

DEEP WATER SQUID OPPORTUNITY

Capt. Marcos Hanke

B.A., Marine Biologist, UPRH

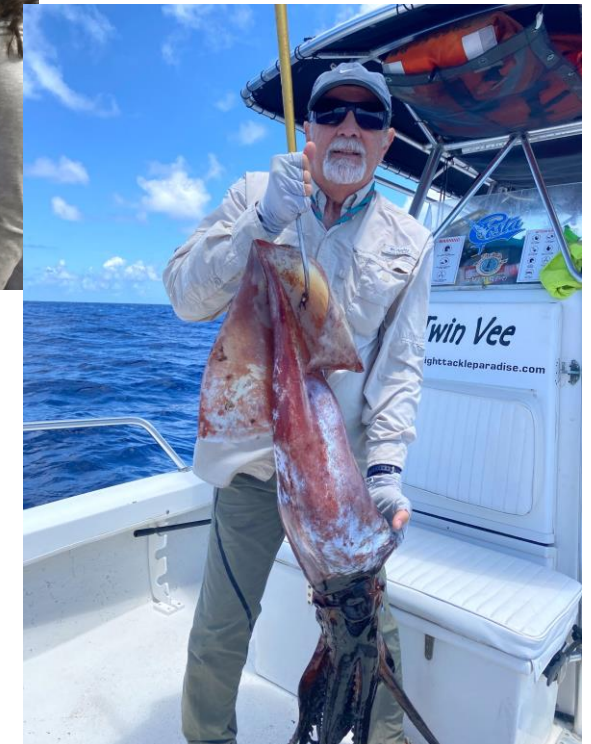
CFMC Chair

Charter Operator

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Photos: Marcos Hanke, Collin Butler and Danny Suárez



DEEP WATER SQUID OPPORTUNITY

NEW OPPORTUNITIES FOR DEEP WATER SQUID FISHING



On 2017, **Captain Marcos Hanke** began to explore deep-water squid fishing. In this fact sheet, he shares with us valuable information on how to perform this fishing. For more information about this topic, please send an email to marcoshanke.cfm@gmail.com.

Species

Diamondback Squid (*Thysanoteuthis rhombus*) and Neon Flying Squid (*Ommastrephes bartramii*) – Both species are distributed along the Atlantic, have a live span of 1 year, and weight 15 - 45 pounds, although they can reach up to 60 pounds.

Fishing Gear

Electric or manual reel with a line of 80-200 pounds and a line capacity of 1,500 feet. Also, you will need a waterproof light and two squid jigs. In the Caribbean, artisanal squid fishing is done with 3 – 5 individual buoys and/or from the vessel. For recreational fishing, it could be done from the vessel with one or two rods at a time.

Fishing Area

Deep waters, around 3,000 feet or more, beyond the island shelf. Also they can be found while fishing for queen snapper (*Etelis oculatus*), wenchmen (*Pristimoides macrotalphus* o *P. aquilonaris*), and swordfish (*Xiphias gladius*).

Approximate Depth of the Lures

Lures should be in the water column, far from the seafloor, set at 1,000 - 1,500 feet deep.



Photo provided by: Marcos Hanke

Lures

Fishers should use 2 squid jigs, 8-14 inches long. Squid jigs have 2 reinforced squid hooks of a diameter 2 inch minimum. One of the lures has neutral flotation (light weight) and the other should be heavy, weighting 4 – 8 pounds. The lures are made out of wood, plastic bottles, and metal bars, but also can be bought online.



Main Leader to Hang the Squid Jigs

Monofilament of a minimum 50 feet long with a 130-400 pounds resistance. Optionally, you can add to the line a rubber segment to avoid tearing the squid while bringing it up.

How to Identify the Strike

The rod slightly bends and stays bent. Depending on your gear, the strike may be hard to identify. The fishing rods for swordfish and deep water snapper are suitable, but flexible rods are recommended because they do not tear the squid and simplify the identification of the strike and the hookup.

Market

There is an audience eager to consume and buy the squid, especially hotels and restaurants, due to its quality and versatility. A great attribute of the squid's meat is that it reaches its best texture and quality after being frozen; this simplifies selling and marketing of the product because it does not lose its value after being in the freezer. These species can be cooked with recipes similar to those used to prepared queen conch and octopus; this help to reduce fishing pressure over these resources, providing new alternatives to the local fishers. Also, it has other applications in high cuisine that expands its use, versatility, and potential selling price.

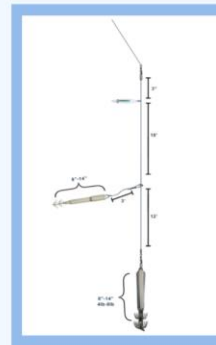


Illustration: Cynthia L. Gotay (Sea Grant)

Acknowledgements:

My gratitude to the collaborators for all their expertise and availability to explain the details of the deep water squid fishing. First of all, I want to thank Mitchell Lay, a responsible fisher from Antigua committed to fishing causes and sustainability movements. Thanks to Mitchell for orienting me on 2017 about this possibility and be always available to share his knowledge and help me to adapt this kind of fishing to our area. Likewise, thanks to Michiro Ishida, expert in this topic from Japan International Cooperation Agency (JICA), for his time and technical explanations about squid fishing and the biology of the squids.

October 2021

Vocabulary

- **Squid jigs:** weighted or unweighted artificial lure with 2 or more parachute squid hooks.



- **Terminal depth:** the depth where the squid jigs are set on the water column.
- **Bottom depth:** the depth at the fishing site.

DEEP WATER SQUID OPPORTUNITY BACKGROUND

- It started in 2017 to explore deep water squid fishing opportunity for commercial and recreational fishers.
- The starting reference was based on the online publications and tutorial videos from Food and Agriculture Organization (FAO) and Japan International Cooperation Agency (JICA). This effort was mainly for commercial fishers.
- Except in PR and USVI, many islands in the Caribbean are already fishing artisan for deep water squids. Dominican Republic, Antigua, and Granada are some examples.
- **The most important guidance was provided by Michell Lay, Antigua Fisherman and Michiro Ishida (JICA) via phone call.**

Photo courtesy: Danny Suárez, swordfish expert. This was an incidental catch fishing for swordfish



DEEP WATER SQUID OPPORTUNITY

GENERAL INFORMATION

- Incidental catches and some targeted landings were sold from \$8 to \$12 per pound in PR, similar to conch prices. In USVI the introductory price on processed squid is \$16 per pound
- This local exploratory fishing opportunity, includes recreational and commercial sector, as well.
- Part of this initiative is to develop local expertise and rigging adaptations, such as: finding the best fishing areas, manufacture local terminal tackle, testing different reels, create added value to existing fishery and adapting to recreational anglers applications.
- The Deep Water Squid is a natural alternative and substitute to culinary applications made with conch and octopus. It is extremely versatile!

Characteristics of this Species and the Fishing Methods

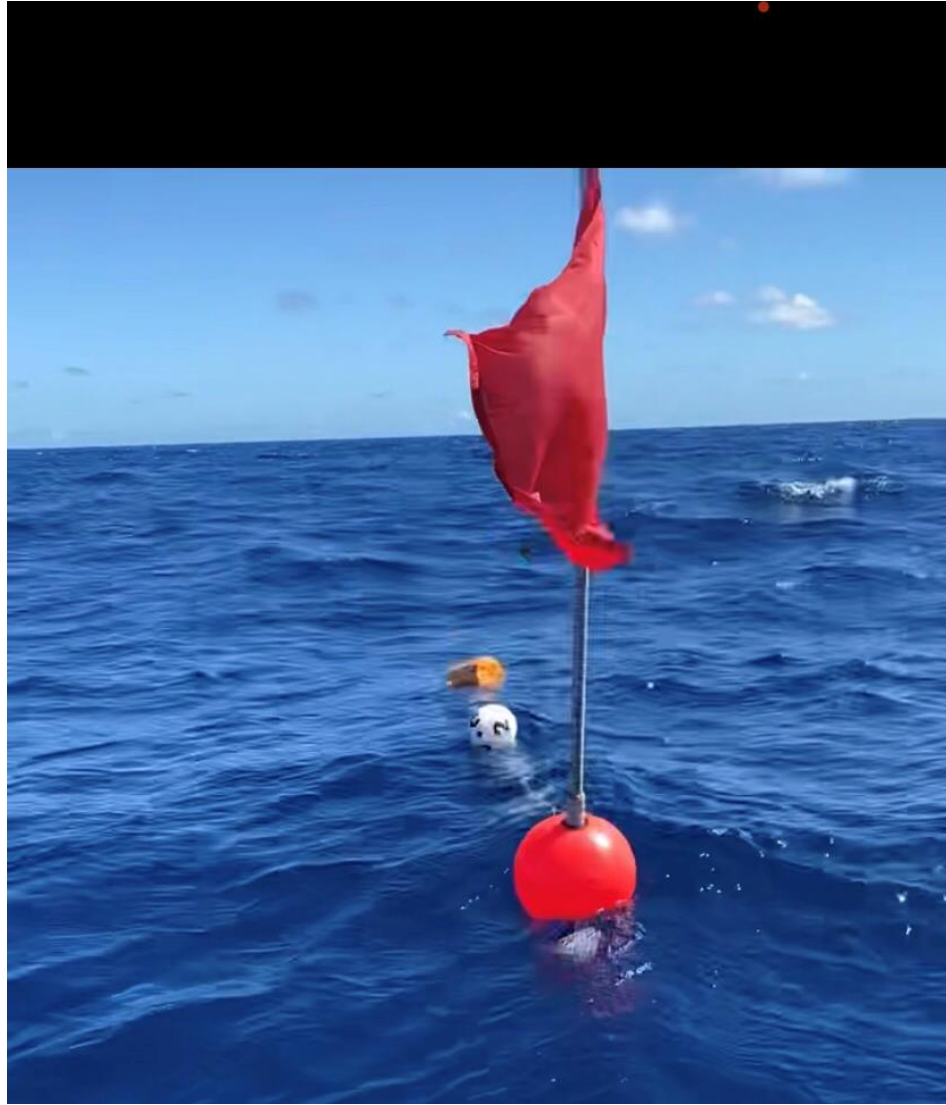
- Based on its biology, it shows resilient characteristics: fast growing rate, lives approx. 1 year, wide distribution on the Caribbean and Atlantic area.
- Potentially resilient to climate change (warming of surface waters)
- Low fishing pressure true out the range, mostly fished artisanally, 2 squid are targeted
- Can reduce or redirect shallow water effort, specially on conch and octopus.
- Minimum bycatch.
- Easily combined with other pelagic fishing methods



Cont.: Characteristics of this Species and the Fishing Methods

- Great incentive to add value and help to engage local fishers to pelagic resource. The opportunity includes the Caribbean pelagic multi-species approach (deep water squids, swordfish, wahoo, tuna and Mahi). The shallow insular platform is not the only alternative!
- Fished on very deep waters. Gear don't interact with the bottom, it does not add pressure to benthic habitats. Jigs are set on the water column.
- Management considerations: Very similar gear description used for deep water snapper and swordfish. The main change is on the terminal tackle which use 2 squid jigs and light.
- Add economic opportunity: deep water snapper and swordfish fishers.

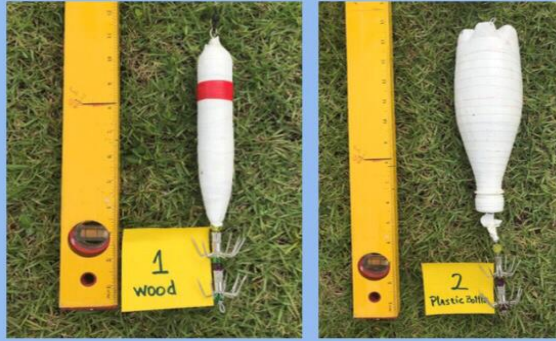




TYPICAL FISHING AREA

- Deep waters on the Caribbean and the Atlantic (1200' to 3000'+plus)
- Water column: Squidjigs are set between (1000' and 1500')

Foto: Collin Butler, DAP-STT/STJ



LP SV-1200 Electric Reel

LINDGREN-PITMAN

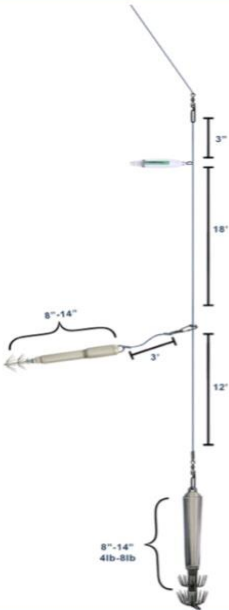


Illustration: Cynthia L. Gotay (Sea Grant)



GEAR

- Gear is fished drifting either from the boat or using buoys rigs
- Electric reel or manual retrieval
- Mainline: 80' to 200'+
- Main leader 130# to 400#
- WP Light
- Elastic cord * optional
- 2 Squidjigs: 1 neutral boyant and 1 weighted(4 pound+)

TERMINAL TACKLE COST:(L.L.snap,main line,2 jigs,light)

Est.Home made: \$25 to \$50

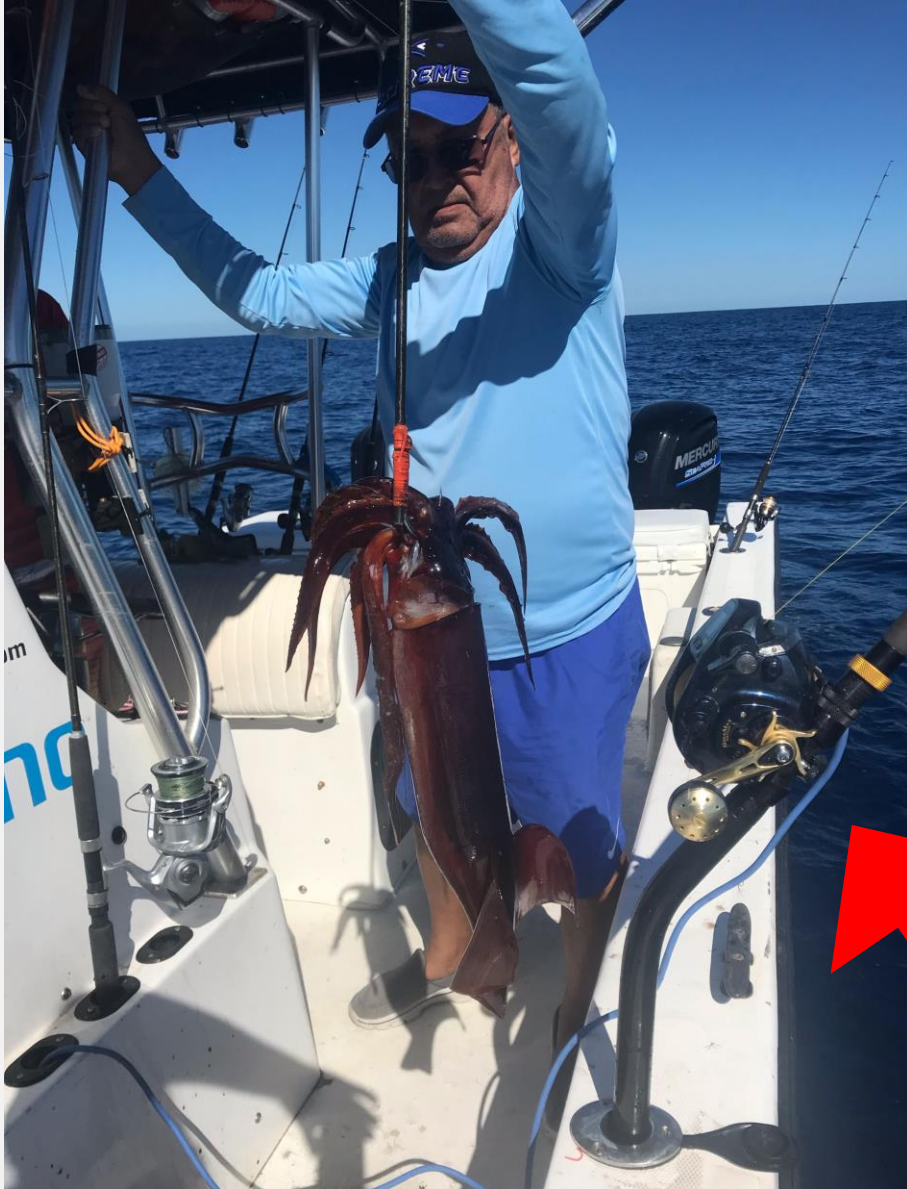
Est.Imported: \$60 to \$200

Culinary and Market Versatility

- All parts of the squid that can be utilized(DBS/29#/23meat)
- How to preserve the catch and process the product
- Holds freezing which helps on the product to reach the best texture and quality. Allow for marketing flexibility.



Photo: Collin Butler, DAP-STT/STJ



Information on the First 8 Recreational Exploratory Trips

- First 3 exploratory trips, with light, 2 squid jigs with 2 **small hooks (1" diam.)**, terminal depth: **1000'** and **1200'** on the water column, bottom depth between 1700' and 2700' depth range. **Just one piece of tentacle** but 3 other strikes that do not hook.
- Last 5 exploratory trips, with light, 2 Squid jigs with 2 **large hooks(2"diam.)**, terminal depth:**1200'** and **1900'** on the water column, bottom depth: **2500'** and **3500'** depth range. Land 4 Neon Squid and 1 DBS*. **Land squids on all last 5 trips and hook up many others that pull the hook. Land squid every 4.8 hours per line.**
- The we are more productive now, but we expect better numbers soon! It's already very valuable and attractive to recreational fishers!

Game Changer!

DAP-STT member request more information the after CFMC social media post. This post was about the new fishing opportunity for deep water squids. Capt. Collin Butler showed very quick his knowledge and expertise on pelagic species, generating great information and fishing results catching deepwater squids. He has the proper gear and innovative mentality to fish for deep water squid commercially.

This is a great example how across our US Caribbean jurisdiction fishers from all sectors and areas can help each other to create better and more resilient fishing opportunities.

Capt. Collin Butler will share some results with us!

Commercial St. Thomas Exploratory Trips Collin Butler (STT/STJ DAP)

- First 3 trips (1st- no hook up, 2nd-two hookup, 3rd- 8 squids)
- 3rd trip:8 squids (6 neon and 2 DBS)* Total pounds 92, each DBS weighted 24 pounds. All 8 was caught on this same trip after some rigging and adjustments.
- Verbal new trip update!
- Tuna trip spent 100 gallons of gas. Squid fishing spent 20 gallons of gas.
- The first processed squid batch was sold for an introductory price of \$16 per pound.
- The biggest squid represent approx. \$300



Update Recommendation for Recreational

- Combine 2 rods: one for squid and one for sword fish or squid at different depth.
- Use weighted squid jigs from 6 to 10 pounds to compensate boat drift.
- Light positioned at 15' to 18'+ from the neutral jig
- Use long tip-flex rod with 15' rubber cord and/or 100' of Momoi 80# line.
- Use a big deep net or long 4" gaff.



Update Recommendation for Commercial Fishers

- Fish with 3 to 5 buoy sets.
- Combine fishing for squids and swordfish. Make sure you are fully ready for tuna, wahoo and mahi during the trip; maximize efficiency.
- Use weighted squid jigs from 4 to 10 pound.
- Light positioned 15' to 18'+ from the neutral jig.
- Use a long flexible rod, 15' rubber cord and/or 100 feet of monofilament (Momoi 130#)
- Use light drag or pull by hand.
- Use long 4" gaff or big deep net.
- Using the weighted squid jig as part of swordfish rig, show some promising results.
- The depth range where squids were caught range from 1900' to 3500'+.



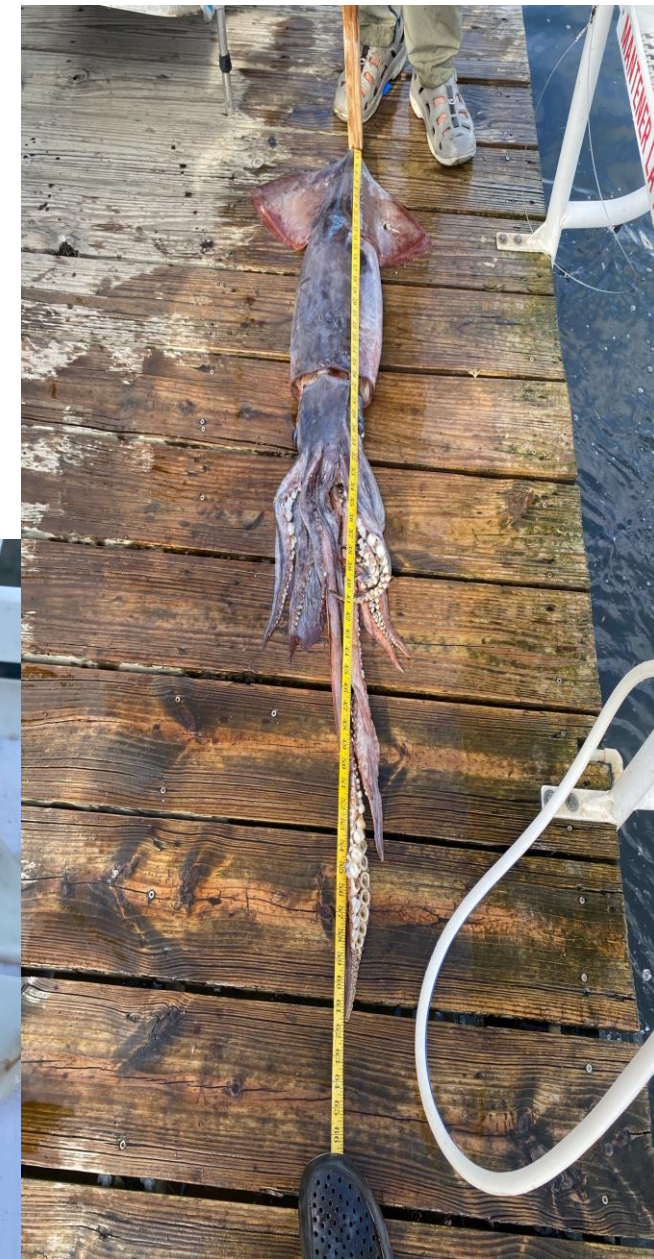
Challenges and Future Exploratory Research

- Recommend formal exploratory data collection to establish, seasonality, biological data, abundance for both common species, market potential, price range, gear description and other important data.

IMPORTANT: This four-year voluntary private effort aim to support all fishing sectors of the US Caribbean.

Let's promote the new opportunities in a sustainable and collaborative way!

QUESTIONS!



TL 73 inches