



Growing oysters for a cleaner Bay

Winter 2019

<http://www.oystergardener.org/>

TOGA Annual Meeting set for January 25, 2020, at VIMS Gloucester Point

The education portion of the annual meeting will feature **Dr. Stan Allen**, Professor and Director of the Aquaculture Genetics and



Breeding Technology Center (ABC) at VIMS. The ABC hatchery currently operates the most extensive breeding program for oysters in the U.S., and arguably the largest in the world. Stan will share his perspectives and vast experience on oyster

aquaculture locally, and beyond.

All are welcome; membership is not required to attend. You are not required to sign in, but we would like you to wear one of the name tags provided. Membership dues will be accepted at the event but not required. There will be no float or apparel sales at this year's meeting.

Meeting agenda

1:00 – 2:00 pm Check-in, meet with agency representatives (VMRC and VDH), and informal Q&A with experienced Master Oyster Gardeners.

1:30 – 2:00 pm TOGA's Middle School Writing Contest readings and winner presentations.

2:00 – 2:15 pm BREAK with light refreshments

2:15 – 3:00 pm TOGA Business

3:00 pm – 3:40 pm Dr. Stan Allen, keynote speaker

3:40 pm – 3:50 pm – Joey Matt, PhD.

Candidate

3:50 pm – 4:00 pm Kristen Prossner, PhD.

Candidate

After the meeting adjourns, we'll have time for some excellent food and camaraderie.

Please bring a dish to share. Various oyster dishes are most welcome, but finger foods and desserts are also needed. On behalf of the TOGA Board, we very much look forward to seeing you and hope you'll join us at this special meeting.

Proposed Executive Board for 2020: The following are nominated by the 2019 Executive Board and have agreed to serve.

President: Terry Lewis

Vice President: Doug Schaefer

Treasurer: Brian Ingram

Secretary: Carl Zulick

Past President: Mike Saunders

At large members:

Lou Castagnola

Ken Hammond

Terry Halkyard

Ken Paugh

President Emeritus: Brian Wood (nominated for life)

Not elected-

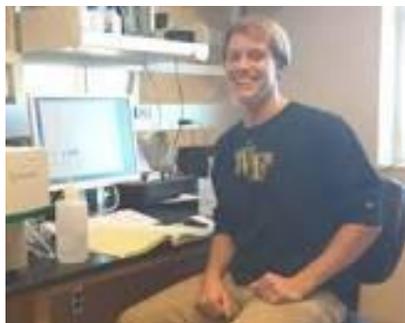
President Emeritus/Engineer: Vic Spain

VIMS Advisor: Karen Hudson

President Emeritus: Jackie Partin (inactive)

Introducing Our 2019 TOGA/VIMS Endowment Recipients

Joey Matt - Hello, TOGA members! Thank you for your support of graduate students through the TOGA Fellowship Fund. I'm very pleased



to be a second time recipient of this endowment. This endowment is special to me because of my path into oyster aquaculture, which started in 2012 when I

attended my first TOGA meeting with my father, Dennis Matt. It was there that I met Stan Allen, director of the Aquaculture Genetics and Breeding Technology (ABC) program at the Virginia Institute of Marine Science (VIMS), and that summer Stan was my mentor for an internship (the Research Experience for Undergraduates) at VIMS. I went on to become a member of ABC, as a technician in 2013, as a master's student in 2015, and as a PhD student in 2018.

During both my master's and PhD, I've been investigating unusual mortality events that have affected several oyster farms in Virginia. The events kill many oysters (> 20% of a stock), typically occur over a matter of weeks in late spring, and are unusual because evidence of the typical stressors, such as poor husbandry, MSX/Dermo, extreme temperatures or salinity, or abrupt changes in temperature or salinity, are absent. In my master's, I focused on understanding and defining the problem, and I was able to rule out some possible causes. In my PhD, I'm focusing on perhaps the only practical solution to the problem: developing resistant oysters through selective breeding.

I am excited to be sharing more about my research at the annual meeting this January, and I am looking forward to seeing many of you again. Thank you all for your support.

--Joey Matt, VIMS PhD Candidate

Kristen Prossner - Hi TOGA members! I'm Kristen Prossner. I get to do what I love every day—thank you so much for supporting my passion. After graduating with a B.S. in Biology and a minor in Marine Science from the College of William & Mary in 2016, I spent



a year as a senior research specialist in the Aquatic Health Sciences Department at the Virginia Institute of Marine Science before entering as a graduate student in Fall 2017. For my PhD research, I have developed a highly sensitive antibody-based biosensor method to rapidly measure polycyclic aromatic hydrocarbons (PAH) concentrations in individual oysters. PAH is a class of organic contaminants that is a highly toxic component of crude oil. After a major PAH contamination event such as an oil spill, the seafood safety assessment methods currently available are sensory analysis (i.e. sniff-testing) and complex, time-intensive laboratory analysis. The motivation behind my research is to equip resource managers with an approach that can overcome glaring limitations in data turnaround time, reliability, and expense associated with these current analytical methods. The biosensor method can provide near real-time, cost-effective, and accurate measurement of PAH levels in oysters, which is critical for the extreme time-sensitivity of oil spill response. Additionally, a future objective involves fast, economical mapping of background PAH levels around the Chesapeake Bay and its tributaries by working with non-profit organizations and local communities in order to better evaluate PAH levels in oysters and how communities dependent on this seafood product may be impacted by major contamination events. I am deeply grateful for receiving a TOGA fellowship for the 2019-2020 academic year. This fellowship will help me to further the education and training necessary for carrying out the mission of my doctoral research—to better serve the Chesapeake Bay and my community. Again, thank you so much for this incredible opportunity.

--Kristen Prossner, VIMS Ph.D. Candidate

Tidewater Oyster Gardeners Association Middle School Writing Contest Prize Money Increased

After six very successful Middle School Writing Contests, the Tidewater Oyster Gardeners Association (TOGA) and People's Community Bank are significantly increasing the writing competition prizes to \$500, \$250, and \$100 for the top three essays. Additionally, the school of the first-place entry will be awarded \$200 to spend on educational aids.

Prizes had been \$150, \$100, and \$50 for first, second and third places respectively. The theme of the essays is "Consider the Oyster."

Middle School Writing Contest!!!

"Consider the Oyster"

\$500, \$250, \$100 cash prizes
plus \$200 to the winning school

For details check out www.oystergardener.org

The competition is open to all Virginia students in grades 6, 7 and 8. Home-schooled students are welcome to enter.

"This increase in prize money indicates the commitment TOGA members have shown to increase the emphasis on education for our organization," said Terry Lewis, President of TOGA. "Reaching young people at an early age is very important to start a lifelong interest in ecology and the importance of the health of the Bay," he said.

Winners will be announced and awards presented at the Tidewater Oyster Gardeners Association annual membership meeting at the Virginia Institute of Marine Sciences on January 25, 2020. The winner's parents, a mentor, or teachers may be guests of TOGA for the presentation event. The winning entries will be read by the students at the awards program during the Annual Meeting.

The three top winners will be published on the TOGA Web site, and may be published in other

publications or web sites, including the Virginia Outdoor Writers Association website. Essays can be written about oyster life, history, recent developments, or even recipes with background from how the recipe came about. If you know Middle School students please encourage them to enter.

Previous year's winners are now growing oysters in the floats they won for their essays. This is a great way to encourage youngsters to get involved with oysters, learn about the

ecology of the Bay, and help improve our environment.

The article should be written in WORD format and attached to an e-mail. The submissions can be made between now and the December 15, 2019, deadline. For more information go to www.oystergardener.org

--Terry Lewis, MOG

Stratford Hall Wine and Oyster Festival 2019 September 21-22, 2019

What a pleasure to have seen so many people



enjoy a gorgeous fall weekend at Stratford Hall! TOGA once again partnered with Stratford

Hall for its popular Wine & Oyster Festival on September 21-22, 2019. The event featured wine tastings from many Virginia wineries, and the enjoyment of Chesapeake Bay and Tidewater oysters; as well as numerous specialty foods. Plus, folks got to appreciate all those amazing arts and crafts vendors, and an antique car shows on both Saturday & Sunday, and so much more. Those who attended numbered 5200 and they were well supported by over 30 enthusiastic TOGA volunteers.

TOGA helped plan the event, working closely with participating oyster growers and coordinating speakers and demonstrations for the Education Tent (including a most fun & tasty oyster ceviche cooking demonstration & tasting). We also had our most informative



TOGA booth, promoting TOGA's mission and supporting the continued increase in local oyster gardening. Participating oyster growers included: Rappahannock River Oysters, Great Wicomico Oyster Company, Bay Pearl Seafood Company, and Nomini Bay Oyster Ranch.



The event took place on the Stratford Hall Oval, a four-acre tree-lined lawn that is directly in front of the historic circa 1738 Great House (which was open for touring). For more information and pictures, you may visit www.StratfordHall.org

-- Ann Wood, MOG

TOGA Oyster Float Sales Williams Wharf Landing Oct. 5, 2019

Tidewater Oyster Gardeners Association held its "fall" workshop and oyster float sales event



at a different location this year at the Williams Wharf Landing in Mathews County.

Located just south of the historic Mathews Court House on the East River, with its own history of oyster operations, historic boatyard and steamboat landings, this facility proved to be an excellent venue as both sales and attendance were up from previous years. Numerous types and sizes of oyster floats, accessories, and supplies were available along with 2 outside vendors selling "spat" (young oysters). TOGA attire was also sold.

Vic Spain provided a demonstration on "how to build" your own Tidal Tumbler oyster float and a short class on "How to Get Started Growing Oysters" as well as information on the latest techniques, regulations and history.



This event is one of TOGA's primary fundraising activities with all proceeds benefiting, a TOGA 501(c)3 charity. Proceeds from float sales (excluding attire) were passed on to the TOGA/VIMS Student Endowment.

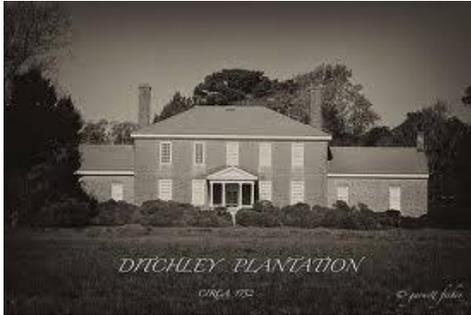
--Brian Ingram

Boots & BBQ—September 28, 2019

On a hot and sultry Saturday in September, Ken Hammond and Klaus Boese (with support from Janet Boese) represented TOGA at the 2019 Boots & BBQ. This annual fundraiser of the Northern Neck Land Conservancy showcases properties in the Northern Neck that have been placed in conservancy.



This year's property was the former Ditchley Plantation, now 162-acre property that contains a manor house of the Kendall Lee family dating to circa 1752, and which in 1932 became the summer residence of Jessie Ball DuPont.



The current owners, Cathy Calhoun and Paul Grosklags acquired the property from the DuPont estate in 2014, turning it into a cider works and farm.

Calhoun and Grosklags planted 2000 apple trees to provide the raw material for their principal business of producing hard cider. To round out the farm, they also added free-range heirloom pigs, a herd of grass-fed Belted Galloway cows, Indian Runner ducks, Toulouse geese, and heritage turkeys – all of which are fed the apple waste from the cider-making process.

The 300-ticket fundraiser for the Northern Neck Land Conservancy also serves as an opportunity for other organizations concerned with conservation to promote their causes.



TOGA's tent was strategically located between the Natural Plant Society and the Virginia Cooperative Extension Agency. Further down were the Beekeepers of the NN, plus others. TOGA displayed our two attention-grabbing aquariums to demonstrate the filtering power of oysters. Until the barbecue was available, we were kept busy answering questions, handing out promotional materials and membership applications.

The Ditchley Cider Works had their cider on sale; CopperFox distillery from Williamsburg,

VA provided free samples of their distilled products, and fried oyster appetizers were served. As in previous years, the event was catered by Angelo's restaurant from Montross. Despite the unseasonably hot weather, a number of women noting the occasion wore boots, and a good time was had by all.

--Klaus Boise, MOG

Guinea Jubilee September 27-28, 2019

The Tidewater Oyster Gardeners Association was again well represented at the 40th Annual Guinea Jubilee. The two-day event, Sept. 27 and 28, attracts thousands of people who celebrate and honor the rich



heritage of Guinea Neck. Many of the people who attend this event are watermen or own waterfront properties, so there was considerable interest in growing oysters and the ecology of the Chesapeake Bay. Vic Spain, Terry Lewis, Brian Ingram and Ken Paugh staffed the booth and answered many questions on how to start growing your own oysters, as well as questions about appropriate gear and where to buy spat.

--Vic Spain, MOG

Ways to Collect Wild Spat

Many oyster gardeners like to purchase natural (unselected) fertile diploid spat for restoration. A great idea, but sometimes difficult. Hatcheries are mainly in the business of selling large quantities of selected disease resistant sterile triploid larvae or spat to commercial oyster growers, so natural spat are not always available. Experience has shown us that natural oysters do better in waters where their parents lived. So why not try collecting your own local spat.

Thanks to **Lindsay Cooper** for getting TOGA involved in her successful Girl Scout Gold Award project.



Figure 1- Lindsay Cooper, Ambassador Girl Scout, with various spat collectors to be tested

Figure 1 above was made in early June, 2019. From left to right are

- 1- a pair of ceramic tiles partially smeared with a cement mix (some with crushed shell in the mix).
- 2- two pairs of corrugated drain pipe sections coated with cement mix (some with crushed shell in the mix).
- 3- a pair of oyster shell baskets.
- 4- a single cement oyster castle.

The following describes the evolution and results of the experiment through October 2019.

Device	Successful?	Problem issues	
Tile Not Washed	No		
Tile Washed	No		
Corrugated Pipe Not Washed	Partially	Barnacles	Cement not adhering
Corrugated Pipe Not Washed, crushed oyster shells	Partially	Barnacles	Cement not adhering
Corrugated Pipe Washed	Yes	Barnacles	Cement not adhering
Corrugated Pipe Washed, crushed oyster shell	Yes	Barnacles	Cement not adhering
Shell Basket Not Washed	Yes	Barnacles	
Shell Basket Washed	Yes	Barnacles	
Cement Castle Not Washed	No	Barnacles	

The success of the spat collectors shown in figure 1 is described in the table above. A cement mix of ½ cement and ½ masonry sand was smeared on part of the tiles and all of the corrugated pipe. Also, crushed oyster shell was mixed with the cement mix on two of the corrugated pipes. The collectors were put in

the water on the Severn River, Mobjack Bay in early June 2019.

For June and July, those devices labeled “Washed” in the table were hosed off every two weeks. Washing was intended to remove some of the algae and slime which are known to inhibit spat set. The others were left in the water the whole summer. The collectors were removed, evaluated and photographed in early October. For this test, the cement castle and tiles were not successful.

The baskets of shell successfully collected spat. Photos were excluded from the article because it is hard to pick out the spat on the shells due to the coloration and barnacles. The shells averaged 0 to 5 large spat per shell. For reasons we do not understand, washing did not seem to matter with the shells. We did observe that spat prefer to set on shell near the top. So, we feel that for best results, we should use shallow baskets (4 to 6 inches deep), with large areas, say 2 ft. by 2 ft.

Even though we had trouble getting the cement mix to stick to the corrugated pipe, the pipes that were washed were very successful collectors. In the October, photo below, the



Figure 2–Corrugated pipes recovered in October

pipes on the right that were washed in June and July produced small oysters by October. The unwashed pipes were mostly covered with barnacles.

The results of collecting “spat-on-shell” and individual spat on corrugated pipe were different. Spat on shell are best used by putting them on the bottom for restoration. It is difficult to separate the spat from the shell without damaging them.

The spat collected on the corrugated pipe can be knocked off the pipe mostly as individual small oysters and can be grown out in cages. After maturing they can be consumed or put in the water for restoration. See figure 3.

Keep in mind that this is only one test in one place at one time. Results under different conditions are likely to be different. This is what we learned from the project:



Figure 3—Small oysters from corrugated pipe recovered in October

- Corrugated drain pipe coated with cement mix can be used to collect spat and the resulting small oysters can be separated from the pipe and mix.
- Washing the coated pipe during spawning season seems to provide a suitable place for the spat to set. Spat are known not to like mucky surfaces. We suspect it also helps to keep the shell baskets washed as well, even though we could not show a difference in washed and unwashed shell.
- No difference was detected between the pipe with crushed shell in the cement mix and the mix without crushed shell.

- On the pipe collectors spat mostly struck on horizontal surfaces. On the shell collectors they tended to set near the top layers.
- Spat or small oysters on the shell are difficult to remove from the shell without damaging them.
- The cement mix (with or without crushed shell) did not adhere to the corrugated pipe very well.

We hope that oyster gardeners wishing to collect their own wild spat, whether for consumption or restoration, will try some of these methods and experiment with other techniques. Please let us know what works for you.

--Lindsay Cooper, Ambassador Girl Scout and Vic Spain, MOG

TOGA Members to Participate in VIMS Oyster Growth Study

In November, the TOGA Board was contacted by Ph.D. student Annie Schatz at the Virginia Institute of Marine Science (VIMS), College of William & Mary and her sponsor Jackie Shannon at the Chesapeake Bay Foundation (CBF) to see if four of our members with waterfront property might volunteer to participate in an oyster growth study. The



Annie Schatz and Steve Smith at his site in Dunnsville on the Rappahannock River

study methods and procedures were reviewed by the Board, who concluded it would provide valuable information and was fully consistent with TOGA's mission.

TOGA received enthusiastic responses from twelve volunteers, and the volunteers have been notified of selections. The researchers were thrilled and very impressed with the interest by TOGA members and their willingness to help.

The study is to be focused on the York and Rappahannock Rivers and their tributaries.

After initial planting of spat in November and December 2019, volunteers will go out once a month beginning in March 2020 to collect water quality data and measure/record oyster length using calipers. Over winter, the oyster bags will be checked to make sure they are secure.

The study is intended to see how oysters respond to three different levels of seawater acidity (i.e. pH) during their period of settlement and transition from larvae into juveniles. This citizen science project will help determine the importance of the differences/change in the environment between where larvae are reared and subsequently planted on their growth. The results will provide hatcheries and conservation groups with information that can make their efforts, both economic and environmental, more sustainable throughout the future.

The Board thanks those who volunteered and the proponents of the study, knowing that the results will help us develop guidelines and improve efforts to plant oysters in the future.

--Annie Schatz and Carl Zulick

Chesapeake Oyster Alliance (10 Billion for the Bay)

The Chesapeake Bay Foundation (CBF) held its fall semi-annual Oyster Alliance meeting on November 13, 2019 in Easton Maryland. The meeting purpose was to bring together those

people and organizations working with CBF to achieve the goal of adding 10 billion new oysters by 2025 in Virginia and Maryland waters. This meeting included a



review of efforts to add spat to the bay in 2019. The results for this year were not great. Because of the low salinity conditions experienced by most of the oyster hatcheries and spat growers early in the oyster breeding cycle led to a dearth of both larvae and spat available to a good many restoration organizations. The goal of adding a billion oysters to the bay will not be achieved this year.

All the news was not bad. On our side of the bay, the Lynnhaven River Now organization



was able to build five acres of oyster sanctuary reef in the Western Branch of the Lynnhaven. Recent surveys identified approximately 120 acres of healthy sanctuary oyster reef in the Lynnhaven River.

Brent James is Lynnhaven River Now oyster restoration lead.

Most of the discussions were about policy and implementation of reef restoration efforts with a Maryland focus because of the meeting location. Maryland has set up a number of oyster sanctuaries which are now legally off limits to any commercial oystering. This could partially account for why Maryland's commercial oyster harvest is less than Virginia's.

The spring 2020 Chesapeake Oyster Alliance meeting is planned for Norfolk-Virginia Beach.

--Doug Schafer, MOG

Chesapeake Oyster Alliance Survey

In support of the Chesapeake Oyster Alliance goal of putting 10 billion oysters in the Bay by 2025, we are continuing to collect TOGA member data on how many spat are put in each year.

We are asking that, if you have not done so yet, please consider providing information about how many oysters you and your family are putting in the Bay.

There are 2 ways, the first is to simply fill out our new membership form when you renew your membership or update your information. The second is to annually complete the online survey at

www.oystergardener.org/member-survey.

The following chart shows the data we have collected so far. Thanks to those who submitted their information.

--Kathy Haurand, MOG

Results - January thru November 2019 data		
239 People responded to the survey		
Type Grown		
	118 Both	42.8%
	45 Diploid	16.3%
	113 Triploid	40.9%
276 Responded		100.0%
Spat Annually*		
	200,275 Both	53.4%
	46,050 Diploid	12.3%
	128,700 Triploid	34.3%
375,025		100.0%
* 82 participants responded to spat annually Note: 50,000 "both" were one respondent		
Shell Disposal		
	202 Back to Water	79.5%
	9 Erosion Control	3.5%
	25 Landscaping	9.8%
	15 Recycling	5.9%
	3 Other	1.2%
254 Responded		100.0%
Main Tributary to Chesapeake Bay		
Back River	0	0.0%
Chesapeake Bay	9	3.2%
Chincoteague Bay	1	0.4%
Fleets Bay	10	3.6%
Horn Harbor	0	0.0%
Ingram Bay	28	10.0%
James River	13	4.7%
Lynhaven River	1	0.4%
Milford Haven	8	2.9%
Mobjack Bay	36	12.9%
Piankatank River	24	8.6%
Poquoson River	10	3.6%
Potomac River	41	14.7%
Rappahannock River	63	22.6%
Winter Harbor	4	1.4%
York River	27	9.7%
unknown	4	1.4%
Total	279	100.0%

Dues for 2020

If you received this newsletter in the mail, please check the year by your name on the address label. If it is 2019 or earlier, then 2020 dues are due in January 2020.



If you believe there is an error, please contact Vic Spain at vicspain@rocketmail.com or 804-642-6764. Annual membership is \$15 (per family) and are for one calendar year, not 12 months from payment date.

Members...

- Receive newsletters with the latest oyster gardening information
- Participate in educational events sponsored by TOGA
- Learn about innovations in oyster gardening techniques
- Benefit from the expertise of hundreds of others interested in growing oysters

Please use the form at the end of this newsletter to update your membership. You may also use it simply to update your information. It is important that your address and email address are correct as that is our primary way of communicating with members. You may also share this membership form with a friend.

Newsletter News

The newsletter is published 3 times a year and is mailed to all TOGA members. Full color copies of this and past newsletters may be seen on the website at

<http://www.oystergardener.org/newsletters>

The deadline for the next newsletter is March 3, 2020.

Any TOGA member who wishes to submit an article for the newsletter may do so prior to the deadline date. Articles will be printed as space allows.



Email to either Vic Spain at vicspain@rocketmail.com and/or Kathy Haurand at kathaurand@aol.com

When you login to buy from Amazon, please try Amazon Smile, <https://smile.amazon.com/>

Happy Oystering!!

--Kathy Haurand, MOG



Calendar of Events

January 2020

*25th - **Annual Meeting** - Event Coordinator: Terry Lewis, lewistmn@msn.com, VIMS Gloucester Point, 2pm-4pm

Please check for updates at our online calendar- <http://www.localendar.com/public/MikeSanders> and at the Major Annual Events Page at <http://www.oystergardener.org/>. Also, look for our Shoutout emails to all TOGA members. (* indicates a major TOGA-sponsored or co-sponsored event).

Enter Tidewater Oyster Gardener Association as the nonprofit you support, and a portion of your purchase price will come to TOGA, at no extra cost to you. **TOGA thanks you.**



Q: What do you get when you cross an owl and an oyster?

A: Pearls of Wisdom

TOGA Membership Form

P.O. Box 2463, Gloucester, VA 23061

Date: _____ Please Check: _____ New Member _____ Renewal _____ Annual Dues are \$15

Name: _____

Address: _____

City, State, and Zip Code: _____

Telephone: _____ Email: _____

Body of water where oysters will be grown: _____

What type do you grow? (sterile triploids, fertile diploids or both) _____

Approximately how many spat of each type do you plant each year? _____

What do you do with your shell from harvested or dead oysters? _____

_____ Please check here if you use this form only to update your information (and not to pay dues)



May Your Oysters
Be Tasty & Plump
And Your Holidays
Be Merry and Bright!

Happy Holidays

MORE FRESH FISH
DUXBURY, MA

PO Box 2463
Gloucester, VA 23061

Return Service Requested

Non Profit Org.
U.S. Postage **PAID**
Yorktown, VA
Permit # 33



Growing oysters for a cleaner Bay