

US COAST GUARD AUXILIARY

S P R I N G 2 0 1 4

V O L U M E 1 7 ~ I S S U E 1

Waves

Watercraft & Vessel Safety



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previous issues

From the Director

RBS Safety Message from Kelly Townsend, DIR-B

In our December 2013 issue of *WAVES*, we had a theme of planning for 2014 RBS activities. In this issue, I'd like to continue with our previous issue's planning theme in this opening article. No matter what an Auxiliary member's area of interest...they should have a mentor. Over the last 10 years, I have been fortunate to have many great mentors in almost all aspects of Auxiliary activities. One of my most influential mentors at the national level gave me this advice several years ago.

"If you don't know where you're going, any road will take you there."

This has become one of my favorite sayings, not just in the Auxiliary, but also in life. Another favorite saying of mine came from a USCG active duty officer whom I had the privilege of hearing speak at a District D-Train.

"A goal without a plan is a wish."

If you take these two quotes, and combine them, the meaning becomes obvious. If you want to accomplish great things in RBS during 2014 ...you must have a PLAN to do so!



Kelly Townsend
Director, RBS Outreach



Continued on Page Three

TABLE OF CONTENTS

In This Issue

Recreational Boating Safety Message

Kelly Townsend, DIR-B
Pages 1 & 3

Report from the IBWSS

18th Annual Int. Boating & Water Safety Summit
COMO Mary Larsen, DVC-PW
Page 4

Introduction to the 2014 WEAR IT! Campaign

A Message from the Executive Director
of the National Safe Boating Council
Rachel Johnson
Pages 5 - 6

Personal Watercraft Renter Safety

Bruce Lindsey, DVC-BR
Page 6

Celebrating a Century of Excellence: Wishing a Happy Birthday to the US Power Squadrons (USPS)

Bill Griswold, DSO-SL 7
Pages 7 - 8

No One Owns the Territory: USPS to perform Marine Dealer Visits

Dave Fuller, District 7 Captain -North
Page 9 - 10

Boating Essentials App

US Coast Guard Safety Gear
Stephen Ellerin, DVC-BL
Page 10

Auxiliary Report on USPS Meeting

Stephen Ellerin, DVC-BL
Pages 11 - 13

The Workings of GPS

How GPS Works and What to do when it Doesn't
PO Joe Carter and LT Hermie Mendoza
Navigation Center's (NAVCEN) GPS Analysis Team
Pages 14 - 15

Kayaker's Saved..on a Coxswain's Birthday

Don Warren, Flotilla 26-1 -Cheboygan, MI
Pages 16 - 17

NOAA Announces End of Traditional Paper Nautical Charts

Bruce Johnson, BC-BLY
Page 17



FROM THE DIRECTOR (CONTD.)

In my last *WAVES* article, I said that “nothing happens except at the Flotilla level.” One of the best things a Flotilla, (or Division), can do is to plan activities in RBS for 2014.

I’d like to encourage Flotillas all around the country to form a plan for your 2014 RBS activities. At meetings, get a calendar, and mark dates for Flotilla, (or Division), activities in Public Education, Vessel Safety & Program Visits.

A few suggestions:

1. If Flotilla or Division leadership finds members who are in REYRS on RBS activities like VE, PV or PE; they should make plans and mark them on a calendar to conduct training classes and/or events to get those members current in their qualifications. Make sure to turn those activities in to your Division IS Officer for entry ASAP!
2. During your initial Flotilla and Division meetings, make plans that are at least 6 months out for RBS activities like VE’s, PV’s and especially PE. Local community colleges are a great way to recruit students for PE, especially with current state laws requiring boaters or PWC operators to be of minimum age, or have proof of a NASBLA approved PE course.
3. Make plans far in advance and mark them on a Flotilla/Division calendar for VE and/or PV. Both of these activities are great recruitment tools for your Flotilla, and will provide ample opportunities to engage the boating public in PE while conducting these activities.

In summary...make a PLAN, mark it on a calendar, and stick with those plans as you progress through 2014! It’s been my experience that if Flotilla and Division activities are marked on a calendar well in advance, it gives members a chance to engrain those dates in their minds, and know those dates are earmarked for RBS activities. I wish you all luck with your RBS activities in 2014.

Please remember to check often with our RBS Outreach website at the following link:

<http://bdept.cgaux.org/wp/>

It’s a treasure trove of RBS-related information from the Auxiliary & from our internal partners such as the Vessel Safety & Education Departments, as well as many of our external partners such as USPS, NSBC, WSC and USACE. The US Army Corps of Engineers offers a wonderful website that is full of information on RBS, especially child-related water safety info. It is here:

<http://watersafety.usace.army.mil/>

In his initial address to the Auxiliary, found here, Commandant Robert Papp stated that Recreational Boating Safety is the #1 mission of the Auxiliary. As Star Trek (Next Generation) Captain John Luke Picard would say...Let’s “make it so”!

Kelly Townsend
RBS Outreach Director (DIR-B)

REPORT FROM THE IBWSS

18th Annual International Boating & Water Safety Summit

COMO Mary Larsen, DVC-PW

Wear It! Wear it! This year's Summit focused in large part on the effort to increase sales and wear of life jackets. Reports at the General Session and numerous breakout sessions centered on this effort and on the Wear It! Campaign. From reports, we have not seen signs of great improvement in observed wear though we're not losing ground.

Since there is a chance you may not be familiar with the Summit, -- usually referred to as IBWSS, since International Boating & Water Safety Summit is a mouthful, it's an annual conference bringing together a cross section of professionals. Those in attendance are all working to improve safety on the water, primarily for the recreational boater. Representatives from state agencies, the U.S. Army Corps of Engineers, the Coast Guard and numerous other groups representing law enforcement, the boating industry (manufacturers and dealers) and volunteer organizations including the CG Auxiliary, U.S. Power Squadron, American Canoe Association Boy Scouts and others. It is truly international in scope with attendees from Japan, Canada and Australia.

The Summit is organized by National Water Safety Congress and the National Safe Boating Council and the goal, as stated in the "Welcome" letter, is to provide a forum for the exchange of information to fulfill the mission of the National Recreational Boating Safety Programs Strategic Plan and "ensure the public has a safe, secure and enjoyable recreational boating experience by implementing



programs designed to minimize the loss of life, personal injury, and property damage.”

As mentioned, there was “good news; bad news” in the reports. For example, in his opening remarks, CAPT Tom Boross, Chief Director for the Auxiliary, attributed some of the decline in boating fatalities (down to 651 in 2013) to life jacket wear. He stated that although the national study on the subject has not yet been released preliminary reports show that the 22% wear rate has remained steady. Not a great number, but at least holding steady.

The remainder of the Summit featured sessions on lifejacket wear, school water safety training and on-water boat handling skills. (Editor note, several of these subjects are covered in more detail in this issue or will be included in future issues of *WAVES*.)

COMO Mary Larsen, DVC-PW

INTRODUCTION TO THE 2014 WEAR IT!! CAMPAIGN



A Message from the Executive Director of the National Safe Boating Council Rachel Johnson



Rachel Johnson
Photo by National
Safe Boating Council

Boating safety advocates across the U.S. and Canada are teaming up to promote safe and responsible boating, including consistent life jacket wear each and every time boaters are on the water, during [National Safe Boating Week](#), held from May 17-23, 2014.

“Every day I hear about the grim consequences of not wearing a life jacket while boating,” said Rachel Johnson, executive director of the National Safe Boating Council, the lead organization for the Wear It! campaign. “You can still have fun on the water while choosing to always wear a life jacket and boating responsibly.”

It’s tempting not to wear a life jacket while on the water, especially on nice days. You want to get some sun, you think you’ll get too hot, or you think you’re a strong swimmer. But whether you’re going fishing or just enjoying a ride on the boat, there’s never an excuse not to wear a life jacket. You can have a great time, while choosing to always wear a life jacket and boating responsibly. Unlike previous PFD’s, today’s life jackets are comfortable, stylish and easy to wear. Old-fashioned, bulky orange life jackets have been

replaced with innovative options, such as inflatable life jackets, allowing mobility and flexibility for activities like boating, fishing, paddling or hunting. The inflatable PFD’s are also much cooler in the warmer weather.

U.S. Coast Guard statistics show that drowning was the reported cause of death in almost three-fourths of recreational boating fatalities in 2012, and that 85 percent of those who drowned were not wearing life jackets. That’s why boating safety advocates continue to push for increased and consistent life jacket wear on the water.

“Accidents on the water happen much too fast to reach and put on a stowed life jacket,” said John Johnson, chief executive officer of the National Association of State Boating Law Administrators. “It’s important that everyone consistently wears a life jacket while on the water and always boats responsibly.”

In addition to life jacket wear, the campaign also reminds boaters of the importance of boating safely, including taking a boating safety course and never boating under the influence, knowing navigational rules and having a proper lookout. Simply known as Wear It!, the annual campaign kicks off the weekend before Memorial Day with National Safe Boating Week and continues throughout the year.

Continued on Following Page

INTRODUCTION TO THE 2014 WEAR IT!! CAMPAIGN

We are happy to report that all 50 states have adopted the Wear It! message to promote safe boating. We look forward to another great campaign, leveraging the successful messages of the past and adding new tactics to reach an ever-broadening audience of boating participants. Here is a preview of this year's campaign:

- **National Fishing and Boating Week** (June 1-8, 2014)
- **Operation Dry Water** (June 27-29, 2014)

Please take a moment to review this General Resource Kit and learn what Wear It! has to offer. This kit is a trusted resource by the media and boating

enthusiasts about boating safety. If you are involved or will be involved with media or community outreach efforts, Additional Media Resources and Additional Campaign Resources kits are also available.

If you don't find what you need, please visit their website at www.SafeBoatingCampaign.com or email yMoslehian@SafeBoatingCouncil.org. Have a happy, and safe, 2014 boating season!

Rachel Johnson
Executive Director
National Safe Boating Council



Personal Watercraft Renter Safety

Bruce Lindsey, DVC-BR

The Personal Watercraft Industry Association, an affiliate of the National Marine Manufacturers Association, is continuing its water safety efforts with an education video and Safe Rider program available free for the asking or downloading from the association website. This 10 minute video is meant especially for boat dealers, rental operators and instructors to provide a basic knowledge of PWC operation and safety. This video was provided to attendees at the International Boating and Water Safety Summit and is also available from the PWIA website at the link below:

<http://www.pwia.org> *

Also available are safety checklists in English and Spanish. The PWIA is sponsoring its second annual summer Safe Rider program, and is asking riders to "sign a pledge and commit to safe, responsible ridership", and they are asking for "help to spread the word about this important safety initiative...."

If you are a Program Visitor, please share this information with your appropriate marine dealers. This program is complimentary to, but certainly not a replacement for more complete and formal boating safety education.

*The appearance of any product or service advertisement on the site to which any link is directed does not constitute, and shall not be construed as, an endorsement of that product or service by the United States Coast Guard or Coast Guard Auxiliary.

CELEBRATING A CENTURY OF EXCELLENCE

Happy Birthday to the United States Power Squadron

Bill Griswold, DSO-SL 7

An recent article in the US Power Squadron (USPS) publication *THE ENSIGN*, detailed the history of that storied organization. The USPS celebrated its 100th Birthday in Jacksonville, FL at the end of January 2014. I'd like to take you through some of that history, about an organization which shares the mission of recreational boating safety with the US Coast Guard Auxiliary.



Boston Yacht Club, Marblehead, Mass.
-USPS Historian

Boating in the early 20th Century consisted of large wooden sailboats, with owners belonging to Yacht Clubs. It was a rich man's sport using paid professional crews to man these large vessels. In time, powered pleasure boats entered the scene, causing a split between sail and power, which was not always friendly. Roger Upton was a member of the Boston Yacht Club, and he grew frustrated of his sail boat's reliance on the wind, so he bought a gas

driven launch to tow his 50' ketch when it was becalmed. Soon the launch was replaced with a 60' double ender steam vessel, which started a movement. Being a good mechanic, he trailed sailing cruises either fixing or towing them into port. He and 36 powerboat members sailed out to sea, performing maneuvers and drills, modeled after the U. S. Navy, making them an asset in time of war.

A remarkable cruise of 40 sailboats and 20 powerboats set out from Portland, ME on an annual cruise, when a strong nor'easter caught them. The powerboats rescued many disabled yachts, which was celebrated in the media. Power boats had arrived, and yacht clubs began forming power squadrons. At that time, US laws governing navigation applied only to steam vessels, and Federal inspectors had little use for small internal combustion powered craft, but wanted to control them. A group of volunteers formed to protect pleasure boaters from the steamboat inspectors, and gave instructions on the rudiments of boat handling.

A group within the Boston Yacht Club continued to grow, and took on the name "Power Squadron of the Boston Yacht Club", drawing the attention of Franklin Roosevelt, then the Assistant Secretary of the Navy. Roosevelt accompanied the squadron on Upton's powerboat to observe the drills and maneuvers.

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CELEBRATING A CENTURY OF EXCELLENCE

(Continued from Previous Page)

With World War I looming, Roosevelt urged Upton to create a national organization. The idea spread, and in 1914, delegates from 20 clubs met at the New York Yacht Club and formed USPS. USPS offered a Free Nautical School to the public in 1917, but after the war, the organization dwindled with some wanting to disband.

The squadrons still performed drills and maneuvers, and members were required to be members of a yacht club. Later, they dropped the drills, maneuvers, and the requirement to be an yacht club member, which spurred growth in USPS. By 1924, the organization became a teaching organization, and membership hit 323 individuals.

In 1939, President Roosevelt complimented the USPS on her 25th birthday, and accepted an honorary membership. USPS began an expansion from primarily an Atlantic coastal group to one with squadrons in Florida, Washington, and California.

As World War II approached, USPS' instruction centered on educating people departing areas far beyond the normal scope of the four courses given, and helped crews gain knowledge about defense issues. Gas rationing in 1942 amounted to receiving a number of gallons equal to the boat's horsepower per week. Boaters were encouraged to keep their vessels ready for possible employment for war needs, the evacuation of Dunkirk foremost in mind, where British pleasure boats evacuated over 300,000 British and French soldiers.

Membership boomed during the 40's and 50's, reaching 45,000 in 268 squadrons in 1959. Each year more people became interested in boating. Eventually, fiberglass and outboard engines pushed the national registration of boats to 450,000.

An appalling number of small boat accidents demanded the further need for education. One of USPS' most notable Chief Commanders was Charles Chapman, in 1946, author of the famous series of nautical books, "Chapman's Seamanship".

Over the years, the US Power Squadron has been honored by five US Presidents and, in 2004, on its 90th birthday, by Governors of all fifty states. In addition, Puerto Rico and the Virgin Islands signed the "Proclamation of the Governors" proclaiming recognition and grateful appreciation for the USPS. Today, USPS has 403 squadrons and 35,000 volunteers of which 34% are women. The USPS ensign has flown just about everywhere on Earth, and has even been carried into space.

USPS has come a long ways over its 100 years from the original vision of its first commanders, but undoubtedly they would be proud. Congratulations and Happy Birthday USPS, and here's to another 100 years in boating safety.



NO ONE OWNS THE TERRITORY

U.S. Power Squadrons® Authorized to Perform Marine Dealer Visits

By Dave Fuller, District 7 Captain—North

Recently, Nan Ellen Fuller, District 7 - Division 2 Commander, and I attended the 100th Anniversary and National Meeting of the U.S. Power Squadrons (USPS) in Jacksonville, Florida. At that meeting, Stephen Ellerin, Chief of the RBS national Liaison Division and District 7 Staff Officer for Publications, presented a “train the trainer” course to train and certify the very first group of USPS program visitors (PVs). In addition to his other Auxiliary duties, Stephen is the liaison at National for USPS.

Stephen quoted statistics during his presentation that I found staggering, concerning the handful of boaters we currently reach with our programs—fewer than three percent. Taking the positive side, we have much work to do and need all the help we can get to push out the message.

The USPS is another major force multiplier for the Coast Guard. Working in partnership gives us greater opportunity to reach the 97% of all boaters who need our message of boating safety. One point impressed upon the participants several times in the presentation was that the partner visitor (PV) program is a Coast Guard boating safety program and that USPS PV's are also representatives of the Coast Guard. The PV program is shared by the Auxiliary and USPS in much the same way as the Vessel Safety Check (VSC) program.

After Stephen's presentation, he gave each participant a written exam and scored them. All participants scored more than 90 percent and passed

the exam. At that point, I assisted Stephen in the final step in the certification process, the supervised dealer visits. We took all students aside and took them through process of introducing themselves to a new partner and getting the box and information on the shelf. At the end of the supervised visits, we certified all 18 participants as the first group of USPS members certified as partner visitors (PV's).

Our role in this, as Auxiliarists, is to promote the cooperation and provide the resources required at the flotilla level to help local power squadrons with this program. Auxiliarists will need to cooperate with their local squadrons — Auxiliary PV's will need to assist local power squadrons with the certification process by supervising their two required visits, especially in the initial stages. USPS members will have their own sources of material and boxes.

A potential problem area that we will need to head off before it begins is that there may be perceived territorial issues between local Auxiliary flotillas and local power squadrons. As you know, we occasionally have this issue between flotillas and even individual Auxiliarists within the Auxiliary PV program.

It is important to note that no PV or flotilla “owns” a particular territory or partner. In some areas, the Auxiliary may be sharing space on a partner's shelf with USPS brochures and class schedules. and will share some of our brochures. They will likely add class schedules, membership materials, etc. to their

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BOATING ESSENTIALS -USCG SAFETY GEAR

Free Mobile App (or Paper Checklist) from the American Boat & Yacht Council (ABYC)

Stephen Ellerin, DVC-BL

Boat Essentials-USCG Safety Gear is a simple checklist app to help boaters identify the safety items they are required to have onboard. It also suggests other items that will make a boat safer and more comfortable. Useful for all powered and non-powered boats operated in the United States and territories waters. This app also contains features to help maintain a boat, buy supplies for a boat, and to notify the user of important dates.

The American Boat & Yacht Council, ABYC, was created in 1954 as a non-profit organization to develop safety standards for the design, construction, equipage, repair and maintenance of boats. The mission of ABYC is to improve boating safety and reduce the number of injuries and fatalities.

[Click here to download the application](#)

Free Mobile App (or Paper Checklist)
from American Boat & Yacht Council



Download on the
App Store

Boat Essentials-USCG Safety Gear is a simple checklist app to help boaters identify the safety items they are required to have onboard. It also suggests other items that will make a boat safer and more comfortable.

Useful for all powered and non-powered boats operated in the United States and territories waters. This app also contains features to help maintain a boat, buy supplies for a boat, and to notify the user of important dates.

A water-resistant version is now available from the Auxiliary National Supply Center, as item No. [ANSC 3030](#).

The American Boat & Yacht Council (ABYC) was created in 1954 as a non-profit organization to develop safety standards for the design, construction, equipage, repair and maintenance of boats. The mission of ABYC is to improve boating safety and reduce the number of injuries and fatalities.

U.S. Power Squadrons® Authorized to Perform Marine Dealer Visits (Contd.)

mix of information to populate the racks, not only at new partners that they set up, but also in display boxes at existing locations.

I do not know how quickly this program will spread throughout the USPS, as we had only 18 initially certified as PV's at the USPS National Conference, but the participants were from squadrons across the country and eager to launch the program. Eventually, this program will be widespread and will come to all areas as the USPS promotes it internally and it gains critical mass.

Cooperation and partnership between local power squadrons and Auxiliary flotillas will make this a long-term success as has been long demonstrated with the VE program. Please do everything you can to promote cooperation and partner with local squadrons. This is one more opportunity to have both organizations work together for our greater goal – the promotion of boating safety. After all, this is why both organizations exist.

AUXILIARY REPORT ON USPS MEETING

Stephen Ellerin, DVC-BL

The US Power Squadron recently held its National meeting for 2014. When writing about the USPS, we have often noted that our two organizations share a similar mission, but approach that mission from different orientations. The following are highlights from the report to the Auxiliary on the US Power Squadrons National Meeting.

- There are over 21 million RBS boats on the water. In 2012, there were 651 fatalities – which is down from 758 previously. We expect 2013 to be even lower. However, there are a lot of challenges left.

PFD & Boater Education

- Only 5% of adults in open boats wear PFDs. Mandatory wear is under discussion.
- Less than 25 percent of the recreational boating safety population is mandated to get educated. RBS education is essential to RBS safety.
- Drinking while under the influence has horrible statistics. Almost every other day there is a DUI-related injury.

NOAA

- NOAA will no longer print nautical charts. The public can still get printed charts. Charts are all available on line as PDF documents at www.noaa.gov. The plus side to this is that the information is always current.
- In 2014, NOAA will continue charting intercostal waterways. The “magenta line” needs



Above Photo: Vice Admiral Richard C. Parker, USCG Commander of the Atlantic Area (which covers approximately “half the world, from the Rocky Mountains to the North Arabian Gulf”) Auxiliary photo by Stephen Ellerin.

updating. The line should never be taken as an exact route to follow, but rather a general guide.

Recreational Boating Ideas that We Can Use

These are “marketing” ideas that the USPS is recommending to their Squadrons. Most could be done by the Auxiliary as well. Many would be innovative additions to a Flotilla’s NSBW activities.

- A Fun Day at the Beach – Bring kids-in-need to the beach.
- A Beach Cleanup. COMO Ed Lott does this in Hawaii. He calls it “Get the Drift ... and Bag It”
- Participate in RBS programs with other groups ...including Scouts.

Continued on Following Page

AUXILIARY REPORT ON USPS MEETING

(Continued from Previous Page)

On-the-Water Boat Training Simulator

With a US Coast Guard grant, the USPS is developing an On-the-Water Boat Training Simulator. Please see the photos on the following page for additional information.

Kelly Townsend, DIR-B, suggests that the USPS normally has a vendor booth at the International Boating & Water Safety Summit (IBWSS) meeting. Sometimes our National Commodore also attends. If so and if the boating safety simulator is there, that might be a good time for him to see it firsthand. COMO Dan Maxim, Bruce Lindsey, Kelly Townsend and Mike Klacik will attend.

Dave Fuller, D7 DCAPT-North says the computer is specially built from off-the-shelf, but high-end products, including oversized power supplies, super fast graphic cards, etc. In English, it takes a dedicated computer built for this purpose, with three video monitors. The prototype currently uses an off-the-shelf (Logitech) steering wheel, and the throttle was an off-the-shelf Mercury outboard controller.

The original USCG grant was for \$215,000 for five machines and included the initial development cost. I think I recall a figure being mentioned of around \$20,000 per unit in production.

John VanOsdol, DIR-Ed, suggests we monitor the development of the Simulator for the rest of this year. We think it may be worthwhile to acquire and deploy one or more simulators, and we should either

create an Auxiliary acquisition program or get with one already operating to develop an implementation strategy. That would include a demonstration to the National Executive Committee. John also thinks it would also be a good idea to get the backing of one or more District Commodores. Stephen believes that D7 Commodore John Tyson would be a great candidate, and he will most probably be in Orlando.



Above Photo: Orion has inert flares for use during demonstrations and classes. Photo provided by Stephen Ellerin.

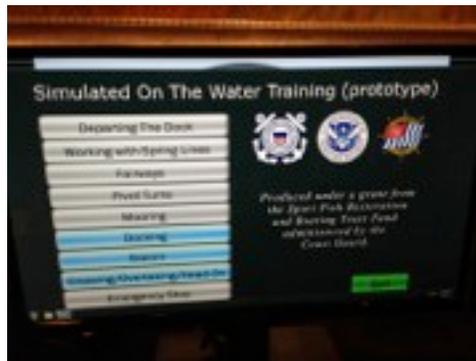
On the following page are photos from the On-the-Water Training Simulator.

AUXILIARY REPORT ON USPS MEETING

On-the-Water Boat Training Simulator



Top Left Photo: The simulator uses three standard computer screens (they appear “outlined” in black) that run off a single, high-end computer. A “real feel” steering wheel and throttle “control” the “boat’s” movements and speed. The instructor, seated at student’s left, controls the scenario that confronts the student. Options include, among others, leaving the dock, planing, maneuvering through a slalom course, overtaking another boat (instructor varies the situation), and returning to the dock. **Top Right Photo:** The program seeks to simulate the look and feel of the center console boat that the USPS has been using to offer the public on-the-water training.



Above Left Photo: The instructor sits next to the student (in the picture above, she is sitting at the student’s left) and selects the situation(s) that the student will face from the home screen of the simulator. **Above Center Photo:** The photo above shows the home screen. Bob Davis, CEO of Driver Interactive, says that they have produced several thousand “virtual” automotive trainers. Their challenge here is to modify that program to model (transition from) solid to fluid dynamics. **Above & Bottom Right Photos:** Nan Ellen Fuller, DCDR 07-02, also took a turn, while the instructor uses the yellow mouse, to the left of the steering wheel, to control the lesson.



Simulator photos submitted by Nan and Dave Fuller.

THE WORKINGS OF GPS

Great Positioning Source: How It Works and What to do when it Doesn't

By: PO Joe Carter and LT Hermie Mendoza

Navigation Center's (NAVCEN) GPS Analysis Team



The Global Positioning System (GPS) is a worldwide constellation of satellites that provides real-time positioning and timing to anyone with a GPS receiver. It does this through a dedicated, time stamped navigation message that is continuously transmitted from each satellite. Fundamentally, it works much the same way as shooting a visual fix from the bridge wings. In shipboard bearing-taking, determining your true bearing to known points uses a minimum of three visual bearings (aids to navigation, landmarks, etc.). Lines are then drawn at the recorded angles on a paper chart from those known points. Where those lines intersect is where you are. It is a concept known as triangulation. However, the method of deriving those intersecting lines with GPS differs somewhat.

GPS satellites know exactly where they are at any given moment and have incredibly precise atomic clocks on board. In very simple terms, those two pieces of information are broadcast with a message of "Here I am, and here's what time it is" in a continuous loop. This is the time-stamped navigation message mentioned earlier.

The next step involves some basic high school math:

$$d = r * t$$

Ring a bell? If a train leaves at a certain time, travels at a certain speed and arrives at a certain time, we can figure out how far it traveled. In other words, the distance travelled equals the rate (or speed) multiplied by the time it took to traverse the distance. Since GPS receivers sync their internal clocks with the clocks on the satellites, we can record the arrival time of the signal. The difference in arrival and departure time yields the time variable. We already know the rate value since GPS signals travel at the speed of light, or 299,792,458 meters per second. With both time and speed information, we can calculate the distance travelled and know how far away that particular satellite is.

Now that we know the position of the satellite and how far away it is, we can draw a sphere around the satellite's position with a radius of the distance travelled. In other words, the satellite is in the middle of this sphere and we are somewhere on its surface. This becomes the GPS equivalent of shooting a single bearing from the bridge wing.

In visual bearing-taking, we want three bearings to find out where the lines intersect on a flat chart. This provides a horizontal, two-dimensional fix. Elevation is not considered. However, GPS provides positioning in three dimensions: latitude, longitude, and elevation.

Continued on Following Page

THE WORKINGS OF GPS (CONTD.)

With GPS, we are not looking for where lines intersect on a flat chart.

We look for where spheres intersect in three dimensions. To do this, GPS receivers use “bearings” from at least four different satellites. The fourth measurement provides error correction into the triangulation process. Luckily, the GPS receiver does all the work for us. All we do is turn it on and see the results. No math!

But what if it is not working? What do we do if our GPS receiver is not giving us our position? Just like any communications circuit or radar, the first order of business is to rule out equipment as the cause. Does it work if you use different equipment?

So, what if none of the receivers generate a position? Now we consider that perhaps the equipment is fine, and maybe the signal is degraded. We can hear you now: “You mean the satellites are messed up!?” It could be the satellites. It could also be something else like interference. Interference can be caused in many ways: space weather, RF emissions generated during welding, high powered radar transmissions, and even some intentional sources like illegal (yet cheaply available) portable GPS jammers. You are probably now saying, “Great! How am I supposed to figure out what’s causing it!?” Well, you don’t have to.

Perhaps some of you may already know that GPS is considered by the Spectrum Management Policy and Procedures Manual (COMDTINST M2400.1 (series) as worthy of a Joint Spectrum Interference

Report (JSIR). But did you know that you can also report it directly to the Navigation Center (NAVCEN) at the following link:

Navcen.uscg.gov

When making a report through this tool, the NAVCEN’s 24/7 Navigation Information Services (NIS) watch will take immediate action to begin investigating your report in support of the JSIR process. In doing so, the NIS has direct access to the U.S. Air Force 2d Space Operations Squadron (2 SOPS). This squadron actually “flies” the GPS constellation for us and has a very close working relationship with NAVCEN for the purposes of investigating GPS reports. In fact, the Department of Homeland Security delegated NAVCEN the responsibility of assisting in the identification and mitigation of any potential domestic interference to GPS. Moreover, NAVCEN is recognized as one of the three GPS support centers with official ties to the GPS program, 2 SOPS and the FAA being the others.

If you were billeted to shoot bearings during special sea detail and your alidade did not work, you should say something. Similarly, if you are using GPS and it is not working, you need to report the problem. Now you know how.

Real-time reporting assists in quickly pinpointing a problem that may also be affecting other GPS users. Of course, the mission comes first and operations may not allow immediate reporting. But post incident reporting ensures that GPS remains a Great Positioning Source for humanity.

KAYAKERS SAVED..ON A COXSWAINS BIRTHDAY

Don Warren, Coxswain, Flotilla 26-1 -Cheboygan, Michigan

It was a beautiful sunny day in mid-August on Burt Lake in northern Michigan. While running a safety patrol for the Top o'Michigan Boat Races, Auxiliary Facility 202485 happened upon two kayakers in distress - who didn't even realize how much trouble they were in and their possible fate.

Waiting for the river traffic to pass through the Indian River after the race was over, we decided to do an "end of the day" pass around the northern part of Burt Lake. We chose to cut across the lake even though there were waves building and wind picking up.

While in the middle of the lake approximately three miles from any shore, I noticed at some distance away what looked to be a kayaker paddling, heading into the winds and approximately 2 ½ ft seas, making absolutely no headway at all. After a few minutes, I asked my crew what they observed upon viewing the kayaker.

My crew reported that they thought it looked like the kayaker was pulling something. I thought it was probably a kayaker running along with a swimmer crossing the lake. After more thought, we said why would a swimmer be attempting to swim across the lake so late in the day and into the building seas. We agreed to go take a closer look and see for ourselves.

Now approximately 15 yards from the kayaker, we saw he was frantically paddling - like he was in a race, and didn't even acknowledge our presence. Hanging onto the stern of the 9' kayak was a very

large younger man -not wearing a life jacket-hanging onto a 9' kayak which was vertically submerged with about a foot showing above the water.

I hailed the paddling kayaker, startling him, as he had no idea we were even there. I asked him, "Do you need some help?" He answered with a dazed "Can you help us"? While I was a little surprised at his question -we were all decked out in our CG Auxiliary uniforms, our sideboards and pennants. I replied, "Of course we can assist you. That is what we do."

First we got the PIW -without the life jacket-into the boat. It was no easy task getting him aboard as he was quite large weighing in at approx. 320 pounds. Next, we managed to pull alongside and dewater the sunken kayak and get it on board. Then I asked the father, who was in the other kayak, if he would come aboard along with his kayak. We would take them both to shore, so he wouldn't end up in the same predicament as his son. He excitedly agreed!

We called the station and explained what we had happened upon. We were given permission to take them to their residence. The father and son said they had just arrived at their rented cottage late the night before. They had gone down to the beach and noticed that there were a couple of kayaks for them to use along with two medium sized orange life vests. The father had managed to put one on, but the son's was way too small, so he just threw it up in the kayak!

Continued on Following Page

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(Continued from Previous Page)

Since they were not familiar with the lake, they didn't remember where their cottage was located. After about an hour of driving up and down the shore looking for familiar landmarks (notably a blue boat hoist cover – there were about 50 of those along that stretch), we managed to find their rental cottage. They said they had taken the kayaks out in the morning to go around the lake.

They realized it was getting late and to make it home they had better go across the lake. That is why we found them in the middle of the lake, three miles from shore. The waves had capsized the son's kayak. They didn't want to lose it and have to pay for it, so they attempted to pull it along. We talked with them and explained better seamanship and decision making

on their part. We asked them if they had ever thought of taking a boating class from the Coast Guard. Although they were not avid boaters, they thought that would be a great idea!

We feel we saved not only the son's life - the capsized paddler - but also his father, who had risked his own life attempting to save his son. What a great birthday present - returning two appreciative boaters home – safe and sound!!!

Don Warren, Coxswain
090-26-01, Cheboygan, Michigan



NOAA Announces End of Traditional Paper Nautical Charts

Bruce Johnson, BC-BLY

The National Oceanic & Atmospheric Administration (NOAA) has announced an end to traditional paper nautical charts. NOAA's Office of Coast Survey, which creates and maintains the nation's suite of over a thousand nautical charts of U.S. coastal waters, today announced major changes ahead for mariners and others who use nautical charts.

Starting April 13, 2014, the federal government will no longer print traditional lithographic (paper) nautical charts. Coast Survey will continue to create and distribute other forms of nautical charts, including Print-on-Demand paper charts as well as electronic and digital formats.

(NOAA-certified Print-on-Demand partners will continue to sell up-to-date paper nautical charts)

Helpful Links

[NOAA Home page](#)

[Nautical Chart Online Viewer](#)

[Nautical Charts & Publications](#)

MISSION STATEMENT

The RBS Outreach Directorate Mission Statement

The RBS Outreach Directorate, under the program guidance of the U.S. Coast Guard Office of Boating Safety and the direction of the Auxiliary Recreational Boating Safety Outreach Directorate, provides assistance to Coast Guard units, Auxiliary National Directorate and Auxiliary District organizations in their efforts to promote and support recreational boating safety programs. RBS Outreach provides both informational and fiscal resource services to the Auxiliary membership. In addition, the RBS Outreach provides liaison with State Boating Law Administrators and other recreational boating safety organizations, i.e., state, federal and the public sector.

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