

Coastbusters

The Cross Currents Newsletter for Mid-Atlantic Paddlers

May 2019

Fishing Wars on the Sea of Cortes: Vaquita, Totoaba, Mexican Cartels, Chinese Traffickers, and Sea Shepherd

Rick Wiebush

The Mexican fishermen stood up in their panga floating on the Sea of Cortes and, gesturing to us with upraised index fingers, chanted: “Obama numero uno, Obama numero uno, Obama numero uno”. That’s how the three sea kayakers learned that day in November 2008 that Obama had been elected President the day before.

We had no other way of finding out. We had been incommunicado with most of the rest of the world for the past three weeks as we paddled in the northernmost reaches of the Sea of Cortes (sometimes called the Gulf of California). We had put in on the Baja peninsula north of San Felipe, way up north near where the Colorado River used to empty into the Sea of Cortes. We would eventually cover 500 miles – after a month of paddling - when we reached our destination at Mulege.

There aren’t many people in all of Baja, and there are only a few scattered little towns and settlements in the stretch of coast we paddled. The few people that are there rely heavily on fishing. There’s no industry, farming in the desert is minimal, and there is not much tourism, so fishing is pretty much it. In fact, *subsistence* fishing is pretty much it.

During our month on the water, most of the people we saw – and them only infrequently - were the pescadores skimming along in their pangas toward



their fishing grounds, or tending their lines, or moored and diving for lobsters and other fruits of the sea. If close enough, they always gave friendly waves or shouts. A few times we bought fresh fish from them at outrageously low prices. At other times, when asking for information about a potential camping spot or dangerous waters, we’d engage in



Panga. Photo: Sea Shepherd

hilarious pantomimes with them since they spoke no English and our Spanish was limited and atrocious. After a month of these interactions, my overall impression was that these were extremely hard-working guys who were very friendly and who would readily help you out of a jam if need be. Good guys!

Hold that thought.

Where are the Vaquita?

One of the things we had heard about, and thought we might see, was the elusive, shy Vaquita porpoise, a marine mammal that inhabits only the far northern section of the Sea of Cortes. They are the smallest cetacean, averaging about four to five feet long and weighing just 120 lbs. (In contrast, bottlenose dolphins grow to about eight feet and can weigh 450 - 650 lbs.) They have distinctive markings with black circles around their eyes and dark lips - they look like they're wearing makeup.



Vaquita. Photo: University of New Hampshire

But, at that time, their numbers were limited (estimated at 245 individuals in 2008); they would be hard to see in the muddy waters of the northern Cortes; and they shy away from boats. We didn't see any.

If we were to return now, 10 years later, the likelihood of seeing one would be as close to zero as you can get. The Vaquita is now the world's most endangered marine mammal. Their numbers have declined precipitously: from about 600 in 1997 to about 250 when we were there; to less than 100 in 2014; to about 60 in 2015; to about 30 in 2016; to an estimated less than 20 in 2019.

What happened?

Gill-netting.



Photo: Sea Shepherd

None of the pescadores try to catch Vaquita – they aren't good for anything. But they catch them nonetheless, as bycatch of whatever else they are going after with their gill nets. Gill nets are huge nets strung out in a straight line. The top of the net is held up by floats and the bottom of the net is weighted down. They essentially are walls of mesh into which fish swim and get entangled. They are a highly effective fishing method, except that other things – like the Vaquita – are unintentionally caught. Because the Vaquita are mammals, they essentially drown after becoming entangled in the nets.

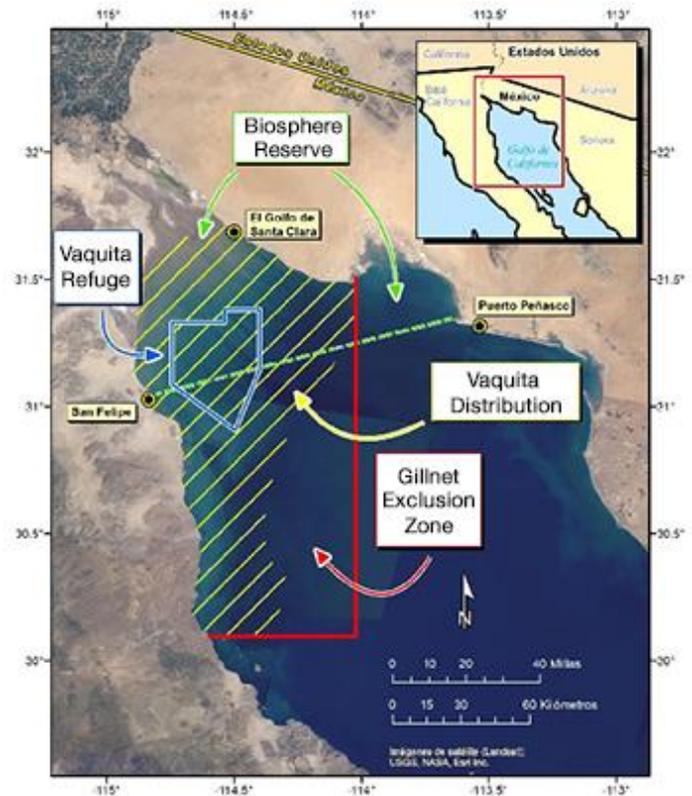
Attempts to protect the Vaquita

The Mexican government has made extensive efforts to protect the Vaquita, including in 2005 creating a Vaquita refuge area in the Cortes, near San Felipe, in which the use of gill nets was banned. They have commissioned multiple studies involving international teams of scientists, all of which have concluded that getting rid of gill nets is the primary solution. In response, the government has: 1) paid for fishermen to switch to different, Vaquita-friendly nets (but which nets also often fail to catch what the fishermen are trying to catch); 2) encouraged fishermen to develop alternate sources of income by giving them \$50,000 development grants (but there are few viable alternate business options in such a scarcely-populated, remote area); 3) tried to capture and raise Vaquita in protected pens (an experiment that lasted only two months, terminated because the first two penned Vaquitas died from stress); 4) first instituted a temporary two-year ban on gill nets in 2015; and 5) made the gill net ban permanent in 2018.

As of 2018, the Mexican government had spent over 30 million dollars on various efforts to protect the Vaquita. They have dramatically increased the size of the refuge to over 700 square miles. Yet the rapidly diminishing number of the Vaquita clearly shows that nothing has worked very well to date.

What Happened? Fish bladders, Mexican cartels and Chinese traffickers

The failure of Mexican and international efforts to protect the Vaquita can be largely attributed to an unexpected source: Chinese demand for the bladder of another fish – the Totoaba – that is highly prized in China because it is considered to have medicinal qualities. In addition to reportedly being an aphrodisiac, the Chinese believe it has anti-aging properties. In other words, the Totoaba bladder is integral to Chinese culture in the same way as shark fins and Rhino horns.¹



The Totoaba is a large fish that - like the Vaquita - is endemic to the Sea of Cortes. It is found in the same area as the Vaquita refuge. It too is on the endangered species list (originally due to commercial overfishing) and has its' own refuge. But, because of the demand in China and its' scarcity, there is a huge black market.

Totoaba bladders are serious business: in China, one kilo (2.2 lbs) of Totoaba bladder is reportedly worth between \$60,000 and \$100,000 USD! This has big implications for local Baja fishermen: one Totoaba bladder can be worth about \$4,000, a kilo about \$8,500. According to one estimate, a Baja fisherman would have to fish legally for *six months* to make that same amount of money. The incentive to violate the law by fishing in the refuge using gill nets is clear. That some Baja fishermen do it is, if illegal, understandable. That Vaquita are threatened further as a result of bycatch would appear to be irrelevant given the financial incentives.

¹The fish's bladder controls its' buoyancy, so facilitates vertical movement without the fish having to swim.



Dried Totoaba bladders intercepted at the U.S. border. Photo: AP, U.S. Attorney's Office

Baja fishermen clearly don't have the ability to market directly to China. The fish have to be processed, dried, packaged, transported and distributed. There is a need for an organization of middlemen to carry out those functions. That's where the Mexican cartels and Chinese traffickers come into the picture.

The profits from this black market are huge: the \$8,500 a fisherman would get for a kilo of bladders is a drop in the bucket compared to the \$60,000 - 100,000 street value of those same bladders in China. (By comparison, the street value of a kilo of cocaine in New York City is about \$20,000.)

U.S. authorities see the cartel involvement as natural – it provides some business diversification, the profits are better than those from cocaine, and the cartels have established routes, contacts and outlets. One study by a Mexican non-governmental organization indicated that there are eight cartel-linked groups that control the Totoaba fishing and trafficking. (A second study suggests that rather than drug cartels diversifying, the lucrative black market has given rise to some cartels that focus specifically and exclusively on the Totoaba.) The cartels in turn are connected with Chinese traffickers – many of whom have recently moved to Baja - who do much of the actual transporting and who have the necessary contacts in China.

The government of Mexico has pressured China to crack down on the illegal trade and China does in fact have strict laws prohibiting trafficking in Totoaba. Enforcement is spotty at best. But when arrests are made, they can be spectacular. A recent bust (March 2019) by Chinese authorities resulted in the arrest of 11 traffickers who were caught with **20,000 bladders worth 119 million USD**. That was just one shipment; but the group had been operating for three years. These black market forces would seem to spell the certain demise of the Vaquita.

Enter Sea Shepherd

The Sea Shepherd Conservation Society is the private, non-profit organization that gained fame for disrupting the whaling activities of Japan and other countries. The Animal Planet series "Whale Wars" which ran for five years, was about the work of Sea Shepherd.

The organization sees itself as a mechanism for enforcing international and national conservation laws that have to do with illegal whaling, sealing, and fishing. Claiming – correctly – that most of these laws are not and/or cannot be enforced by the governments that wrote them, Sea Shepherd attempts to step into the breach by using their fleet of ships to track and harass violators.

They are highly controversial due to their direct action tactics. In the anti-whaling campaigns, they used a range of tactics that included using nets to foul the propellers of whaling ships and using mines to blow holes in ships. They have scuttled ships while in harbor, boarded some of them at sea, rammed others, and even sank 10 vessels. Greenpeace, other environmental organizations, and some governments have called them eco-terrorists.

In the past few years, Sea Shepherd have focused much of their activities on monitoring and disrupting illegal fishing activities and have done so at the behest of national governments including Costa Rica, Gabon, Italy, and Mexico.



Photo: Sea Shepherd

The Mexican government asked for Sea Shepherd's assistance five years ago, when they realized they lacked the resources to patrol the northern Cortes in order to enforce their laws regarding gill netting and fishing in the zones created to protect the Vaquita and Totoaba.

This year, Sea Shepherd has two ships patrolling the area. They use patrols, radar and drones to identify poachers and/or the outlawed gill nets. When poachers are discovered, Sea Shepherd crews contact the Mexican Navy who are empowered to make arrests. When gill nets are discovered, the Sea Shepherd crews retrieve and destroy them. In the five years of operations in the upper Sea of Cortes, crews found and destroyed almost 800 pieces of illegal fishing gear.

They also claim to have saved 1,300 entrapped animals, including fish, sharks, turtles and whales. However, given that the estimated population of Vaquitas has continued to decline during the five years that Sea Shepherd has been patrolling the upper Cortes, it is not at all clear whether or to what extent the organization's activities have had an impact on that target population. (It may be that, absent Sea Shepherd patrols, there would be even fewer or no Vaquita left.)

Poachers Fight Back

It does appear that Sea Shepherd is having a significant disruptive effect on illegal fishing in the area, because the poachers have started fighting back. There have been three significant incidents this year alone.

In January 2019, one of the Sea Shepherd vessels was patrolling the Vaquita/Totoaba refuge area and had just removed three gill nets. It was then attacked by a large group of fishermen in pangas. Some 35 pangas swarmed around the larger vessel, hurling rocks, lead weights, anchors, dead fish, and a bottle of tabasco sauce! They threatened the ship with molotov cocktails and dropped a huge net into the sea in front of the Sea Shepherd vessel in an attempt to foul the ship's propellers. A Navy helicopter showed up and the fishermen dispersed.

A second incident took place three weeks later, again while the Sea Shepherd crews were patrolling the refuge. This time a group of 50 high-speed boats attacked both the Sea Shepherd boat AND the two Navy vessels that intervened. The Sea Shepherd vessel had windows broken and the side of the ship was set on fire by Molotov cocktails. They used fire hoses to discourage potential boarders and the Mexican Navy crewmen stationed on board fired their weapons over the heads of the fishermen.

<https://seashepherd.org/news/sea-shepherd-ships-windows-smashed-and-hull-set-on-fire-by-poachers/>

But were they just local fishermen? The use of the high-speed boats, the number of them in the same location, and the willingness to attack the Mexican Navy raises questions about whether the cartels had begun to take organized action.

Then in late March (two days ago as I write this), Sea Shepherd crew started hauling in an illegal gill net when a panga raced directly toward the ship and grabbed one side of the net. A battle over control of the net ensued. The Mexican Navy people on board

ordered the panga to leave the area but were promptly ignored. During the struggle for the net, the fishermen started to pluck as many Totoaba as they could from the net, throwing them into the bottom of the panga before racing away toward shore. Since the net was clearly a gill net, and since the fish were clearly the protected Totoaba, Sea Shepherd immediately reported it to officials on shore and to Navy boats that gave pursuit.

What followed was straight out of the movies. The panga raced towards shore where it was driven up onto a trailer that had been backed down into the water. After quickly securing the panga, the pickup driver took off at high speeds through the narrow streets of the town. Then a government vehicle started a chase through the streets. It didn't get far. After a three-block chase, the pickup rammed the government vehicle causing it to spin out of control. The pickup and panga got away.

Who's Who?

I started researching this issue because of my contact with Baja fishermen, both during our month-long expedition several years ago and currently through our frequent trips to the Pacific side of the Baja peninsula. That interest was heightened because I'm an active supporter of Sea Shepherd. I buy their hats, go to their presentations, and give them money. I wanted to know more and I was particularly interested in finding out who were the good guys and who were the bad guys.

Identifying good guys is pretty easy. The Sea Shepherd crews are in Baja at the request of the Mexican government and are conducting their operations legally and non-violently. They are committed, as evidenced by their five-year track record in the Sea of Cortes. And, judging by the attacks on their vessels, they are being effective in disrupting Totoaba poaching, albeit with an unclear impact on the fate of the Vaquita.

The Mexican government also seems to be one of the good guys in this story, having tried several

different strategies and having invested millions in trying to save the Vaquita. Recently they have even assigned Navy personnel to Sea Shepard ships and deployed naval vessels and marines to the area. Mexico has some pretty significant problems and I was surprised that they have paid so much attention to what might easily be considered a relatively minor issue that is getting played out in a very remote and poor area of the country.



Armed Navy personnel on Board. Photo Sea Shepherd

That said, it is important to ask questions about: 1) the extent to which the national government has devoted resources to identifying and going after the cartels (as opposed to the fishermen) and, if they have, 2) whether local governments have supported or undermined those efforts. Given what we know about corruption in Mexican government – especially vis-a-vis the drug cartels – it is not unreasonable to think any cartel-related enforcement efforts might be accompanied by a bagman's wink and nod at the local level.

Bad guys? It's fairly easy to identify at least one group. It's pretty clear that the cartels – drug-related or not - are the central actors in the black market for Totoaba and therefore the biggest threat to the Vaquita. They provide the fishermen with the incentive, organization, resources and contacts that make the whole money-making operation possible. The Chinese traffickers are also wearing black hats.

What about the Chinese people who, after all, are the ones creating the demand with their thirst for exotic things that allegedly have medicinal qualities, but whose beliefs leave Westerners shaking their heads? I initially have a hard time identifying cultural practices as “bad guys”. But to leave the Chinese out of this category would be the same as saying the American people’s demand for drugs plays no role in the eagerness of Columbian and Mexican cartels to supply those drugs.

But what about the Mexican fishermen? It’s much more difficult to paint them all with the broad brushstroke of “bad guys” because we don’t really know who among them is involved and who is not. A spokesperson for the San Felipe fishermen maintains that most of the local people fish only legally, and that the poachers are “outsiders” brought in by the cartels. Interestingly, the Sea Shepherd staff support this assertion to a certain degree, repeatedly stating that many of the local fishermen are not poachers.

It simply is hard to believe that the local fishermen would organize themselves into groups large and bold enough to attack the Sea Shepherd ships and that they would have the *cojones* to attack Mexican naval vessels. It is less difficult to believe that *some* of the local fishermen are in fact tied into the cartels and that they collaborate with non-local fishermen (or even non-fishermen) who have been recruited by the cartels to poach Totoaba and/or harass Sea Shepherd.

Finally, I would count the Vaquita as good guys, but also suspect that – given the financial incentives for poaching Totoaba – that it won’t be long before they won’t be able to be counted at all.

In This Issue

Fishing Wars in the Sea of Cortes	1
<i>Rick Wiebush</i>	
Pee at Sea	8
<i>Dawn Stewart</i>	
Photos of the Month	11
Chesapeake Requiem	14
<i>Jaclin Gilbert</i>	
Paddling Formations	16
<i>Dale Williams</i>	
Upcoming Events	19
The Senseless Logic of the Wild	20
<i>Jon Mooalem</i>	
Contributors	29

Equipment Review

Pee at Sea

Dawn Stewart

Be forewarned, potential TMI. But some how-to as well.

One of my first big kayak crossings was in the Outer Banks, doing a 20-miler on Pamlico Sound from Cedar Island to Ocracoke. There is an alternate route that requires only an eight-mile crossing, and then handrailing the shallow salt marsh the remaining miles. But our group of three wanted the experience of being out of sight of land, doing some dead reckoning navigation, and, honestly, we thought we were way too cool to take the easy route. How cool? With no stops along the way, I wore an adult diaper. It was winter, we were in drysuits, and mine didn't have a man's front or woman's back zipper. Maybe not so cool after all.

Unfortunately, a woman's anatomy just does not allow for simple peeing in or out of a kayak. Sure, women have figured out how to go outside, but they can't "whip it out, and shake it off" the way the guys can. And how in the world do you pee in a kayak?

Like many females growing up, I learned very early not to drink many fluids. Over time, most of us seem to develop a pretty strong bladder. Or we just maintain an under-hydrated state. I can pretty much hold it in all day long. Or at least I could. Now in my sixties, I can barely laugh or sneeze and stay dry.

There are a few considerations for lady paddlers, all dependent on what you're wearing; shorts, drysuit, or farmer Jane (assuming crotch zipper), and whether you're peeing on shore or in the boat. If on shore and in shorts or even in neoprene, just go for a quick swim if the water is warm enough, or look for a bush; the guys do that too. On a trip to the Sea of



Cortes, with long crossings between islands, we all took "swim breaks" along the way.

With interests in camping and distance paddling, I've spent a good bit of time figuring out different ways to pee in a kayak. I recall an article about a race, the Yukon River Quest. One of the female racers had a home-made modified seat for her kayak with a hole in it. When she pees, it goes through the hole into a compartment underneath the seat. The pee comes out of the compartment through a tube, which is controlled by a foot pump. It's all topped off by an exhaust valve on the front of the boat to get rid of the pee! (I am not making this up.) Nothing was said about what she wore, and it sounds a bit over-complicated.

When I started doing the long-distance Florida WaterTribe races, my NDK Explorer had a foot pump. So I just wore baggy shorts, scootched forward off the seat, and peed into the kayak. I'd use the sponge to bring in some sea water and flush it all out using the foot pump. That worked, but it was still a bit messy, and smelly over time. I found the simplest method was to just pee in a sponge.

One alternative is to raft up and sit over the side. On their longer crossings on their Aleutians trip, Sara Outen and Justine Curvengen's drysuits had the ladies' back zipper. They would raft up and pee over the side, which requires a bit of half standing. Freya Hoffmeister (who circumnavigated Australia and South America) also uses a back zipper and stabilizes her boat with paddle floats. Stabilization is pretty important both to get the zipper opened and, more importantly, to stand half-way up while hanging over the side. (I'm not making this up either.) This is a whole other level of balancing!

Hello, FUDs!

New pee-like-a-man devices – called FUDs (Female Urinary Devices) – offer a new alternative.



The FUD has almost revolutionized peeing for women. On land, we can just stand up; in a tent we can kneel. Quite liberating actually. However, the use of a FUD in a kayak is a bit more problematic. Quite difficult to do without a big stable kayak, rafting support, sponsons, or an outrigger (paddle and float). It's a two-handed job placing and holding the FUD in one hand and a bottle in the other. It's VERY difficult to do on your own while on the water wearing a drysuit or wetsuit with the small front pee zipper.

Let's also not forget that successful peeing really requires relaxation, no matter how badly you have to go. Not so easy in rougher seas or high winds, trying to FUD in a bottle, or while peeing off the side of a rafted kayak, or even onto the deck of your own kayak.

Returning to the FUD: There are quite a few different models and brands. The names used for marketing can be quite hysterical: "SheWee", "GoGirl", "P-EZ", "Lady P", "Whiz Freedom", "pStyle".

It often takes a bit of experimentation to get the one that works for you. There are basically two shapes: a funnel, and an elongated trough which is shaped like a taco.

Funnel

Use of the funnel is pretty self-explanatory. Common complaints of the funnel when it is used with a drysuit; some models are too soft to hold their shape; it must be held tightly in place (difficult



to do through the small pee zipper on a drysuit); the funnel can overflow often filling faster than it releases; and the tubing or end of the funnel is often not really long enough. I'm not a fan of funnels.

Trough

My personal favorite is the "pStyle" brand, which is a trough. It takes care of most of the problems above.

One places the widest part between the legs under the flow area; exact placement and skin contact is not as necessary as with the funnel. As long as the open side is angled slightly down there is no overflow. I find it much easier to place and use with a drysuit pee zip because at 7.5", it's longer than most funnel styles.



Stock photo

One brand even advertises it as self-wiping, I kid you not. This is a bit more of a "squeegee technique" lifting the cup end upwards to catch any remaining drops.

And yes, length is important. You can even think of it as evening the score: "mine's bigger than yours". The pStyle is similar to another named the Tinkle Belle, but honestly, I can't use something called Tinkle Belle.

Both styles are reusable, simply rinse with water or clean with soap and water. Most come in an assortment of girly pastel colors. And many are recyclable, made from # 2 plastic.

All the models take lots of practice to use. It's not enough to just practice standing up in your bathroom. Out on the water, and even on shore in a drysuit, peeing with a FUD can be a mess. Which

brings me full circle. At Jen Kleck's BajaFest this year, I quizzed many of the female paddlers. Most had various FUDs, and all had drysuits or wetsuits with zippers of some kind.

BUT based on more than one person's suggestion, I again tried using a Depends adult pull-up diaper. Boy have they changed in 20 years! I'm pretty good with my FUD, but it can still be a bit messy. The pull-ups are now really lightweight and the active fit is even comfortable. And they work! Perfect for this now older lady paddler. And yes, they have them for men too.



So, assuming you are a paddler - especially a female paddler - and that you have experienced some of the on-water peeing-related predicaments associated with that status, you might want to experiment with a few of the options presented here. They are relatively inexpensive (most go for about \$8 - \$12), so it makes it fairly easy to try different models to see which works best for you.

And don't forget: just like any skill that you want to master, it takes practice, practice, practice!

Photos of the Month



Soaring

Photo: Curtis Warrenfeltz

Photos of the Month



Soaring

Photo: Michael McGee

Photos of the Month



Soaring

Photo: Bill Vonnegut

Book Review

Chesapeake Requiem: A Year with the Watermen of Vanishing Tangier Island

Jaclin Gilbert

(Editor's note: this is a timely article. \$500 profit from the recent Paddling Film Festival was donated to the Save Tangier Island fund)

Tangier is an island that has long been under siege by the changing forces of nature. The island has lost two thirds of its land mass since 1850, substantially diminishing this unique community. The physical forces that cause this loss are a matter for contention: Are they man made or natural? Scientists and data point to climate change working hand in hand with geological forces. Tangier islanders tend to reject climate as causal and point instead to forces such as erosion.

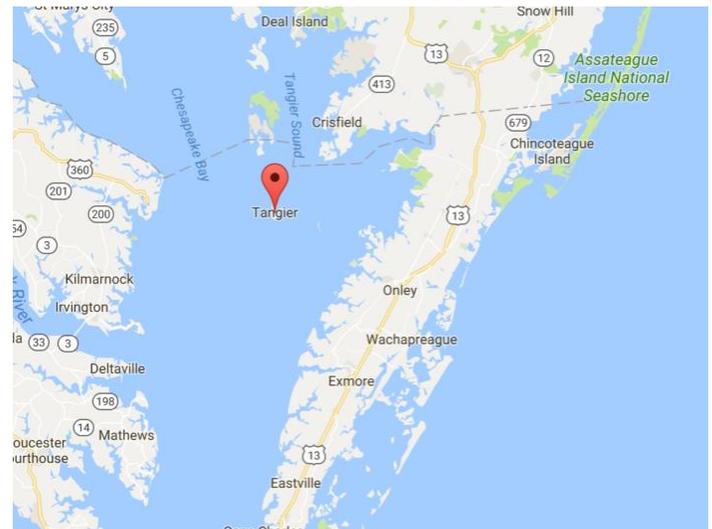
Earl Swift grapples with these contradictions in his beautiful book *“Chesapeake Requiem: A year with the Waterman of Vanishing Tangiers Island”* (Dey Street Books, 2018,) writing with a delicate balance of scientific inquiry and deep respect for the Islanders. His book nestles its climate argument into the historical, sociological, and environmental development of the island. Yet Swift keeps the story firmly focused on the community at the center of this particular climate change issue.

After spending time with this isolated community you get why Swift uses “requiem” in his title; the word requiem has a current of regret running through it, and regret lingers long after you finish this book. Swift makes a heartbreakingly clear case for the preservation of Tangier while accepting that it is unlikely to happen. As a matter of fact, he states that within fifty years the islanders are likely to be the United States’ first climate change refugees.

Tangier is caught in a triple threat of environmental and geological changes that have all contributed to

land loss. Swift explains the science behind these three factors - subsidence (sinking land), sea rise, and erosion - and gives each their due. He lets islanders speak their own piece about erosion (which islanders believe is the primary cause of land loss) without condemning their beliefs. He simply follows up with experts who clarify the more complicated effects of subsidence and sea level change.

Regardless of the underpinning science, Tangier is washing away. The Army Corp of Engineers has been tasked with remediating the erosion but has spent years studying the issue. Part of the question seems to be whether the economics support the projects- Can you spend millions of dollars fixing an island that has a population of five hundred?



Tangier: Stock photo

Where will the funding come from? The harbor at the center of the island's fisheries has been alternately silting up and eroding. Over 11 years ago the Corps recommended a Jetty to protect the economic heart of the community. It is finally slated for construction this year. Projects that would contain erosion elsewhere around the island have languished in the study stage for even longer.

Swift listens to the watermen in the Situation Room - a post-work gathering spot where all the island news, worries and gossip get a proper discussion over a cup of coffee - chewing over Maryland's Poplar Island project. Many of us local kayakers have paddled this island habitat made from the spoils of dredging Baltimore harbor. Swift carefully records the discussion; the Situation room consensus is that Maryland is better at handling land loss, but with the caveat that they justify the project because of habitat loss for birds. The Watermen want to know: Where is the concern for protecting human habitat?

Swift doesn't romanticize the islanders and island life; instead he does something more difficult. His portraits are full of honesty and humor, allied with affection and respect. He makes each individual islander feel fully fleshed out. He spent over a year living on Tangier, crabbing with the waterman, and joining them in their regular gatherings in the Situation room. He had unusual access to island life. He visits them in their places of worship, highlighting the long connection the island has had with the Methodist Church. Fundamentalist religion is the touchstone on which many decisions are made by the islanders, sometimes for better, sometimes for worse. Swift is careful when he writes about the islanders, but he doesn't pull his punches. He is clear that islanders often have trouble moving from discussion to action, and are occasionally their own worst enemy.

The island is also taking a hit from changing demographics. It is hemorrhaging young people at an unsustainable rate, and the island population is rapidly aging. One of the most poignant chapters in the book talks about Cameron Evans, who was

seventeen during the time Swift spent on the island. Evans is viewed by many islanders as a hopeful example of a budding generation of new watermen. But when pressed about whether he should stay on and making his living on the water, Cameron waffles. He is attached to his community but has a hard time envisioning an actual future on the island. And sadly, many of the older generation interviewed by Swift agree with him.

The book weaves a powerful narrative about the importance of unique places by delving deeply into the history and daily life of Tangier Island. Swift is one of the rare people allowed such access by the islanders, and it shows in his portraits of the people who live there. In an Interview with NPR on August 27, 2018, Swift discusses the impact the Islanders had on him:

"They were tough and self-reliant, as you'd expect in such an outpost, but also warm, loving, and full of humor. And they all were players in a true community — Tangier lived up to that label more than any place I'd ever been."

The question is can - and maybe even *should* - this community be saved? Swift himself cannot decide even as he outlines steps that must be taken to prevent the island from washing away into history.

Note: I listened to Chesapeake Requiem as an audiobook. The reader did an excellent job and it is a nice alternative to the written book if listening is your thing.



Tangier. Photo: Neil Kaye

Paddling Formations and Turn Geometry: Lessons for Kayakers from the Fighter Pilot's Handbook

Dale Williams

The need for a structured paddling formation can vary widely depending on your plan for the day. In a meet-up situation on a nice day on protected waters, you may not care, as long as you come back with as many people as you went out with. But if your plan involves rough water paddling as a group, you might be interested in some formations and turn geometries borrowed from the fighter pilot's handbook, since as it turns out, our communication challenges are in many ways the same as theirs.

We, like they, are generally solo pilots of our own craft, operating in a dynamic and three-dimensional environment (OK, not quite so vertical as theirs, so we'll limit our comparison to horizontal turns). Like them, we have certain barriers to communication. Like them, we have limits to how much we can assist one another when things go badly. Like them, we benefit greatly from good communication and positioning for maximum effectiveness. Like them, the thing we wish to avoid most is collision with one another, other objects, or the ground. So let's compare what's useful.

Basic Formations

Fighter pilots use a basic group of two called an "**element**", and from that, additional entities can be added using any combination of three basic formations and two types of turns. First the formations...

Lead-trail looks just like it sounds, one craft in front of the other. It allows for maximum collision avoidance. (The exception is when the leader comes full stop and the trailer fails to, something more likely for a kayak than a jet.) It also facilitates movement through tight spaces (i.e. tidal creeks or rocky chutes, and ok, maybe fjords and mountain passes if you're in a jet). Lead is also the best position from which to establish an example, such as direction, speed and altitude for jets or *attitude*

for sea kayaks. The lead sea kayak can set a convincing example of how to get powered up when punching out through waves, or following a line through the rocks. Lead-trail is a good formation in tight spaces or when quick decisions need to be made by the person you want making them.

Its primary drawback is that the leader cannot see the trailer without first turning. The larger the group, the more of a problem this becomes, because the further back the last craft is to the leader (the "deeper at 6 o'clock" in fighter parlance), the further the leader has to turn to see it. If fellow paddlers are crowding the leader, they limit the amount of turn possible, so the leader can't see if there's a problem. Sound familiar?

Line-abreast is two craft side by side. Its primary advantage is maximum communication, even when there's too much noise to be heard, since it's the position that best allows for maximum mutual visibility. Its primary drawback is the potential for collision in areas of breaking waves and strong eddy lines. These drawbacks can sometimes be addressed with wider spacing that may require hand signals to communicate.

It's also not as easy to get through tight spaces. On open crossings in larger groups of mixed formations, we often move into and out of, or even maintain line-abreast formations, but line-abreast as the only formation would get pretty awkward above four or five boats in a group. It's a good formation for passing information between two people when conditions allow.

Echelon is a formation in which the trailing craft is offset 45 degrees from the lead. It strikes a compromise between communication and collision avoidance. In small formations it reduces risk of collision, making it useful in surf zones. It also allows for mutual visibility and can easily be

modified to either of the alternate formations. You can build upon an echelon formation in an orderly fashion. Two elements in echelon create a diamond (includes a line-abreast, but more widely spaced). Two diamonds in echelon create a parallelogram and so forth such that every member is able to see and thus communicate with at least one other member, but usually two or more. I find it to be good for larger groups making open crossings and for paddlers needing to see and be seen without colliding in a surf zone.

The formations and making turns

In-place vs. delayed turns: These basic formations may conjure a static image, but they are anything but static. The craft within them are moving and the formations themselves change depending on the type of maneuver they execute, even if we assume a constant and equal speed for both craft.

For example, consider a two-craft element in line-abreast formation. If they *simultaneously* turn 90 degrees right or left (known as an *in-place turn*), the formation will become lead-trail.



Line abreast in-place turn creates lead-trail. Photos: Wiebush

However, if the craft on the inside of the turn from line abreast executes a **delayed turn**, the formation will remain line abreast.



Blue and orange boats underway, line abreast



Blue boat has turned; orange boat continued (delayed)



Orange boat then turns and boats still line abreast

Photos: R. Wiebush

Similarly, if a lead-trail formation does a 90 degree in-place turn, the formation becomes line-abreast. And if the trail craft in a lead trail delays its turn, the formation will remain lead trail.



lead-trail does in place turn to right



and becomes line abreast

Compare that to what happens when an echelon formation turns 90 degrees. If the in-place turn is to the side of the offset craft, the lead will change, but the formation remains an echelon. If an in-place turn is made to the side of the lead craft, the echelon and the leader are maintained, but the offset craft is now on the opposite side of the lead craft.



Echelon with blue boat offset to right of leader



In place turn to leader's side; offset boat now on leader's left side

If the offset craft delays their turn to the side of the lead craft, the delayed turn will result in a change to a lead-trail formation. (In the echelon formation, delayed turns are not made toward the side of the offset craft since the lead craft would cross the path of the offset craft and create the possibility of collision.)

If that all seems like TMI, consider the last time you delayed your turn to avoid a hazard around a rocky coastline, only to have those following you do an in-place turn that essentially shortened their route and exposed them to the hazard you wanted them to miss.

An understanding of these relationships can also be useful when paddling with multiple boats in a surf zone. For example, if you were the number two position in trail of your leader while punching out through surf, you could envision that an in-place turn in either direction would expose you to danger since you would be directly down wave from the leader. From an echelon where you were offset right, only a right turn by your leader would present a problem. As an instructor in charge of a surfing

lesson at a river mouth sand bar, you would know to position your students echelon right when turning left onto the bar break.

Borrowing these basic names of formations can become a building block for understanding how maneuvering effects relative geometry and how positioning affects both communication and avoidance of collision.

Upcoming Events

Dates	Event	Location	Sponsor	Website/Contact
6/20 - 23	Hudson River Greenland Festival	Croton-on-Hudson NY		hrgf.org
7/19 - 21	ACA L3 IDW and Update	Chincoteague VA	Cross Currents	Crosscurrentsseakayaking.com
9/27- 29	Kiptopeke Symposium	Cape Charles VA	Cross Currents	Crosscurrentsseakayaking.com
10/10-13	Delmarva Paddlers Retreat	Lewes DE	Qajaq USA	Delmarvapaddlersretreat.org
10/20 -23	Sea Kayak Georgia Symposium	Tybee Is., GA	Sea Kayak Georgia	Seakayakgeorgia.com
11/1 - 3	Autumn Gales	Stonington, CT	Kayak Waveology	Autumngales.com



Ocean City, MD in winter. Photo: Mitch Mitchell

Incident Management

The Senseless Logic of the Wild*Jon Mooalem*Whales!

The whale sighting happened right away, minutes into Day 1. Jon, Dave and I had just been dropped off on a remote Alaskan shoreline, an hour and a half by boat from the closest speck of a town. Jon was working as a sea-kayaking guide that summer in Glacier Bay National Park, and he had invited us up for a seven-day excursion during his week off. As the boat that delivered us vanished, the drone of its engine dampening into a murmur and then finally trailing off, it became unthinkably quiet on the beach, and the largeness and strangeness of our surroundings were suddenly apparent. It was a familiar phenomenon for Jon from the start of all his trips: a moment that people instinctually paused to soak in. To me, it felt like those scenes of astronauts who, having finally rattled free of the earth's atmosphere, slip into the stillness of space. Except we weren't in space. We were on earth — finally, really on earth.

We were only starting to move around again, packing our gear into the kayaks, when we heard the first huff of a blowhole, not far offshore.

Jon was ecstatic. It seemed to him as if the animal were putting on a show, swimming playfully in the kelp, diving, resurfacing, then plowing its open mouth across the surface to feed. He took it as a good omen. Though I had no idea at the time, he was anxious that Dave and I might feel intimidated about making the trip; such a big payoff, so quickly, would get us excited and defuse any apprehensions.

For Dave, the whale-sighting had exactly the opposite effect. Once, when he was a kid, his dad took him scuba diving with dolphins. They were friendly, awe-inspiring creatures, purportedly, but they terrified Dave instead. He could still conjure

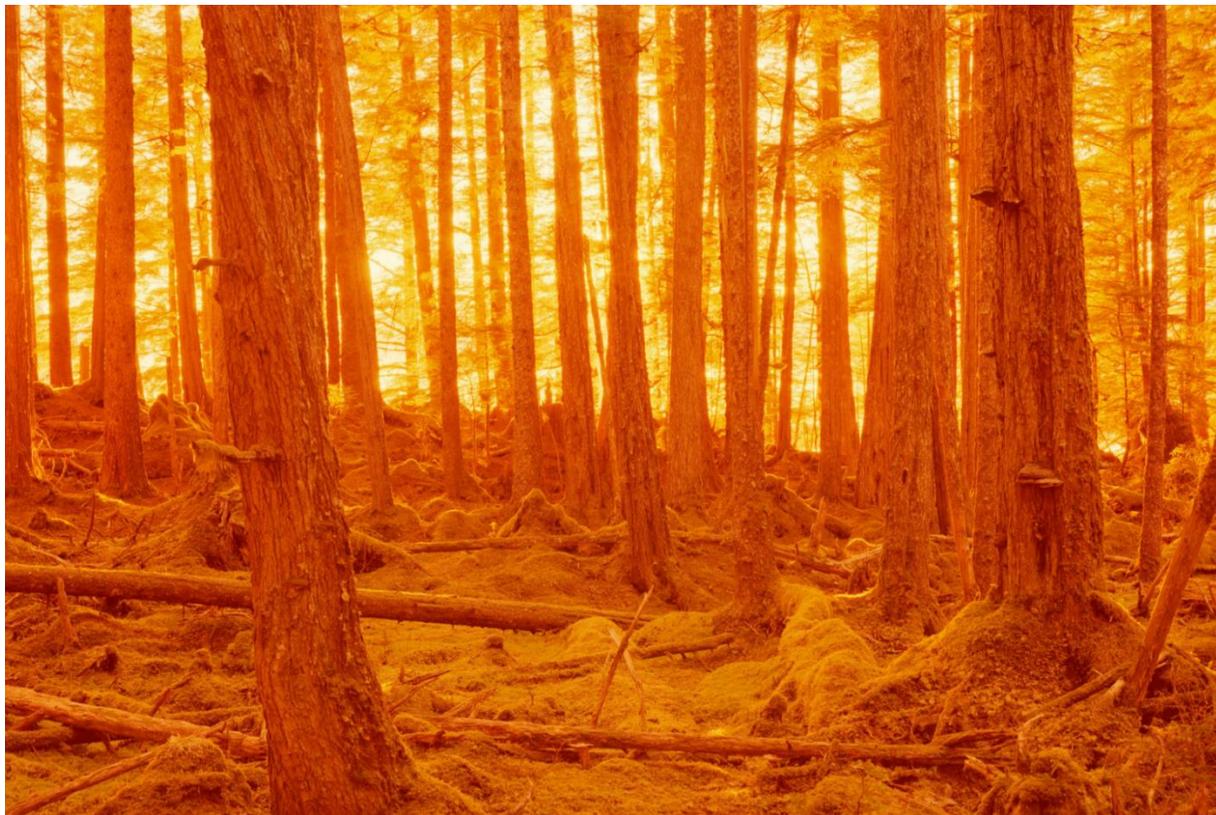
the feeling of hanging defenselessly in that water while the animals deftly swirled around him, less like solid objects than flashes of reflected light, while he could move only in comparative slow motion. Ever since, he had harbored a fear of large sea creatures — a niche phobia, particularly for a young man who lived in the Bronx, but a genuine one still. And so, even as Dave understood that a chance to see whales up close like this was a major draw of a kayaking trip in Alaska, and though he feigned being thrilled, some second thoughts were kicking in: We were going out there, he realized.

The whale left me exhilarated and gleeful, like Jon; but deeper down, I also remember feeling shaken, like Dave. Nothing about the animal registered to me as playful or welcoming. It just appeared in the distance, then transited quickly past us, from left to right. My uneasiness had something to do with the whale's great size and indifference - its obliviousness - as it passed. Watching it made me feel profoundly out of place and register how large that wilderness was, relative to me.

It was mid-August 2002, and we were 23, 24 and 25. This was Jon's third summer in Alaska, and he'd worked his way up to leading expeditions, taking out vacationers for days at a time. Our trip, however, would venture beyond the typical circuit, into a remote corner of the park that he'd never been to. Jon had no serious concerns about our safety, but he felt he bore responsibility for our emotional well-being. To enjoy ourselves, we would need to feel comfortable, not just in the wilderness but also with him as a leader.

Bears?!?

I had never seen a wild bear, though I have backpacked in bear country a handful of times. I felt comfortable with the animals in the abstract. But here, the bears weren't abstract; they breached the material plane. There



The wilderness in Southeast Alaska. Photo: David B. Sherry

were bear trails everywhere, leading from the tree line to the water, and disquietingly close, I felt, to where we were pitching our tent. We found heaps of their scat. We saw trees where the animals had slashed off the bark to eat the inner layer, tufts of fur from their paws still plastered in the sap.

I pretended I was having fun. But that evening I grew increasingly petrified, almost delirious. My eyes tightened, scanning for bears. The sound of the wind became bears, and so did the mossy sticks cracking under our feet. I gave myself a migraine, then phased in and out of sleep.

At sunrise, I woke feeling foolish. I reasoned with myself, privately, in a notebook I brought on the trip. Yes, some number of bears roved this landscape, I wrote: relatively tiny, independent blips, going about their business randomly, just like us. In all that empty space and confusion, a lethal collision of their moving blips and our moving blips would be an improbable coincidence. I'd been distorting those odds, mistaking myself for "the absolute focus of all bears' attention," I wrote. It was embarrassing, really. "To be afraid of bears," I concluded, "is to be narcissistic."

I was reminding myself that freakishly horrible things are, by definition, unlikely to happen. Even now, my reasoning feels sound.

If a Tree Falls in the Woods

We got up three or four hours later. The rain and wind no longer felt ferocious but were still too gnarly to paddle through; there was no question, Jon said, that we were staying put. By late morning, the storm seemed to have passed. We were antsy. We figured we would take a look around.

There were no trails. We'd been trudging for some time when we reached a fast-moving stream, maybe 10 feet wide. Jon was surprised; it wasn't on his map, most likely just a drainage bloated by the storm. We followed it downstream, looking for a way across, and eventually found it bridged by a hefty tree trunk. It seemed like an easy crossing. Jon stepped up and led the way, and Dave and I waited in a single-file line on the stream bank behind him. The creek was loud, like a factory with all its gears and rollers churning. Looking down, Jon realized there was more water than he'd thought.

That's when I heard the snap in the woods behind me.

After all my paranoia, I instantly understood that the many bears I'd thought I heard before were absolutely not bears — were nothing — because this sound was so unmistakable and crisp, so explicitly something. I turned and hollered, "Hey, bear!" then waited a beat. Maybe I said "Hey, bear!" again; I'm not sure. But I must have scanned those trees long enough to feel satisfied and safe, because I know I was turning my head, to go back to my friends, when I saw the dark shape rushing forward in my peripheral vision.

What I heard must have been roots popping. If a tree is large enough, you can apparently hear them cracking underground like gunfire.

The thud was seismic. The trunk crashed down right next to me. Mapping out bits of evidence later, we concluded that the tree must have been about 80 feet tall and perhaps two feet in diameter. It was some kind of conifer — a spruce or cedar. I screamed, involuntarily, "Look out!" then watched Dave, a few steps directly in front of me, dive sideways and hit the ground. When I got to him, he was crouching, stunned but O.K. He looked up and said, "Go get Jon."

It hadn't clicked back in for me: There were three of us. The sight of Dave going down had canceled out everything else. I scrambled out over the creek, running across the tree that had just fallen, shouting Jon's name, then spotted him in the water, tangled in a snarl of sheared-off branches near the bank behind me — a cage, which kept him from hurtling downstream.

He did not know he'd been hit by a falling tree. It had narrowly missed his head, struck his left shoulder, shearing it from his collarbone and breaking many of his ribs. Later, a doctor would explain that the downward force had been so powerful that it had probably squashed Jon's entire upper body, and all the organs inside, down toward his waist, momentarily compressing him like a bellows; for a split second, his shoulders headed in the direction of his bellybutton, before his torso sprang up again.

Jon had heard nothing, seen nothing. He was turning around to help Dave onto the log — again, feeling responsible for our safety — and the next thing he knew, he was in the water. He tried to reach out his left arm but could not make it move. He could not move his legs. He felt a bolt of pain down his spine.

Jon told himself he shouldn't move. He knew from his many wilderness first-responder trainings that moving a person with spinal injuries risks paralysis. Then again, he also knew that most of his body was submerged in cold water, and he recognized that he risked dying of hypothermia if he didn't move. "If I'm already paralyzed," he concluded, "I may as well move."

He somehow hoisted himself out of the stream before Dave or I got to him, using his right arm and his chin and biting into something loamy with his teeth, for additional leverage. He reassessed the situation: better. Also: worse. He now realized that we were at least a mile inland from our camp.

Suddenly, his body was walking; his legs just started working. Dave and I put him between us, supporting his frame. He was moving faster than we expected, but uncoordinatedly. Then he crumpled between us. We tried again; Jon was dead weight. Dave noticed that his breathing was shallow and his voice was low — signs, Dave knew from med school, of a collapsed lung. He began battering Jon with a pep talk, telling him, firmly, that he had to get up, that we had to get out of here. Jon didn't need that explained to him; he was cogent and still trying to plot our next steps in his mind. He looked down to see why this log he was resting on was so lumpy and realized that he was, in fact, sitting on his left arm. The arm was slack, obviously broken; his sleeve, pierced up and down with devil's club. Jon had zero feeling in it. He found it amusing, this sensation of complete estrangement from one of his limbs.

Mayday!

Jon had been stressing that it was important to stay together. But this was another theory of wilderness survival that appeared to be breaking down in practice. Someone would have to get on the radio back at our camp. By chance, while marooned in our tent during the rainstorm the night before, Jon showed us how to use the device, though he did it almost as a formality; the hand-held VHF unit was merely a line-of-sight radio, he told us, meaning its range was small, its signal too weak to pass through most obstacles. You were unlikely to reach anyone you couldn't see, and we hadn't seen anyone since a faraway fishing boat, early on Day 1.

There was a moment of discussion, or maybe just an exchange of looks between me and Dave. I told Dave he should go. I didn't trust myself to find my way back. I

also knew that I lacked the courage to try; whether I was being sensible or cowardly, I still don't know. Besides, I took for granted that Dave would make it. He was more capable in my mind, less likely to cinch himself in indecisive knots.

Now, as Dave sprinted away from me and Jon, his nerves rose up and rattled him. He worried he wouldn't be able to find the radio once he got back or know how to turn it on. What if he broke the radio, foreclosing whatever marginal chance we had of getting help? There were lots of ways to screw this up, Dave realized. More occurred to him as he ran.

He found the radio. He turned it on. Then, having solved these problems, he encountered another he hadn't anticipated: "What is the appropriate thing you're supposed to say?" he remembered thinking. On TV, you see a lot of people saying "Mayday." And so, Dave faced the open water and started broadcasting into the fog: "Mayday, Mayday." Even in that moment, though, alone on a beach in the middle of nowhere, he felt slightly self-conscious about it. This is so goddamn cliché, he thought.

Back in the woods, kneeling over Jon, I was having the same problem: I didn't know what to say. He was lying near a log on his injured side, his beard and glasses flecked with dirt and tendrils of moss. He seemed to be on the brink of losing consciousness. At no time would the possibility of Jon's dying surface concretely in any of our minds. Still, I knew I was supposed to keep talking to him, to tether him to the world with my voice somehow.

I started vamping platitudes: We were going to get out of here soon, and so forth. But I could feel myself treading water, even blundering, at one point, into a long-winded apology, worried I overstayed my welcome that one Christmas with his family. I was afraid that the helplessness in my voice might be counterproductive, unsettling Jon instead of steadying him. It was a tremendous silence to fill.

What can a person say? I had two literature professors in college who made us memorize poems. You never knew when some lines of verse would come in handy, they claimed. Jon and I would spend about an hour and a half together alone on the forest floor. I ran through everything in my quiver — Kay Ryan, A.R. Ammons, Michael Donaghy — padding each poem with little

prefatory remarks, while Jon said nothing, just signaled with his eyes or produced a sound whenever I checked in. I felt like a radio D.J. playing records in the middle of the night, unsure if anyone was listening. And here's one about owls by Richard Wilbur, I would tell Jon, and off we would go.

The Coast Guard!

The Coast Guard cutter Mustang wasn't where it was supposed to be. The 110-foot patrol boat normally spent its time coursing through the Gulf of Alaska, inspecting halibut-fishing vessels, or circulating, as a terrorist deterrent, near the oil terminals at Valdez. It was homeported in Seward, hundreds of miles from Glacier Bay. But the crew was transiting to Juneau for a training when, a few days earlier, they were smacked by the same storm that later poured inland, over us. "We had gotten absolutely pummeled," John Roberts, a petty officer on the Mustang, told me recently. For two days, the boat swished around in 15-foot-plus seas. Many on the crew had been hunkered in the mess deck, vomiting, while Roberts and a couple of his shipmates did their best to cover everyone's watches. Finally, the Mustang slipped into Glacier Bay to find some protection. The weather started to ease. That afternoon, as Roberts piloted the Mustang east, toward Dundas Bay, his pallid crewmates were finally staggering back up to the bridge, asking where the hell they were.

That was when Dave's Mayday call came through. The signal on the Mustang's radio was thin and faint, barely edging into range. Another of the ship's petty officers, Eamon McCormack, explained to me that in retrospect the connection feels "mind-boggling." Glacier Bay National Park extends over more than 5,000 square miles. Our signal would have covered two or three miles at most. And yet, a boat — a Coast Guard boat, no less — happened to be passing through that exceedingly small window at precisely the right time. "I don't know if, nine times out of 10, you play that over again and the outcome would be the same," McCormack said. A moment earlier or later — seconds, potentially — and we might have slipped out of alignment. The moving boat would have cruised out of range, uncoupling from us forever.

It was 1:25 p.m. when the Mustang received Dave's call, according to one of the subsequent Coast Guard reports. Roberts couldn't believe it. "Come on, man, I'm tired,"

he said aloud, wearily, to the receiver in front of him. Roberts waited for a moment, per protocol, on the off chance that the Coast Guard's central communications center in Juneau would pick up the call instead. Then he turned and asked his watch commander to pull out all the standardized search-and-rescue paperwork. He was steeling himself, re-summoning his professionalism. "I guess we're doing this," he said.



The Mustang. Photo: National Geographic

Roberts was the crew member on the Mustang with the most current medical training; he would complete his E.M.T. certification the following month. As he started firing questions at Dave on the radio, he didn't like the answers that he heard coming back: the shallowness of Jon's breathing, the likelihood of a punctured lung. More fundamental, Roberts remembered: "Any time a tree falls on somebody, it's not good." He was also unsettled to learn that Dave and I both lived in New York City — a red flag, he had found, when someone winds up in trouble in the wilderness.

We were 100 nautical miles from the nearest hospital; a half-day trip, even in ideal conditions. The Mustang requested that the Coast Guard Air Station in Sitka send a helicopter, but the immediate plan was for Roberts and three crewmates to peel toward shore in the ship's Zodiac and track us down. Dave had found the flare in Jon's emergency kit and now, at 2:20, with the Zodiac underway, the Coast Guard asked him to fire it. He was still in front of our campsite, facing the water. He'd never shot off a flare before. He aimed straight up, then watched as the bright tracer rose and arced somewhere far behind him, deep in the woods. He was uncertain

whether this counted as a success. He started scanning the fog in front of him, but the Zodiac never appeared.

Someone on the Mustang caught sight of the flare near the end of its arc and immediately directed the crew on the Zodiac toward it, steering them far away from Dave to the opposite side of the little peninsula we'd camped on. And yet, this was lucky: they wound up coming ashore much closer to where I was waiting in the woods with Jon. Soon, whatever poem I was reciting was interrupted by whistles blowing and voices calling, and eventually three shapes, wearing hard hats and heavy orange rain gear, rushed toward us out of the trees.

First Response

Roberts was especially impressive, a reassuringly large Boston-area native with a booming voice. He knelt and took Jon's vitals. The information was troubling: his pulse was 60 beats per minute; his breathing, fast and shallow. They put his neck in a brace and eased him onto a kind of truncated backboard, called a Miller board, to move him out to the beach. Dave had returned by then. He and I crouched at one end of the board, near Jon's feet, as someone — presumably Roberts — bellowed a count of three to lift.

A National Geographic television crew was embedded at the Coast Guard's air station in Sitka, filming an installment of a thrill-ride reality series. The network had sent crews to other Coast Guard stations around the country too, though this assignment appeared to hold the most dramatic potential. Air Station Sitka was unique: Its pilots were responsible for 12,000 miles of coastline, a sprawling, treacherous wilderness riven with fjords, inlets and glaciers, often buffeted by implacably horrible weather. People who went into the backcountry in Alaska had a way of getting themselves into a different magnitude of trouble, too; as Roberts put it, "When stuff happens in Alaska, it's big." Still, this was the television crew's eighth day in Sitka, and as the show's producer, Annabelle Hester, explained: "I was having calls with my bosses at headquarters saying, 'Nothing is happening!' We were scrambling to come up with Plan B." Then, the Mustang's call came in at 1:42.

"What type of injuries are we looking at?" asked the dispatcher. "Probable broken ribs, a definite broken arm," said the man on the other end. Then his voice faltered, seemed to give up: "And whatever else would happen to you if a tree fell on you," he added.

The dispatcher retrieved the appropriate paperwork and scribbled “Tree fell on person” on one line. She read the current weather aloud: “30 knots wind, 300 ceiling, heavy rain and one-mile vis.” That would soon be revised: the ceiling had dropped to 100 feet. Entering the weather conditions on one of the Coast Guard incident reports, someone would write, in a kind of nihilistic catchall: “Extremely terrible.”

Helicopter?

The Coast Guard’s policy was to deploy a helicopter within 30 minutes of the initial request, but the Air Station’s operations officer, Cmdr. Karl Baldessari, informed everyone that this mission would take longer to plan. Baldessari was a 25-year veteran of the Coast Guard, a fast-moving, sinewy man in a blousy flight suit, with a tidy mustache and spiky hair. His role at the air station was that of a firehouse chief. He was responsible for the safety of everyone working there, which meant making judicious decisions about what warranted sending them hurtling through the sky.

That calculus got knotty in conditions like these, though there was a baseline volatility to flying in Alaska at all. The Coast Guard didn’t let its helicopter pilots fly lead out of Sitka, no matter how much experience they had at other air stations, until they practiced difficult landings at specific locations in the region and got their egos battered a little by logging a full winter in the state. Visibility in Alaska was frequently poor; conditions changed quickly.

Baldessari gathered the two pilots on duty that afternoon and the Air Station’s flight surgeon, then unrolled a large paper map. He pointed to our location, explaining: “That’s probably one of the lousiest places we fly in and out of. This Inian Pass, right here, is the worst place we could possibly go.”

Inian Pass is a slim channel near the center of the Icy Strait, the long, interconnected system of waterways stretching through Glacier Bay. Conditions in the Icy strait can be bad 300 days of the year, Baldessari recently told me; wind, rain and storm surges all push through it fast from the open ocean. But Inian Pass is a narrow keyhole at the center of the strait — a mile-wide opening between a few uninhabited islands and a rocky point — where all that weather speeds up. The only way for the pilots to reach us would be to fly straight through it.

Getting Worse

Lying on his backboard like a burl of driftwood, Jon was conscious and cognizant of his pain, but he had started to feel somehow buffered from his body, uninterested in connecting with the world beyond it. He would later describe himself as a “thinking blob. It was a very passive experience.” He didn’t know what was happening but could tell our momentum had stalled. He was confused and felt impatient. In his mind, the three of us had solved the impossible problem: We’d managed to get help. This was supposed to be the simple part, when everyone rushed him to the hospital. Instead, his condition deteriorated. Within 10 minutes of reaching the beach, Jon threw up. I’d never seen anything like it, a kind of dark purple gristle. I took out my wool cap to wipe his face, and he retched a second time, straight into my hat.

“I got that all over me,” John Roberts told me recently. He’d seen vomit like that before; it meant Jon had ingested a fair amount of blood and signaled internal injuries. It made Roberts anxious. He had been on the Mustang for two and a half years at that point but had spent the previous four years in Palm Beach, a busy but less extreme posting that often involved rescuing weekend boaters from relatively close to shore — and where, Roberts pointed out, the water is warm and won’t necessarily kill you if you go in. Moreover, the bulk of the Coast Guard’s training is for maritime rescues, not rescues on land. Counterintuitive as it sounds, Roberts’s comfort level and confidence had dropped significantly once he hopped off the Zodiac and set foot on the beach.

He reported back to the Mustang that Jon had thrown up, then soon radioed again, explaining that Jon was going into shock. He kept giving and requesting updates, trying to gauge how long this might take, and eventually started erecting a makeshift shelter out of plastic sheeting and medical tape, hoping to keep Jon out of the rain. Out of earshot of us, Roberts explained to his crew mate Eamon McCormack what the vomit meant: The possibility of Jon dying, here under their care, was real. At one point in the National Geographic footage, as Roberts’s calls are relayed to the air station in Sitka, you can see where the dispatcher clearly writes on her form: “E.M.T. does not feel comfortable.”

By this time, the air station's flight surgeon had received enough information to be alarmed. "It sounds like he's got a pretty significant chest injury," he told Baldessari. Baldessari understood they would need to launch a helicopter but warned the Mustang that the aircraft might not make it through the weather; ultimately it would be the pilots' call, once they veered off their last track line and tried to shoot through Inian Pass.

They would go and give it a look, Baldessari explained over the radio, but the outlook was iffy. The guys on the beach, he said, must be prepared to get Jon back on their cutter and haul him to a hospital themselves, as fast as they could.

One evening this winter, my phone rang, and it was Karl Baldessari. Long retired from the Coast Guard, he was teaching aviation at a community college in Oregon, where I left a voice mail message earlier that day. I didn't expect any of the Coast Guardsmen I was cold-calling to remember that day. However dramatic it remained for me, I assumed it would have been obscured in a yearslong wash of more sensational incidents. But everyone I spoke to did remember it, immediately and in detail. Baldessari had been involved in hundreds of rescue operations during his 30-year career, and yet, as I stood at the stove on the phone that evening, he told me: "The moment I listened to your voice mail, I knew exactly the case! It was almost like it was yesterday."

There was something about the supreme freakishness of the accident that left a lasting impression. For those who came ashore, the experience was also marked by a feeling of subtly escalating chaos and the pressure to surmount it. McCormack told me that ours was a story he retold endlessly, often to the younger Coast Guardsmen he was eventually tasked with training. In it was a lesson about "not taking situations that look impossible at face value," he said. "When things start to go wrong, don't panic or lose sight of what resources you've got." Keep working the problem until its absolute end — even, McCormack added, if it means deviating from official policy.

McCormack was not supposed to be landing an inflatable boat on an unforgivably rocky Alaskan shoreline, for example. But there he was, anyway, beaching the Zodiac as gingerly as he could, so that Roberts and the other men could load Jon aboard. They slid him in on his side "like a folder into a filing cabinet", as Jon put it, and started motoring through the

chop, very cautiously, back to the Mustang, about a mile away.

About 10 minutes into the trip on the Zodiac, Jon heard one of those voices say, "Oh, shit, we're losing air."

A section of the Zodiac's sponson — the inflatable fender that wraps around the boat — had punctured. One side was completely deflated. "It's a big deal," McCormack recently explained to me, sounding surprised that I had to ask. The sponson increases the boat's buoyancy and stability, as well as keeping water from cresting over the side; under normal conditions, a Zodiac with a broken sponson would have been taken out of service automatically. Instead, McCormack found the puncture and wedged the nozzle of a small pump inside. Then — steering the boat with one hand, operating the throttle with the other — he started working the pump with his foot, essentially doing leg presses, to keep the fender partly inflated. The ride was already bumpy in four-foot seas. Now McCormack began tracing a slow, zigzagging course, doing what he could to tamp down the turbulence and the violence to Jon's spine, as well as to guard against the possibility of the injured man's suddenly bounding over the side on his backboard.

Roberts and the other Coast Guardsmen on the Zodiac leaned over Jon to shield him from the splash. The pain was heinous; Jon seemed to be passing out. Roberts talked to him, held his hand. Roberts felt crushed, he told me; he was torturing this guy in order to save him. When they finally reached the Mustang, rather than hoist Jon off the Zodiac, they swung the ship's crane around and simply lifted the entire boat out of the water, level with the deck, and then carried him aboard, to keep from juggling him any more.

McCormack eventually returned for me and Dave, and a half-hour later we were reunited with Jon in the Mustang's athwartship passageway, a cramped, steel hallway, like the space between two cars of a train. Jon was still battened to the backboard, wedged up to keep the weight of his body on his less-painful side. They had cut off his clothes, though he'd murmured a plea not to — he was wearing a brand-new Patagonia jacket that he had borrowed from a friend — then swaddled him in a hypothermia blanket. Dave and I knelt and rubbed his feet.

Rescue!

The helicopter was going to make it. I don't remember there being a grand announcement. I'm not sure we were ever made aware of the possibility that it wouldn't. Now the crew got busy below: tying down anything that could be blown off by the rotor wash or stashing it in the mess. I also don't remember hearing the helicopter when it finally arrived. Instead, I remember only a heavy door to our left swinging open to reveal, like a scene from an action movie, the silhouette of a man in a blue flight suit, feet planted shoulder-width apart to steady himself as the ship rocked sideways. The cable he'd been lowered on drew back into the ocean spray and fog behind him. "I'm flight surgeon Russ Bowman," he said and stepped inside.

Bowman took Jon's vitals and gave him several, successive shots of morphine. Soon, everyone was working to squeeze him back through the narrow doorway and onto the deck where the helicopter, an MH-60 Jayhawk, was idling overhead.

The helicopter hovered 30 or 40 feet over the boat, mirroring its speed and trajectory, while both vehicles moved slowly forward. "Looks like you're heading for a rain squall," the co-pilot, Chris Ferguson, radioed the Mustang at one point, and asked the ship to adjust its course, to keep them in as forgiving weather as possible. Soon the flight mechanic was calling out instructions to tuck the aircraft into alignment: "Forward and right 30. Forward and right 20. Forward and right 10." Then, finally — speaking, in the flight recordings, with an almost galling air of imperturbability — the lead helicopter pilot, Rich McIntyre, radioed the flight mechanic to begin the hoist.

The whole procedure, from our vantage point, seemed seamless and routine. In a way, it was: After the agonized deliberation at the air station, the pilots exited off their GPS route into fairly manageable conditions around Inian Pass. The winds were workable; the water wasn't excessively choppy. Ultimately, scooping Jon off the deck of the Mustang would resemble a standard exercise that the pilots drilled in their trainings. "Not to dumb it down," the co-pilot, Chris Ferguson, told me — plucking someone with a spinal injury off a moving boat and hoisting them into a moving helicopter is a pretty insane thing to do. "But we normalize what isn't normal."



Video stills from National Geographic Image Collection

Jon was rushed into surgery at the hospital in Sitka that evening. He'd punctured both lungs, one to the point of collapse, sustained multiple fractures on eight of his ribs, broken several vertebrae, shattered his left shoulder blade and snapped his brachial plexus nerves. His spleen had been macerated into countless flecks. After awakening from surgery, Jon was disappointed that the doctors had swept those shards into a bag and thrown his spleen in the trash; he wanted to get a look at it, maybe even keep it preserved in a jar, alongside his cyborg-banana.

We Saved Him?

Once back in Gustavus, Dave and I realized that we would need to call Jon's parents in Switzerland. I didn't have to push the job on Dave this time; he was adamant. He felt he would need to face conversations like these if he was going to be a doctor. It was Jon's father who picked up, and after absorbing the news, he paused and caught Dave off guard. "Thank you," he said solemnly. "You guys saved my son's life."

Dave's stomach dropped. "I remember thinking about it," he told me recently, "and realizing, Yeah. I guess, logistically, we did." I had the same reaction when Dave hung up the phone and, clearly shaken, relayed his conversation to me. Until that moment, the idea that we saved Jon's life had never occurred to us, possibly because the idea that Jon might have died still hadn't occurred to us. We had zero sense of accomplishment, or even agency. In our minds, all we did was avoid screwing up until help could arrive and save him.

But Jon hadn't absorbed the story that way. From the instant he willed himself out of the water, he felt all of us locking into that same seamless flow of order steadily displacing chaos that Dave and I only experienced once the Coast Guard arrived. It was amazing to him how the three of us managed to generate solutions for each successive problem. Even my reciting those poems, which to me had always felt like a moment of utter helplessness, became, in Jon's telling, a perfect emblem of that streak of serendipitous problem-solving. "You conveyed a calmness," he told me recently. "I remember it being this nice moment."

The surgery in Sitka was only the first of half a dozen, and it would take several years for him to regain 60 percent of the use of his arm, wrist and hand. He was in good enough shape to go back to Alaska the summer after the accident — repairing boats in the company's warehouse and occasionally helping out at the bed-and-breakfast — but he struggled. He could repair kayaks but needed help lifting them. He was unable to wrestle the mattress corners into the fitted sheets when he made the beds. After that, he started working at a recording studio in Portland and he now runs his own audio-mastering company: Spleenless Mastering.

Eventually Jon seemed to have recovered from the accident without any conspicuous disabilities. But his life has been quietly corroded by chronic pain and, almost equally, by the stresses of navigating the doctors, medications (and their side effects) to manage it. About two years after the accident, he learned he had PTSD. The trauma wasn't the falling tree, but his experience of powerlessness as a perpetual patient in the American medical system. It manifested as a kind of unbearable empathy for anyone who was suffering. Jon found himself shouting at doctors, on his own behalf but also on behalf of strangers in waiting rooms who weren't being seen.

What to make of all this?

The morning after the accident, Dave and I traveled back to Dundas Bay to pack up our campsite and collect the kayaks we abandoned the previous evening. We were shuttled there from Gustavus by the same boat captain who dropped us off three days earlier, a forbiddingly taciturn commercial fisherman named Doug Ogilvy.

Dave told me he'd had a strange feeling on the ride out, as if we would discover that an even more massive tree

had fallen on our tent since we last slept there and that all three of us would have been crushed and killed if we'd spent another night in Dundas Bay, as planned. That is, he half-expected to find evidence that the accident had been fortuitous somehow, that there was a reason, or redemptive value, behind it. My mother had the same instinct when I called her the night before. On the phone I strained to emphasize for her — she was only two years into her cruelly premature widowhood, and I was new at being the overprotective son of a widow — that Jon was going to be all right, and that Dave and I were safe. She told me that my dad must have been up there looking out for us somehow.

I resented all the supernatural thinking. If it comforted other people, fine, but I'd somehow known right away that I didn't need a reason for the accident. It was senseless, but straightforward, as unequivocal a fact as my father's death had been. A tree fell in the woods. It might not have, but it did. Jon could have died, but he didn't. As strange as it sounds, it was years before I realized that the tree could have hit me — and only after a friend pointed this out, as I told the story around a fire one night. And it was only a few weeks ago, while on the phone with Jon, that it occurred to me that the tree could have hit all three of us — we were standing in a single-file line, after all, waiting to cross the creek — and that we all might have wound up clobbered and scattered in that river, dying slowly and watching each other die.

It's also probably true that I helped preclude these possibilities by being so feverishly paranoid about bears, wheeling around at the sound of the snapping roots. That's what allowed me to see the tree coming, just barely, and scream that infinitesimal heads-up for Dave. And so, the real meaning of the accident, if I felt compelled to find one, might be that it validated my most exaggerated fears. But instead, it somehow helped cleanse me of them. There was comfort for me in accepting the arbitrariness of what happened, in regarding it as a spasm of random damage in time and space that, just as randomly, a small number of human beings got the opportunity to repair. We were more capable than I had understood. We were also far more helpless.

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Contributors

Jaclin Gilbert is an ACA L2 Instructor and BC 3* paddler who lives in Silver Spring, MD

Jon Moallum is a writer at large for the New York Times magazine who is working on a book about the great Alaska earthquake of 1964. He's the author of WILD ONES, which was chosen as a best book of 2013 by The New York Times Book Review, The New Yorker, Outside Magazine, and others. He lives near Seattle.

Dawn Stewart - is an ACA L4 Open Water Coastal Kayaking Instructor and a BCU 4* Sea Trip Leader. Living in Chapel Hill NC, she is a founding member of the Carolina Kayak Club.

Rick Wiebush runs Cross Currents Sea Kayaking. He lives in Baltimore and is an ACA L3 IT. Unfortunately, his writings haven't been chosen the best of anything by anybody.

Dale Williams is an ACA L5 ITE who lives on Tybee Island, GA. He runs Sea Kayaking USA, importing and distributing SKUK/NDK kayaks, Celtic paddles and Reed clothing and gear.

Coastbusters welcomes submissions of trip reports, incident descriptions and analyses, skills and "how-to" articles, boat and gear reviews, book and video reviews, and photographs.

We are interested in receiving submissions from all paddlers. It just so happens that many of this month's contributors are instructors. That is not a requirement.

Articles should be limited to about 750 – 1,000 words and submitted in Word. Photos should be submitted in .jpg format. Please send your submissions to Rick Wiebush at rwiebush@gmail.com.

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