

Turtle Cove Environmental Research Station
CY 2022 Institutional Effectiveness Special (Annual) Report
Dr. Robert Moreau, Manager



OVERVIEW OF PROGRAM RESOURCES and I.E. TIME-FRAME

Calendar Year 2022 was the Turtle Cove Environmental Research Station's 38th year of operation as a program supporting environmental research, university education and public outreach activities for Southeastern Louisiana University and the surrounding regional community it serves. Turtle Cove is a member of the multi-national Organization of Biological Field Stations (OBFS), and is a primary means of access to the Lake Pontchartrain Basin Estuarine System via two primary sites: (1) the Boatshed/Classroom/Parking Complex on Galva Canal in Manchac (built by Southeastern in May of 2005), and; (2) the main Guest House Field Station/Boardwalk/Caretaker Residence on the south-shore of Pass Manchac on the Manchac Wildlife Management Area (WMA) - accessible only via a 20-minute boat ride from the Galva Boatshed. The historic guest house was originally built in 1908 by Mr. Edward Schlieder, a businessman from New Orleans. The guest house, bulkhead, wharfs, boardwalk and Caretaker Residence all underwent a \$6+ million FEMA-funded restoration after Hurricane's Katrina and Rita in 2005. Southeastern has a 99-year lease and partnership with a 25-year option with the Louisiana Department of Wildlife and Fisheries (LDWF) to operate Turtle Cove since 1985.

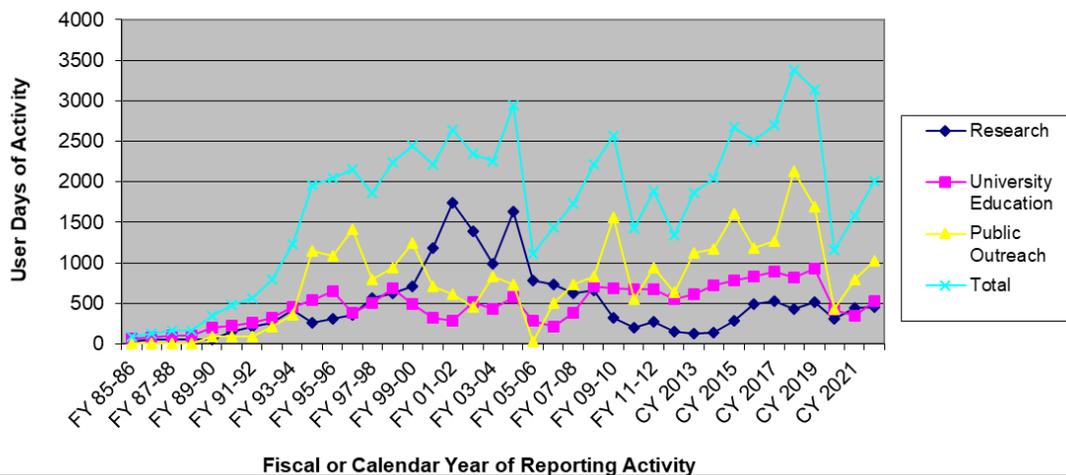
Turtle Cove "resources" for purposes of annual Institutional Effectiveness (I.E.) reporting includes: the two facility sites and related infrastructure; staff (2 full-time positions and two part-time GA positions); fleet of boats, motors and trailers (including lake skiffs and mud-boats of all sizes and a 40-ft pontoon boat that can transport 35 passengers), and other equipment and supplies (i.e., 20 canoes/pirogues, water quality probes, dip-nets, field-guides, microscopes, computers, satellite-internet service at both sites, and other tangible field research and educational items), all of which support the stakeholders and users of Turtle Cove. Physical exhibits at both Turtle Cove and in the Sims Memorial Library on the Southeastern campus, as well as a documentary video, help showcase to the broader Southeastern community both the history of Turtle Cove and the history of the Manchac Swamp Ecosystem in which it resides.

HIGHLIGHTS OF USE DATA - CY 2022

Calendar Year 2022 proved to be another challenging year for Turtle Cove due to the residual impacts from the COVID-19 pandemic and aftermath from the direct hit of Category 4 Hurricane IDA on August 29, 2021. Although the *Research* program maintained a strong upward trend of use, primarily as a result of Southeastern’s involvement as independent monitors of the carbon sequestration activities by Air Products in the Lake Maurepas region, the majority of field trips for *Public Outreach* programs were suspended until late fall 2022 as restoration work and repairs were completed after Hurricane IDA. *Public Outreach* numbers reported for this year were bolstered from the NOAA-NERR and other meetings, as well as the very successful annual Giving Day fundraiser, which garnered \$25,220 and a third-consecutive first place ranking at Southeastern in terms of fundraising for a single program. The *University Education* program was also significantly impacted, albeit to a lesser extent, in that some of the spring and summer activities did take place after the Galva Canal Boatshed/Classroom Complex and adjacent Galva Canal were dredged out from Hurricane IDA debris, thereby allowing us boat use activities again. The overall data for CY 2022 illustrates a significant increase in use from the previous year (in which the on-going Covid-19 pandemic and immediate impacts from Hurricane IDA were more pronounced), therefore allowing a substantial rebound back towards our traditional use figures in the years leading up to 2020 (Covid-19) and 2021 (IDA) years.

In summary for our “2022 comeback year,” compared to CY 2021, Turtle Cove resources supported 75 different groups of users (up 11.9%), totaling 1,523 different individuals (up 78.3%) and 2,005 user-days of activity (up 26.4%). The *number of different groups, number of different individuals, and number of user-days*, respectively, were as follows: RESEARCH (24, 184, 454); UNIVERSITY EDUCATION (20, 385, 532); and PUBLIC OUTREACH (31, 954, 1019). The 38-year history of use of Turtle Cove from FY 1984/85 (fiscal years were originally used for data collection), is presented in [Figure 1](#) below, in “user-day” numbers.

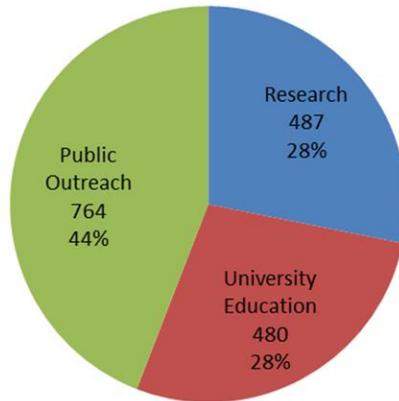
Figure 1: Historical Use of Turtle Cove Environmental Research Station over Past 38 Years (FY 1984/1985 thru CY 2022)



Note: Hurricane’s Katrina/Rita (2005), Gustav/Ike (2008), Isaac (2012) and IDA (2021) all resulted in long-term closures of the station and associated reduction in use. CY’s 2020 and 2021 were impacted significantly by both the COVID-19 pandemic as well as record Atlantic hurricane seasons, leading to the most drastic year-to-year reduction in use recorded to date (CY 2020). **The latest “comeback” is CY 2022.**

The breakdown of use among categories over the entire 38-year operating history of Turtle Cove, as well as cumulative totals of Research, University Education, and Public Outreach activities (in terms of User-Days of Activity) is presented in [Figure 2](#) below:

Figure 2: 38-Year Average Annual Use of Turtle Cove per Category: 1985 thru 2022 (based on User-Days of Activity)



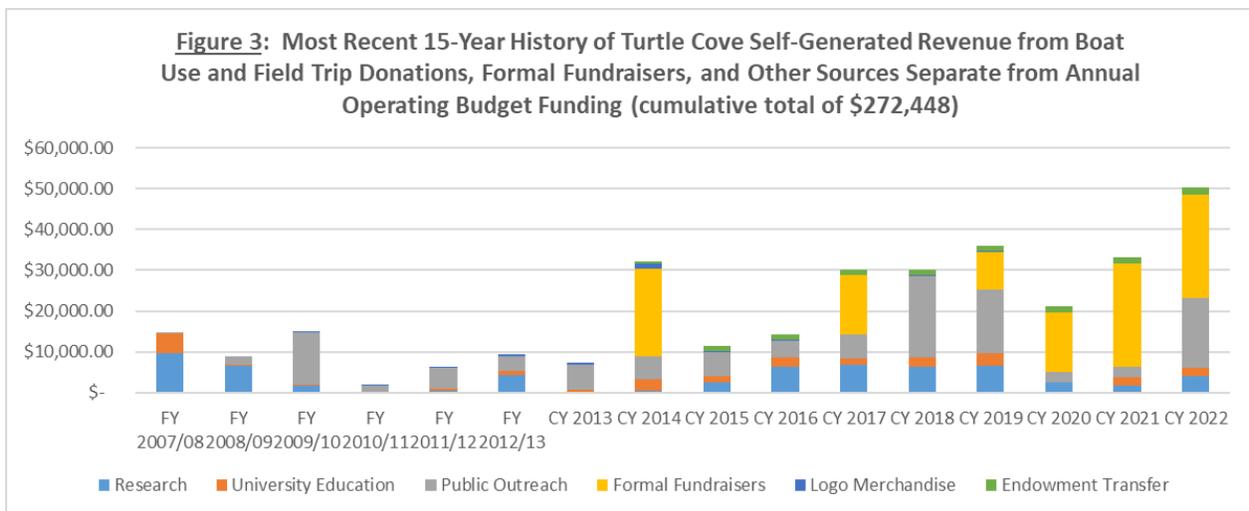
Total Cumulative Numbers of User-Days of Activity over 38-Year History of 1984/85 - 2022:	
Research:	18,520
University Education:	18,239
Public Outreach:	<u>29,023</u>
TOTAL:	65,782

SELF-GENERATING FUNDS and ANNUAL GIVING DAY PARTICIPATION

Following a long-standing trend, Turtle Cove continues to emphasize generating funds from sources external to the university’s annual operating budget, garnering a total of \$50,227, an all-time record for a single year, and a 51% increase over last year’s CY 2021 total of \$33,275, and a 38.7% increase over the previous record year (CY 2019) of \$36,201. For the fourth straight year Turtle Cove participated in the annual “Giving Day,” an on-line fundraiser at Southeastern, and for the third straight year won the “campus program challenge” for the most successful among all programs participating, securing \$25,220 in donations. The other categories of non-operating (external) funds generated in CY 2022, besides the Giving Day fundraiser, included: gas and facility-use donations for researcher-use of Turtle Cove equipment and facilities, primarily from research related to the Air Products independent monitoring activities in the Fall (\$3,975); donations received from field trips and workshops for University Education (\$2,200); a large donation from a local community organization (\$10,000); a donation related to the increase in one of the three Turtle Cove endowments (\$5,000); and other Public Outreach groups and individuals (\$2,090). Finally, since 2014, annual transfers are made from three Turtle Cove-specified endowments managed by the Southeastern Foundation—those transferred funds totaled \$1,742 in CY 2022.

External funds received in 2022 were added to 2021 funds to complete the purchases and restorations of the existing boats in our fleet, including: new Pontoon Boat motors (twin 115 hp Yamaha 4-strokes); final refurbishing of the 22-ft Aluminum Vee-Hull boat that has quickly become our most used “research vessel;” refurbishing our 21-ft Reno Skiff “Black Boat” and older (but still useful) 115 hp motor that was previously mothballed; and fiberglass repairs to our 25-ft Carolina Skiff, 18-ft Brown Boat skiff and 17-ft White Boat (Boston Whaler tri-hull) --- all of which will serve to complement the increased research use we have experienced since the Air Products work of Phase’s I and II began in Fall 2022 (Phase III of the project, set to last the next three years, is expected to begin this Spring of 2023). We expect the annual Giving Day participation to continue to be an important on-going fundraising event for Turtle Cove for many years to come.

Figure 3 below is a graph that represents self-generated funding at Turtle Cove over the most recent 15-year period from all sources outside of the annual operating budget. Going back 15 years coincides with the approximate time-frame that outside funding efforts became more of a focus at Turtle Cove. Note that formal fundraising events are now categorized separately from other revenue sources since they have become more significant in recent years. Also note that the formal fundraisers in 2014 and 2017 were on-site, whereas those in 2019, 2020, 2021 and 2022 were on-line as part of the university’s Giving Day program.



SATISFACTION SURVEY

Our overall “satisfaction” ratings for Turtle Cove continue to be very positive based on our annual Turtle Cove *Satisfaction Survey*. We had a relatively high number of 22 individuals who responded to our annual “Turtle Cove Satisfaction Survey,” and of those 19 (86.4%) of respondents rated us a “5” on the question of how “Overall satisfied with Turtle Cove resources” they were. The scale ranges from 1 (not at all satisfied) to 5 (very satisfied) -- two responses were “N/A” (9.1%), and one response was a “4.” Details of the survey results were as follows: 1 (0.0%); 2 (0.0%); 3 (0.0%); 4 (9.1%); 5 (86.4%); N/A (9.1%); n=22. These figures are comparable to all prior year’s annual satisfaction survey results which started in CY 2012. All of the narrative responses were also very positive regarding “satisfaction” with scheduling and use of boats and facilities, infrastructure, educational/outreach programs and staff.

BOATING SAFETY

Finally, and as always most importantly, another year of work was conducted in a water based-environment at Turtle Cove without incident in terms of health and safety issues (i.e., “boating safety”) for all users of Turtle Cove resources, including university faculty, staff and students, as well as others from the surrounding communities who participated in our programs. This is always our most important measure of success at Turtle Cove each year.

POST COVID-19 AND HURRICANE IDA STATUS AND CURRENT NEEDS

Turtle Cove had steadily increased its productivity over the past decade with CY’s 2017, 2018 and 2019 being some of the most productive in the station’s history, allowing us to be run at a very efficient and sustainable level during a time of on-going national and state-wide budget constraints that started during the 2008 recession. However, CY 2020 produced a significant drop in use due to the COVID-19 pandemic, and CY 2021—after starting off with a strong rebound—was again impacted by the direct hit our region took on August 29th from Hurricane IDA. This Category 4 (nearly a 5) storm produced catastrophic damage across the region that resulted in a near total shut-down of Turtle Cove operations at both of our sites for the remainder of 2021 and into early 2022, with the Galva Canal Boatshed/Classroom/Parking Complex finally being cleared in late January 2022. However, as soon as Galva Canal was dredged out and reopened, and our facilities there restored, our next “rebound” was in full force, even though we continue to have limited use of the main Turtle Cove Guest House as we await state-coordinated repairs that will fully restore the building and boardwalk to 100% use (only about half of the original boardwalk survived IDA, and we have only day-time limited use of Turtle Cove). We hope these repairs will be completed over the next one-to-two years.

Over the past several years, Turtle Cove staff have also made an effort to turn over the aging fleet of boats, motors and trailers, as well as other older equipment used by our many stakeholders. The now annual Giving Day on-line fundraiser events that Turtle Cove first took part in during CY 2019 has been an important source of funding for such efforts, and has resulted in funds for four new motors (one each for our Carolina Skiff and Brown Boat, and two for the Pontoon Boat), the restoration of four boats, and other facility and infrastructure needs, including initial funds to place solar panels, battery back-up, and retractable charging cords on our Galva Boatshed (not only for EV vehicles now, but for a future that includes the electrification of outboard motors). In addition, Southeastern’s evolving participation as the independent ecosystem monitor for the carbon sequestration activities by Air Products in Lake Maurepas will provide a huge influx of monitoring work (and corresponding equipment and facility improvements and new education/outreach opportunities) that is sure to raise both Turtle Cove’s and Southeastern’s standing in our region of universities and field research stations. Although we were unsuccessful in obtaining the latest NOAA-NERR for the Pontchartrain Estuary (coming in second place behind the Atchafalaya Basin in the June 2022 final selection), these other opportunities will provide equal, if not more, impact to Turtle Cove and all of the stakeholders we serve.

CONCLUSION

Lessons learned from the COVID-19 pandemic, as well as the impacts from Hurricane IDA and all recent storms that came before it, continue to provide us with insight into creating more

sustainable operations in everything we do at Turtle Cove. Some examples of this include: keeping unused boats/motors/trailers on campus during the bulk of the hurricane season; rebuilding our facilities with more sustainable materials (like hardy-plank siding and now solar power for electricity at the Galva Canal Boatshed), and focusing on fundraising opportunities and events to help purchase new equipment to create a younger and more wide-ranging fleet of vessels. Thus the idea of “sustainability” is a common thread in everything we do.

Turtle Cove, in its current orientation (and once it is fully rebuilt, of course), can be best described as a successful and productive support program for Southeastern which is also one that is sustainable in its operations. The overall operation and its many components (facilities, staffing, funding, productivity, support of new opportunities like the carbon sequestration monitoring initiative, etc.) has been at or near peak efficiency over the past several years prior to 2020--and now again as we enter into 2023 after one of the most devastating hurricane’s in our State’s history. Our program is effective, efficient and sustainable in a time of changing climate and economic issues, due mainly to a combination of unwavering university administration support over 38 years, and enhanced external funding activities and opportunities that we have taken advantage of. Although we are in the midst of another rebuilding effort, the staff of Turtle Cove continue their work as stewards of the station and our local environment--and we look forward to many years of continued service for all of our stakeholders.

The Turtle Cove Environmental Research Station is a facility and program of Southeastern Louisiana University that is rich in community pride and productive history, and now, more than ever, an on-going staple of environmental research, university education and public outreach---as well as an important example of resiliency and adaptation--in the region that we serve. For more information on all our programs, please visit our website at: www.southeastern.edu/turtlecove.