INTO UNCHARTED WATERS

The First Rehabilitation Attempt of a Smalltooth Sawfish During the 2024 Florida Keys UME

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AES / JMIH 2026 • Symposium on Unusual Sawfish Mortality Events • New Orleans, LA

MOTE MARINE LABORATORY

56

confirmed sawfish mortalities

200+

individuals showing “spinning” behavior

<5%

of the species’ historical population


FLORIDA RED TIDE PRESENT
May cause eye, throat or skin irritation
May cause coughing or sneezing
Avoid the beach if you have asthma or a respiratory condition
Onshore winds and rough surf worsen its effects
Red Tide is caused by naturally occurring algae.
Can kill fish and other sea animals
Do not swim near dead fish or touch them
Wear shoes to prevent injuries from stepping on bones of dead fish
Keep pets away from water, sea foam and dead fish
Sarasota County
HEALTH
MOTE
MARINE LABORATORY & AQUARIUM
Florida Red Tide may not be present at all Sarasota County Beaches
Conditions at select beaches:
OurGulfEnvironment.scgov.net
(Click on Water Quality / Red Tide)
More information: www.mote.org/beaches or (941) BEACHES
Statewide Red Tide Status Update: myfwc.com/redtidestatus
Questions/health concerns: (941) 861-5000 (Weekdays only)
To report a fish kill: (800) 636-0511

Sawfish

BIOLOGY

There are 5 species of sawfish throughout the world, namely:

Dwarf Sawfish

Knifetooth Sawfish

Smalltooth Sawfish

Largetooth Sawfish

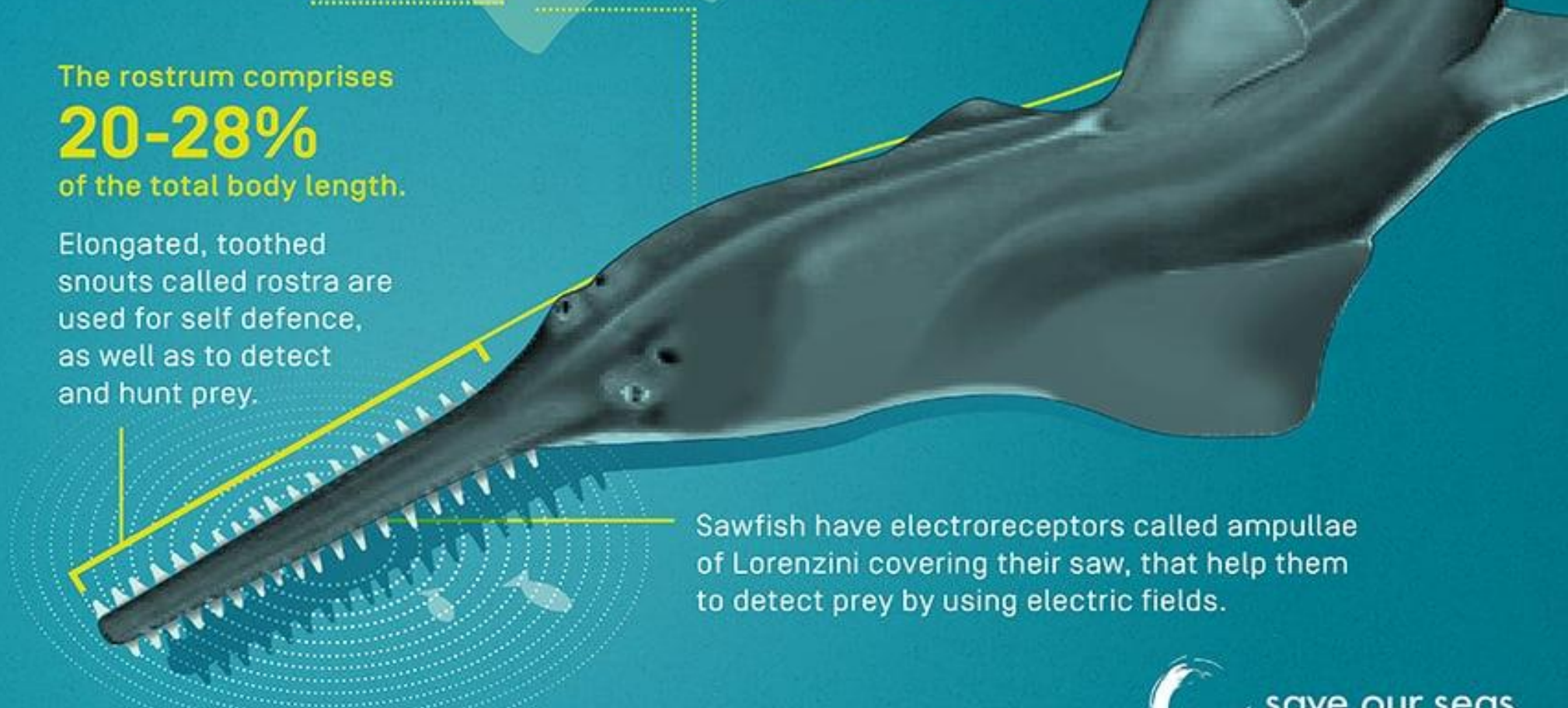
Green Sawfish

Sawfish can grow up to 7 metres long, from nose to tail. **7m**

The underside contains nostrils, gills, and a mouth that houses thousands of dome-shaped teeth to crush the small fish and crabs that they prey on.

The rostrum comprises **20-28%** of the total body length.

Elongated, toothed snouts called rostra are used for self defence, as well as to detect and hunt prey.



Sawfish have electroreceptors called ampullae of Lorenzini covering their saw, that help them to detect prey by using electric fields.

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What We Found

CLINICAL SIGNS & DIFFERENTIALS


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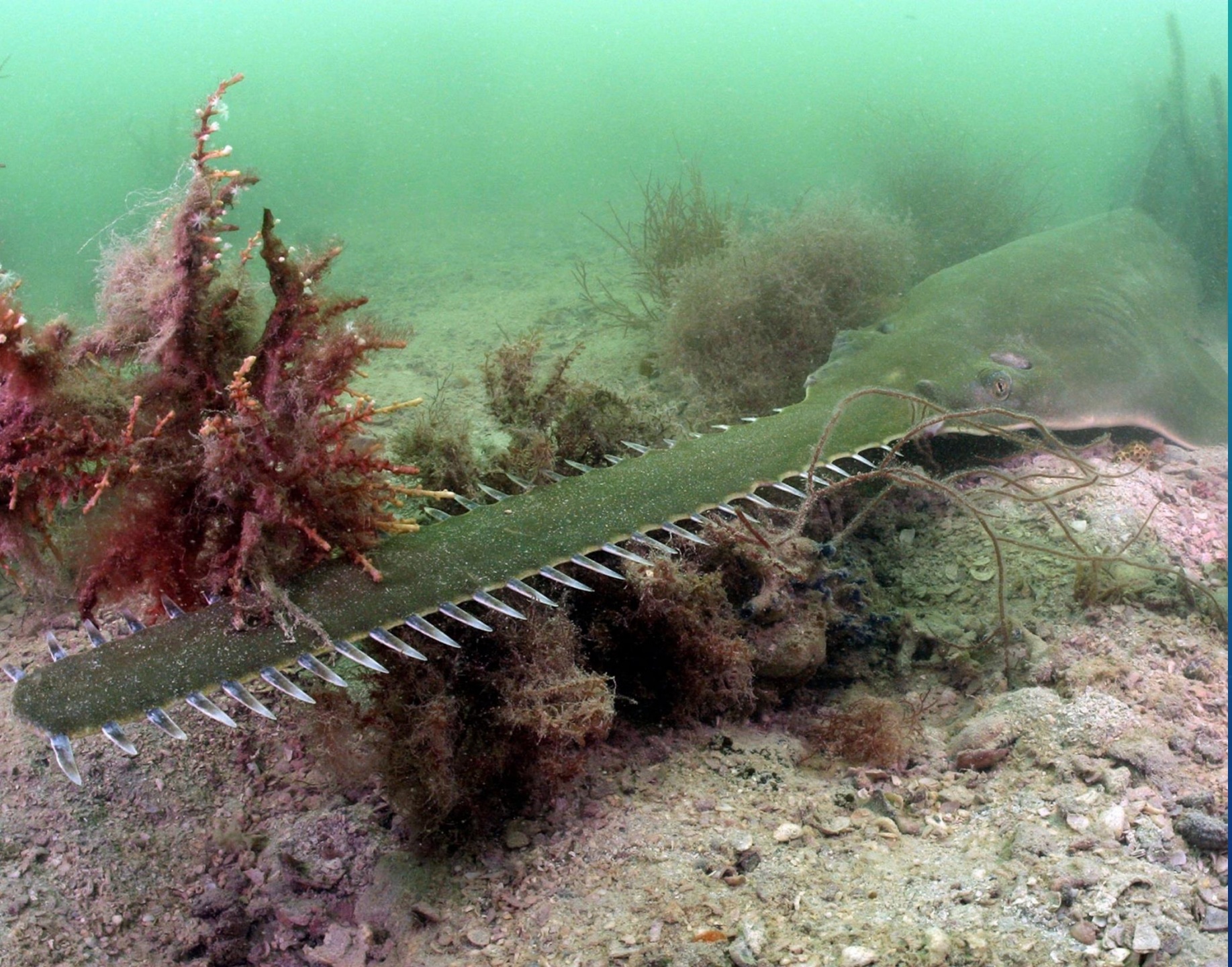
CLINICAL FINDINGS

- Blood not clotting
- No rigor on carcasses
- Thick buffy coat
- Low HCT
- Increased CK, BUN, GLDH
- Decreased Mg
- Elevated butyrates



DIFFERENTIALS

- Biotoxin
- Chemical or heavy metal contamination
- Infectious disease
- Endolymphatic disease
- Environmental contamination
- Thiamine deficiency

What We Did

Diagnostics, Rescue, and Treatments

DIAGNOSTICS


DISPOSABLE NEEDLE
SINGLE USE
JAPAN
18G × 3″
LOT 190307
STERILE NON-PYROGENIC
14x21
2028-05
2025-06-30
222730X
COVIDIEN
Monoject
EDTA (K3) 0.06 mL/7.5% Solution, 3 mL Draw
Vacutainer®
Serum
366430
LOT 2321347
2024-11-30
covetrus
FOR VETERINARY USE ONLY

SAWFISH

An unprecedented effort is underway to rescue and rehabilitate smalltooth sawfish from the ongoing mortality event in south Florida. A multi-organizational team, including veterinarians, will respond to calls and provide rehabilitative care as needed in hope of eventually returning the sawfish to the wild.

If you would like to donate to our efforts to rescue and rehabilitate affected sawfish visit:

www.SawfishRecovery.org

If you see a healthy, sick, injured, or dead sawfish please call 844-4-SAWFISH or email sawfish@myfwc.com

Smalltooth Sawfish Recovery Implementation Team

@u.s.sawfishrecovery

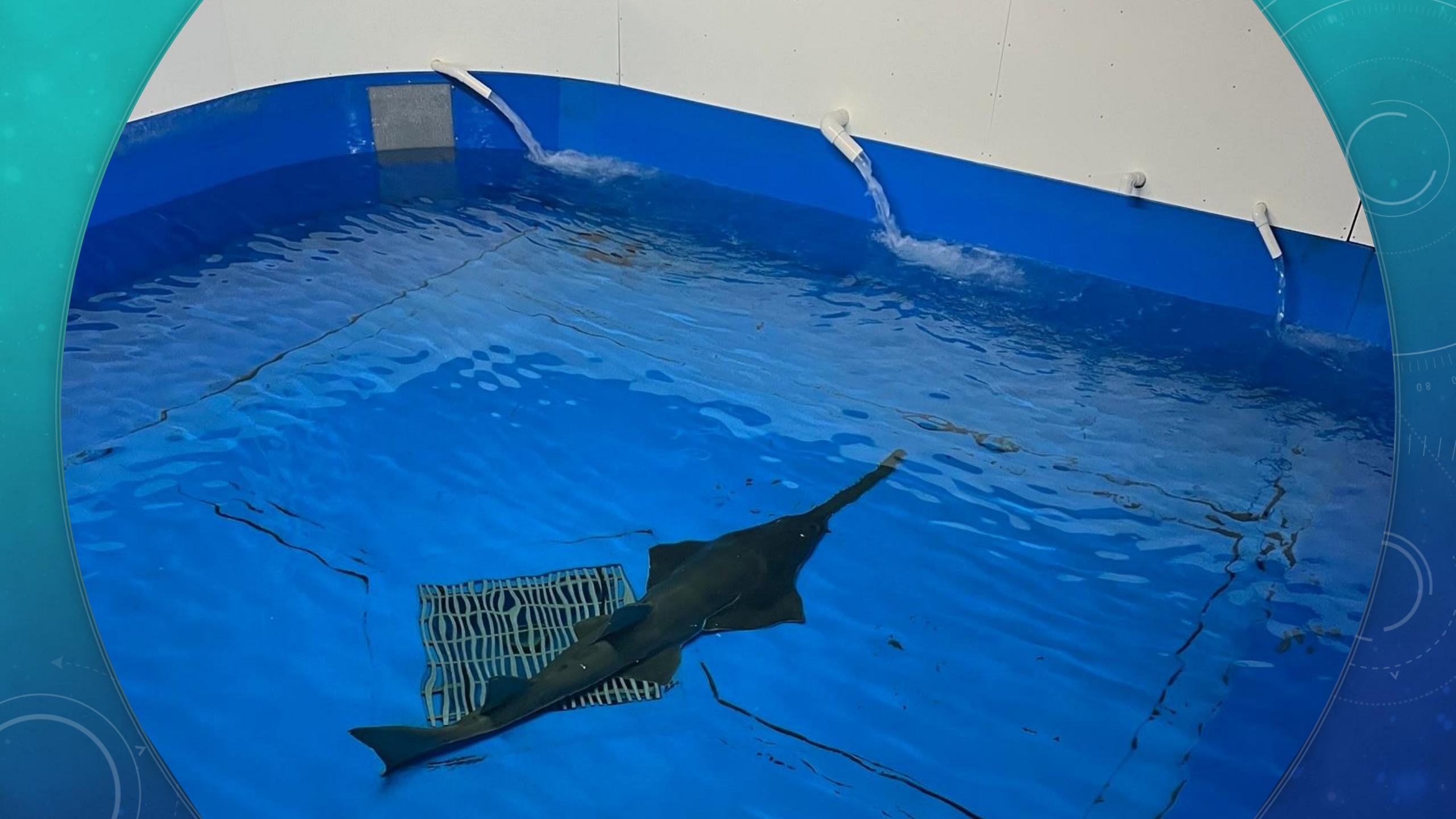
RESCUE EFFORT

THE PATIENT

Smalltooth sawfish

(Pristis pectinata)

RESCUE & TRANSPORT



TREATMENTS

- Antibiotics
- Assist feeding
  - Gruel and force-feeding
- Epogen
- Fluid support
- Gabapentin
- Intralipid therapy
- Meclizine
- NSAID
- Vitamin B, C, K
- Wound care


FWC
STAFF

What We Learned

Key Findings & Conclusions

Key Findings

Primarily large juveniles and adults

The Florida keys are a common location for winter migrations

Proper restraint techniques → supportive care is key

Depleted liver stores

Histopathology results pending

Suspect HAB as cause

CONCLUSIONS

First attempt ever to bring a live, clinically affected sawfish into managed care

Emergency multidisciplinary team assembled — veterinarians, field biologists, pathologists, and managers

Decision-making framework built under real-time emergency conditions

Handling and transport protocols developed on the fly — no template existed

Species-specific challenges: rostrum handling, positioning and respiration, thermal and salinity control in transit

ACKNOWLEDGEMENTS

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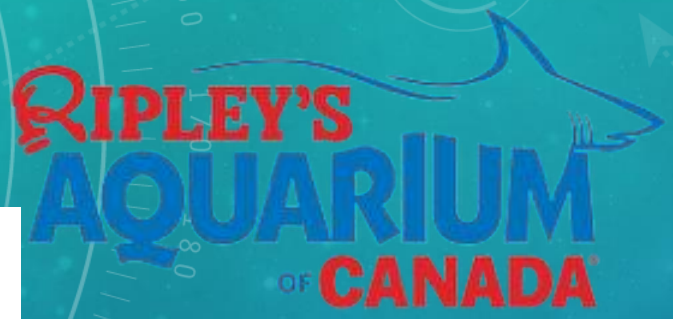
- Jill Arnold from ZooQuatic Laboratories and Dr. Carolyn Cray from the University of Miami for sharing their expertise in clinical pathology and field techniques.
- Aquarium Encounters for their support in the Florida Keys and their efforts in constructing a transport box.
- Finally, we extend our deepest gratitude to the numerous aquarium biologists, water quality specialists, stranding team members, and trainers at Mote Marine Laboratory and Aquarium who went above and beyond their regular duties to provide assistance during this critical time

Thank You Symposium Sponsors!



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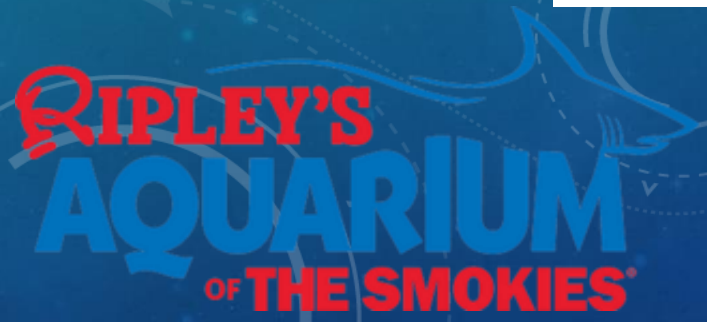
All activities performed under authorization and guidance of NOAA Fisheries Emergency Section 7 Consultation #SERO-2024-00402

and

ESA Section 10 permits to Gregg Poulakis, Tonya Wiley, John Carlson, and Colin Simpfendorfer



QUESTIONS?

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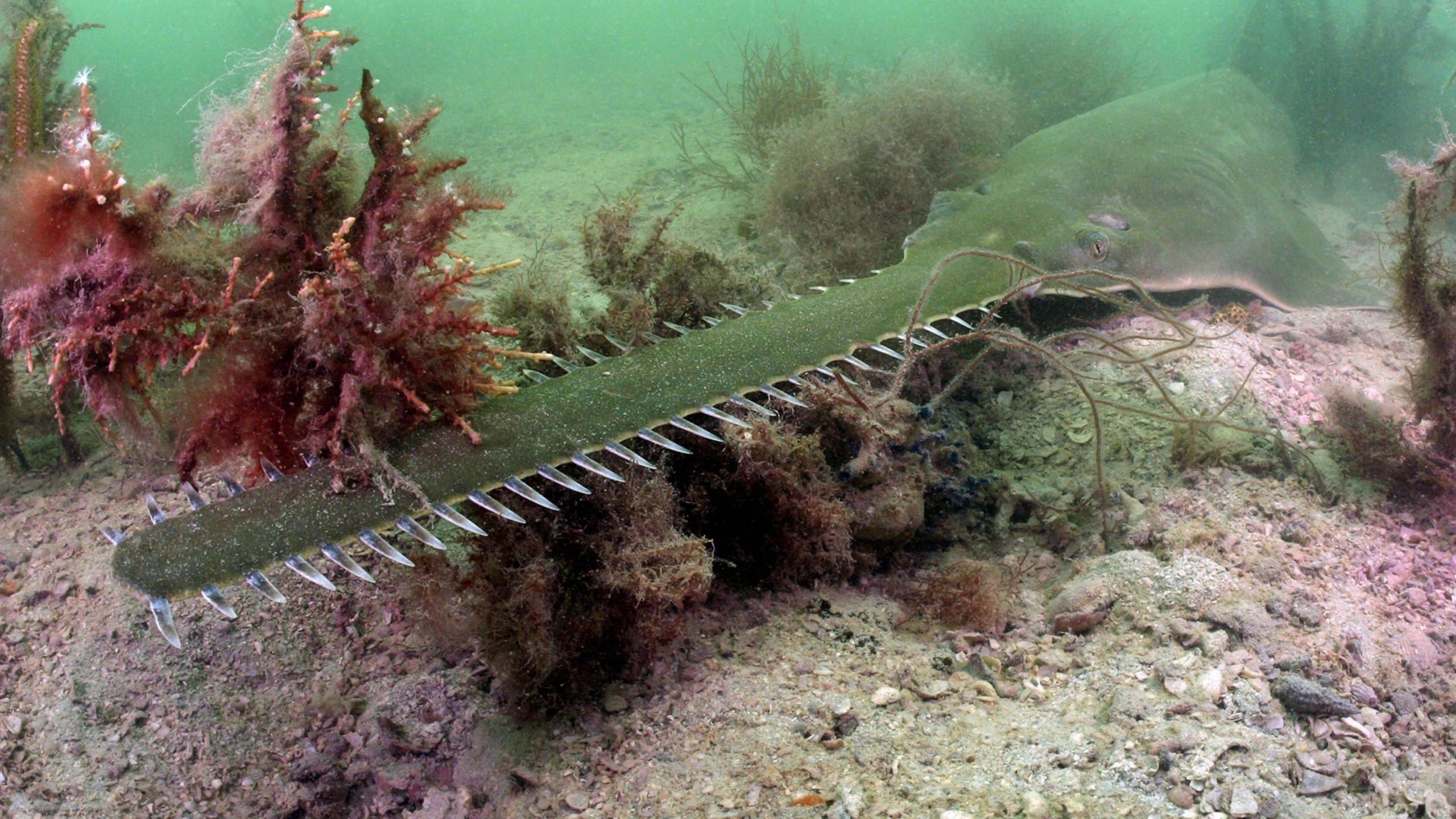

NO PRECEDENT TO FOLLOW

- First attempt ever to bring a live, clinically affected sawfish into managed care
- Emergency multidisciplinary team assembled — veterinarians, field biologists, pathologists, and managers
- Decision-making framework built under real-time emergency conditions
- Handling and transport protocols developed on the fly — no template existed
- Species-specific challenges: rostrum handling, positioning and respiration, thermal and salinity control in transit