

Connecticut State University Outer Island Education Program Report

Submitted by:

Vincent T. Breslin

Environment, Geography and Marine Sciences

Southern Connecticut State University

May 2022

Connecticut State University Outer Island Summer Programs

Outer Island Interns

This year (Summer 2021) two student interns were hired to staff Outer Island and to assist groups with educational programming during their visit to the island. The interns also conducted research activities, including monitoring water quality and fouling, and participated in maintenance activities on the island facilities. This past summer the island interns were Ian Bergemann and Alex Yashin. Brief bios were provided by the interns and are included below:

Ian Bergemann graduated in May 2021 with a BS in Environmental System and Sustainability Studies at Southern Connecticut State University. Ian is currently completing a MS degree in Environmental Sciences at SCSU. This past academic year Ian was working as a graduate researcher for the Werth Center for Marine and Coastal Studies, a geography tutor for the Academic Success Center, and a sustainability intern for the Office of Sustainability. Ian has previously served as an Outer Island intern and is currently serving as the President for the Friends of Outer Island. I hope this internship will solidify my pursuit of a master's in ecology and a career in environmental conservation.

Alexis Yashin graduated with a BS in Wildlife Biology at Unity College, Unity, Maine. Alexis has served as a Biological Science Technician for the US Geological Survey, South Dakota. What does a career in wildlife mean to me? Volunteering and getting your hands dirty for organizations that support wildlife and that educate non-wildlife folk about how they can help too, working towards building positive relationships with wildlife professionals, instilling ethical practices that keep us and wildlife safe, ethically performing research and personal outdoor hobbies, maintaining positive relationships with opposing stakeholders by understanding their perspectives, and most importantly practicing adaptive management. My passion for wildlife and conservation goes well beyond just being a career, and my goal is to become an ethical and devoted wildlife professional.

Both interns did an outstanding job in providing visitor services during another challenging summer during the pandemic. Student interns each received a salary processed via CCSU. Ian Bergemann also received two tuition payments as part of his compensation for summer 2021. Ian received \$1,278 for a three-credit graduate course in fall 2021. Ian continued working on Outer Island during the period August 16th-26th supporting water quality and intern services. In lieu of a stipend, Ian received an additional tuition payment (\$1,736) for a three-credit course in the winter 2022.

Schedule of Visitors

Summer 2021 was also impacted by Covid-19 restrictions. Initially, no large group visits were scheduled during the spring 2021 for Outer Island during the summer. As Covid restrictions were relaxed by state and federal authorities, limited access to the island was permitted for individuals and small groups. Island visitors were required to wear masks and comply with social distancing recommendations. US Fish and Wildlife Services Covid-19 restrictions and guidelines were posted on the Outer Island website.

Research Activities

Water Quality Monitoring

Water quality parameters were monitored by the CSU interns during the summer 2021 from June 2nd to August 31st. Water quality monitoring occurred each day at 2:00 pm from the end of the floating dock. Water quality parameters monitored included: water temperature, salinity, conductivity, specific conductance, dissolved oxygen, Secchi disk depth, turbidity, and pH. All measurements were made on water samples collected from at a depth of one meter.

Dissolved oxygen concentrations were highest initially (10.15 mg/L) on 6/3 and showed a decrease over the summer months correlating with increasing temperatures reaching a low of 5.76 mg/L on 8/21 (Figure 1b). Salinity showed little variability, with a range of only 28.5 ppt (6/6) to 30.0 ppt (6/24), while conductivity showed a slightly larger

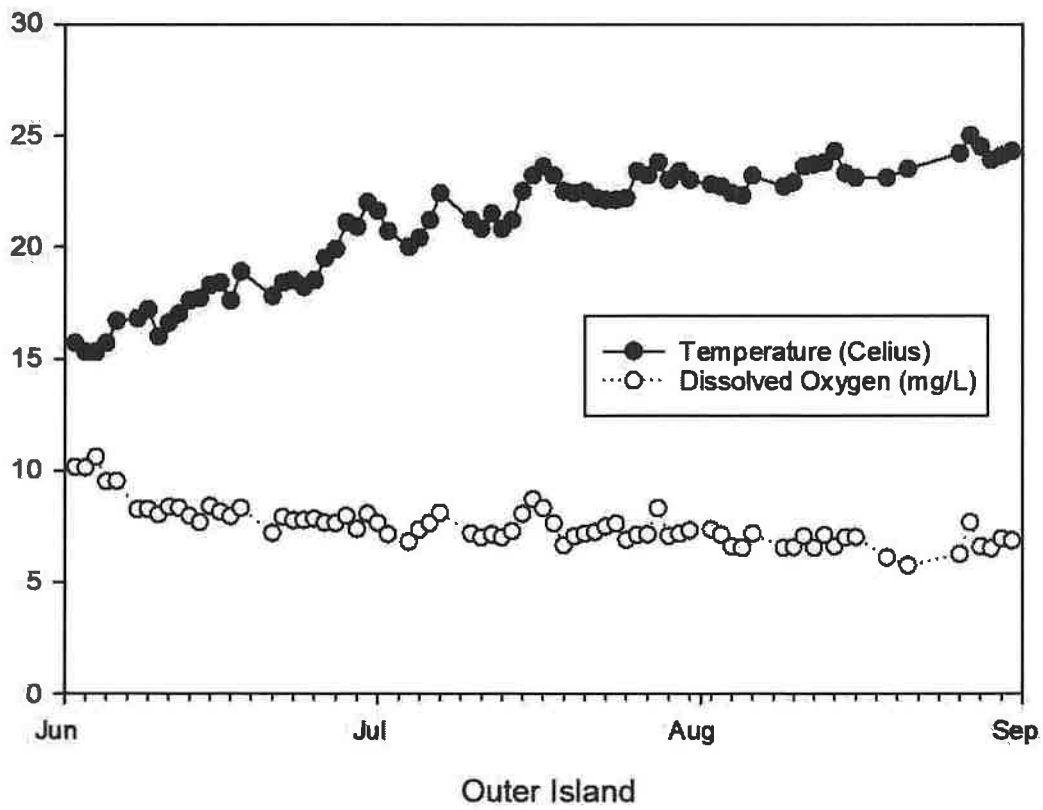
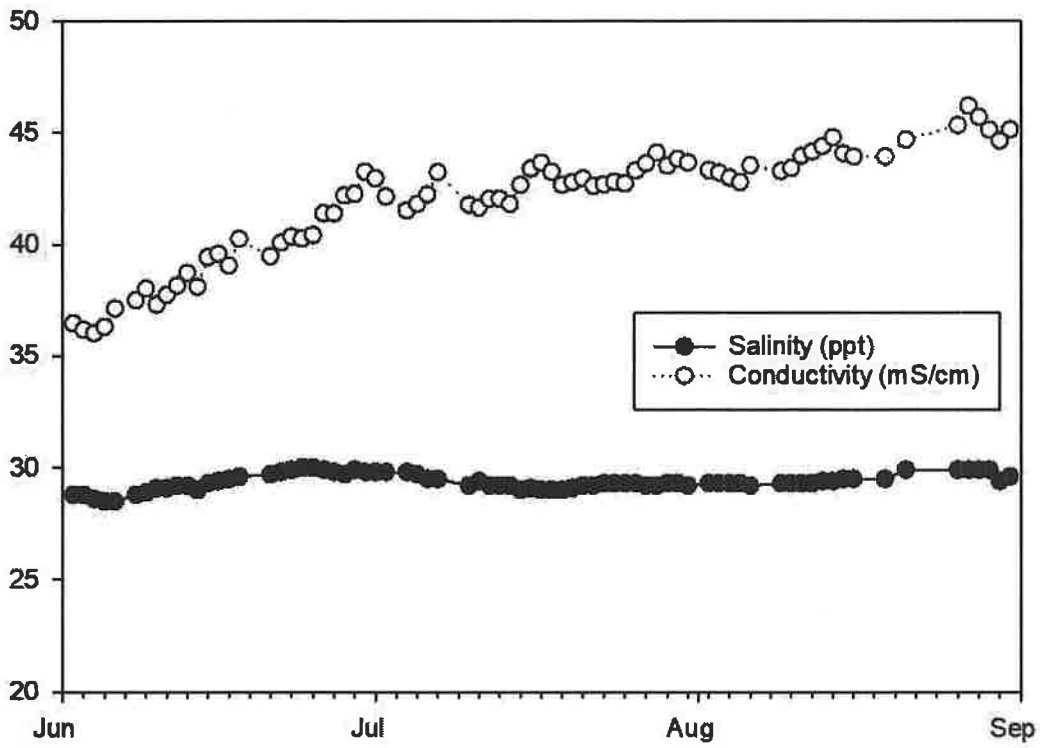


Figure 1: Outer Island water quality monitoring results: (a) salinity and conductivity and (b) dissolved oxygen and temperature.

range from 36.03 mS (6/04) to 46.20 mS (8/14) (Figure 1a). Both parameters showed similar variability compared to previous years. Water temperature gradually increased from the spring to the end of the summer. Water temperature ranged from 15.3°C (6/3) to a high of 25.0°C (8/27).

Water clarity, as measured by a Secchi disk, varied from 0.5 m (7/2) to 1.9 m (7/21) during the monitoring period (Figure 2a). pH ranged from a low of 7.94 (6/5) to a high of 8.17 (8/30) (Figure 2b). Variations in water temperature over the summer correlated well with changes in measured air temperature (Figure 3). Similar to other parameters this season, water clarity/turbidity and pH showed less variation than previous years. The water quality monitoring raw data and graphs will be available online in the redesigned Research section of the Outer Island website.

The Outer Island water quality monitoring program has been conducted daily every summer (June-August) for the past 10 years. Ian Bergemann examined the data and prepared graphs showing the trends in water quality at Outer Island over the past decade. The parameters of the study include dissolved oxygen, salinity, water temperatures, specific conductance, turbidity, and pH. Due to variation in Island Keeper intern engagement dates, complete data sets could only be established for the month of July for each year. Monthly means were calculated for each water quality parameter and regression analysis was used to determine trends over the past 10 years. This study and its results demonstrate the critical need for analyzing long term seasonal trends in the marine environment, especially in areas of high recreational and economic activity which depend on that same environment. Results of the study were presented as a poster at the Graduate Research and Creative Activity Conference at Southern Connecticut State University on May 2, 2022.

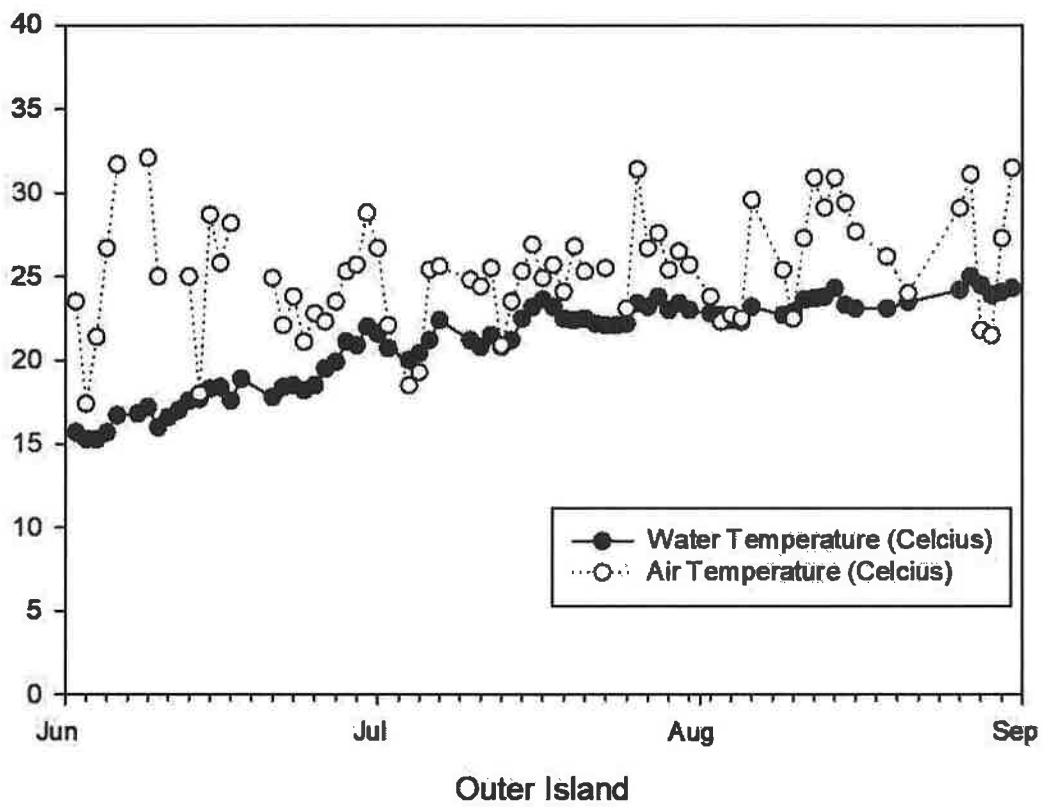


Figure 3. Outer Island water quality monitoring results: water and air temperature.

Date	Time	HT Time	LT Time	Weather	Wind Speed mi/h (mph)	Humidity %	Air Temperature Fahrenheit	Air Temperature Celsius	Solar Radiation x100 lux	Conductivity mS	Specific Conductance mS	Salinity ppt	Temperature Celsius	Dissolved Oxygen mg/L	Secchi Disk Depth m	pH
6/7/2021	2:00:00 PM	6:19:00 AM	11:44:00 AM	Cloudy	4.4	75.0	74.3	23.5	411	36.46	44.42	28.8	15.7	10.15	1.8	8.00
6/7/2021	2:00:00 PM	6:42:00 AM	12:13:00 PM	Drizzle	5.5	100.0	63.3	17.4	1000	36.18	44.53	28.8	17.4	10.13	1.5	7.99
6/7/2021	2:00:00 PM	7:05:00 AM	1:15:00 PM	Fog	0.0	100.0	70.5	21.4	1000	38.03	44.55	28.8	18.5	10.13	1.5	8.08
6/7/2021	2:00:00 PM	7:27:00 AM	1:37:00 PM	Clear Sun	3.2	100.0	70.5	21.4	1000	38.03	44.55	28.8	18.5	10.13	1.5	8.08
6/6/2021	1:11:00 PM	5:27:00 AM	3:10:00 PM	Clear Sun	3.1	114.4	89.1	31.7	947	37.12	44.10	28.5	15.7	9.59	1.4	7.95
6/6/2021	1:14:00 AM	5:01:00 AM	3:03:00 PM	Clear Sun	N/A	N/A	N/A	N/A	1071	37.49	44.49	28.8	16.8	8.24	1.2	7.95
6/6/2021	1:50:00 PM	12:14:00 PM	8:43:00 AM	Clear Sun	4.0	99.0	88.8	32.1	1000	38.03	44.65	29.1	17.2	8.37	1.3	7.97
6/6/2021	2:00:00 PM	12:45:00 PM	9:13:00 AM	Partly Cloudy	0.0	3.7	77.0	25.5	935	37.30	44.81	29.1	16.0	8.03	1.2	7.97
6/7/2021	2:00:00 PM	12:50:00 PM	9:18:00 AM	Partly Cloudy	12.7	N/A	N/A	N/A	736	37.73	44.93	29.1	16.6	8.35	1.0	8.09
6/7/2021	2:00:00 PM	1:18:00 PM	7:17:00 AM	Partly Cloudy	1.3	1.3	N/A	N/A	337	38.16	45.07	29.1	17.0	8.32	1.0	8.07
6/7/2021	2:00:00 PM	1:39:00 PM	7:37:00 AM	Partly Cloudy	8.0	18.2	84.9	30.4	1000	38.03	44.50	29.1	17.8	8.35	1.4	8.12
6/14/2021	1:17:00 PM	5:27:00 AM	3:10:00 PM	Partly Cloudy	5.5	86.0	84.9	30.4	1000	38.03	44.50	29.1	17.8	8.35	1.4	8.12
6/15/2021	2:00:00 PM	3:00:00 PM	9:22:00 AM	Partly Cloudy	2.1	0.0	20.7	20.7	973	38.43	44.73	29.3	18.3	8.40	1.4	8.04
6/16/2021	1:49:00 PM	4:27:00 PM	10:58:00 AM	Clear Sun	6.6	4.6	78.4	25.8	972	38.59	45.33	29.4	18.4	8.14	1.0	8.04
6/17/2021	2:00:00 PM	5:27:00 PM	10:58:00 AM	Partly Cloudy	2.7	0.0	28.2	28.2	942	38.40	45.45	29.5	17.6	7.94	1.0	8.04
6/18/2021	2:00:00 PM	6:13:00 PM	11:51:00 AM	Clear Sun	1.0	44.5	55.2	35.1	934	40.24	45.60	29.6	18.9	8.31	1.0	8.10
6/19/2021	2:00:00 PM	6:19:00 AM	11:51:00 AM	Overcast	3.4	0.0	76.0	24.9	993	38.03	45.68	29.2	17.8	7.90	1.3	8.00
6/19/2021	2:00:00 PM	6:49:00 AM	12:21:00 PM	Partly Cloudy	14.3	32.0	71.8	21.6	1000	40.07	45.81	29.2	17.8	7.90	1.0	8.00
6/20/2021	2:00:00 PM	7:05:00 AM	12:47:00 PM	Partly Cloudy	3.9	1.9	74.8	23.8	1000	40.34	46.00	29.9	18.5	7.76	1.0	8.03
6/21/2021	1:51:00 PM	10:50:00 AM	4:20:00 PM	Clear Sun	8.9	4.3	70.0	21.1	970	40.25	46.20	30.0	18.2	7.77	1.0	8.10
6/24/2021	1:51:00 PM	11:25:00 AM	4:51:00 AM	Clear Sun	3.3	1.1	73.0	22.8	969	40.40	46.10	30.0	18.5	7.81	0.9	8.06
6/25/2021	2:00:00 PM	12:18:00 PM	6:09:00 AM	Overcast	5.8	4.1	76.3	24.6	963	41.38	46.10	29.9	18.5	7.66	0.9	8.10
6/26/2021	1:50:00 PM	11:33:00 PM	7:01:00 AM	Partly Cloudy	3.3	2.8	74.3	23.5	955	41.38	46.90	29.8	19.8	7.64	1.2	8.08
6/27/2021	1:50:00 PM	11:50:00 AM	7:15:00 AM	Partly Cloudy	2.6	0.0	77.5	25.8	950	42.19	47.15	29.7	21.1	7.95	1.4	8.09
6/28/2021	2:00:00 PM	3:00:00 PM	8:43:00 AM	Partly Cloudy	2.9	0.0	78.3	25.7	958	42.36	48.00	29.9	21.1	7.95	1.4	8.05
6/29/2021	2:00:00 PM	4:00:00 PM	9:35:00 AM	Clear Sun	1.8	0.0	78.3	25.7	958	42.36	48.00	29.9	21.1	7.95	1.4	8.05
6/30/2021	1:18:00 PM	5:48:00 PM	11:14:00 AM	Clear Sun	1.6	100.0	80.1	26.6	114	41.55	48.15	29.8	21.6	7.65	1.0	8.02
7/1/2021	1:18:00 PM	5:48:00 PM	11:14:00 AM	Clear Sun	1.6	100.0	80.1	26.6	114	41.55	48.15	29.8	21.6	7.65	1.0	8.02
7/2/2021	2:00:00 PM	6:19:00 PM	12:59:00 PM	Drizzle	14.3	80.6	71.8	22.1	342	41.33	45.90	29.8	20.7	7.34	0.5	8.08
7/3/2021	2:00:00 PM	7:45:00 PM	1:51:00 PM	Overcast	4.6	4.3	81.0	28.3	486	41.52	46.80	29.8	20.0	6.80	1.2	8.07
7/4/2021	2:00:00 PM	8:40:00 PM	2:40:00 PM	Partly Cloudy	12.2	5.3	85.5	29.7	966	41.80	48.90	30.4	20.4	7.34	1.0	8.11
7/5/2021	1:10:00 PM	8:13:00 AM	3:10:00 PM	Partly Cloudy	0.0	89.3	77.7	25.4	938	42.73	48.44	29.5	21.2	7.64	1.1	8.13
7/6/2021	1:10:00 PM	8:13:00 AM	3:10:00 PM	Clear Sun	3.0	71.3	76.1	25.6	928	43.22	45.90	29.5	22.4	7.44	1.1	8.17
7/6/2021	2:00:00 PM	12:28:00 PM	8:30:00 PM	Clear Sun	4.8	2.7	76.6	24.8	968	41.77	46.08	29.2	21.2	7.18	1.4	8.06
7/11/2021	2:00:00 PM	12:56:00 PM	8:43:00 AM	Partly Cloudy	3.2	2.8	75.9	24.4	645	41.85	46.99	29.4	20.8	6.99	1.3	8.03
7/12/2021	2:00:00 PM	1:35:00 PM	7:18:00 AM	Overcast	4.7	4.1	62.8	18.2	160	47.03	46.99	29.2	21.5	7.44	1.1	8.03
7/13/2021	1:30:00 PM	3:18:00 PM	2:10:00 PM	Overcast	11.7	10.5	69.6	20.9	433	47.03	46.99	29.2	21.5	7.44	1.1	8.03
7/14/2021	1:30:00 PM	3:18:00 PM	2:10:00 PM	Partly Cloudy	3.6	2.9	74.3	23.5	973	41.80	45.08	29.2	21.2	7.78	1.1	8.03
7/15/2021	2:00:00 PM	3:47:00 PM	3:40:00 AM	Clear Sun	3.1	3.0	77.5	25.8	850	42.55	46.77	29.0	22.5	8.09	1.7	8.11
7/16/2021	2:00:00 PM	4:00:00 PM	3:47:00 PM	Clear Sun	5.7	0.0	78.3	25.8	850	42.55	46.77	29.0	22.5	8.09	1.7	8.11
7/17/2021	2:00:00 PM	4:41:00 PM	4:11:00 AM	Clear Sun	5.4	0.0	78.3	25.8	850	42.55	46.77	29.0	22.5	8.09	1.7	8.11
7/18/2021	2:00:00 PM	5:14:00 PM	4:44:00 AM	Clear Sun	4.9	4.4	82.9	28.8	849	41.34	44.72	29.0	21.2	7.63	1.4	8.11
7/19/2021	1:55:00 PM	6:40:00 PM	12:55:00 AM	Partly Cloudy	8.3	3.2	84.6	29.8	949	41.34	44.72	29.0	21.2	7.63	1.4	8.11
7/20/2021	1:55:00 PM	6:40:00 PM	12:55:00 AM	Overcast	8.3	6.7	75.4	24.1	160	42.66	44.78	29.0	22.5	6.65	1.0	8.03
7/20/2021	1:55:00 PM	6:40:00 PM	12:55:00 AM	Overcast	2.9	1.6	80.2	26.8	619	42.79	44.98	29.2	22.4	7.05	1.9	8.02
7/21/2021	1:30:00 PM	8:13:00 AM	3:10:00 PM	Overcast	0.8	0.0	70.5	21.4	423	42.53	45.30	29.2	22.5	7.37	1.8	8.08
7/22/2021	2:00:00 PM	10:57:00 AM	4:17:00 PM	Partly Cloudy	1.3	0.0	57.5	15.3	35	42.81	45.09	29.2	22.2	7.25	1.8	8.02
7/23/2021	3:00:00 PM	1:13:00 AM	5:15:00 PM	Partly Cloudy	6.7	4.7	72.9	22.2	980	42.67	45.17	29.3	22.1	7.49	1.7	8.09
7/24/2021	2:00:00 PM	6:05:00 PM	1:21:00 AM	Clear Sun	1.6	6.6	81.1	26.2	890	42.18	45.30	29.3	22.1	7.49	1.6	8.07
7/25/2021	2:00:00 PM	12:45:00 PM	8:05:00 AM	Clear Sun	3.1	3.5	78.3	25.7	958	42.18	45.30	29.3	22.1	7.49	1.6	8.07
7/26/2021	2:00:00 PM	1:40:00 PM	3:40:00 AM	Partly Cloudy	2.1	3.6	88.5	31.4	585	43.29	45.28	29.3	21.4	7.10	1.6	8.07
7/27/2021	1:40:00 PM	2:00:00 PM	2:00:00 AM	Clear Sun	4.7	3.6	84.4	29.8	860	41.82	45.22	29.2	21.2	7.14	1.6	8.06
7/28/2021	1:40:00 PM	2:00:00 PM	2:00:00 AM	Partly Cloudy	2.8	2.4	81.7	27.6	616	44.10	45.15	29.2	21.8	7.20	1.8	8.20
7/29/2021	1:40:00 PM	2:00:00 PM	2:00:00 AM	Overcast	10.3	2.3	77.7	25.4	240	43.31	45.11	29.3	23.0	7.07	1.3	8.12
7/30/2021	1:45:00 PM	10:15:00 AM	9:47:00 AM	Partly Cloudy	39.8	11.5	79.7	26.5	248	43.31	45.11	29.3	23.0	7.07	1.3	8.12
7/31/2021	1:45:00 PM	10:15:00 AM	9:47:00 AM	Clear Sun	2.7	0.6	78.3	25.7	897	41.95	45.21	29.2	23.0	7.31	1.8	8.10
8/1/2021	1:50:00 PM	7:10:00 AM	1:04:00 PM	Partly Cloudy	11.7	7.6	74.8	24.0	740	43.11	46.22	29.3	22.9	7.26	1.7	8.15
8/2/2021	2:00:00 PM	8:15:00 AM	2:02:00 PM	Overcast	4.1	3.1	83.5	23.3	315	43.25	46.37	29.3	22.9	7.15	1.7	8.15
8/3/2021	2:00:00 PM	8:56:00 AM	2:50:00 PM	Overcast	5.3	4.1	87.4	27.9	302	43.98	46.30	29.3	22.4	6.60	1.8	8.12
8/4/2021	2:00:00 PM	9:53:00 AM	3:41:00 PM	Partly Cloudy	7.6	5.4	73.2	22.3	330	42.79	45.18	29.3	22.3	6.53	1.6	8.10
8/5/2021	2:00:00 PM	10:17:00 AM	4:29:00 PM	Clear Sun	2.4	2.2	64.2	18.5	834	43.52	45.70	29.2	23.2	7.18	1.5	8.12
8/7/2021	2:00:00 PM	10:17:00 AM	4:29:00 PM	Clear Sun	2.7	0.6	78.3	25.7	897	41.95	45.21	29.2	23.0	7.31	1.8	8.10
8/8/2021	2:00:00 PM	11:27:00 AM	5:14:00 AM	Partly Cloudy	11.7	7.6	74.8	24.0	740	43.11	46.22	29.3	22.9	7.26	1.7	8.15
8/9/2021	2:00:00 PM	12:15:00 PM	6:12:00 PM	Overcast	4.1	3.1	83.5	23.3								

Water Quality and Supplies for Education Programs

Additional supplies were purchased in support of the water quality monitoring and education programs. Environmental quality meters (light meter, pH pen, optical salinometer, weather meter) were purchased to replace older, poorly functioning equipment. The new meters will assure continued water quality measurements for the summer 2021. These supplies supplement previously purchased supplies to be used in support of visiting groups and educational programming.

Nine new environmental/marine themed books were purchased for the Outer Island library (see photo for titles) in support of educational programs. Several of the children books feature diversity and inclusion (characters/language).

Outer Island Website Update

We continue to revise the Outer Island website (www.outerisland.org) to create a more informative, user friendly interface for Outer Island information and educational programming. The Outer Island website is hosted on iPage (www.iPage.com). The website hosts the two web cameras on the landing page of the website. We did experience a loss of the image of the west (marsh) camera. This past summer we invited the Earth Works Network to the island to examine the camera performance and evaluate the components of the weatherbug weather station. During this visit, the west camera image on the home page was restored. We are currently searching for a new website coordinator to continue to post new content. The loss of the past student web manager has resulted in some content not being updated as frequently as desired. Although some elements of the website are out of date, the visitor calendar continues to be updated frequently and continues to be a resource for scheduling educational and civic group programs.

WHAT IT'S
 LIKE TO BE
 A BIRD
 FROM FLYING TO NESTING,
 TO EATING TO SINGING
 WHAT BIRDS ARE DOING, AND WHY
 DAVID ALLEN
 SIBBLEY

The Pout-Pout Fish Cleans Up the Ocean
 Deborah Greizer
 Stories by Dan Hanna
 The members of the Pout-Pout Fish family are helping clean up the ocean.

Marous Pfister
THE RAINBOW FISH
EL PEZ ARCOÍRIS
 English - Spanish
 BILINGUAL CULTURE

SAVE THE OCEAN
 WRITTEN & ILLUSTRATED BY ESTHER SPAIN
 2010
 100% RECYCLED PAPER

The Magical Bird Beach of Long Island
 Vicki Jauron

The BURGESS SEASHORE BOOK for Children
 Thornton W. Burgess

BEACH WALK
 WHAT YOU SEE
 WHAT YOU HEAR
 WHAT YOU FEEL
 WHAT YOU TASTE
 WHAT YOU SMELL

At Home in the TIDE POOL
 Alexandra Wright • Marshall Pock III

Seashells, Crabs and Sea Stars
 THE HONG KONG
 Discoveries from T'raights
 Illustrations by David Coates

AT&T Wireless Account

The AT&T wireless account used in support of the Outer Island WeatherBug station and video cameras now supports three wireless lines transmitting data and images. Two of the lines support the cameras and WeatherBug weather data and the third line supports the Wifi hotspot. The wireless hot spot allows internet access to the student interns and teachers providing educational programming on the island. AT&T broadband access fees for the wireless for the 12 months service period from April 2021 to March 2022 totaled \$1,229.88.

WeatherBug Station, Web Cameras and Remote Video Capabilities

Over the summer 2021 the westward marsh view web camera lost contact with the Outer Island website. We contacted the Earth Network technical support to trouble shoot the issue. Scott Graves, EGMS faculty member, contacted Earth Network and set up an island visit. Dr. Graves visited Outer Island with Seth Baldelli - Earth Network Technician. During the visit they repositioned (aimed/zoomed) the west facing marsh camera. They determined the camera was sending an image feed to router and data/image was being sent off island. At EN's network station in MD they were able to troubleshoot the data/image shuffling and were able to restore the video feed within several days. The restored camera feed has since been continuous on our Outer Island webpage.

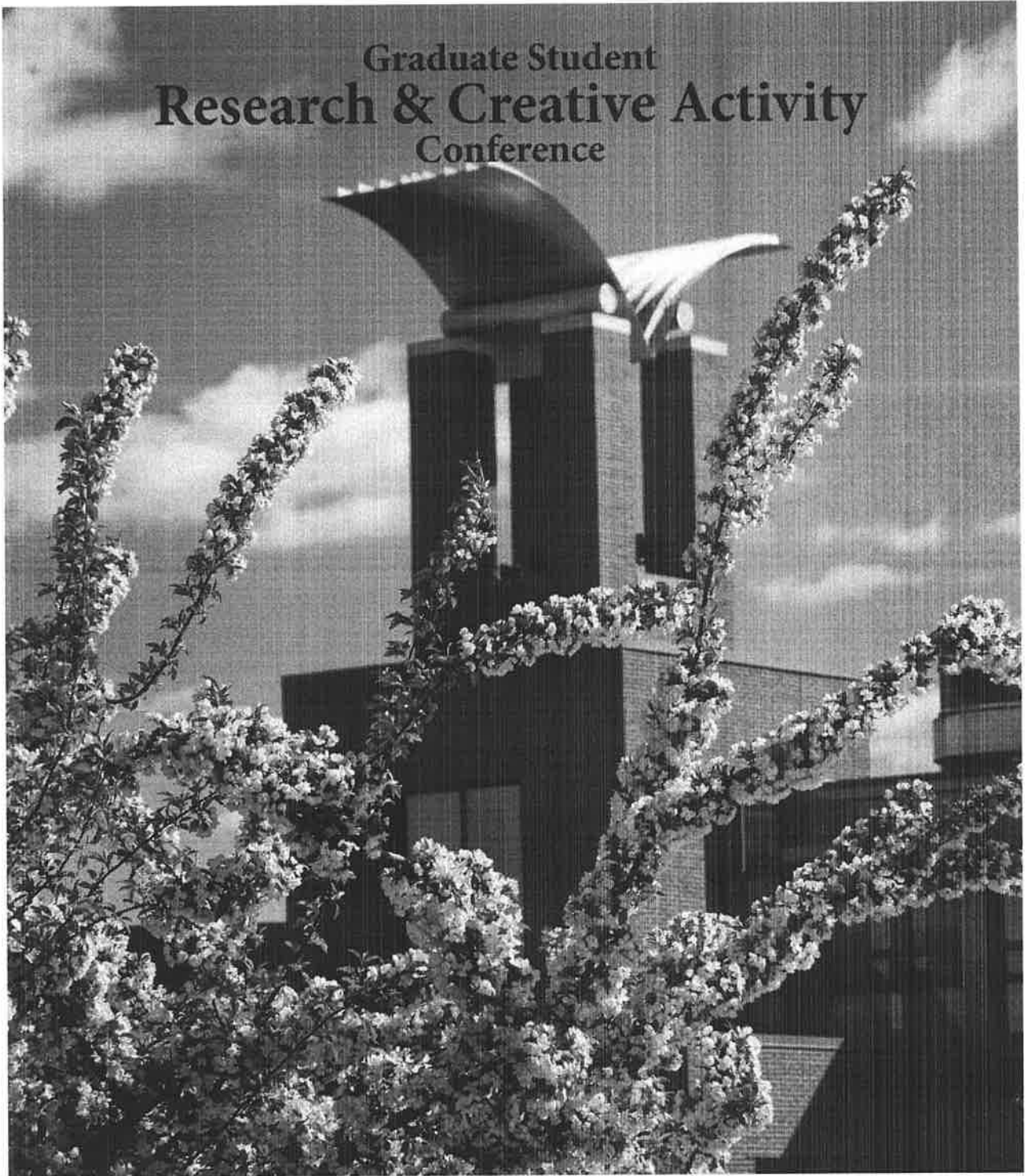
During the visit they also inspected the island weather station and dock camera as well. Seth advised us to leave well enough alone. They do have a newer/better camera that could replace the dock cam in the future - it's smaller but a much better image. The weather station is not something they make anymore but Seth says it a very robust setup and should be fine for the foreseeable future.

Outer Island Watercolor Workshop/Art Experience

The 6th watercolor workshop on Outer Island conducted by Wiley Carr was held on July 31st 2021. The workshop was enrolled to capacity (13 participants), all of the participants visiting the island for the first time. By all measures the event was a success. Many positive comments were received and Professor Carr is excited to host the event again in the summer 2022. SCSU purchased art supplies using grant funds (\$539) in support of the event. A summary report describing the Watercolor Day on Outer Island submitted by Wiley Carr is appended to this report.

SCSU Outer Island Funds Request 2021-2022							
Category							Funds
Personnel							
	Faculty Stipend T. Wiley Carr (Summer Art Workshop 2021)						\$1,000.00
	Faculty Stipend T. Wiley Carr ART (Summer 2021) (Fringe: 23.18%)						\$231.80
	Faculty Stipend Scott Graves EGMS webcamera, weather station						\$1,000.00
	Faculty Stipend Scott Graves EGMS (Summer 2021) (Fringe 23.18%)						\$231.80
	Total Personnel						\$2,463.60
Tuition							
	Ian Bergemann				Fall 2021		\$1,278.00
					Spring 2022		\$1,736.00
Supplies							
	Water Quality, Weather Meters						\$574.00
	Laboratory and field supplies						\$875.58
	Art Workshop Supplies						\$504.36
	Educational Supplies and Books						\$126.35
	Postage						\$11.95
Travel (in State)							
	Thimble Islands Ferry Tickets to Outer Island				5/25/2021		\$1,200.00
					9/6/2021		\$480.00
Other							
	Annual AT&T Broadband Access fees						\$1,234.88
Total Funds Disbursed 2021-2022							\$10,484.72

**Graduate Student
Research & Creative Activity
Conference**



**Monday | May 2, 2022
Southern Connecticut State University**

5th Annual Graduate Research and Creativity Conference

Monday, May 2, 2022 | 4:30 p.m. – 8:00 p.m.

Southern Connecticut State University

4:30 – 5:00 p.m.	Check in Poster and oral presentation set-up	3 rd floor Adanti Student Center
5:00 – 5:15 p.m.	Welcoming Remarks:	3 rd floor Ballroom
Michele Thompson, Ph.D. <i>Prof. of Southeast Asian History & Chair of the Research and Scholarship Advisory Committee</i> Manohar Singh, Ph.D. <i>Dean of Graduate and Professional Studies</i> Robert Prezant, Ph.D. <i>Provost & Vice President of Academic Affairs, Southern Connecticut State University</i>		
5:15 – 6:30 p.m.	Oral Presentation – Session 1A	ASC room 301
	Oral Presentation – Session 2A	ASC room 303
	Oral Presentation – Session 3A	ASC room 305
	Oral Presentation – Session 4A	ASC room 306
	Oral Presentation – Session 5A	ASC room 308
5:30 – 7:00 p.m.	Poster Presentation	ASC Ballroom
6:45 – 8:00 p.m.	Oral Presentation – Session 1B	ASC room 301
	Oral Presentation – Session 2B	ASC room 303
	Oral Presentation – Session 3B	ASC room 305
	Oral Presentation – Session 4B	ASC room 306
	Oral Presentation – Session 5B	ASC room 308
8:00 p.m.	Coffee & Dessert	3 rd floor Ballroom Reception Area

- P.7 *Connecticut's Right to Read Act*
Author(s): Jennifer Blake
Faculty Mentor: Dr. Sousan Arafeh
Department: Educational Leadership
Abstract: Connecticut districts, schools, teachers and parents are on the precipice of a major literacy reform which neglects to address the underlying inequities embedded within the opportunity and achievement gaps. This presentation will explore the mandating of English language arts programs and the absence of differentiation while ignoring criteria like socioeconomic status as it relates to literacy. The Right to Read Act offers pre-k to grade three literacy programs as a solution to CT's growing achievement gap; hence, this misdiagnoses the problem and ignores both the impending structural inequity as well as the over emphasis of elite voices throughout Connecticut's educational system. Closing the English language arts literacy gap starts with balancing inequities.
- P.8 *A Hermeneutic Phenomenological Study of the Lived Experiences of Black Urban Music Teachers and their Perceptions of the Teacher Diversity*
Author(s): Jonathan Berryman
Faculty Mentor: Dr. Mary Boudreaux
Department: Educational Leadership
Abstract: Amid the calls to diversify the nation's teaching force, including calls to diversify the nation's music teaching force, challenges with recruiting and retaining teachers of color have persisted. The calls for teacher diversity have been undergirded by a growing body of empirical evidence that has concluded that teachers of color make a positive impact in the achievement of students of color. The 20-year decline in the population of Black, certified, music teachers in Connecticut, however, has been an indicator of the challenges associated with achieving teacher diversity.
- With a focus on Black, urban certified music teachers in Connecticut's public schools, this study sought to investigate the perceptions of the participants with regard to their navigation into the teaching profession, their experiences with recruitment, retention, and turnover, and their recommendations for increasing the number of Black certified music teachers in the state's teaching force. Using The Teacher Diversity Gap and Critical Race Theory as frameworks, this hermeneutic phenomenological study sought to provide insight and clarity into best practices for educational leaders as they seek to promote student achievement through the recruitment, development, and retention of highly qualified staff. The four domains of The Connecticut Leader Evaluation and Support Rubric 2017 (CSDE, 2017) are used to frame the implications for educational leaders drawn from the perspectives of the participants.
- P.9 *Homeschooled Children Still Left Behind*
Author(s): Jessica Hollander
Faculty Mentor: Dr. Sousan Arafeh
Department: Educational Leadership
Abstract: The Covid-19 pandemic effects on education has left educational institutions under immense levels of scrutiny. As a result, many families have chosen to continue schooling their children at home. Unfortunately, despite the rise in the homeschooling population, opportunity gaps persist, leaving this community at a disadvantage.
- As of current, homeschooling students are prohibited from participating in neighborhood public athletic teams within the state of Connecticut. This policy brief is aimed at questioning this policy and offering a framework outlining the importance of athletic participation for homeschooled students. Some important factors worth considering are that of positive socialization effects, equitability across educational populations, and the lack of alternative options.
- Additionally, this policy brief posits potential solutions towards the interest of stakeholders such as The Connecticut Interscholastic Athletic Conference (CIAC) board members and superintendents of Connecticut school districts. Recommendations for action include consideration of alternative legislative models and bylaws of participation as well as offering a space for additional dialogue around this topic.
- P.10 *Long-term Water Quality Monitoring at Outer Island, Branford, CT*
Author(s): Ian Bergemann
Faculty Mentor: Dr. Vincent Breslin
Department: Environmental Studies
Abstract: The Long Island Sound has been a historically significant marine natural resource for Connecticut's economy, residents, and native species. Despite its recognized value, water quality monitoring has only been conducted by a handful of government agencies, nonprofit organizations, and academic institutions. Among those is Southern Connecticut State University's Outer Island water quality monitoring program which began in June 2013. The island is located 3 miles from the coastline of Stony Creek, Branford, Connecticut, and within the Thimble

Islands. The island chain is highly depended upon by local businesses and recreational boaters during the summer season. The study aims to enhance our understanding of annual trends in water quality in Long Island Sound, as it may have a critical impact on local ecological and economic systems.

The Outer Island water quality monitoring program has been conducted daily every summer (June-August) for the past 10 years. The parameters of the study include dissolved oxygen, salinity, water temperatures, specific conductance, turbidity, and pH. Due to variation in Island Keeper intern engagement dates, complete data sets could only be established for the month of July for each year. Monthly means were calculated for each water quality parameter and regression analysis was used to determine trends over the past 10 years. This study and its results demonstrate the critical need for analyzing long-term seasonal trends in the marine environment, especially in areas of high recreational and economic activity which depend on that same environment.

P.11 *The Politicization and Intergenerational Dimensions of Sustainable Practices*

Author(s): Nicole Foertsch

Faculty Mentor: Dr. Stephen Axon

Department: Environmental Studies

Abstract: It is becoming increasingly urgent to take action against climate change and attempt to mitigate the impending crisis. The current members of society have a responsibility to do their part but it is clear that there is division on the importance and existence of the issue. Some societal ideals are held higher than others and therefore, the purpose of this research is to identify whether political stance or generational belonging is a bigger motivator to drive people to live sustainably. There has already been research conducted about how different generations and different political parties perceive climate change and sustainability and there have also been studies that tie the two perspectives together. But the gap that commonly occurs is that results always prove to be extremely inconsistent. This analysis is carried out by the conduction of one-on-one interviews with volunteers that fall into various qualitative categories based on either generational or political placement. The conclusions drawn from this research topic provide benefits in terms of how sustainable policy and practice implementation can be altered towards various crowds so it can become effective and a widespread practice for all. Improving the effectiveness of the overall performance of sustainability throughout society is a needed achievement to better the planet and the environment sooner rather than later.

P.12 *Higher trophic level biodiversity changes associated with shellfish aquaculture industry*

Author(s): Miranda Holland

Faculty Mentor: Dr. Emma Cross

Department: Integrated Biological Diversity

Abstract: Multi-species ocean farming is an emerging aquaculture technique that co-cultures native macroalgae and shellfish in the northeast U.S. This technique has several potential benefits, including increasing local biodiversity. However, quantitative data demonstrating evidence of these projected benefits is limited, as this technique is still emerging. This study quantified the impact of shellfish aquaculture equipment on biodiversity at Cottage City Oysters' located in Martha's Vineyard, MA from June to September 2021. Two field sites were used: a 2-acre multi-species ocean farm that co-cultivates Eastern oysters (*Crassostrea virginica*) and hard clams (*Mercenaria mercenaria*) year-round with the addition of sugar kelp (*Saccharina latissima*) during the winter and spring (Site A), and a site with no aquaculture equipment (Site NA). Two GoPro cameras were deployed monthly in each site, recording the differences in biodiversity between sites. Biodiversity was quantified through measuring individual abundance and species diversity using the Shannon-Weiner Diversity Index. Site A had a higher diversity index value (DIV) than Site NA each month. The most common species observed were Scup (*Stenotomus chrysops*), Threadfin Shad (*Dorosoma petenense*) and Atlantic Silversides (*Menidia menidia*). Grazing species were observed eating macroalgae growing on the aquaculture equipment, and predatory species were observed hunting the grazers. This shows that complex food chains are attracted by the macroalgae growth resulting from the presence of the aquaculture equipment. These findings suggest that the presence of the shellfish aquaculture equipment directly increases biodiversity and that implementation of shellfish aquaculture practices, and multi-species ocean farming during the summer, benefits local ecosystems.

P.13 *Beyond the Workshop: Forging Connections Between Graduate Creative Writing Students and Youth Experiencing Homelessness*

Author(s): Lauren Reilly & Laura Charlton

Faculty Mentor: Dr. Shelley Stoehr-McCarthy

Department: English

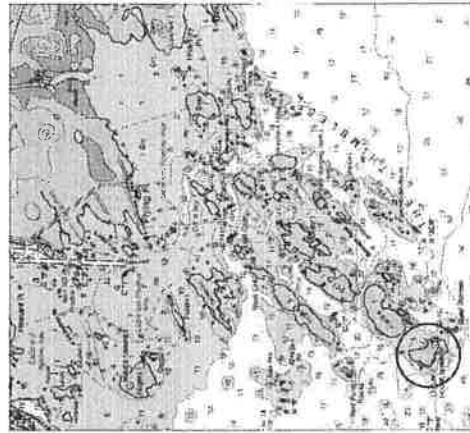
Abstract: The English Department of Southern Connecticut State University has recently received funding from the Connecticut Office of the Arts (COA) to run a pilot for an initiative called Creative Connections. In this program, our graduate MFA students teach creative writing to homeless youth. We have partnered with the local organization

Abstract

The Long Island Sound (LIS) has been a historically significant marine natural resource for Connecticut's economy, residents, and native species. Despite its recognized value, water quality monitoring has only been conducted by a handful of government agencies, nonprofit organizations, and academic institutions. Among those is Southern Connecticut State University's Outer Island water quality monitoring program which began in June 2013. Outer Island (OI) is located 3 miles from the coastline of Stony Creek, Branford, Connecticut within the Thimble Islands. The archipelago is highly depended upon by local businesses and recreational boaters during the summer season. This study aims to enhance our understanding of annual trends in water quality in Long Island Sound, as it may have a critical impact on local ecological and economic systems.

The Outer Island water quality monitoring program has been conducted daily every summer (June-August) for the past 10 years. The parameters of the study include dissolved oxygen, salinity, water temperatures, specific conductance, turbidity, and pH. Due to variation in Island Keeper intern engagement dates, complete data sets could only be established for the month of July for each year. Monthly means were calculated for each water quality parameter and regression analysis was used to determine trends over the past 10 years. This study and its results demonstrate the critical need for analyzing long-term seasonal trends in the marine environment.

Outer Island, Branford, CT



Outer Island is 3 acres of granite outcropping, boulder and cobble beaches, and two small salt marshes. It is located in the outermost of the Thimble Islands, located off the coast of Stony Creek, Branford, Connecticut. OI is a part of the Stewart B. McKinney National Wildlife Refuge.

Acknowledgements

This research was made possible by the generosity of the Werth Center for Coastal and Marine Studies as well as Southern Connecticut State University. The author would like to thank previous island keeper interns, volunteers and staff from the United State Fish and Wildlife Service, Outer Island Executive Committee, Friends of Outer Island, and the Werth Center for Coastal and Marine Studies.

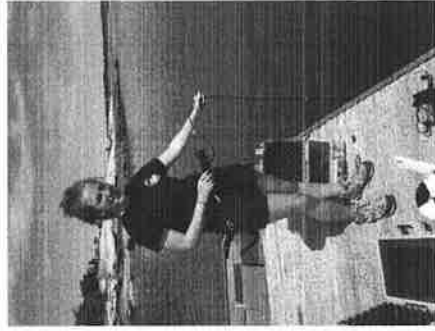
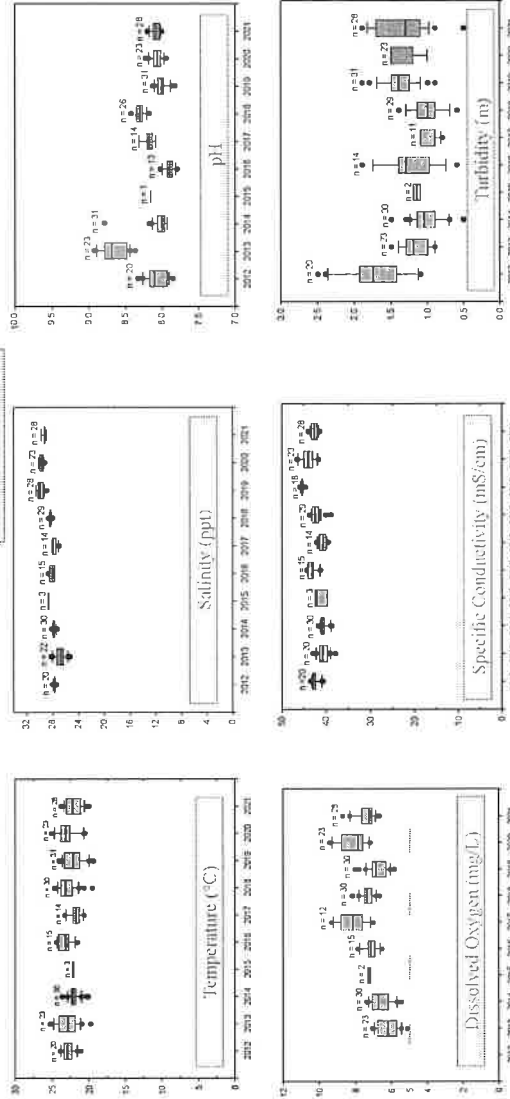


Ian Bergemann using a Beta Horizontal water bottle for sample collection

Water Quality Parameters

Parameter	Device	Purpose
Salinity (ppt)	YSI Pro30	Salinity is directly related to water density and habitable range for marine species.
Water Temperature	YSI Pro30	Temperature impacts the solubility of gases such as oxygen and carbon dioxide in the water column, as well as habitable ranges for marine species.
Specific Conductance (mS/cm)	YSI Pro30	Conductivity is the ability of a solution to conduct electricity. It is proportional to salinity.
Dissolved Oxygen (mg/L)	YSI Pro20	It is critical to monitor DO levels because levels below 5mg/L are considered approaching hypoxia. 3 mg/L are considered hypoxic and can lead to negative ecological impacts for species.
Turbidity (ntu)	Secchi Disk	Indication of light penetration via a black and white disk being lowered into the water till it is no longer visible. Light is an essential resource for photosynthesizing organisms in LIS.
pH	Oakton pH Testers	pH measures the acidity or alkalinity of the water column which is important for species tolerance levels.

Annual Trends



Lauren Gervais deploying a YSI Pro20 to measure dissolved oxygen.

DISCUSSION

- The results provide an insight into annual summer water quality trends for Long Island Sound (LIS).
- Dissolved Oxygen (DO) concentration over the past 10 years during the month of July at Outer Island was on average above 5 mg/L. This is comparable to CT's DEEP Long Island Sound Water Quality Monitoring Program. Data from July 1998-2021, shows DO levels exceeding 4.8 mg/L for most of LIS. Below 5 mg/L is considered a threshold for healthy water quality, below 3 mg/L is considered hypoxic and can pose a threat to marine life.
- Decadal Outer Island water temperatures for July remained relatively stable at 22.5°C. This data was compared to the Long Island Sound Study which reported an increasing trend in LIS water temperature since 1960s, with an annual summer mean of 20.19°C over the past 10 years.
- Salinity remained within a narrow range (27-30 ppt). Salinity in LIS typically varies from 23 ppt in the western end and 35 ppt in the eastern end (Long Island Sound Study, 2021).
- Annual July pH at Outer Island varied between 7.9-8.4. This range is comparable to the LIS Water Quality Monitoring Program which had an average pH of 7.6 (from 2014 - 2018).
- Trends for water clarity for the past 10 years during July at Outer Island show a range of 1.0-2.5 meters depth. These results are comparable to measurements taken by CT's DEEP Long Island Water Quality Program which had similar ranges of secchi disk depths (1.0-2.9 meters).
- The Outer Island water quality monitoring program examined the trends of six different water quality parameters in Long Island Sound over the past 10 years during the month of July. The results highlight the significance of long-term data collection for trend analysis of water quality and how it may impact local economic and ecological systems.



Abstract for 2022 Graduate Research and Creative Activity Conference

May 2, 2022, Southern Connecticut State University

Long-term Water Quality Monitoring at Outer Island, Branford, CT

The Long Island Sound has been a historically significant marine natural resource for Connecticut's economy, residents, and native species. Despite its recognized value, water quality monitoring has only been conducted by a handful of government agencies, nonprofit organizations, and academic institutions. Among those is Southern Connecticut State University's Outer Island water quality monitoring program which began in June 2013. The island is located 3 miles from the coastline of Stony Creek, Branford, Connecticut and within the Thimble Islands. The island chain is highly depended upon by local businesses and recreational boaters during the summer season. The study aims to enhance our understanding of annual trends in water quality in Long Island Sound, as it may have a critical impact on local ecological and economic systems.

The Outer Island water quality monitoring program has been conducted daily every summer (June-August) for the past 10 years. The parameters of the study include dissolved oxygen, salinity, water temperatures, specific conductance, turbidity, and pH. Due to variation in Island Keeper intern engagement dates, complete data sets could only be established for the month of July for each year. Monthly means were calculated for each water quality parameter and regression analysis was used to determine trends over the past 10 years. This study and its results demonstrate the critical need for analyzing long term seasonal trends in the marine environment, especially in areas of high recreational and economic activity which depend on that same environment.



Date: 2 August 2021

To: Vincent Breslin, Professor
Environment, Geography and Marine Sciences
Co-Coordinator, Werth Center for Coastal and Marine Studies
501 Crescent Street, SCI 207B
Southern Connecticut State University

From: T. Wiley Carr
Professor of Art

Re: Final Report, Outer Island Watercolor Workshop 2021

Dear Vince,

The Watercolor Workshop of 7/31/21 was a great success. The weather was ideal, and the workshop was enrolled to capacity (13 participants) and remains an extremely popular event. All of the participants were visiting Outer Island for the first time. The group was comprised of faculty, staff, a student and an alumnus from across our university community (Athletics, History, World Languages, Advisement, Social Work and Art) as well as private citizens.

Participants found the experience to be educational, enjoyable and informative. It continues to reflect well on SCSU and our programs. A photographer from SCSU Office of Integrated Communications and Marketing attended and documented our activities on the "scsuphoto" page of Instagram.

I am attaching the information distributed to participants, which outlines materials utilized. Reusable and unused art materials remain for future use.

Please let me know if I can provide additional information; The grant-funding is deeply appreciated by all.

Respectfully,

Watercolor workshop
Prof. T. Wiley Carr, SCSU

Outer Island

July 31 2021

First and foremost, ENJOY Outer Island! Branford Tides: High 5:23am **Low 11:24am**
The tide will be *ebbing* during our visit until 11:24am, then *rising* until our departure

Introductions -

Step-by-Step

- ___ Measuring
- ___ Masking
- ___ Wet to Dry
- ___ Light to Dark - preserving lights
- ___ Graded wash
- ___ Flat wash
- ___ Layering colors and washes
- ___ Mixing neutrals ("blacks") with complementary colors

About your paper **today**- **Arches** (France) 140-pound bright white *hot* press (smooth) and **Fabriano** (*Italy*) natural white *cold* press (rough). Cut from full sheets of 22" x 30". 100% cotton! acid-free. Common weights: 90# (*thinnest*) 140#, 200#, #300 and up (**thick**)

Other *good* brands include Strathmore (*USA*), Canson (*France*) Bockingford (*England*)
Available in pads, sheets and 'blocks' -

About your watercolors **today**- **Yarka** brand (*Russian*) pans, non-toxic. Yarka watercolors available in 24-color professional pan sets, 3 different sets - 72 colors total. Many other brands available in tubes, and cakes and pan sets. Look for 'shiny when dry' quality with pan sets (gum arabic).

Other *good* brands are Winsor & Newton (*England*), Daniel Smith (tubes) (*USA*), Prang pans (*USA*)

About your brushes **today** - *Royal & Langnickel* scholastic synthetic - Synthetic vs. natural hair considerations include cost, water loading, firmness and maintenance, 'sable'/kolinsky. Other brands - seemingly endless - I often get brush sets at Ocean State Job Lot!

For art supplies I most often use *Dick Blick Art Supply* mail order.

Feel free to contact me by email at CARRT1@southernct.edu

OJ file

Breslin, Vincent T.

From: Laurel McCormack <lmccormack@irisct.org>
Sent: Thursday, July 29, 2021 11:56 AM
To: Breslin, Vincent T.
Subject: Rain today-- reschedule Outer Island trip to Monday?

Dear Dr. Breslin,

Our young women's group had a WONDERFUL time yesterday at Outer Island! Thank you and the intern (I feel so badly I cannot remember her name right now but she was SO kind and brilliant!) and the volunteer for leading us on a great tour. Our young men's group (10 people) actually needs to cancel for today because of the weather-- we were hoping the forecast would clear up but it's not looking promising and some of them have never been on a boat before and are nervous about being out on rough water. Can we reschedule to this Monday, August 2 from 2-4 pm? I also called the ferry service and they said the captains will try to let the interns know so they are not expecting the group today!

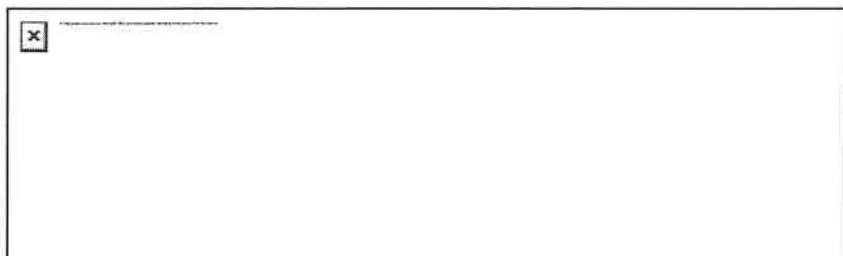
Thank you so much for all your help, and what a wonderful experience!!

Laurel

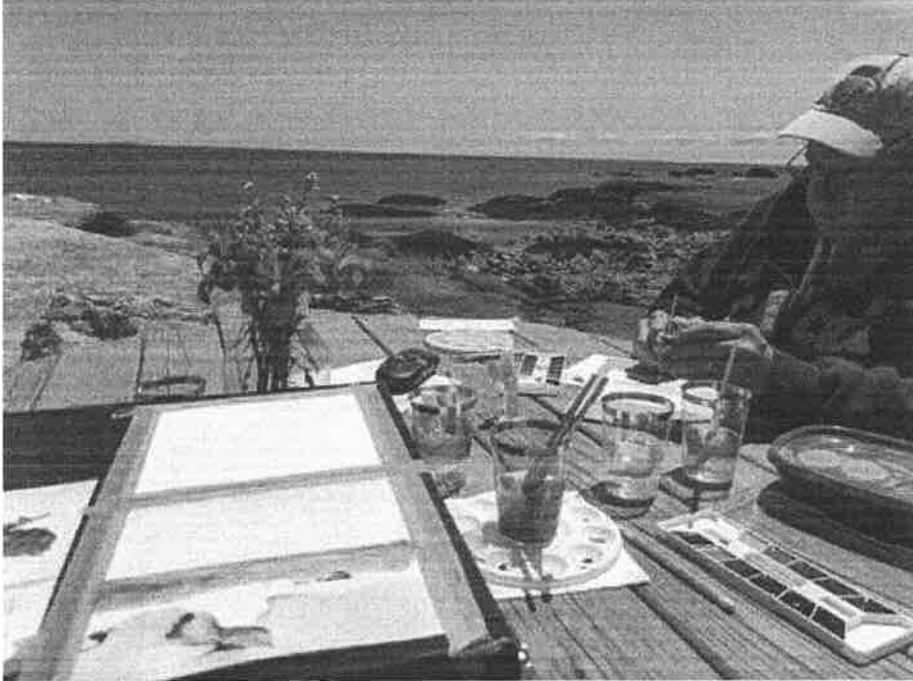
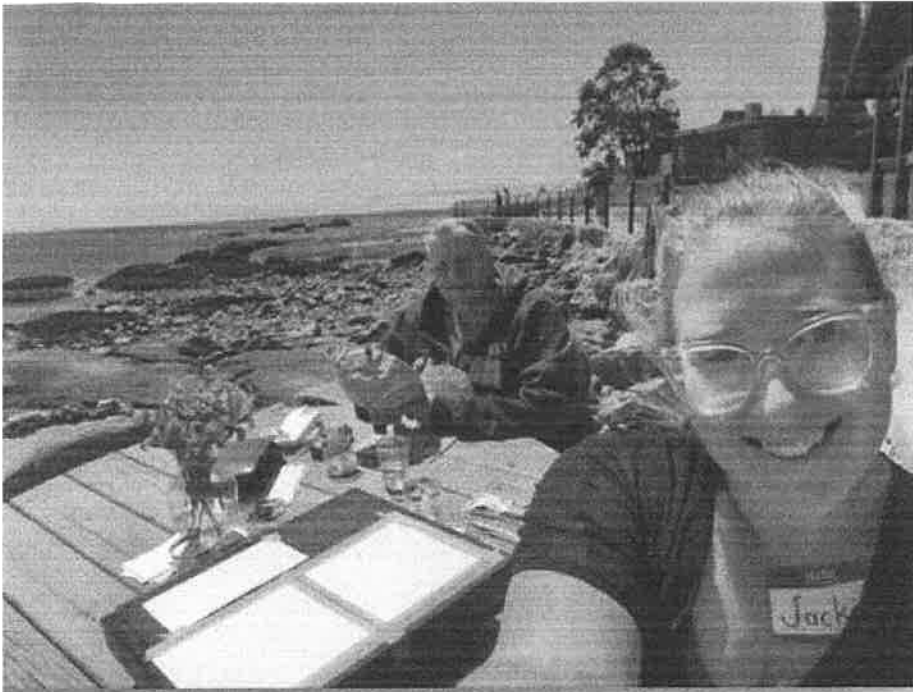
Laurel McCormack, *Acculturation Coordinator*
IRIS - Integrated Refugee & Immigrant Services
 235 Nicoll Street, 2nd Floor
 New Haven, CT 06511



[203.562.2095, ext. 233](tel:203.562.2095)
www.irisct.org



Disclaimer: This e-mail, and any attached file(s), is intended solely for the use of the individual or entity to whom this e-mail is addressed and may contain information that is privileged, confidential or exempt from disclosure. If you are not one of the named recipient(s) or otherwise have reason to believe that you have received this message in error, please notify the sender and delete this message immediately from any computer. Any other use, retention, dissemination, retransmission, printing or copying of this e-mail or its contents (including any attached files) is strictly prohibited.





Best,

Jacqueline Isabella

STAY STRONG, OWLS!

WE'VE GOT THIS.

#SouthernSTRONG

She/Her

SCSU Class of 2011

History Department Secretary

Engleman C 205 A

Southern Connecticut State University

501 Crescent Street, New Haven, CT 06515

(203) 392-5718