

# Project Permit

BY T. EDWARD NICKENS

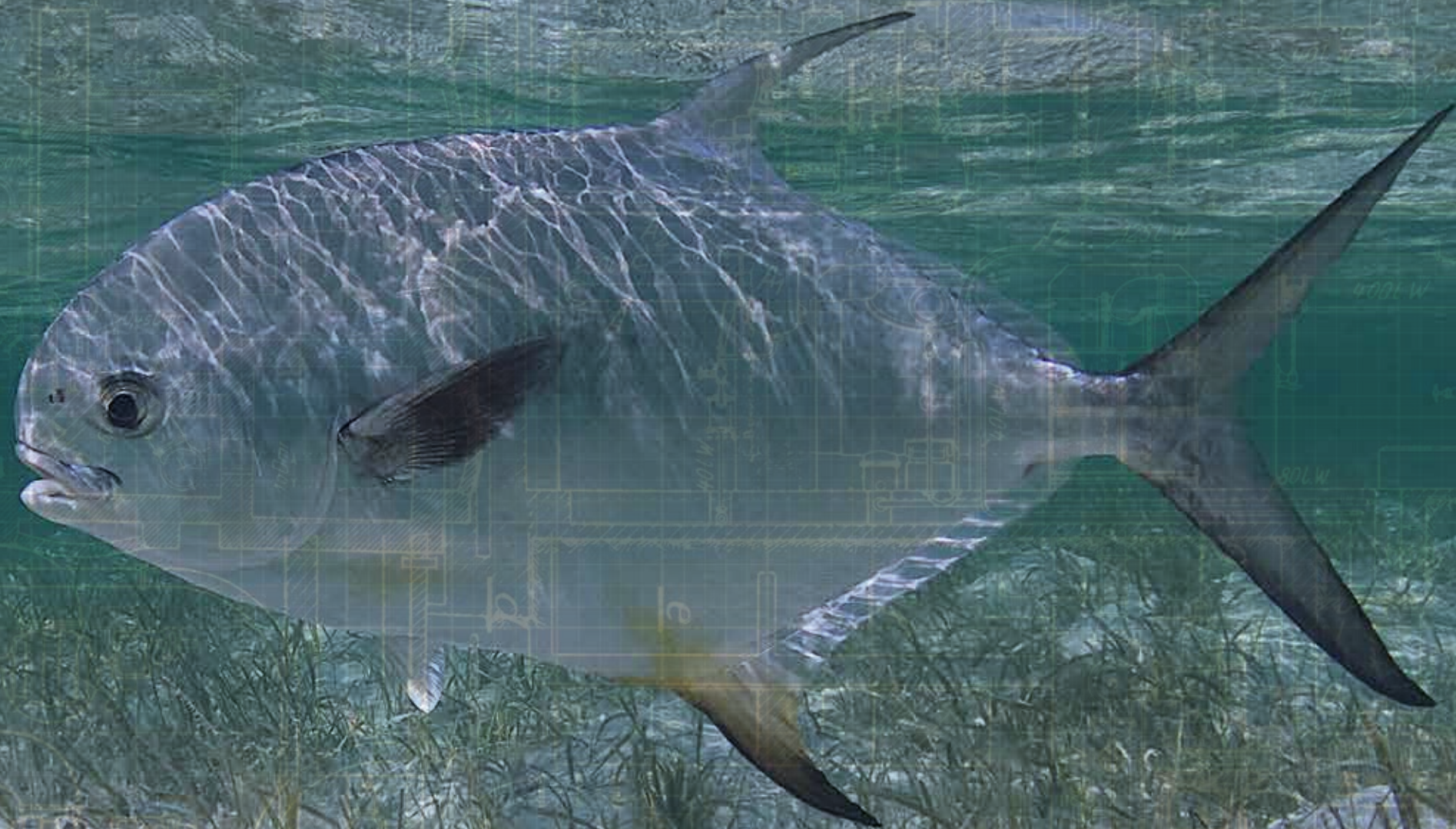


Photo: Pat Ford

The data started as a trickle, and then began to flood—acoustic signatures of fish on the move. Picked up by a dragnet of receiving stations strung across thousands of square miles in South Florida, the pings coalesced around a pair of pinnacles rising from a reef called the Western Dry Rocks, about 10 miles southwest of Key West. For months, scientists with Bonefish & Tarpon Trust and its scientific partners, Carleton University in Ottawa, Florida Fish and Wildlife Research Institute, and the University of Massachusetts Amherst, had caught permit across the Florida Keys and surgically implanted acoustic transmitters behind their anal vents. Now project scientists and supporters watched—and listened—as the fish revealed for the first time their ancient spawning migrations.

Of all the mysteries regarding permit biology, where these iconic, coveted—and, for many anglers, intoxicatingly vexing—fish spawn had been an exasperating riddle. But as the acoustic

signatures of tagged fish began to emerge and consolidate around Western Dry Rocks and a few other sites, some scientists saw reason for concern. “It was like watching a hurricane on the horizon,” recalls Dr. Ross Boucek, manager of BTT’s Florida Keys Initiative. “If the data stayed on the same track, we knew that dealing with the new information was not going to be pleasant.” Western Dry Rocks was one of the most popular fishing grounds in the Lower Keys. Over the years, huge fights had erupted over fishing regulations there. “If BTT was going to be the tip of the spear in another battle there,” Boucek says, “a different approach would be required.”

That approach would evolve into one of the most compelling and comprehensive fishery management outreach efforts of the last decade: Project Permit, a 10-years-old-and-counting program to quantify permit spawning biology and pair hard science with public outreach in support of regulatory changes.

The project actually comprises three separate research programs: a mark-recapture study, the acoustic monitoring program, and an analysis of predation on permit—primarily by sharks—during catch-and-release fishing that targets permit spawning aggregations. And from the beginning, Project Permit took a holistic approach. Reaching out to supporters such as the March Merkin permit tournament and the Lower Keys Guides Association and funding partners such as Costa del Mar, Project Permit created a confluence of stakeholders whose voices across multiple platforms would prove—and remain—critical to the program’s success. “The work done by participating anglers and researchers has been critical to ensuring the health and vibrancy of our permit fisheries for generations to come,” says Amanda Sabin, senior marketing manager for Costa. “Costa is proud to have supported BTT and Project Permit from its inception.”

Project Permit kicked off in 2010 as Florida struggled to align

permit fishing regulations with emerging science around the declines in populations of the cherished fish. Two distinct permit fisheries exist. A flats fishery in the Keys is accessed primarily by catch-and-release fly anglers who treasure the fish for their obstinate feeding habits and the fight that comes when a permit does smash a crab fly or mantis shrimp pattern. A harvest-oriented recreational fishery is largely centered on permit’s spawning grounds near offshore reefs and wrecks around South Florida. There, six out of ten caught fish wind up in a cooler. Whether the fish are caught in two feet or water or 40, their value goes beyond the thrill of landing such an iconic species. On the flats in particular, permit are the crown jewel in the lauded Florida Grand Slam of a bonefish, tarpon, and permit landed in a single day. And targeting the fish is a driving factor in the flats fishery’s economic impact of more than \$465 million a year.

For fly anglers, the Florida Keys is the spiritual and physical





An acoustic tag ready to be surgically implanted in a permit. Photo: Ian Wilson

center of permit fishing around the globe. Of 36 fly-caught world records, 33 have come from the Florida Keys. It's where this particular pursuit was born, and offers anglers their most accessible shot at one of the most enigmatic targets in the fly fishing realm.

For those who dream of notching a permit into their life list, the fish's Latin name, *Trachinotus falcatus*, meaning "armed with scythes," seems entirely apropos. Permit will cut even the best fly anglers down to size. "For many of us, permit are the fish that get inside your head and won't let you rest," says Al Perkinson. A BTT board member and former marketing executive for both Costa and Simms Fishing Products, Perkinson was instrumental in laying the groundwork for Project Permit and its integrated approach to advocacy. "They are probably the most difficult flats fish to catch, and the harder the hunt the more we enjoy it."

All of which makes the fall-off in permit fishing—certainly in the flats fishery, and particularly when it comes to large, trophy fish—a bit of an elephant in the room. Fishing guides are understandably hesitant about admitting that the fishery isn't what it used to be. And since permit spawn in aggregations that can number in the thousands, fishing the spawning grounds, where allowed, can result in catches that easily camouflage the imperiled nature of overall permit populations. Florida Fish and Wildlife Conservation Commission (FWC) had enacted modest steps to give permit a break. In 2011, with the urging of BTT and other partners, FWC eliminated the direct commercial harvest of permit—limited bycatch is still permissible—and enacted a Special Permit Zone to include all state and federal waters south of Cape Florida and south of Cape Sable, in which no



Scientists sew up a permit after surgery to implant an acoustic tag. Photo: Dr. Andy Danylchuk



Dr. Jake Brownscombe ready to release a permit after implanting an acoustic tag in the fish. Photo: Jordan Carter

commercial harvest can take place, and in which recreational permit fishing is catch-and-release only from May through July.

It was a step in the right direction, but the management boundaries were set without robust scientific information, and many conservationists and anglers remained convinced that the approach was too checkered, too little, and too light on science to make a difference. Project Permit aimed to bring focus to the fish's plight.

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Project Permit kicked off in 2010 with a mark-recapture study that involved anglers across Florida catching individual permit, marking them with dart tags, and reporting recaptures.

Ultimately, more than 1,500 fish were tagged, and data began almost immediately to show that permit tagged in the Florida Keys rarely migrated across the Special Permit Zone boundary.

Next, in 2015, BTT kicked off the massive acoustic monitoring effort to identify spawning sites in the Keys. Engaging guides from the Lower Keys Guide Association, more than 150 permit were caught and outfitted with small transmitters, each about the size of an AA battery. A core of researchers shepherded the project, among them Dr. Jake Brownscombe and Dr. Steven Cooke at Carleton University, Dr. Andy Danylchuk and Dr. Lucas Griffin from the University of Massachusetts Amherst, and BTT's Boucek and Dr. Aaron Adams, BTT's Director of Science and Conservation. An existing network of state and research institution monitoring stations was already in place



Tailing permit in Florida. Photo: Collin Ross





A permit spawning aggregation in the Lower Keys. Photo: Dr. Jiangang Luo

with receivers sited from the Dry Tortugas to Biscayne Bay, but Project Permit placed 100 additional monitoring stations in the permit's core population area, from the Marquesas east to Islamorada.

Captain Rob Kramarz caught the first two permit that were outfitted with original satellite tags, and was instrumental in catching fish for the acoustic monitoring program. He'd caught thousands of permit over his career, but standing on the poling platform, watching scientists surgically implant the transmitters, was "incredibly gratifying," he recalls. "I'd sometimes stand there and really ask myself: What did I just do? To think about how much information and understanding this project was supporting, and what it could ultimately do for the fish, was pretty incredible."

Also incredible was the project's success. Of 150 fish tagged,

approximately 140 have been redetected, with over a million acoustic signatures so far. And it didn't take long for the data to suggest another potential conservation concern with how permit fishing is regulated in Florida. An astounding 71 percent of the Florida Keys flats permit tagged with acoustic tags moved to the Western Dry Rocks to spawn, some traveling as far as 50 miles. The site is tiny—only 1.3 square miles—but years of effort had underscored its importance to a fishery that spreads across the Florida Keys and draws anglers there from across the globe.

"We discovered quickly that these fish were showing up in pretty high numbers in April," Brownscombe says. Pairing the tracking data with angler reports that permit leave the flats around the end of March and beginning of April enabled BTT, the Lower Keys Guides Association, and others to lobby for additional protections. In April of 2018, FWC added April to the May-through-July season closure for permit harvest in the entirety of the SPZ.

The final science component of Project Permit was designed to quantify how many permit were lost to sharks and other predators in the catch-and-release fisheries around known spawning aggregations. BTT funded two studies to evaluate the threat to the fishery. Both zeroed in on the impacts at Western Dry Rocks. The results were tellingly close: In the University of Massachusetts Amherst study, 35 percent of hooked permit were eaten before being landed. In the Florida International University study, 39 percent of hooked permit were killed by sharks. The figures were suspected to be high, but few were prepared for the true count in dead and lost permit.

"When nerdy scientists are out there hooking 15 permit a day at their spawning aggregations, think of how much damage a captain with 100 years of family experience can do fishing those aggregations. And second, consider the lost opportunity that translates to for a guide on the flats who catches 40 in an entire year," says Boucek. "That was the final piece of information we needed to strongly advocate for an April through July fishing closure around Western Dry Rocks." Fishing effort at spawning aggregations was simply killing too many permit. But science alone wasn't going to change enough minds to affect a closure.

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The cold, cyclonic current whirls like a hypnotist's wheel, seaward of the Lower and Middle Keys, over the sloping continental shelf where the Florida Current takes a hard northward bend. Known as the Pourtales Gyre, the current



Although we think of permit as a flats fish, most Lower Keys permit migrate to Western Dry Rocks to spawn. Photo: Pat Ford



Dr. Jake Brownscombe and Capt. Rob Kramarz with one of the first fish tagged for Project Permit. Photo: Dr. Lucas Griffin

is centered over the Western Dry Rocks. It is seasonal and ephemeral, but in a few short weeks its spinning energy traps nutrient-rich plankton, gathers the larvae of spawning permit, and holds them in a centrifugal grip, keeping them out of the Gulf Stream before slingshotting the tiny fish back towards the shallow flats of the Florida Keys.

Like the Pourtales Gyre, the effort to protect Florida permit is reliant on drawing in, catalyzing, and sending forth energy and action from a wide range of stakeholders. From its early partnerships with groups like the Lower Keys Guides Association and the web media company Fly Lords, to scientific, industry, and stakeholder support, moving the needle on permit conservation has required wide buy-in.

"What we've seen is transformative technology paired with a real ground shift in activism and advocacy," says Brownscombe. "While we're advancing our scientific understanding of permit biology, we're working to apply social science to these biological issues. If we can't figure out how to educate people about why these changes need to happen, we won't be as effective. I'm a pretty hardcore angler, and I know we have to get the word out that fishing will be better on all of the reef sites and all of the flats if we protect the babies at just a few sites."

That effort to galvanize stakeholder support hit a rough patch in 2019, when NOAA proposed a series of new Marine Protected Areas that included a year-round closure of all fishing at Western Dry Rocks. Almost immediately, BTT and its partners kicked off a campaign to prove to state agencies that, while few supported a 12-month moratorium, there was broad support for a seasonal closure at the Keys' most important spawning aggregation for permit, black grouper, spadefish, and four species of snapper. Leveraging fishing shows, podcasts, webinars and blogs, the initiative took a strategic approach to targeting Gen Z and millennials, boomers and Gen Xers, and others in message-specific communications across digital and conventional platforms. One advocacy advertisement from a partner in the campaign read, in bold letters: IF YOU SWAM 50 MILES TO GET LAID, YOU'D WANT TO BE LEFT ALONE, TOO. Another showed a little girl in a brightly colored PFD, frowning at the sight of a permit chomped nearly in half by a shark. The

effort wouldn't bury the controversy, but highlight the fight to conserve iconic fishing opportunities in the Keys, and engage the public with hard science.

The campaign's goal was to get 100 people to write to FWC in support of a seasonal closure. More than 500 weighed in. With a half-million social media impressions and an average of 300 comments per post, the campaign wasn't unlike the Pourtales Gyre itself: Science, social media, stakeholders, industry partners, resource agencies, and business groups all coalescing around a common goal: Protect permit for everyone.

At its December 2020 meeting, FWC approved a draft rule to prohibit all fishing in a one-square-mile area around Western Dry Rocks in May and June and continue studying whether to extend the closure to April through July. Final approval was set for the FWC meeting in February 2021, and would follow workshops to gather additional public input.

Once again BTT mobilized support of the proposed closure and with its partners generated approximately 500 written comments to FWC along with a steady stream of endorsements in the public workshops. As this issue of the *Bonefish & Tarpon Journal* was going to press, FWC voted to establish a four-month no-fishing closure at Western Dry Rocks, capping a year-long effort to conserve one of the most critical aggregations of flats and reef fish species in the hemisphere. It was a monumental moment for fisheries, and a moment of validation for all those who worked to see the Western Dry Rocks protected. Project Permit did more than identify how permit move across Florida's flats and reefs, and where they spawn, and what threats exist that need to be addressed. The effort underscored a new paradigm for conservation action: Whether or not you have a Ph.D., your voice will matter for the future of permit in the Florida Keys. 🐟

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