Underwater Photography Míchael Weiss May 2011

PHOTOGRAPHY 101

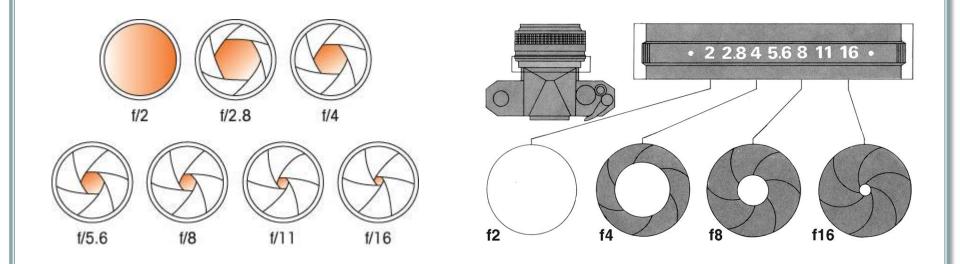






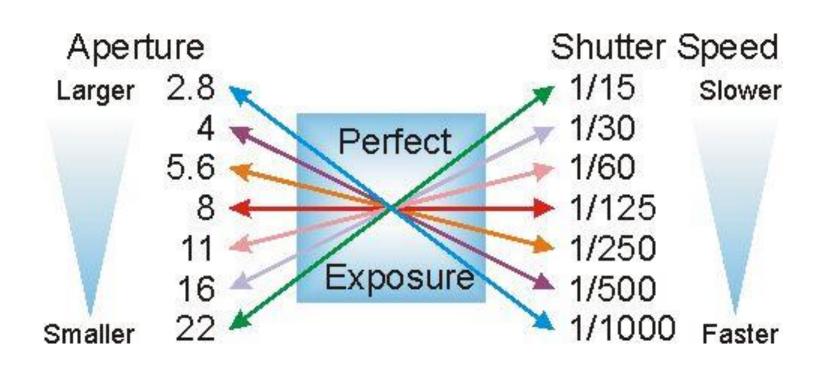
A basic understanding of photography is essential in order to understand underwater photography,

F STOP ILLUSTRATION

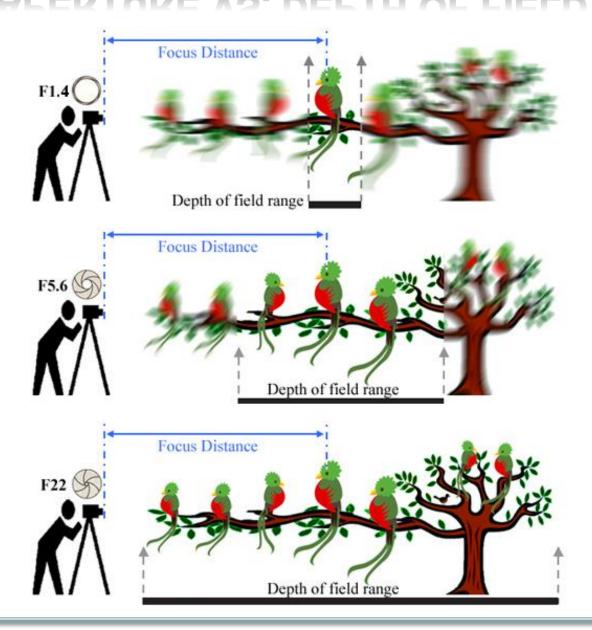


F Stop is the focal length of the lens divided by the diameter of the aperture opening. Each successive f stop position lets in ½ the light of the previous setting

APERTURE VS. SHUTTER SPEED

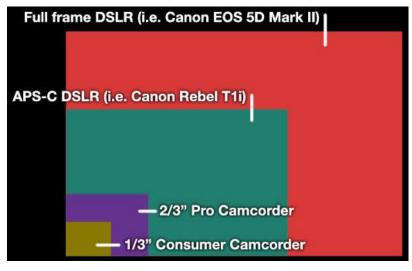


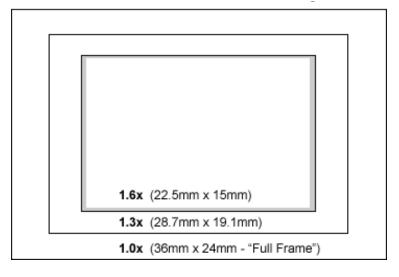
APERTURE VS. DEPTH OF FIELD



SENSORS AND FRAME SIZE



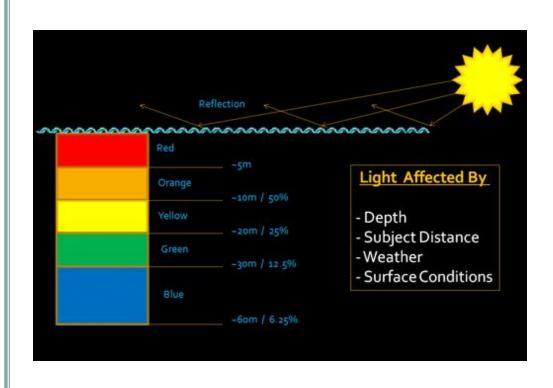


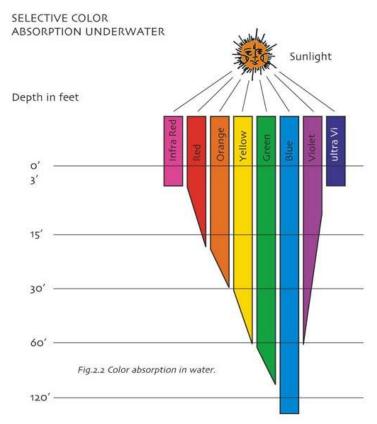


UNDERWATER CHALLENGES

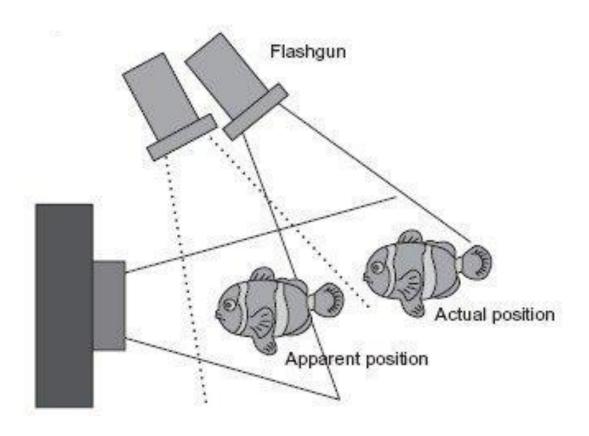
- Underwater photography adds a whole new set of challenges
 - Light is absorbed by the water column
 - Light is refracted by the water column
 - Light is reflected by particles in the water
 - Objects appear closer and larger
 - Dealing with added gear is challenging
 - You become more of a threat to the eco-system and the marine life

LIGHT ABSORPTION VS. DEPTH





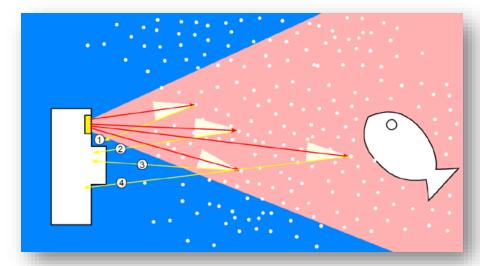
APPARENT SIZE AND LOCATION OF OBJECTS UNDERWATER

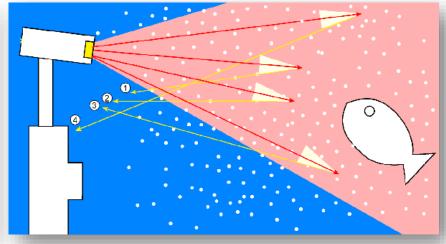


Objects appear 33% larger and 25% closer underwater (the refractive index of water is 1.33)

STROBE POSITION CAN HELP REDUCE/ELIMINATE BACKSCATTER





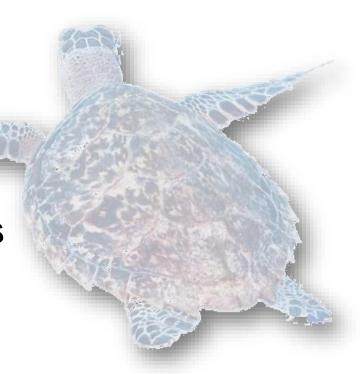


TEN GUIDING PRINCIPLES

- Get Close, And Then Get Closer
- Shoot Up
- Focus On The Eyes
- Keep Yourself Focused
- Use a Strobe
- Shoot, Review, Adjust, Repeat
- Go Manual
- Maintain Your Equipment
- Respect the Environment
- Be insured (you and your equipment)
- Apply Your Knowledge and Experiences and Have Fun!

HELPFUL BACKGROUND KNOWLEDGE AND WHAT TO LOOK FOR?

- Fish ID
- Coral ID
- Reef Ecology
- Behaviors
- Symbiosis
- Composition Opportunities
- Juveniles and Adults



A beautiful World!





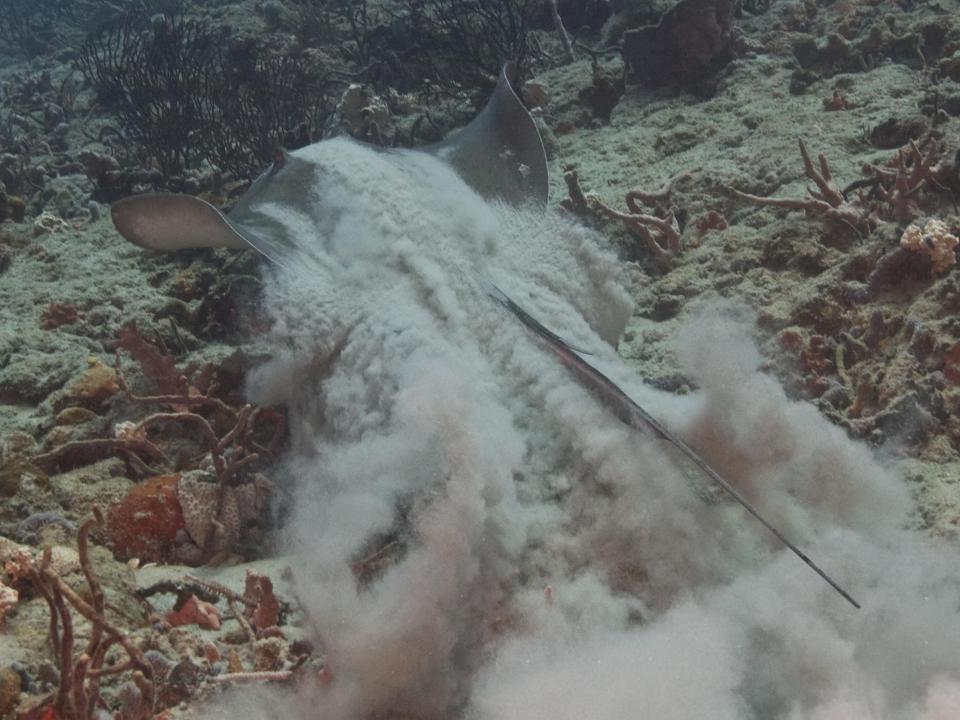


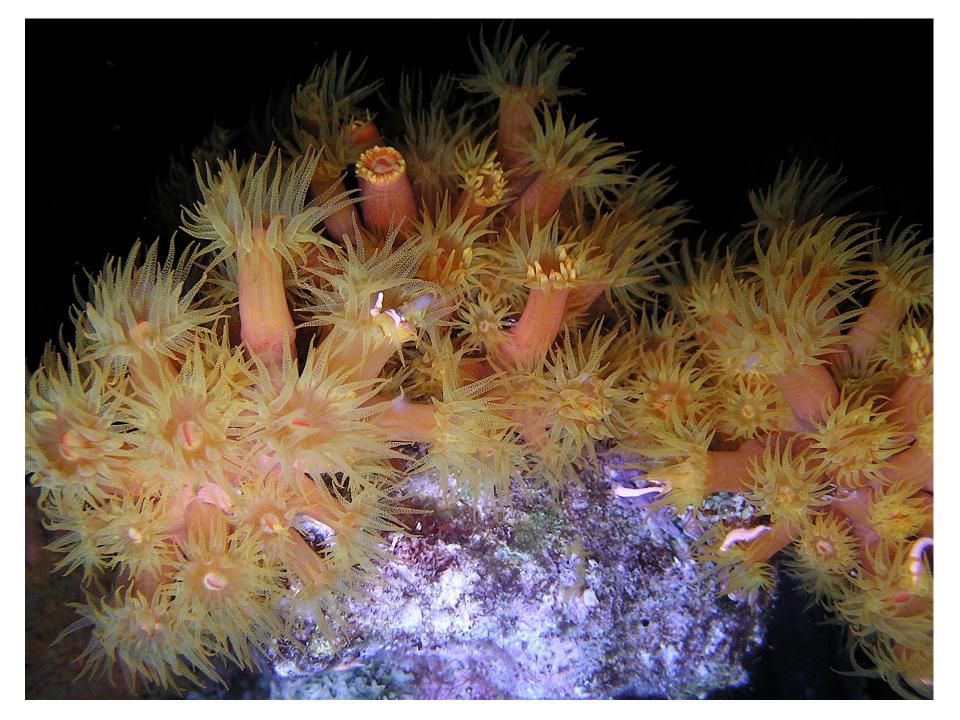




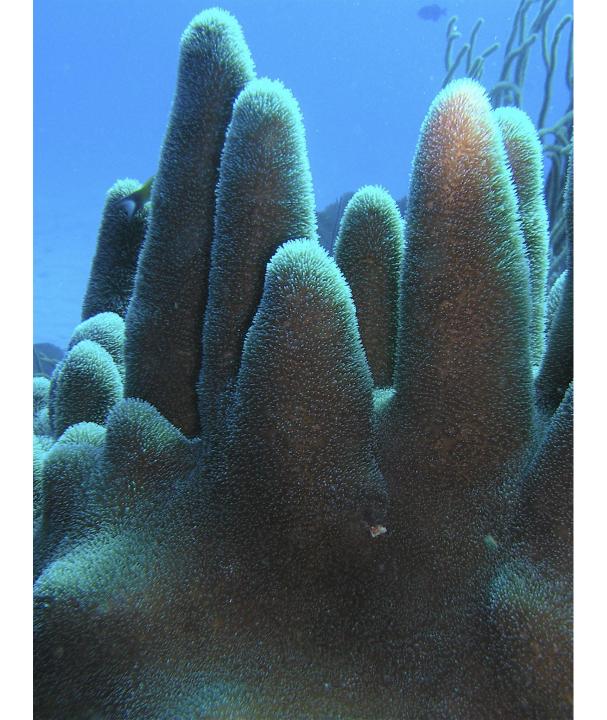




























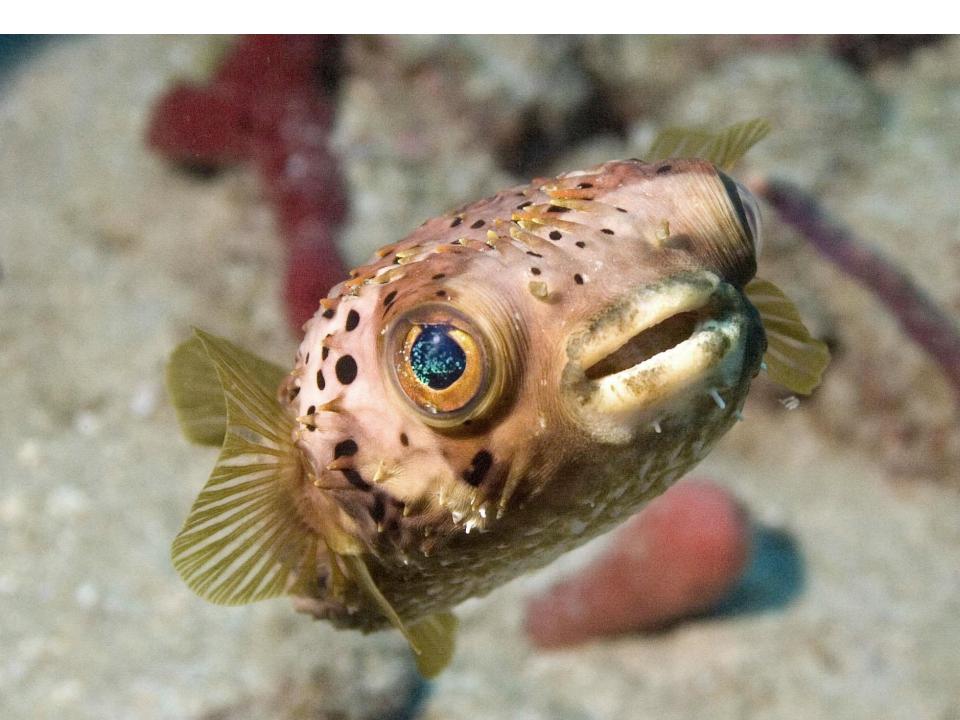




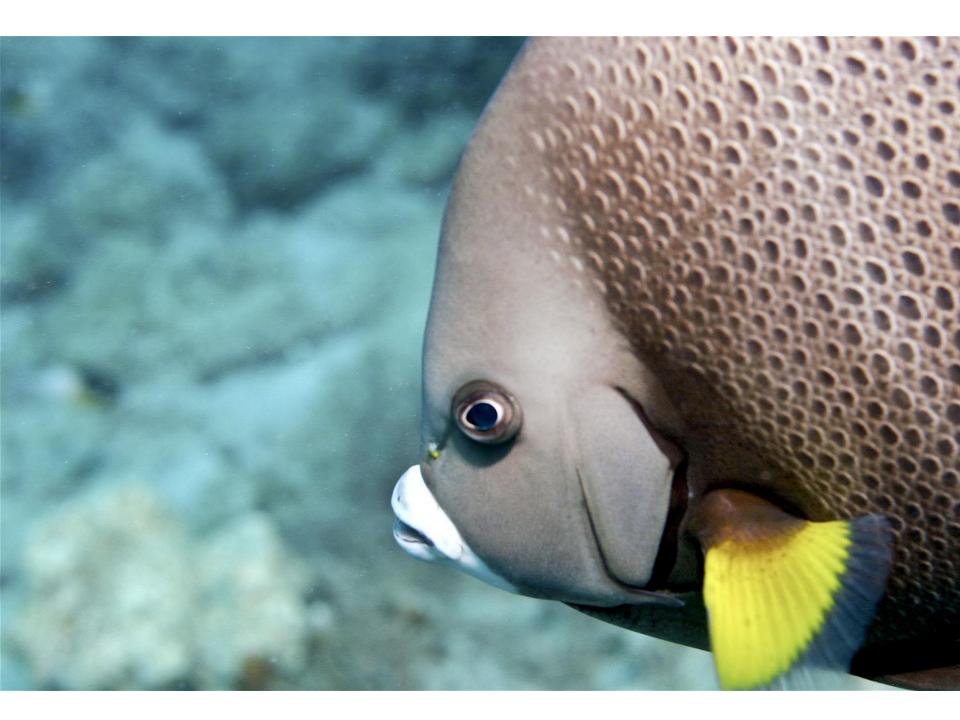


































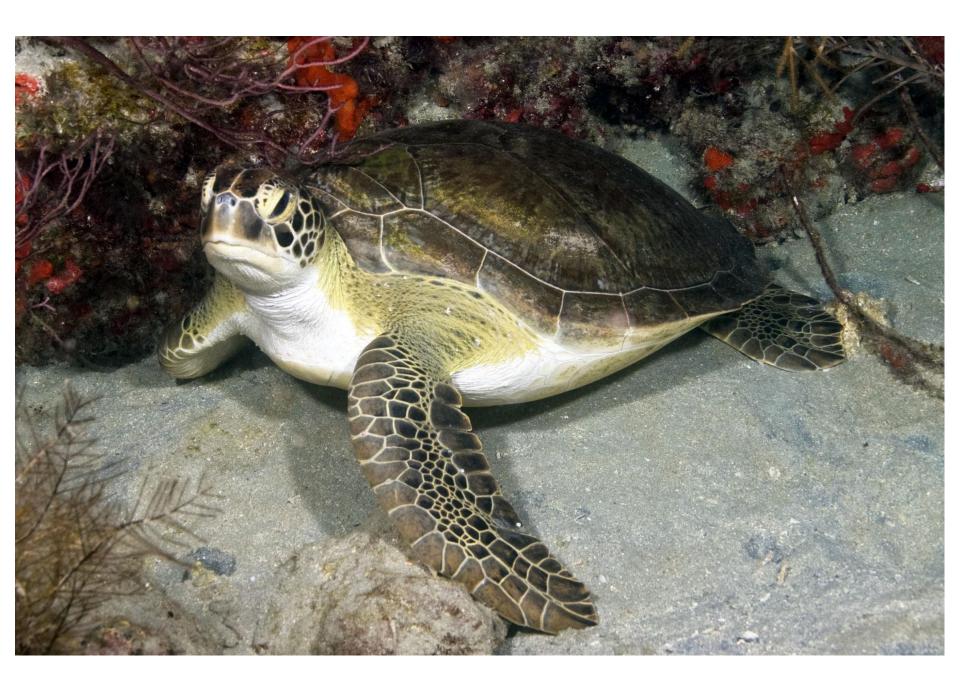
















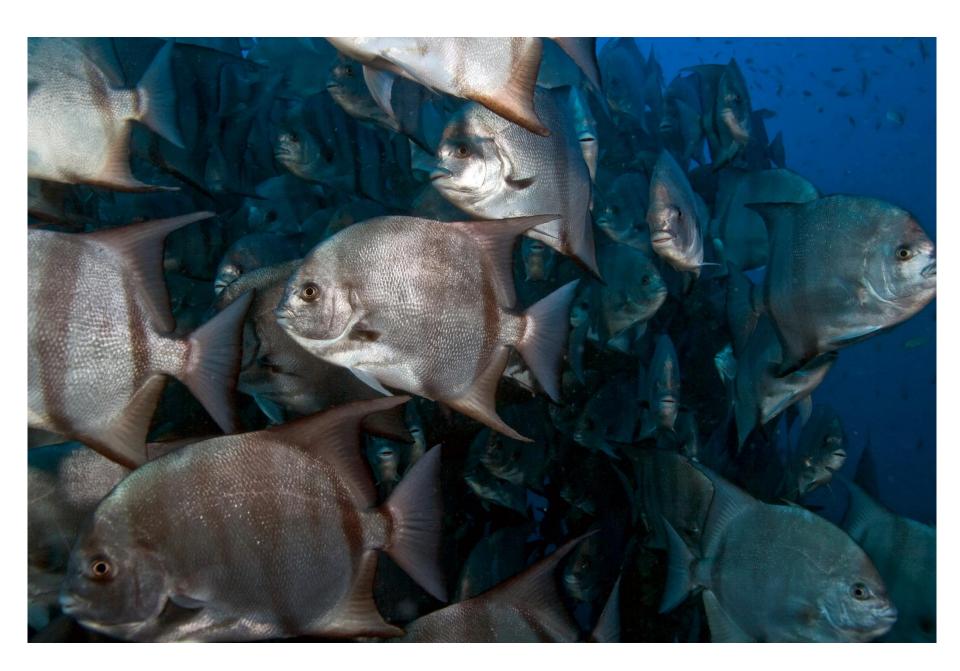




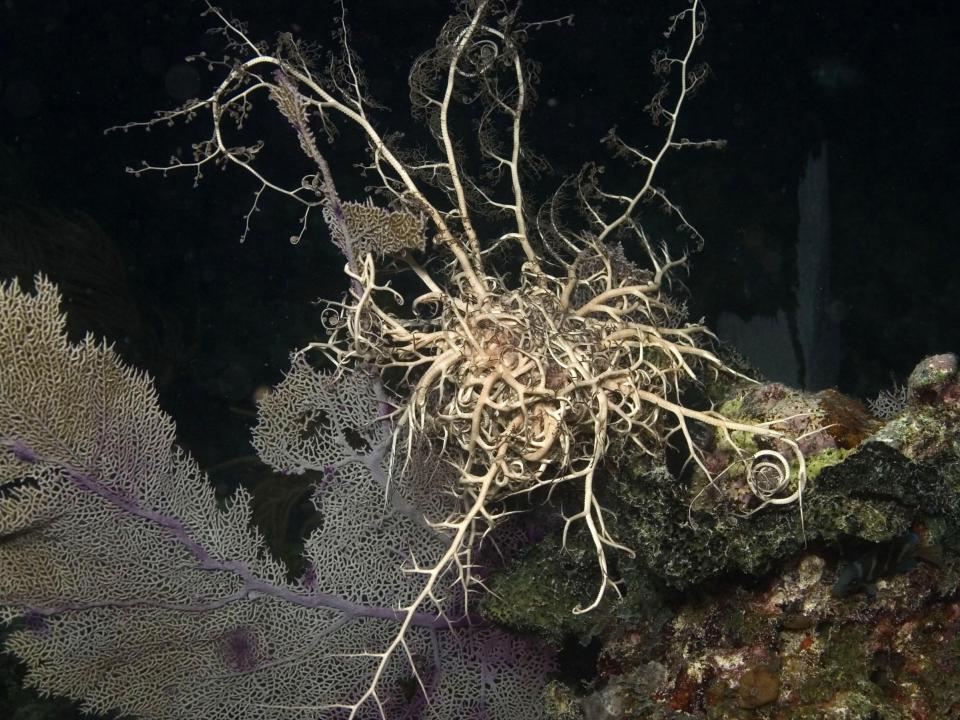




























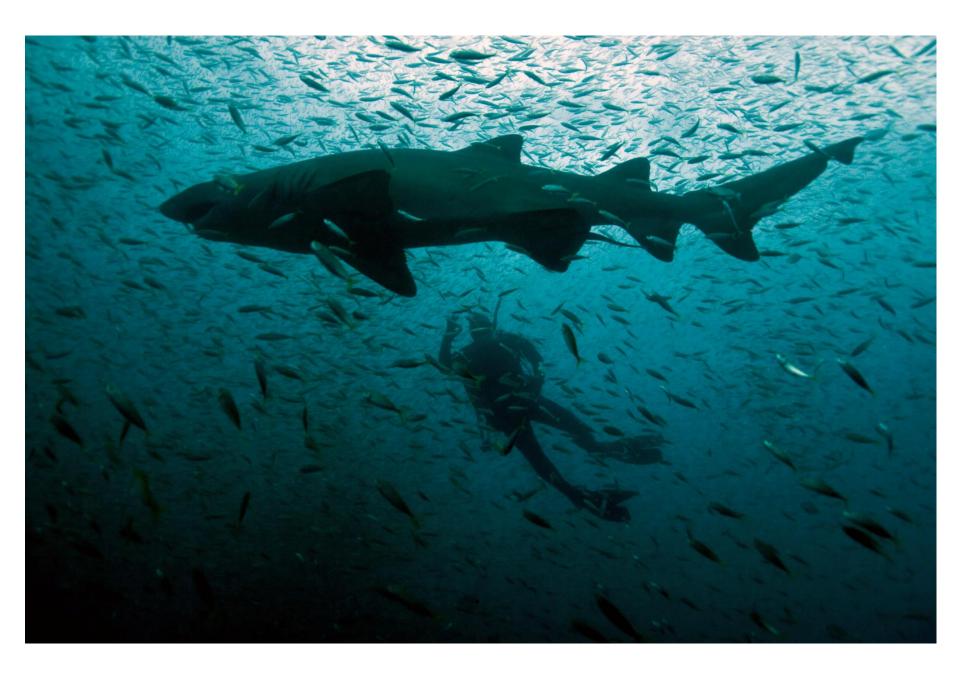




























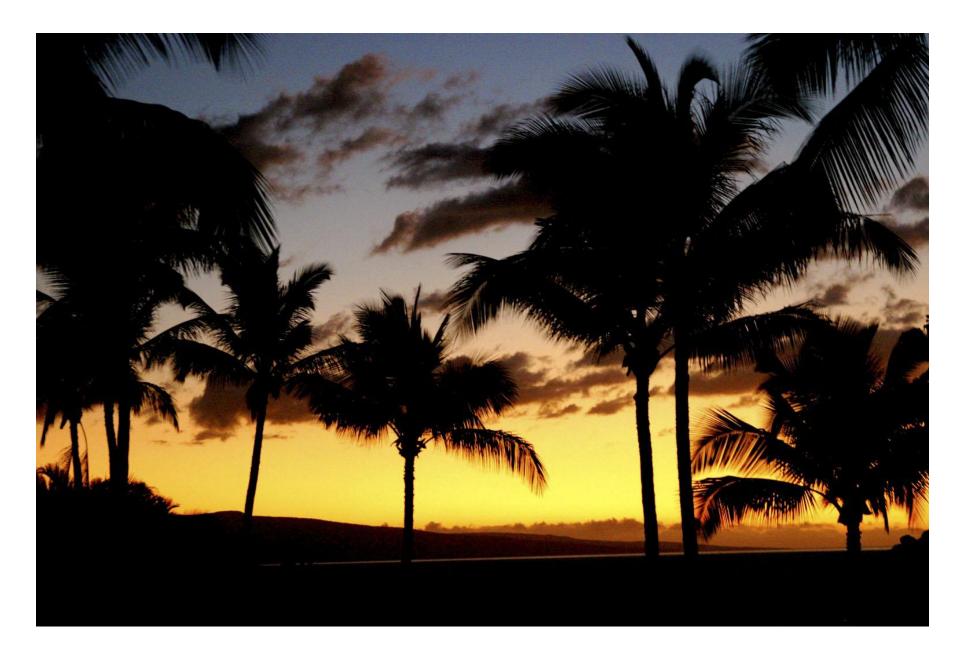












A FEW REFERENCES

- www.goddardscuba.com
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- www.backscatter.com
- www.wetpixel.com
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