

"We're just scanning for a fin," says Greg Skomal, "waiting for a disruption of the surface."

His head swivels in slow motion, like a sprinkler, as he scours a placid patch of the Atlantic Ocean. Waiting.

Skomal is a senior biologist with Massachusetts's Division of Marine Fisheries who periodically moonlights as a TV biologist for Discovery Channel's Shark Week. It's late March and he has come to Fernandina Beach, Fla., with a boat and crew of nine production hands. They're shooting parts of an hour-long program titled "Shark Trek" for Shark Week 2015, the 28th edition of the seemingly indestructible franchise.

Skomal is searching for evidence to support his hypothesis that great white sharks are returning in force to their old Eastern Seaboard stomping grounds, although "chomping grounds" would be more in keeping with the high-octane spirit of Shark Week. Discovery Channel, whose headquarters are in Silver Spring, likes to serve its science with a side helping of histrionics; witness past Shark Week programs such as "Great White Serial Killer," "Teeth of Death" and "Blood in the Water."

But in the past few years some producers yielded to temptation (or ratings pressure) and went several steps further. They presented phony shark attacks as real. They played the Godzilla card, suggesting prehistoric monster sharks still roam the seas. A public backlash ensued. Discovery executives claim to have seen the error of those ways. We'll soon know if Shark Week has cleaned up its act. The new season begins July 5.

For the record, the odds of someone in the United States getting bitten by a shark are about 11.5 million to 1, according to statistics compiled by employees of the Florida Museum of Natural History, repository of the International Shark Attack File. You also are more apt to be killed by a cow, lightning bolt, power tool and court-ordered execution than by a shark. Of course, it doesn't take a programming genius to know that millions of people aren't going to tune in for Cow Week.

Skomal and the Shark Week team have dropped anchor roughly a half-mile off Fernandina Beach, which sits smack on the Georgia border. For eons great whites regularly plied the ocean from Canada to the Gulf of Mexico. They particularly enjoyed dining on gray seals. a denizen of the rocky New England-to-Mid-Atlantic coastline that by the 1950s had been all but wiped out by hunters. White sharks dwindled, too. Thanks to the Marine Mammal Protection Act, the gray seal population has substantially recovered in the past decade. And guess who Skomal believes is back in town?

"The cafe, in essence, had opened, and the top

predator of seals arrived," he says.

In August he tagged 18 great white sharks when the crew was filming a "Shark Trek" segment at Cape Cod's Monomoy National Wildlife Refuge. In the succeeding months, he tracked satellite and acoustic signals as far as South Carolina, Georgia and northern Florida — well beyond the range of those chubby gray seals they love to munch on. Tagging signals can't pinpoint locations, however. Skomal's educated guess is that lots of great white sharks are lurking around the inlets and estuaries near Fernandina Beach, an ecosystem he describes as "very New Englandy." He thinks that down here great whites alter their gray seal diet and subsist on porpoises, right whales and smaller sharks.

To validate his theory (and make better "Shark Trek" television) Skomal needs to find some southerndwelling great white sharks. It's now Saturday morning. He and the crew got to Fernandina Beach on Wednesday afternoon and immediately went shark scouting. A great white buzzed their boat three times before they had all their tagging equipment ready.

"It was a 15-footer!" Skomal says. "We've been sitting and watching ever since."

Three days of staring at the ocean, hoping a shark fin will break the surface again. Waiting.

s media stars go, sharks are the latest of late bloomers. Their genetic roots stretch back more than 450 million years, making them, in the grand scheme of things, older than trees but younger than dirt. They are fish with an asterisk: About 70 percent give birth to "pups" rather than lay eggs; the vast majority travel solo rather than in schools. And a few of the 500-some known species are warm-blooded like mammals, the great white being one of them.

Great whites, with their Mona Lisa smiles hiding a razor bite, are at the top of the shark pyramid. Marine biologists refer to them as the ultimate "charismatic

megafauna," citing a beguiling combination of mystery, fear and respect that they engender. They're silent assassins gliding through still water. The only charismatic megafauna that come close to having the star power of great whites are dinosaurs, but dinos lose points for having gone extinct.

Historically, shark mystique didn't translate to academic interest. Before World War II there were "little bits and pieces" of research being done, says Sam Gruber, a marine biology professor emeritus at the University of Miami considered a pioneer in the field. Ernest Hemingway personified the prevailing perception of sharks: nuisances. Papa used to "fish' for them on his boat in Cuba, for saking rod and reel for a Thompson submachine gun.

In July 1945 the USS Indianapolis was sunk by a Japanese submarine while en route from Guam to the Philippines. An estimated 900 men survived the explosions. Only 317 were pulled from the water four days later. In the interim swarms of sharks fed on the dead and some of the living. (Shark Week thoroughly covered that catastrophe in 2007 with "Ocean of Fear: Worst Shark Attack Ever.") After the war, the Navy began investigating basic shark behavior and biology, which included unsuccessful attempts to develop a reliable repellent.

Bob Hueter, director of the Center for Shark Research at Mote Marine Laboratory in Sarasota, Fla., began his career in the mid-1970s. By then Navy research was winding down and the field remained "fairly primitive." Peter Benchley would soon help change that. He published "Jaws" in 1974, and a year later the movie adaptation, directed by Steven Spielberg, was released. "Jaws" became the first film to gross more than \$100 million domestically and won a figurative Academy Award for Most Induced Nightmares.

"Jaws" mania "changed everything," Gruber says. "It changed the entire world, not just the country."

It ultimately inspired three sequels, video games, two musicals, "Saturday Night Live's" "Land Shark" parody, and who knows how many future marine biologists. "Jaws" raised the profile of sharks astronomically, but initially not for the better. In truth, it wasn't safe for sharks to go in the water. Kill tourna-

> ments became a fad. The National Marine Fisheries Service (now NOAA Fisheries) hopped on the bandwagon in the mid-1980s by encouraging commercial shark fishing. The agency considered sharks an "underutilized resource" that should be put to better use making clothing, wallets, cosmetics and soup. By 1993 the agency had backtracked and implemented a shark management policy that





These pages, from

top: A worker collects

shark fins drying on

the roof of a factory building in Hong Kong in 2013. The fins are considered a delicacy and aphrodisiac in some countries. Fins for sale for upward of \$495 per pound at a store in San Francisco's Chinatown in 2011. A still from "Air Jaws: Fin of Fury," which aired during last year's Shark Week programming on Discovery Channel. PHOTOS: TOP BY KIN

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forbade catching 19 species.

What turned the tide? Primarily media attention to "finning," the grisly practice of stripping a shark like an abandoned car. Fishermen toss the mutilated shark into the water to die after first slicing off all its fins, which are a high-priced delicacy and aphrodisiac in some countries. Around this same period in the late 1980s, the advent of high-quality, lighter-weight underwater cameras breathed new life into nature documentaries. The shark gestalt began to shift. "People were beginning to understand the shark was not this death fish," Gruber says.

They also began to realize that sharks, who mature slowly and breed sparingly, were disappearing. The conservative guesstimate is that 100 million are killed annually today, an unsustainable rate of demise. The International Union for Conservation of Nature identifies 201 species as threatened. Last summer the United States added its first shark, the scalloped hammerhead, to its endangered species list.

Meanwhile, a 2013 study by the University of British Columbia says that shark watching generates \$314 million each year worldwide and shark-related tourism could more than double within 20 years.

Shark Week debuted on July 17, 1988, in time to ride the nascent wave of shark revisionism and conservation. The inaugural show was about building and testing a motorized shark cage. Doesn't sound like riveting television, but that show and the nine others

O To see a video of Shark Week's greatest hits, go to washingtonpost. com/magazine.







Shark
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Director Nick Stringe

Clockwise, from top left: A plywood seal decoy is used to attract sharks off the coast of northern Florida in March during the filming of "Shark Trek." Director Nick Stringer, center, and crew keep a lookout for sharks. Biologist Greg Skomal reviews papers in his bunk after a day of filming. that followed doubled Discovery Channel's ratings in prime time.

There is no in-house archivist at Discovery, hence the conflicting accounts of who deserves to take a bow for the idea of Shark Week. But its popularity has been a steady upward climb, from Benchley's stint as host in 1994, to the now-classic slow-motion video of a shark caught breaching in 2001, to the introduction of a "Shark After Dark" talk show in 2013.

Life is good at parent company Discovery Communications. President and chief executive David Zaslav is now the highest-paid CEO in America, receiving \$156 million in 2014. Discovery Channel won't release budget figures, but the purse strings don't appear to be pulled too tight. After all, they hired Jimmy Buffett to do an unannounced concert at Hermosa Beach, Calif., to kick off Shark Week 2014. Discovery reportedly spent \$150,000 to build a 50-foot-long mechanical shark with hydraulic jaws that replicate the biting power of a prehistoric shark, all 20,000 pounds per square inch. "Sharkzilla" was Buffett's de facto opening act at Hermosa Beach, chewing up a kayak and lifeguard tower to enthusiastic applause.

irector Nick Stringer is a lanky, laconic Englishman with a list of well-regarded wildlife documentaries to his credit, as well as an advanced degree in environmental science. This is Stringer's fourth Shark Week shoot with Skomal. He admits that at first he "didn't quite get" what the fuss was about: crazy Americans dressing in shark costumes, shark slippers (\$24.95 at Discovery's online Shark Week store) and foam fin hats; Shark Week drinking games; a hopping Shark Week Facebook page "liked" by more than 1.4 million people.

Now Stringer says he understands: "It's almost like Christmas. It has become more than television. It's a cultural phenomenon."

That large, devout audience has special expectations. Stringer equates traditional nature documentaries to the opera and Shark Week to a rock concert. The pacing of Shark Week shows is faster, the camera cuts quicker, the soundtrack louder, the narrative engine revs higher. He expects to end up with roughly 30 hours of raw "Shark Trek" footage that he will whittle to 42 minutes for broadcast. The result will be a "fusion" of sorts, he says, with shark science and

Skomal's energetic persona "coming together in an action-packed drama" about the quest for East Coast great whites.

Unfortunately, shots of Skomal standing fin watch are not very action-packed. What Stringer says he desperately wants — and doesn't yet have — is footage of "Roger and Amy doing direct observation."

Roger Stokey and Amy Kukulya are staff engineers at the Woods Hole Oceanographic Institution in Massachusetts. They're the on-ship operators of a \$360,000 marvel of Woods Hole-engineered, high-tech hardware called the REMUS (Remote Environmental Monitoring Units) 100, or "Shark Cam" in Discovery Channel parlance.

Think of REMUS as an underwater drone; indeed, the U.S. military does and has used it to detect mines. The 14-foot-long REMUS 100, which looks like a torpedo, not only measures temperature, depth and distance, it records video via six mini-cameras mounted on the aluminum casing. What's more, it communicates with a small transponder that can be clamped onto a dorsal fin, allowing REMUS 100 to tailgate a shark at depths of up to 300 feet while Stokey or

Kukulva control the speed by computer.

Skomal and Stringer traveled to Guadalupe Island off Mexico to shoot a program for Shark Week 2013. They brought along the REMUS 100, as well as Stokey and Kukulya, who got spectacular video of deep-diving great white sharks, plus some surprise bonus footage: great whites attacking the REMUS 100, noshing on that aluminum casing as if it were a 14-foot-long hot dog.

Stringer is aching to turn REMUS loose at Fernandina Beach. So far, he has been paying \$2,000 a day in rental fees to have it lie on the deck of the boat. As Stokey notes, "That's the thing about oceanography: It's just hours and hours of tedium."

At 2:30 p.m. cinematographer Paul Williams announces, "I just saw a fin!" Heads snap to attention, but it turns out to be a couple of dolphins breaching off the stern. Skomal reflects on the art of enticing sharks. The trick is to establish a proper "scent trail" with chum. "You don't want to toss chunks of bait into the water," he says. "They'll just sit back and eat. You want them to smell the grill."

Deckhand Sean Sullivan pulls out his guitar and

12 The Washington Post Magazine • June 21, 2015 • The Washington Post Magazine • June 21, 2015



starts to strum - not an encouraging sign. The crew falls into prolonged silence. Skomal, seated in a deck chair and surveying the water, finally thinks of something to say: "Somebody needs to invent a shark whistle."

he sun sets. Their luck turns. Three great whites circle the boat, smelling the grill. Skomal dubs the largest one "Big Daddy." He pierces its dorsal fin with the tip of a harpoon-like pole, the first step in fastening a tag. Big Daddy reacts by repeatedly trying to leap into the boat, bear-trap jaws snapping. Skomal and Stringer grab the REMUS 100 like a battering ram, bashing the shark in the nose until it finally swims away, dazed. "Well, I hope the cameras were running," says a shaken Stringer.

Certain events and characters in the preceding paragraph have been dramatized.

Sometimes reality bites. The problem at Fernandina Beach was that it literally wouldn't. So what's the harm in injecting a fictitious "Big Daddy" into a magazine article that could use a dramatic boost? Plenty. It's unethical. It dupes readers. However, the above disclaimer is only a slightly modified version of a viewer advisory tacked on to the end of "Megalodon: The Monster Shark Lives," a pseudo documentary that kicked off Shark Week 2013.

Megalodon isn't pure bunk. It's the name of a line of prehistoric, 50-foot-long super sharks. Shark Week producers took the liberty of implying that at least one Megalodon was not only still alive and well, but attacked a small pleasure boat off the coast of South Africa. That baloney began to smell when multiple biologists declared Megalodons had unequivocally died off some 2.6 million years ago. Many Shark Weekers were not amused, despite the fact that "Megalodon: The Monster Shark Lives" pulled in 4.8 million viewers, the biggest Shark Week audience ever.

Sarah DeRiggi, a 35-year-old nurse from Fredericksburg, Va., contracted the Shark Week bug at age 8. Her dream is to someday get in a shark cage in Guadalupe. "I felt really betrayed," says DeRiggi. "If I want that, I'll watch SvFv channel. It's broken my heart, this whole Megalodon thing."

David Shiffman grew up in landlocked Pittsburgh mesmerized by Shark Week, He's now a marine biology doctoral student at the University of Miami and a vocal online critic of Shark Week. Shows have become "slowly more sensational and fear-mongering," he says. "About five years ago is when it started to get real bad."

That's the time frame in which Discovery Channel goosed up Shark Week by enlisting some of television's most successful reality-show pros: schlockmeisters like Gurney Productions, creators of "Duck Dynasty," and Pilgrim Studios, the brains behind "Ghost Hunters" and "The Ultimate Fighter." They took fright-and-bite to new levels, meaning "Monster Hammerhead" (about a folk-legend shark called "Old com/magazine.

"The legacy [of Shark Week] is still to be written. which is something to be saying after 28 years."

Michael Heithaus. biology professor at Florida International University in Miami

To learn how these photos of neighborhood shark encounters came to be, go to washingtonpost. "It's almost impossible to weed through the crap to see the conservation message."

Jonathan Davis, a wildlife technician in the Texas Parks and Wildlife Department Hitler" that terrifies Floridians), "Voodoo Sharks" (about a folk-legend bayou shark called "Rookin" that terrifies Louisianans) and "Sharkageddon" (about a possible surge in great white sharks that terrifies everybody in Hawaii).

In an interview last year with International Business Times, Michael Sorensen, then Discovery Channel's vice president of development and production, put a happy face on the drift away from fact-based programming: "We wanted to take the audience on a different journey, tell a different kind of story." That televisionspeak sounded good to Sorensen, but it didn't play well outside Discovery Communications headquarters. Biologists especially were left scratching their heads.

Quincy Gibson, an assistant professor at the University of North Florida who studies dolphins, equivocated about appearing in "Shark Trek." She had several discussions with director Nick Stringer before committing. "There's a number of Discovery Channel shows that most scientists think have veered off course a bit," Gibson explains. "I was a little nervous about my professional reputation."

Shark Week pushed things to the extreme last year. There was a "Megalodon" sequel. Then Discovery Channel spooked Canadians by releasing a promotional video that showed a rogue bull shark on the loose in Lake Ontario: The company later issued a we-were-only-kidding apology, admitting it was a dummy shark. But the rock-bottom low point came with "Shark of Darkness: Wrath of Submarine." Oddly, it basically recycled the same fabricated South African boating tragedy used in the original "Megalodon" broadcast, only this time the villain was a freaky great white known as "Submarine."

Everything about "Shark of Darkness" was contrived. The incident never happened. TV news reports were staged, emergency-responder radio transmissions faked. Actors played biologists, rescuers, survivors and even victims. (Beware of any documentary whose closing credits include a casting producer and wardrobe stylist.)

Discovery Channel took a pounding. Viewership for the week dipped to 42 million from a record 53 million in 2013. Media analytics company Sysomos reported that 40 percent of the social media chatter ran negative: "crushing disappointment" ... "pathetic program" ... "disgraceful."

Coincidence or not, Discovery subsequently made lineup changes. Pilgrim Studios, the production company that concocted "Shark of Darkness," wasn't invited back for 2015. Dolores Gavin, executive producer for "Shark of Darkness," left Discovery in November. In January outsider Rich Ross took over as president. He quickly hired John Hoffman from HBO to serve as executive vice president of documentaries and specials.

Ross publicly stated the network wouldn't crank

out any more ersatz mockumentaries: "It's something that has run its course." Howard Swartz, the new vice president of development and production, insists Ross wasn't making a mocku-promise. "We're putting such an emphasis now on research expeditions and science and trying to unravel some of the mysteries about sharks," he says. In other words, "Megalodon" is dead and buried.

Ross also decided Shark Week is, at root, a celebration of summer. Why hit the airwaves in August? He moved Shark Week up to July 5 — about to be branded "Fin-dependence Day" — but added an extra weekend of shark shows in August. Major League Baseball and NASCAR will be promotional partners.

And media diplomacy is on the agenda. "Part of my job as I see it," Swartz says, "is to build a one-on-one connection with the science community."

Nigel Hussey, senior scientist at the Cousteau Society, thinks Shark Week has helped steer public opinion away from the post-"Jaws" mentality that the only good shark is a dead shark. "At times they do sensationalize," he says. "Overall, they provide a sort of annual survey of the key research that's taking place globally."

In 2004 Debbie Salamone had the Achilles tendon on her right heel shredded by a shark. She subsequently formed Shark Attack Survivors, a group that advocates for shark protection. Salamone, a communications officer at the Pew Charitable Trusts, says "you can easily draw the connection" between the popularity of Shark Week, the growth of shark tourism and the increased focus on shark conservation.

Salamone appeared on Shark Week and thought the producers did "an excellent job" telling her story, gore and all. Jonathan Davis, a wildlife technician in the Texas Parks and Wildlife Department, had a different experience. A few years ago he was doing research on the bull shark population in Lake Pontchartrain, La. A Shark Week crew interviewed him about his work. Unbeknownst to Davis, he wound up in "Voodoo Sharks." Worse, the answers he gave to some questions were edited to make it look as though he believes in the existence of Rookin, the mythical bayou shark.

"I just feel like Shark Week has gone to the pits in the last couple of years," he says. "It's almost impossible to weed through the crap to see the conservation message."

Serious scientists find themselves in an awkward position, says Stephen Kajiura, an expert on blacktip sharks who has been on the channel. A part of them would like to keep their distance from Shark Week, he says. However, "if we're not the ones talking to them, they'll move down the food chain and talk to anyone who wants to get on TV."

Michael Heithaus, a biology professor at Florida International University in Miami, was in a Shark Week program about great white sharks in Australia.



The staff was "super respectful" of his research. But that was in 1994, long before "Megalodon" and "Submarine." He's "in the middle" when it comes to assessing Shark Week's positive vs. negative impact.

"The legacy is still to be written," he notes, chuckling, "which is something to be saying after 28 years." Waiting. Everybody's waiting.

reg Skomal and company are back on the water Sunday morning. No action. They return Monday, and at 1 p.m. there's a sighting — only it's a shark boy, not a shark. Sean Lesniak, the resident shark prodigy of Lowell, Mass., visits the boat with his dad. Discovery Channel flew them down to Florida to be a part of the shoot.

Skomal got turned on to sharks by "The Undersea World of Jacques Cousteau." Ten-year-old Sean got hooked watching Skomal during Shark Week. Last year Sean lobbied his state representative to sponsor a bill banning the sale and possession of shark fins in Massachusetts. It passed.

Sean tagged a few great whites with Skomal last summer when they were filming on Cape Cod. "Have you spotted a shark today?" Sean asks.

No, says Skomal.

"How about yesterday?" Sorry.

"I need your karma, your good energy," says Skomal, who shows Sean their chum-making machine and plywood seal decoy. Sean is only mildly impressed.

"I want to get tagging," he says. He leans over the side of the boat and shouts at the water. "C'mon, shark! I'm here! We need to tag you!"

The kid is full of enthusiasm and questions. A lot of questions hang in the air, awaiting answers. Has Skomal gathered enough data to prove his great-white-shark-resurgence theory? Does Stringer have enough material to make an "action-packed drama"? Will a transplanted Shark Week work in July? Can Discovery Channel truly change course and restore its credibility?

"When's the last time you tagged a shark?" Sean asks his hero. "I want to tag just one."

"We're trying," says Skomal. "One thing I've learned in this job is patience."■

Tom Dunkel is the author of "Color Blind: The Forgotten Team That Broke Baseball's Color Line." To comment on this story, e-mail wpmagazine@washpost.com or visit washingtonpost.com/magazine.