies now pervades agency- and NGO-speak alike. But when the value of sea turtles to humans is reduced to what's easily measured with our standard metrics and sorely limited resources, we run the risk of getting things dangerously wrong.

Ecology and economics provide a clean, clear, yet wildly incomplete, even cartoon-like framework for analyzing the values of nature. Consider this familiar balance sheet. In one column (A) is the commodified value of sea turtles as resource: eggs, meat, shell, oil. In the next (B) is the value of sea turtles as eco-tourist attractions: hotel rooms, park fees, guides, meals, travel. If the number at the bottom of column B exceeds the value of column A, sea turtles get to live (in theory, at least). The conversation has been expanded in recent years to include a third column called "ecosystem services" that provide public benefits. Those benefits include dune stabilization, sea grass maintenance, and even climate regulation, as provided by the trophic cascades, at the top of which are often found sea turtles and other predators.

Fortunately, the conversation around valuing nature is expanding quickly to include the cognitive, emotional, psychological, and social benefits that we know are real drivers of the human-nature relationship. When neuropsychologists and conservation biologists team up, the results can be revolutionary. Consider a few of the real but rarely described benefits of working with sea turtles.

Awe and Wonder

New research suggests that the feeling of awe is good for our health, boosts empathy and compassion, and helps connect us to the people and places around us.

Feelings of awe are some of the most cherished and transformative experiences in human life and are generated by art, music, architecture, but most often nature. Dr. Paul Piff of the School of Sociology at University of California Irvine defines awe as "the sense of being in the presence of something bigger than oneself that current knowledge structures cannot accommodate and that allows people to

rise above stimulus-response patterns and lose themselves in an all-encompassing event."

Scientists have made evolutionary arguments for the universality of awe and how it has likely evolved. Other studies find that awe may enhance our memory of events, play an important role in morality, make people less self-focused and more prosocial, lead to enhanced generosity, increase virtuous behavior, reduce feelings of entitlement, and increase helping. Current studies show that feelings associated with awe can reduce cytokines (proteins important for cell signaling), chemicals associated with disease, and even inflammation.

Yet some people live wonder-free lives. For those who work with sea turtles, awe can be a daily experience. When we share our work, we make the world better. More sea turtle lovers equal more ocean advocates—a virtuous, positive feedback loop.

Solitude and Privacy

Our lives are becoming more and more connected, and time spent truly alone with ourselves and our own thoughts is sadly minimized. A recent study in *Science* demonstrates how uncomfortable solitude feels to college students: two-thirds of men pressed a button to deliver a painful jolt after a mere 15-minute period of solitude. One man—considered an outlier—found quiet thinking to be so disagreeable that he opted for a shock 190 times. In these modern times, our written and spoken words as well as our physical movements are almost constantly monitored by strangers, government agencies, and marketers. And this loss of solitude and privacy adds to the stress of life.

Being near, in, on, or under water can be a refuge or escape, and that relationship can have the same positive benefits mentioned earlier for awe and wonder. A beach or a bay can provide a rare retreat from technology. And those are the settings in which work frequently places us fortunate souls who are turtle professionals.

Creativity and Inspiration

Artists and engineers, musicians and entrepreneurs, writers and scientists rely heavily on their ability to generate creativity—combine old ideas and pieces to make new ones—to think of things that have never been thought of. It's no surprise that great thinkers such as Sir Isaac Newton, Oliver Sacks, and Albert Einstein found inspiration outside under a blue sky or beside flowing waters. Free from walls and overstimulation of modern, urban existence, our brains work differently. That's not to say better, but there's a certain kind of expansive thinking that's facilitated by blue space.

Perhaps there's no better place to experience awe, creativity, inspiration, privacy, solitude, and wonder than on a sea turtle beach. Humans have depicted their appreciation for the ocean and sea turtles through art for millennia. You've had much the same experience as our ancestors on the beach at night, face to face with our beloved chelonians. As a conservation or research professional, student, seasonal volunteer, or wayfaring traveler, being with sea turtles in nature changes us. We become better versions of ourselves.

These are big ideas that are tricky to assign numbers to but important to put into words, with ever-increasing clarity and rigor. Quite literally—as well as poetically—being with sea turtles is good medicine. And here's a prediction: In the not so distant future, medical professionals will prescribe two weeks of volunteering on a turtle beach for what ails their patients. ■