



# TROPIC NEWS

## DEPARTMENT OF PLANNING AND NATURAL RESOURCES

### DIVISION OF FISH AND WILDLIFE



2004 Annual Issue

Volume 15, Number 1

## Recreational Mooring Buoys: Good for You, Good for the Environment

Boating statistics for 2004, compiled by the Department of Planning and Natural Resources, Division of Environmental Enforcement, indicate that there are about 4,800 registered vessels in the U.S. Virgin Islands (Fig. 1). Most of these boats are used for recreational boating and fishing. In addition to these locally registered vessels, numerous pleasure craft cruise the Caribbean and visit US Virgin Islands waters. Many pleasure craft come from the British Virgin Islands and Puerto Rico. There is no available count on the number of these transient vessels that visit the US Virgin Islands each year. However, it is speculated that thousands visit our islands annually.

Increased recreational boating use of the waters of the Virgin Islands has increased the negative impacts on the marine habitat. This is the same habitat that supports recreational fishing and other marine recreational activities. A single anchored boat swinging on its anchor can cause damage to a bottom area much larger than the vessel itself. If the damage is to a seagrass bed, wave energy generated by storm events further erodes the damaged seagrass area resulting in a "Blowout" hole (Fig. 2). Blowout holes are areas where even the rhizomes (sea grass roots) have been removed. Can you imagine the damage of thousands of boat anchors over several

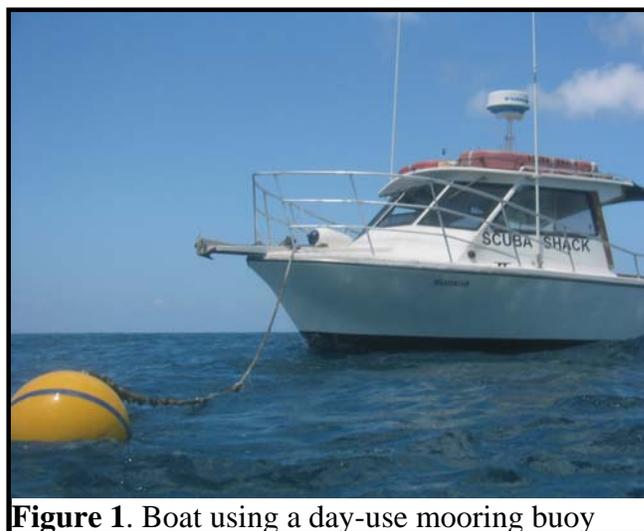


Figure 1. Boat using a day-use mooring buoy

### Recommended steps to tie up to a day-use mooring buoy.

1. Approach the mooring buoy and painter from down current so that the vessel does not run over the mooring buoy or painter line.
2. Pick up the eye of the pennant with your boat hook.
3. Cleat one end of your boat's bowline to the bow of your boat.
4. Thread your boat's bowline through the eye-splice of the pennant twice to minimize chaffing of the painter line.
5. Cleat the other end of your boat's bowline to the bow of your boat.
6. When leaving the mooring, uncleat one end of your bowline, cast it off, back the boat slowly, and then retrieve your bowline as it becomes free from the pennant.

years? Each time an anchor is thrown onto a coral reef, live coral is damaged or killed (Fig. 3). Imagine what a popular coral reef dive site would look like after years of boats anchoring at the site. Damage caused from anchors in seagrass beds and coral reefs can take decades to recover.

To reduce the impact on the marine habitat, we have begun, with funding from USFWS, a day-use mooring program. Day moorings are designed to keep the ground tackle from destroying corals, seagrass, etc.

Day-use moorings (Fig. 1) can prevent much of the damage to the marine environment by preventing anchor damage to the seagrasses (Fig.2)



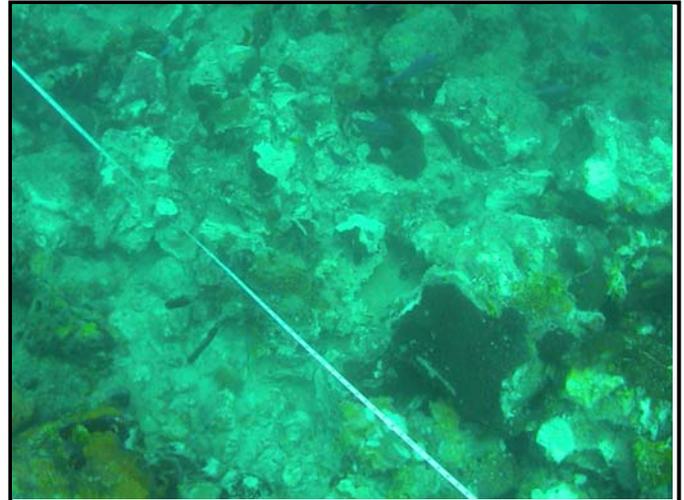
**Figure 2.** Blow out hole in a sea grass bed.

and coral reefs (Fig. 3). After all, it is the sea grasses and coral reefs that provide the habitat for fish and other marine life that attracts the fishermen and boaters anyway.

You can see that there are many benefits to day-use mooring buoys. Critical marine habitats are protected and preserved. If coral reefs are transformed into piles of dead rock, and sea grasses became sand flats, there would be few fish for divers to see or fishermen to catch.

Day-use moorings are available on a first come-first serve basis. Mooring buoys are clearly marked as day-use use only, not for permanent mooring. Sites for day-use mooring buoys include popular diving and fishing areas that are visited by dive groups or fishers on day or night trips.

The Division of Fish and Wildlife has contracted with local private non-profit organizations, Reef Ecology Foundation in St. Thomas and Island Conservation Efforts on St. Croix, to install and maintain the day-use



**Figure 3.** Anchor damage on coral.

moorings. These organizations have obtained Coastal Zone Management and U.S. Army Corps of Engineers' permits for installation of day-use

mooring buoys. At this time, there are about 50 day-use mooring buoys around St. Croix and 50 around St. Thomas and surrounding off shore cays. Additional moorings are planned in the near future within the East End Marine Park on St. Croix.

The National Park Service on St. John also has a day-use mooring buoy program. They have in excess of 200 day-use mooring buoys at different locations of the U.S. Virgin Islands National Park on St. John. There are also plans to install moorings at Buck Island National Monument on St. Croix.

With everyone's cooperation and utilization

of these day-use mooring buoys, human impacts to critical marine habitats such as coral reefs and seagrass beds can be greatly reduced. This will help these important marine habitats support fish for the recreational and commercial fisheries and for marine recreational activities such as snorkeling and SCUBA diving.

**Precautions for using day-use mooring buoys.**

1. Do not cleat the pennant to the bow of your boat. This line is too short and will cause too much vertical pull on the anchor pin.
2. Please do not use any additional anchors when using the day-use mooring buoy.
3. Please do not tie up to a boat on a day-use mooring buoy, or do not allow other boats to tie up to your boat if you are on a day-use mooring buoy.
4. Day-use mooring buoys can accommodate vessels less than 60 foot long. If your vessel is longer than 60 ft, please do not use day-use mooring buoys.
5. Day-use mooring buoys are for **day-use only**. They are not designed or intended for use during extreme weather conditions such as tropical storms or hurricanes.

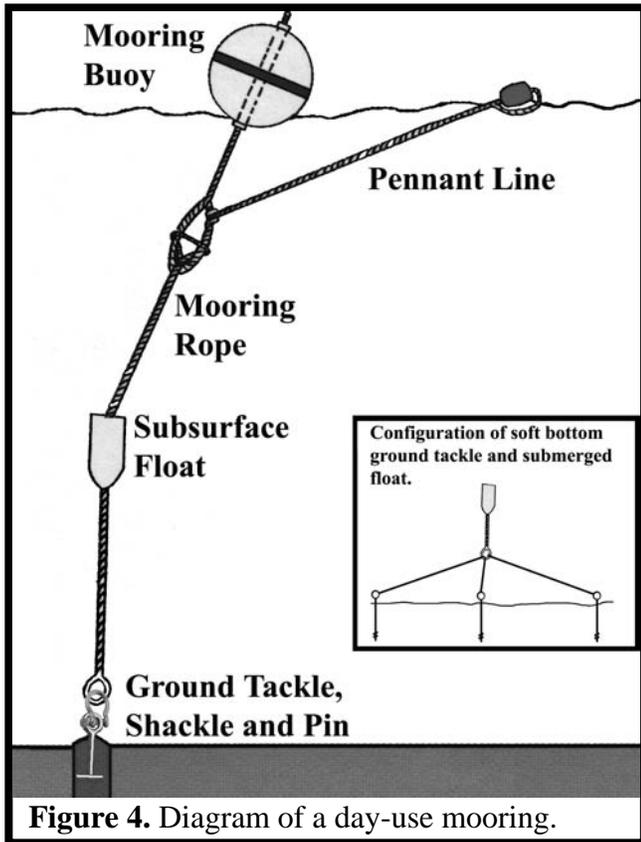


Figure 4. Diagram of a day-use mooring.

### - Composition of Day-Use Moorings –

The day-use mooring is made up of five major components:

- (1) the anchor pin eyebolt or sand screw,
- (2) the mooring rope,
- (3) the subsurface float,
- (4) the mooring buoy, and
- (5) the pennant line.

A diagram of a day-use mooring buoy is provided in Figure 4.

**Anchor pin eyebolt or sand screw** - There is a permanent anchor point. For hard substrates, a hole is drilled into the rock or substrate. An eye bolt is then cemented in using epoxy. If the area is exposed to high wave energy, additional eye bolts may be installed at a single mooring to ensure adequate holding power of the anchor pin. For soft substrates, such as sand under seagrass, a sand screw is used. These are 4 to 6 foot long auger shafts that are screwed into the sand. More than one sand screw at a single mooring may be used depending on the site conditions.

**Mooring Rope** - Between the eyebolt and mooring buoy is the mooring line. This is the rope that takes up most of the tension of the anchored boat. Often there is also a swivel in this line. The swivel keeps the rope from

twisting, knotting or otherwise forming weak points. It also reduces the torsional stress on the anchor bolt or sand screws.

**Subsurface Float** - The mooring line has a subsurface float attached. The subsurface float keeps the mooring tackle from scouring the bottom and facilitates finding the anchor pin should the mooring buoy become lost.

**Mooring Buoy** - The mooring buoy is a large floating buoy that is used to mark the location of the ground tackle and pennant. Do not tie up to the buoy, it is only a marker.

**Pennant Line** - Finally, the pennant line is attached to the mooring line. The pennant line is the line the boat uses to tie up. Tying your boats bowline to the pennant line will save a lot of wear and tear on the ground tackle. You can see from the figures that the pennant provides little slack. The slack is provided by the combination of the pennant and bow lines, which will help prevent the jarring snap of the boat pulling against the anchor pin or sand screws. If a boat ties directly to the mooring or pennant lines there is not enough scope on the mooring system. The jarring pull of the boat against the ground tackle can cause the mooring lines to fail or cause the anchor pin or sand screws to become dislodged.

### Responsible Resource Use

Look around you. Every “thing” you see or use is a resource. Islands, houses, roads, schools are all resources. Our animals, plants, rocks, stones, beaches, air or water, are natural resources. Natural resources are a material, substance, or place that is found in nature. There are two major categories of natural resources, renewable and non-renewable.

The non-renewable resources include most non-living materials (mountains, minerals, oil). Non-renewable resources can be thought of as a natural resource whose quantity is finite and cannot be replaced, or whose replacement rate through natural processes greatly exceeds the rate of consumption. For example, beaches are renewable resources only if the materials that form them (corals, shells, etc.) are not removed and if the sand is left in place.

Renewable resources include all the living resources (plants and animals), and some radiation (for example; sunlight). Renewable resources are

those that can restock or replenish themselves at a rate either equal to or greater than the rate they are used. Renewable resources can quickly become non-renewable if we do not take steps to manage the resource to prevent excessive extraction. If the resource is over utilized it is no longer renewable.

The Department of Planning and Natural Resources is dedicated to the management and protection of all of our natural resources to ensure that everyone has the opportunity to use and enjoy our local natural resources both now and in the future.

***“Responsible Resource Use”, what is it?***

Many people use our natural resources thinking that they will always be there for them. **This is false.** It is very easy to lose our natural resources by abusing them.

We regularly see people taking more fish, conch, lobster, and whelk than they can reasonably use. What happens to these resources? Some get stored in a freezer where they may stay for months before they get used. Well, how many fish do you know that can reproduce in a freezer? NONE! Recently there have been reports of hundreds of pounds of fresh fish being dumped along the roadside or in

dumpsters. This is wanton waste and is extremely detrimental to the environment.

So rather than taking all that you can, at one time, just catch what you can use. Release the rest alive so that they may restock the population.

To become a “Responsible Resource User” please do not take more of any natural resource than you can immediately use. Use the recreational mooring buoys instead of anchoring, to protect the fragile benthic environment. Do not collect shells, corals, sand, starfish or other natural resources, to allow our beaches to remain sandy, and our sea life to opportunity to grow. The key words are; conserve, recycle and reuse. Make sure you leave your recreational sites cleaner than when you found them.

Department of Planning and Natural Resources is participating in a new program called VINE (Virgin Islands Network of Environmental Educators). It is our mission to support sustainable use of natural and cultural resources in the U.S. Virgin Islands through environmental education. For more information or to become part of VINE contact us at the Division of Fish and Wildlife, or contact Dee Ozinski at Antilitter and Beautification 773-4489.

GOVERNMENT OF THE VIRGIN ISLANDS  
OF THE UNITED STATES

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