



Galvanic Corrosion - More Shocking!



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When we wrote about Electric Shock Drowning, we were also setting the table for a related and more common problem - what is called Galvanic Corrosion. The same elemental forces that could translate into ESD will definitely create an environment whereby your boat's metals can "melt away"...

What Is Galvanic Corrosion?

When two dissimilar metals are in contact with each other, the base requirement for galvanic corrosion is in place. What does dissimilar mean? Well, how about a bronze propeller and a stainless steel drive shaft? Or stainless steel screws holding an aluminum trim tab in place? Or just the grounding strap on a boat, connecting all the various metals? But more than contact is required. An "electrolyte" has to be present too - a substance to conduct electricity (the flow of ions) between the two dissimilar metals. And an excellent electrolyte is seawater... What happens is that the more "noble" metal (bronze, for example) destroys the less noble metal (aluminum, for example) by dissolving it, ion by ion, in favor of itself. This is galvanic corrosion.

And the marina provides a primordial "soup" for all the boats via the shore power ground. Every boat is connected to the green AC grounding wire of the marina and to their own boat grounding system, engine and underwater running gear. The water of the marina completes the circuit from all boats to all boats!

Clearly, the best idea to have your boat protected with zincs, the least noble metal available, so that the zinc is "sacrificed" at the expense of all other metals. Zincs should be placed on the running gear struts, on the transom (in the water) and on any internal part that is in contact with seawater - like a raw water cooling system. However, if you have plenty of zincs and the boat next to yours doesn't, physics will require that your zincs protect both boats simultaneously (and without your knowledge) until they "melt" away - exposing you and your less diligent neighbor to the full onslaught of galvanic corrosion...

What Can I Do?

Well, you could disconnect the AC green ground wire from the boat's ground point. This will break the circuit and fully halt the corrosion cycle. However, this is a very dangerous condition. Electricity can "jump" from your AC system to your DC system simply by the wires of the two systems being in proximity to each other. Out through your engine block to your running gear and into the water... See column on "Drowning - Shocking!" Clearly, that danger is far higher than worrying about a prop dissolving before your eyes...

So, a Galvanic Isolator would do very nicely! It sits connected to the green ground wire, close to the shore-power inlet. It blocks, quite simply, the flow of ions between your boat and everybody else's. The Galvanic Isolator also has a "trip" system (via something called a diode) that stops the low-voltage galvanic action from occurring but will allow dangerous AC power build-up to get to the ground, if any.

The better Galvanic Isolators have something called capacitors built in. They allow even low levels of AC to pass through. Stray AC current, as pointed out in the "Drowning - Shocking" column points out, even as low as .01A, can paralyze a swimmer so you want it running to ground as efficiently as possible.

So, don't go swimming at the marina and maintain that green grounding wire in good condition. The life you save may be your own.

BTW, if you are interested in being part of USCG Forces, email me at JoinUSCGAux@aol.com or go direct to the D1SR Human Resources department, who are in charge of new members matters, at DSO-HR and we will help you "get in this thing..."



by TONY SALERNO

FISHING WITH TONY

NOAA REQUESTS \$54 MILLION TO REDUCE FISHING EFFORT

In a bold attempt to take control of our nation's coastal resources, NOAA Fisheries has asked Congress for an additional \$54 million in funding for catch shares, while simultaneously turning their back on the agency's scientific deficiencies in managing marine fisheries.

While Atlantic and Gulf Coast fishermen and legislators have openly rallied in opposition to this particular takeover scheme, NOAA Fisheries, led by an agenda-driven ideology to reduce fishing participation, continues to run roughshod over coastal constituents in clear violation of legislative order.

Appearing before a House Resource Committee hearing on October 26th in Washington, Recreational Fishing Alliance (RFA) executive director Jim Donofrio blasted the NOAA administration for failing to adequately fund scientific efforts in coastal fisheries management. "NOAA claims they don't have enough money to do the stock assessments on the species they manage," Donofrio said in his official testimony, explaining how there are boats tied to the dock in coastal communities throughout the United States right now, unable to access healthy, rebuilt fisheries due to lack of science.

When the Magnuson Stevens Act was passed by unanimous consent in the Senate in 2006 and signed by President Bush in 2007, it required NOAA fisheries to overhaul their Marine Recreational Fishing Statistical Survey (MRFSS) by a time-specific deadline of January 1, 2009. Donofrio said NOAA officials have publicly stated on several occasions that a new Marine Recreational Information Program (MRIP) has not yet been implemented, despite the requirements set forth by Congress.

Despite the woeful lack of science and analytical data needed to properly manage fisheries, NOAA has apparently gone to key members of the House and Senate in asking for additional funds for catch share programs which by design cap fishing participation by trading away ownership of fish stocks to select groups and individuals. Earlier this year, NOAA's administration under the leadership of Dr. Jane Lubchenco had attempted to misappropriate several million dollars away from NOAA's scientific budget to allocate towards catch shares, a move which was stymied by an act of Congress.

In February, the House voted 259-159 to cut off funding for future catch share programs which would've opened the door to commodities trading of fishermen's catch allocations - or worse, a complete buy-out of angler access by preservationist groups. The bipartisan budget amendment tied to NOAA's proposed catch share funding was sponsored by Republican Rep. Walter Jones of North Carolina, as well as a pair of coastal Democrats in Rep. Barney Frank of Massachusetts and Rep. Frank Pallone of New Jersey.

The last thing the American government should be doing in these economic times is spending millions of taxpayer dollars to expand programs that will be put even more Americans out of work, which is exactly what NOAA is attempting to do by requesting \$54 million in its 2012 budget, to accelerate implementation of new fisheries catch share programs across the U.S.

Tides for Moriches Inlet starting with November 9, 2011

Day	High/Low	Tide Time	Height Feet	Sunrise/Sunset	Moon Time	% Moon Visible
Wed. 9	High	5:28 AM	3.3	6:31 AM	Set Rise 5:23 AM 3:49 PM	96
9	Low	11:42 AM	0.1	4:39 PM		
9	High	5:49 PM	2.9			
9	Low	11:38 PM	0.1			
Thurs. 10	High	6:03 AM	3.3	6:32 AM	Set Rise 6:22 AM 4:23 PM	99
10	Low	12:24 PM	0.1	4:38 PM		
10	High	6:28 PM	2.8			
Fri. 11	Low	12:17 AM	0.1	6:33 AM	Set Rise 7:19 AM 5:03 PM	99
11	High	6:37 AM	3.3	4:37 PM		
11	Low	1:04 PM	0.1			
11	High	7:06 PM	2.7			
Sat. 12	Low	12:55 AM	0.2	6:34 AM	Set Rise 8:15 AM 5:49 PM	99
12	High	7:09 AM	3.2	4:36 PM		
12	Low	1:44 PM	0.1			
12	High	7:44 PM	2.7			
Sun. 13	Low	1:32 AM	0.2	6:35 AM	Set Rise 9:06 AM 6:40 PM	96
13	High	7:42 AM	3.2	4:35 PM		
13	Low	2:22 PM	0.2			
13	High	8:23 PM	2.5			
Mon. 14	Low	2:09 AM	0.3	6:37 AM	Set Rise 9:53 AM 7:38 PM	91
14	High	8:18 AM	3.1	4:34 PM		
14	Low	3:00 PM	0.2			
14	High	9:07 PM	2.5			
Tues. 15	Low	2:47 AM	0.4	6:38 AM	Set Rise 10:36 AM 8:39 PM	85
15	High	9:01 AM	3.0	4:33 PM		
15	Low	3:40 PM	0.3			
15	High	9:57 PM	2.5			
Wed. 16	Low	3:29 AM	0.4	6:39 AM	Set Rise 11:13 AM 9:43 PM	77
16	High	9:52 AM	3.0	4:32 PM		
16	Low	4:25 PM	0.3			
16	High	10:51 PM	2.5			
Thur 17	Low	4:20 AM	0.5	6:40 AM	Set Rise 11:47 AM 10:50 PM	68
17	High	10:49 AM	3.0	4:32 PM		
17	Low	5:20 PM	0.3			
17	High	11:45 PM	2.6			