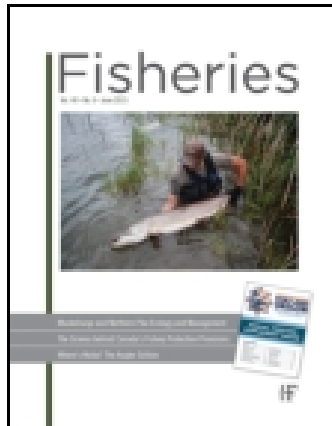


This article was downloaded by: [University of New England]

On: 23 August 2015, At: 05:25

Publisher: Taylor & Francis

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: 5 Howick Place, London, SW1P 1WG



## Fisheries

Publication details, including instructions for authors and subscription information:  
<http://www.tandfonline.com/loi/ufsh20>

### My Adventure Volunteering on NOAA Ships

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Published online: 05 Aug 2015.



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To cite this article: Joseph Kunkel (2015) My Adventure Volunteering on NOAA Ships, Fisheries, 40:8, 360-361, DOI:  
[10.1080/03632415.2015.1068642](https://doi.org/10.1080/03632415.2015.1068642)

To link to this article: <http://dx.doi.org/10.1080/03632415.2015.1068642>

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Joseph Kunkel and Carol Glor represent the diversity of volunteers. Kunkel, a biologist and professor at the University of New England, has been a volunteer scientist since 1998 during spring and fall bottom trawl surveys aboard the NEFSC's fisheries survey vessels *Albatross IV*, *Delaware II*, and now the *Henry B. Bigelow*. Glor is a middle school teacher from New York who teaches home and career skills and who was a 2014 NOAA Teacher at Sea. She joined the scallop survey aboard the research vessel *Hugh R. Sharp* in July 2014 as a first-time volunteer.

The type and timing of the surveys makes a difference. There are more volunteer opportunities for students and teachers on the summer clam and scallop surveys, which tend to have shorter legs. The clam surveys, to determine the distribution and abundance of Atlantic surf clams *Spisula solidissima* and ocean quahogs *Arctica islandica*, are conducted aboard a chartered commercial vessel in three legs in late July and August, each leg lasting about five days. Since 2012, about one-third of the resource is surveyed annually from the Delmarva Peninsula to Georges Bank.

The sea scallop surveys are conducted between May and July aboard the 146-foot research vessel *Hugh R. Sharp*, operated by the University of Delaware as part of the University-National Oceanographic Laboratory System research fleet. The 2015 integrated benthic/sea scallop survey used an eight-foot dredge and "HabCam," a towed underwater imaging vehicle, to determine the distribution and abundance of scallops from the Mid-Atlantic Bight to Georges Bank. A number of volunteers, from college students to high school teachers, worked with NEFSC staff aboard each of the three legs, which range from 11 to 14 days each.

At the end of their experience at sea, each volunteer completes an evaluation, and Sowers speaks with the watch chiefs to get their input. "The science crew enjoys meeting new people from different backgrounds and interests, and the volunteers come away with an appreciation of life at sea and the work involved in the surveys," Sowers said. "It isn't for everyone, as the workload can be tough and dealing with seasickness is not something you want to do. But the experience is usually a positive and memorable one."

Some of the positives of life aboard ship come when volunteers are not on watch. The galley is popular because food is always available there, and the ship's lounge is a place to relax with a book, watch movies, play cards, or chat with shipmates. Some do handwork they have brought, and with 24-hour Internet, everyone can stay in contact with family and friends ashore via their laptop. Out on deck, volunteers can observe the variety of seabirds, sometimes rare sightings, or catch glimpses of whales, dolphins, and other marine mammals. And then there are the picture postcard sunrises and sunsets at sea—there is nothing like it.

One recent fall bottom trawl survey volunteer said of the experience: "I had worries that as volunteers, we will get small, maybe unnecessary jobs, but that was not the case at all. We were actually doing the work. Awesome!"

### RELATED LINKS

NEFSC cruise volunteer information: [nefsc.noaa.gov/femad/ecosurvey/mainpage/welcome\\_ aboard.html](http://nefsc.noaa.gov/femad/ecosurvey/mainpage/welcome_ aboard.html)

Other volunteer opportunities at NOAA: [volunteer.noaa.gov](http://volunteer.noaa.gov)

## My Adventure Volunteering on NOAA Ships

Joseph Kunkel

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My grandfather had sailed as a young man on four-masted barks and in World War II captained a junk cargo ship that was scuttled at Omaha Beach in Normandy as a breakwater for the D-Day invasion. My brother became a navigator in the U.S. Navy and served in the Naval Reserve. I became a land-oriented insect research biologist, even though I did yearn to live close to the sea.

Perhaps in an attempt to have more to say to my marine-oriented relatives, I started doing some research funded by NOAA's National Marine Fisheries Service on Winter Flounder *Pseudopleuronectes americanus*. That led to NOAA funding to study cod fish immunology, and that led to my first time as a volunteer scientist on the Northeast Groundfish Survey, better known as the spring and fall bottom trawl surveys. My intention was to collect samples of cod serum and epidermal mucous to test for vitellogenin, which would indicate whether the cod fish was maturing to adulthood and provide a nonlethal method for checking for maturity in cod stocks—a method that did not interfere with the normal processing of cod by the fisherman.

Well, the cod-slime project did not work out, but I fell in love with going to sea on the NOAA ship *Albatross IV* and working in the roles of "cutter" or "data recorder" in the two-person teams that gathered data on the trawl bounty. I got to know many of the species of the northeast coastal shelf, working mainly on legs three and four of the survey. Over 17 years, I have been on 24 legs, in fall, spring, or both, and have never been on a leg in which I have not seen a new species to add to my life-list of marine organisms.

After several years of volunteering, I thought about preparing for my eventual demise by planning to have my ashes returned to the sea from the working back deck of the *Albatross IV*. Then NOAA retired the *Albatross IV* and provided a new ship, the *Henry B. Bigelow*, a wonderful addition to the NOAA fleet, which soothed my pain on the loss of the *Albatross*. I got to be included in the history of the *Albatross IV*, in the list of volunteers with sizeable service, an honor I cherish.

I keep a photo gallery of the pictures I have taken of organisms from the trawl net ([bio.umass.edu/biology/kunkel/fish/Kunkel\\_Fish\\_LifeList.html](http://bio.umass.edu/biology/kunkel/fish/Kunkel_Fish_LifeList.html)). Each addition brings excitement.

Compared to my first days going to sea on the *Albatross IV*, life on the *Bigelow* is relatively luxurious. I am able to keep in touch with my students (and with family) onshore with the *Bigelow*'s 24-hour Internet access; on the *Albatross*, we depended on e-mail service sent by satellite phone twice a day, which often resulted in a day or two turnaround in conversations with those ashore. The food has always been great, whatever ship I was on. The new 12-hours-on, 12-hours-off duty schedule is very livable and very different from the old 6-hours-on, 6-hours-off schedule, which never gave you quite enough sleep in one stretch. I almost yearn for the inevitable rough sea patches on the *Albatross IV*, when after getting your sea legs after a few days at sea you suddenly were on a roller-coaster that was as exciting a ride as you could get at Coney Island. The *Bigelow*, on the other hand, is very steady and rocks you to sleep most nights with the gentle



Joseph Kunkel with a large American lobster *Homarus americanus* aboard the *Delaware II*, Spring 2003 Leg 4, taken with his camera by a shipmate.

roll of the sea. Sea sickness, except for those who are particularly sensitive, is almost a thing of the past.

The NOAA ships are always an experience in new technology. Every leg I have been on has involved the introduction and testing of something new. I remember fondly my experience working on the open deck of the *Albatross* sorting fish that were just released from the trawl net onto the sorting table—wind blowing, waves washing over the deck, and music blaring from the chief bosun's stereo. That was some experience! Pairs of scientists, cutter and recorder, would then work up the catch in semi-open workstations, where a wave might catch your basket of fish and slide it over the deck to the workstation opposite, and vice versa. Data were recorded in pencil on water-resistant paper sheets, to be tallied ashore in a process that took months. Now, the *Bigelow's* on-deck computers with touch screens and data connections to weighing scales have automated a major part of the data input. The NOAA data managers are on the ship preparing the information for transfer to shore as we are collecting it. Wow, what a difference! It takes multiple legs over years to gain perspective on the progress.

I would not have missed the experience at sea as a volunteer scientist on the groundfish survey for anything. You see old friends and meet new ones. Everyone makes an effort to relate to one another, and there are great opportunities to share stories. If it sounds interesting, all you need to do is volunteer.

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*Joseph Kunkel is a research professor at the University of New England in Biddeford, Maine, and a professor emeritus at the University of Massachusetts Amherst, where he conducted research and taught for 42 years. He grew up on a tidal salt marsh on Long Island, spent his early years collecting insects, and majored in zoology in college and continued his interest in insect development in graduate school. His research interests include developmental biology, cell physiology, biometry, and pattern formation and development. Kunkel has been a volunteer scientist since 1998, during spring and fall bottom trawl surveys, aboard the Northeast Fisheries Science Center's fisheries survey vessels Albatross IV, Delaware II, and now the Henry B. Bigelow. He completed his 25th leg as a volunteer this spring on the Bigelow.*



Joseph Kunkel with a large White Hake *Urophycis tenuis* aboard the *Delaware II*, Spring 2003 Leg 4, taken with his camera by a shipmate.

## A Voyage that Changed the Way I Thought about Life at Sea

**Carol Glor**

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On July 5, 2014, I embarked on a voyage that would change the way I thought about life at sea. The research vessel *Hugh R. Sharp* sat at the end of the NFSC dock in Woods Hole, Massachusetts, awaiting a various assortment of science staff, crew and volunteers. As a member of NOAA's Teacher at Sea program, I was the odd man out. In addition to being a volunteer, I also had the daunting task of absorbing and documenting every aspect of the ship and its research activities for the Teacher at Sea program.

An online training program prior to the cruise was very helpful in preparing me for life aboard the ship and how I would write and publish my blog from sea. In reality, most of my learning came from my experiences on the *Sharp*. There were 20 people aboard as we left the dock and ventured out into stormy seas. Hurricane Arthur moved on and our trek out to Georges Bank was a rough one. Most of the first-time sailors were prepared with seasick patches, which seemed to do the trick.

Life on board the ship settled into an easy routine. It seemed that our past lives took a break, and we were able to experience what it must be like to work at sea as the crew who does this for most of the year.

Sleeping quarters for the science staff were below deck. Four people shared a cabin that consisted of two sets of bunk