

Florida State University Coastal and Marine Laboratory

Apalachicola Bay System Initiative



Application Submitted to Triumph Gulf Coast, Inc. Trust Fund

Overview: Apalachicola Bay System Initiative

The health of the Apalachicola Bay System is impaired, critically so. The primary symptom is the collapse of the oyster fishery and the reef structure created by the organisms that once supported it. This fishery, and related commercial, recreational and aesthetic elements tied to the bay, constitutes a central economic pillar of Franklin County, Florida, a pillar in need of support. If the Bay were human, the attending physician would strive to obtain a diagnosis by compiling a history of physical changes and exposure to harmful substances, making critical observations, and conducting medical tests. A treatment might be prescribed and subsequently changed based on new information. This is precisely the course proposed by the Apalachicola Bay System Initiative (ABSI). That is, ABSI seeks to gain insight into the extent of deterioration of the reef system and the underlying causes of the observed decline. We will do this by understanding the trajectory of change in physical structure and water flow over time, monitoring oyster recruitment and survival, and conducting laboratory and field experiments that inform predictive models of oyster productivity. The ultimate outcome will be a plan – a treatment plan of action, if you will – for recovery of the oyster reefs and the health of the Bay. It will be developed in concert with the agencies responsible for the management and conservation of the region, it will be implemented by those agencies, and it will be adaptable as new information arises.

A critical supporting feature of the ABSI effort will be the construction and operation of a pilot-scale oyster hatchery in which we will develop new and transferable know-how, technologies and products (such as unique strains of oysters) that will support bay recovery and associated industries (e.g., harvest, aquaculture, ecotourism). The hatchery is intended to be a prototype for an industrial-scale hatchery that could be constructed in the region by the private sector. The short-term economic impacts of ABSI stem from permanent and temporary jobs created in Franklin County and expenditures for goods and services associated with renovations/ construction at the FSU Coastal & Marine Laboratory and the conduct of field and laboratory research that will benefit bay recovery and the conservation and management of nature.

In the long-term, the ABSI effort will leverage substantial external funding in support of the research and plan implementation. Recovery of oyster reefs translates into positive economic outcomes for all whose livelihoods depend on a healthy Bay. Furthermore, the products developed in the ABSI oyster hatchery can be transferred to residents through the training of interns and by interaction with state and federal agencies, with stakeholders, and with private and public sectors. This transfer could support substantial economic gains on large-scale oyster recovery efforts and aquaculture throughout the region. In the final analysis, the ABSI will serve as an important member of a team of players composed of local community, state, federal and NGO partners in treating and resolving the crisis unfolding in Apalachicola Bay.

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Section 1: Applicant Information

Name of Entity/Organization: Florida State University Coastal & Marine Laboratory (FSUCML)

Background of Applicant: Research and academic unit of Florida State University; a Preeminent, Research I University

FEIN: 59-1961248

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Co-applicants/Partners: none

Total Funding Requested: \$7,998,678

Has this been submitted for funding before? No

Financial Status of Applicant (attach financial statements): 2016-2017 Financial Statements from Florida State University are attached as Appendix 1.

Has the applicant filed for bankruptcy in the last ten (10) years? No

Section 2: Eligibility

Purpose of the Proposed Project

- Public infrastructure projects for construction, expansion, or maintenance which are shown to enhance economic recovery, diversification, and enhancement of the disproportionately affected counties
- Grants to support programs that prepare students for future occupations and careers at K-20 institutions that have campuses in the disproportionately affected counties. Eligible programs include those that increase students' technology skills and knowledge; encourage industry certifications; provide rigorous, alternative pathways for students to meet high school graduation requirements; strengthen career readiness initiatives; fund high-demand programs of emphasis at the bachelor's and master's level designated by the Board of Governors; and, similar to or the same as talent retention programs created by the Chancellor of the State University System and the Commission of Education, encourage students with interest or aptitude for science, technology, engineering, mathematics, and medical disciplines to pursue postsecondary education at a state university or a Florida College System institution within the disproportionately affected counties

Detailed Project Description

Title: Apalachicola Bay System Initiative (ABSI)

Location:

Administrative and research hub - Florida State Coastal & Marine Laboratory, St. Teresa, Franklin County, Florida.

Field sites - Apalachicola Bay System (Apalachicola Bay, East Bay, St Vincent Sound, East and West St George Sound and Alligator Harbor), and adjacent near-shore areas.

Project Summary

The Apalachicola Bay System has always been the economic and cultural epicenter of Franklin County, Florida. The seafood industry, recreational fisheries and tourism are extremely important to the vitality of the county, and depend on a functional and highly productive Apalachicola Bay System. In recent years, a variety of natural and man-made disturbances have impacted the overall health of the bay, including local and regional factors such as harvesting, disease and predation, extreme climate conditions and changes in the flow regime. The deterioration of the bay has resulted in significant economic hardships in Franklin County and adjacent areas. One key manifestation of these disturbances has been the well-documented and fairly recent collapse of the Apalachicola Bay oyster fisheries

As a keystone species, oysters are important from both an economic and ecologic perspective. In the past, oyster harvesting contributed to up to 50% of the local economy, and the oysters themselves provide critical refuge, feeding grounds, and nursery habitat to many other economically and ecologically important fish and invertebrate species. Oysters can be thought of as ecosystem engineers, providing significant ecosystem services to the entire bay. Their health is essential for bay recovery.

The Apalachicola Bay System Initiative (ABSI) seeks to obtain solutions to the ecosystem decline and to develop the strategic and implementation plans needed for moving towards recovery. The ABSI is a multidisciplinary effort designed to gain an understanding of the current distribution and productivity of oyster populations throughout Franklin County, the forces acting on ecosystem health, and the best practices for restoration and recovery that will improve opportunities for wild harvest and aquaculture of oysters and other economically important species.

The ABSI products will include information on how oyster populations are connected to each other, which reefs are good sources of new spat, and how environmental conditions affect recruitment. This information will enable managers to predict which reef sites might be the most successful. We will also determine whether there are local oyster strains that are more resilient to stress and disease; these could be targeted for aquaculture and restoration.

Changes in freshwater flow have been cited as a major reason for the oyster fishery collapse. While flow into the Apalachicola Bay is influenced by managed release from reservoirs, it is also strongly affected by natural climatic conditions. The ABSI, through long term studies of oyster recruitment, growth, productivity and diseases, together with detailed environmental information, will provide a comprehensive understanding of how the dynamic conditions in the Apalachicola Bay system are affecting the oysters and their communities. This information will be used to identify areas where oyster productivity may have changed in the bay as a result of shifting flow regimes, and could also be used to provide guidance to the US Army Corps for targeting the timing and quantity of water flow needed in order to maintain healthy oyster populations.

One of the primary ABSI components is construction of a small pilot-scale hatchery which will produce larvae, spat and seed for research, aquaculture and restoration studies. This hatchery will enable us to accomplish a number of the ABSI objectives, will produce transferable technologies outside the project, and will provide internships to expand local expertise in the rapidly developing restoration and aquaculture industries.

Restoration is an expensive and time consuming business that can produce economic returns that far exceed investment – if done correctly. If done incorrectly, it can result in a waste of valuable resources. Through ABSI, we will conduct a series of restoration experiments (including novel technologies and techniques) that will be used to develop best practices for the ABSI region. This information will be used to leverage future funding to implement a broader scale restoration effort that will actively assist in recovery of oyster populations.

All the complex data generated through the ABSI will be distilled into user friendly products made available to scientists, stakeholders, and managers and used by them to understand and predict how oyster populations will respond to different environmental and biological scenarios. We see this as a valuable tool for managing harvesting, water flows, and restoration efforts, as well as a community engagement tool to garner buy-in from stakeholders that would potentially increase understanding and compliance with management decisions. These products could also be adapted to other species.

Finally, the ABSI will become the **nucleating agent** for assembling a team of local, state, federal, private and NGO partners for developing a plan for recovery and management of oyster resources and habitat to be undertaken over the 15-year period of the effort, the first five years of which will be primarily supported by the requested Triumph Gulf Coast, Inc. funding. The development of the plan and the coalescing of the key support partners and necessary resources **would not be possible without the catalytic and essential input of funding from Triumph Gulf Coast, Inc.** In addition to plan development and implementation, a variety of **new techniques, technologies and research products** will be created with significant, potential commercial and economic development implications.

The fact-based and long range plan developed during our effort, will facilitate recovery of significant portions of the oyster reefs in Apalachicola Bay and the ecosystem services that they provide, including the biophysical, ecological, economic, social, and cultural services derived from restored bay health.

Project Description

The primary area of interest for this study is the Apalachicola Bay System, which consists of six bays (Apalachicola Bay, East Bay, St Vincent Sound, East and West St George Sound and Alligator Harbor) comprising a total of 155,374 acres (62,879 Ha). Within this region, oysters have provided a livelihood for Apalachicola fishers for over a century. Recent oyster population decline has changed that, bringing a fishery collapse that heralds ecosystem decline and consideration of Apalachicola Bay and the Apalachicola-Chattahoochee-Flint (ACF) watershed as an endangered river system.

Tremendous focus has been placed on recovering historical freshwater input as a solution to ecosystem decline. While freshwater inflow to the estuary is important, it is only one of a number of forces influencing the success or failure of oysters in Apalachicola Bay; harvesting, climate, habitat, recruitment and survival all influence the success of oyster populations. The ABSI will evaluate the influence of these and other factors on oyster reefs and their communities, will develop a series of management tools, and will identify alternatives for management, restoration and aquaculture.

Our proposed effort builds on a foundation of prior and on-going work conducted by several entities including Florida State University (FSU), Florida Fish and Wildlife Research Institute (FWRI), University of Florida (UF), University of South Florida (USF), Apalachicola National

Estuarine Research Reserve (ANERR), the Florida Department of Agriculture and Consumer Services (FDACS) and The Nature Conservancy (TNC). Our multidisciplinary, collaborative project will provide a scientific foundation for ecosystem management and restoration, as well as create best practices and technologies for aquaculture. The outcomes of ABSI will benefit commercial and recreational fishers, aquaculture practitioners, and private-sector industries, and will provide the long-term economic boost of a healthier coastal ecosystem to Franklin County.

The portion of ABSI funded by the Triumph Gulf Coast, Inc. will unfold over a period of five years (20 quarters). Below is a brief overview of the objectives of the effort and how they will be integrated to achieve the project goals described above. Relationships among objectives are denoted in parentheses. A more detailed description of each objective appears in Appendix 2.

Objective A. Assess temporal and spatial changes in oyster communities in Franklin County

(Quarters 1-5) -- This effort requires extensive mining of information on the status of different coastal ecosystems (particularly oysters) in the ABSI region, from approximately 1950 to the present day. This will create a working baseline from which to assess the success of the project. Data sources include:

- Historical reports, typically found in libraries or repositories of government agencies – these are rarely in digital format which requires digitizing the information on site;
- Contemporary reports – these occur in greater volume and complexity but are generally available digitally.

Analysis of all collected data will be used to:

- Provide a starting point from which to evaluate changes observed during ABSI, and beyond
- Determine target metrics for future restoration and management decisions.
- Generate products such as reports and web-based information, which will be updated as new information becomes available through ABSI and other sources.

Objective B. Construct a pilot-scale oyster hatchery (Quarters 1-10) -- This is a critical component that will provide a complete oyster culture system from maintenance and spawning of mature adults (broodstock) to settlement of juveniles (spat), to address a number of ABSI objectives. Specifically, the hatchery will:

- Produce oyster larvae for studies that will enhance the bio-physical model (Objective C).
- Maintain adult oysters drawn from local Franklin County populations to identify potentially resilient strains for restoration and aquaculture (Objective F).
- Produce spat on cultch (clean oyster shells) for ecological and restoration research (Objective F).
- Produce seed (individual oysters) to identify optimal strains for aquaculture (Objective F).

Objective C. Bio-physical modeling (Quarters 3-8) -- We will develop a bio-physical model to understand how oyster populations are connected to one another and how those connections are influenced by water movement, environmental conditions, bottom topography, and the biology of oyster larvae. The model will incorporate the following features:

- Maps showing historical and current distribution of oyster habitats (Objectives A, G).
- Environmental data from the ABSI instrument array (Objectives D, G)
- Hydrodynamic models of the ACF watershed and adjacent nearshore areas (Objective G)
- Data from hatchery-based experiments on larval behavior to understand how oyster larvae respond to different environmental conditions (Objectives F, G)

This model will provide scientists and managers with a tool for forecasting larval recruitment under different hydrographic scenarios, and could be used to create options for the U. S. Army Corps of Engineers to better manage the quantity and timing of water releases to the watershed. This tool could also be applied to species other than oysters.

Objective D. Monitoring of oyster communities and their environment (Quarters 1-20) -- In this component, ABSI will:

- Conduct ecological studies to determine whether change in flow regimes and higher salinity have shifted habitat suitability for oysters, making formerly productive (commercial) sites less suitable for spat survival and growth while other sites may have improved in this capacity (Objectives G, H).
- Determine monitoring gaps currently not being addressed that would provide a more complete picture of oyster status and health in the ABSI region.
- Understand which oyster populations and habitat areas are the most productive, which is important for managing harvesting and restoration efforts (Objectives G, H).
- Compare open and closed areas to provide insight into the effects of harvest on oyster growth and survival (Objective H).
- Deploy a suite of data-logging instruments within and outside Apalachicola Bay to expand the number and spatial distribution of similar instrumentation supported by ANERR to obtain high-resolution environmental data (temperature, salinity, oxygen, turbidity, pH, Chlorophyll a) that can be incorporated into the bio-physical model and will provide context for the ecological observations (Objective G).
- Partner with State and Federal entities (e.g. FWRI, Florida Fish & Wildlife Conservation Commission [FWC], ANERR, FDACS) and private organizations (e.g. TNC, The Florida Wildlife Federation [FWF], The Pew Charitable Trust [PCT]), to provide data, share resources, address data gaps and increase overall monitoring and research capacity in the region (Objective H).

Objective E. Oyster population genetic structure (Quarters 3-6) -- Different genetic populations of local oysters could have characteristics that enhance survival under particular

environmental conditions. Understanding this is critical for maintaining natural population integrity and developing resilient strains for restoration and aquaculture. ABSI will:

- Determine genetic structure of oyster populations collected from different areas within the ABSI region (Objective F).
- Share research results with stakeholders, managers, and policy makers throughout the study period and beyond

Objective F. Experimental ecology (Quarters 5-16) — ABSI 's experimental objectives will provide data to support many of the other objectives. Specific studies include those that:

- Determine survival, larval lifespan and behavior of oyster larvae under various environmental conditions to refine the bio-physical model and improve predictions of larval movement under different hydrographic scenarios (Objective C).
- Determine optimal restoration strategies by testing different approaches, including some novel technologies, to balance restoration success with cost effectiveness (Objective H).
- Determine why spat on Apalachicola Bay oyster reefs have very low survival to adulthood (Objective G).
- Understand survival and productivity of different local oyster strains under a range of environmental conditions, and identify potentially resilient strains for restoration and aquaculture (Objectives G, H).

Objective G. Coupled Ecosystem-Life History model (Quarters 15-20) -- An important outcome of ABSI will be development of an **integrated model** with the capacity to accomplish the following:

- Forecast oyster productivity, growth, disease, and predation, and under different environmental scenarios.
- Inform decisions on harvest, area closures, restoration placement, and economic viability.
- Be used by managers, scientists, fishers, educators and state agencies. Ideally this model would be hosted and maintained by an entity (such as the Florida Fish & Wildlife Commission [FWC]) that would use the model and continue to refine it with new data over time.

Objective H. Management and restoration plan development (Quarters 13-20) -- The results of the modeling, monitoring and research described above will be used to develop the information and tools needed to restore the health of Apalachicola Bay and surrounding areas. Aspects of this component include working with local, state, federal management entities and non-profits to develop:

- Optimal oyster reef restoration strategies will include: Novel technologies customized for the ABSI region to create cost-effective solutions with clear attainable metrics.

- A framework for science-based adaptive management, to maintain sustainable harvesting and facilitate ecosystem recovery in the ABSI region.
- A roadmap to recovery of the Apalachicola Bay, with continued financial support beyond this project timeline, into years 6 through 15.
- We are setting as a **target goal the recovery of 485 hectares of healthy oyster reefs** in Apalachicola Bay which is roughly 40% of the extant reef coverage in 2000.

Objective I. Targeted outreach to the community (Quarters 1-20) --ABSI will create the following opportunities for community engagement:

- Development of an ABSI Advisory Board composed of stakeholders, agency personnel, and FSU faculty
- Provision for paid hatchery internships (which will prepare high school students and/or other local residents for work in commercial hatcheries)
- Development of a shell recycling program, which could develop into a private business
- Opportunities for active stakeholder working groups that include fishers, hatchery operators, managers, and policy makers (thus facilitating feedback from the community on ABSI progress)
- Public events at FSUCML and at ANERR showcasing the project.
- Public interface through social media and on the FSUCML website

The following key personnel will be managing the overall ABSI effort:

1. **Dr. W. Ross Ellington**, Associate Vice President for Research & Michael J. Greenberg Professor of Biological Science, Florida State University (Ph.D., University of Rhode Island) <https://www.bio.fsu.edu/faculty.php?faculty-id=elling>
2. **Dr. Felicia C. Coleman**, Director of the Florida State University Coastal & Marine Laboratory and Full Research Faculty (Ph.D., Florida State University) <https://marinelab.fsu.edu/people/faculty/felicia-coleman/>
3. **Dr. Sandra D. Brooke**, Associate Research Faculty, Florida State University Coastal & Marine Laboratory (Ph.D., University of Southampton, UK) <https://marinelab.fsu.edu/people/faculty/sandra-brooke/>

Quantitative evidence demonstrating how the proposed project will promote economic recovery, diversification, and enhancement of the disproportionately affected counties:

The impact of the collapse of the Apalachicola Bay oyster fisheries and linked industries is manifested by the slow rate of growth of per capita income and population growth in recent years (see Table 1 and Figure 1 in Appendix 3 [white paper by Dr. William Huth, Distinguished University Professor, University of West Florida]). Over the last decade, growth in wage and salary employment, proprietor's employment and total employment has been relatively flat in Franklin and in the adjacent Gulf and Liberty Counties (Appendix 3).

As indicated in Appendix 3, ABSI will have profound economic development benefits and impact on Franklin County through the following vehicles:

- Oyster hatchery and field nursery: An initial pilot facility plus the potential for development of a full-scale facility in the county
- Oyster aquaculture industry development
- Aquaculture industry resource suppliers
- Increased wild caught oyster production
- Increased activity in the oyster market supply chain
- New fishery related industry startups: post-harvest processors
- Enhanced scientific research and development
- Natural capital development and corresponding non-oyster production ecosystem services
- Increased positive economic migration from amenity enhancement
- Increased tourism
- Technology transfer to other eight counties in the Triumph corridor

Appendix 3 provides the North American Industrial Classification System (NAICS) and REMI codes/sectors that will be impacted by ABSI as well as quantitative information on contract and grant expenditures as well as spending injections.

Some of these spending injections include:

- \$3,250,000 for renovations and construction
- Nearly \$10,000,000 in expenditures for staff salaries and wages (over the 15-year period) which does not include personnel associated with implantation of the oyster reef recovery plan or contracts and grants associated with the overall effort
- Over the 15-year span of the project, it is anticipated that FSU faculty will secure at least \$4,900,000 in external contracts and grants in support of the ABSI project
- Other injections include expenditures for equipment, spending for laboratory and field efforts, anticipated increases in oyster landings, potential new start-ups, increased tourism and economic migration into the county (see Appendix 3)

In addition to the expenditures associated recovery efforts and the dollar value of increased oyster landings and linked industries, recovery of the oyster reefs in the Bay will contribute to the ecosystem services of the system. As described in Appendix 3, a realistic value for ecosystem services provided by healthy, productive oyster reefs is \$10,325 per hectare per year. As indicated earlier, our target goal is recovery of 485 hectares of oyster reefs in Apalachicola Bay. This translates into a value of approximately \$5,000,000 per year in increased ecosystem services.

Proposed timeline for the proposed project: As detailed in the above section, ABSI will proceed according to a 20 quarter timeline to accomplish its objectives. Years 1-5 will be supported by Triumph Gulf Coast, Inc., with additional FSU cost-share and external contract and grant funding. Years 6-15 will be funded by FSU and external funding. Years 1-5 will lead to development of comprehensive management and restoration plans in concert with natural resource management agencies. Years 6-15 involve continued research by ABSI and interaction with stakeholders while restoration efforts, monitoring, and management are carried on by resource management agencies.

The disproportionately affected counties that will be impacted by the proposed project: FRANKLIN COUNTY, with collateral benefit to adjacent counties through the reciprocal transfer of expertise and technology among entities involved in similar projects throughout the Florida panhandle. Seafood production is the major industry in Franklin County, and until recently oysters have accounted for approximately one third of revenue from marine harvest. Since 2007, several natural and man-induced disasters have impacted north Florida, including hurricanes, severe drought, and the Deepwater Horizon (DWH) oil spill. Compared to other areas along the Gulf Coast, Franklin County experienced virtually no direct effects of the oil beyond tar balls washing ashore and oil sheens on surface waters. However, the indirect effects on seafood production and tourism caused significant economic hardship. In 2012, the oyster industry crashed and was declared a Federal Fishery Disaster. The overarching objective of ABSI is to provide information and tools that will facilitate the recovery of the Apalachicola Bay ecosystem, which is critical to the economy of Franklin County.

Explain how the proposed project or program is considered transformational and how it will affect the disproportionately affected counties in the next ten (10) years.

The Apalachicola Bay System Initiative will develop, in collaboration with a variety of public and private partners, a comprehensive plan for the management and restoration of the Apalachicola Bay with particular emphasis on oyster reefs and associated marine life. Developing a comprehensive pathway for recovery with tangible metrics for success will enable more effective and efficient restoration efforts that could ultimately result in an economically and ecologically viable system.

In the short term, the ABSI will develop immediate tangible products that can be applied to management and restoration efforts. For example, the ability to choose optimal sites for oyster settlement, growth, and survival in a particular year will support sustainable management of recovering stocks; and understanding oyster recruitment rates, population distribution and habitat requirements will increase success and cost effectiveness of restoration efforts. Long term benefits lie the adaptive nature of the ABSI products which will allow management entities to respond to changes in environmental and ecological conditions to ensure sustainable fisheries and economy.

The transformational potential of ABSI lies in the broad scale collaborative nature of the project, which will bring together multiple academic, management, and stakeholder entities

to generate a science-based adaptive management approach that can be used to enhance oyster population recovery, and reverse what appears to be an accelerating decline in the overall health of the bay. A significant product of the ABSI will be a science-based restoration plan, which incorporates novel restoration techniques that will improve success and cost-effectiveness. The data and tools produced through ABSI will help enhance oyster fisheries and provide training, technology and optimal strains of oyster broodstock for commercial hatcheries thereby supporting regional aquaculture endeavors.

Describe data or information available to demonstrate the viability of the proposed project or program.

The viability of this project rests on three pillars:

1. The documented strengths and track record of Florida State University and the FSU Coastal & Marine Laboratory, in particular, in tackling large applied and basic research problems. For example, **Dr. Felicia Coleman** was scientific director on the post-DWH oil spill “Deep-C” consortium; this five-year multi-disciplinary study examined the distribution and fate of oil and dispersants in the deep ocean, producing data and models that support improved responses to future events. **Dr. Sandra Brooke** was principal investigator on a similar large-scale project to study sensitive ecosystems within the mid-Atlantic submarine canyons. This project received two Federal awards for conservation and partnerships, and contributed to the protection of sensitive deep sea habitat. **Dr. W. Ross Ellington** has over three decades of experience as a Principal Investigator of large Federal research grants and in his capacity as Associate VP for Research oversees multi-million-dollar research infrastructure projects, one of which exceeds \$80M in projected costs.
2. Active engagement of local, state, federal, and NGO partners that have either management authority, strong interests in recovery of the Apalachicola Bay System, or both. In developing the ABSI concept we held extensive discussions with these organizations (ANERR, FDACS, FWC, TNC, FWF, PCT and the Apalachicola Riverkeepers). Members of this diverse group each have a unique interest in the recovery of Apalachicola Bay and the oyster industry, and enthusiastically support ABSI (see Appendix 4 for letters of support). We anticipate that the number of partners will expand as the effort gets underway.
3. There is a significant national interest in the recovery of oyster habitat and ecosystem services throughout the United States, and enormous expenditures have already been made in pursuit of restoration, including projects in the Chesapeake Bay and Mobile Bay. In Apalachicola Bay, federal and state restoration programs have committed more than \$10 million to bring back the oyster fishery, with additional funding possible in the future. If done correctly, oyster restoration programs show an extremely positive return on investment, but if done poorly, they are a waste of vital funds. A primary objective of ABSI is to develop approaches that will optimize restoration efforts and economic return.

We feel that the ABSI effort, bolstered by the active involvement with partners and stakeholders, will result in viable management and restoration plans that can serve as models for oyster habitat recovery throughout the region, supporting economic development and retaining important social and cultural services.

Describe how the impacts to the disproportionately affected counties will be measured long term.

The ultimate aim of this effort is to generate science-based management and restoration plans that will result in the recovery of oyster reef communities in the Apalachicola Bay System, and improvement of the overall ecosystem. The benefit of this effort will be manifested in restored fisheries and tangible improvements in ecosystem services. These include increased revenue from fisheries and tourism, improved water quality, shoreline stabilization, and a myriad of aesthetic and recreational interests supported by a healthy bay system. In addition, the ABSI includes training for a growing aquaculture workforce and development of entrepreneurial businesses (such as shell recycling) that may be supported by future restoration efforts.

Describe how the proposed project or program is sustainable. (Note: Sustainable means how the proposed project or program will remain financially viable and continue to perform in the long-term after Triumph Gulf Coast, Inc. funding.)

After year 5, the funding for all research faculty and support staff hired using Triumph Gulf Coast funds (7 FTEs) will be assumed by Florida State University. The University commitment to these salaries amounts to **\$6,136,858** over the ten-year period (years 6-15) (please see Appendix 5). Furthermore, current faculty and staff at FSUCML will be actively involved in this effort in years 6-15, and beyond. New and modified existing facilities at FSUCML will be supported by requested plant operation and maintenance (PO&M) funds from the University. The laboratory also receives operational funds from the FSU Office of Research and an allocation of indirect cost returns generated by contracts and grants. Most importantly, it is anticipated that early on in the effort FSUCML faculty will secure external contracts and grants from Federal, State and private entities to support the overall research effort. These grants will require goods and services from local business, and will provide an economic boost to the local area. We project that FSUCML faculty will generate \$950,000 in external funding in years 1-5 and approximately \$400,000/year in years 6-15 for a total of \$4,000,000, based on recent grant funding for FSUCML.

The Apalachicola Bay recovery plan developed during the Triumph Coast Gulf, Inc.-funded phase of ABSI will continue in years 6-15. The extended plan is for ABSI to continue working with stakeholders and natural resource managers to develop best practices for continued ecosystem recovery, and to ensure that this knowledge is incorporated into regional management plans. The hatchery will continue to operate as a research and training facility, improving stocks and culture techniques for oysters and other economically valuable species. The models generated by ABSI will be updated and improved, providing tools for adaptive management variable flow and climate regimes.

Extensive external commercial interests and funding will be needed to implement large scale restoration and commercial production of spat and seed for restoration and aquaculture. Reasonable sources for funding on this scale include DWH compensation funds, and/or Federal and/or State revenues. Having a science-based roadmap for restoration, with attainable metrics and clear economic goals, will increase the likelihood that funds will be obtained. Our extensive portfolio of support letters (Appendix 4) provide clear evidence that external partnerships will be in place to seek funding and implement such efforts. In the case of potential restoration, we will apply the principles of the restoration plan developed during the initial phase of ABSI, and will incorporate approaches used in other restoration programs (e.g. Chesapeake Bay) as appropriate. We also will work with other entities conducting recovery programs across the affected counties of Florida and Alabama to ensure that the approaches used are comparable, take into account the particular ecological, social, and economic differences across the region, and result in locally and regionally relevant best practices for management and ecosystem recovery that includes not only the biophysical considerations, but the social, cultural, and economic ones as well. A commercial hatchery is most likely to be a private enterprise, responding to increasing demands for seed by a rapidly expanding aquaculture industry; however, if spat-on-cultch is integrated into restoration methods, commercial hatchery production would be augmented with restoration funds.

Describe how the deliverables for the proposed project or program will be measured.

Deliverables will be measured by the successful completion of the products listed below for each ABSI objective. Timelines for product completion are in parentheses.

Objective A: Assess temporal and spatial changes in oyster communities in Franklin County

- Initial product will be a digital document that provides an analysis of spatial changes in oyster reef distribution, productivity and environmental conditions over several decades **(quarter 1, year 2)**.
- GIS-based digital maps characterizing changes in distribution and productivity of oyster reefs over time in relation to environmental variables **(quarter 2, year 2)**.
- These products will be available through the FSUCML project website, and will be updated as new information becomes available through ABSI and other sources.

Objective B: Construct a pilot-scale oyster hatchery

- Renovation of FSUCML space to accommodate preliminary hatchery operations **(year 1)**
- Maintain and spawn broodstock, and produce larvae and juveniles for objectives C, F and G **(quarter 1, year 2)**.
- Completion of an operational hatchery with manager and two technical staff **(quarter 2, year 3)**
- Maintenance of multiple broodstock strains for production of spat on cultch for restoration experiments, and seed for aquaculture research **(quarter 2, year 3)**.

Objective C: Bio-physical modeling

- An integrated model that combines habitat distribution, water flow and larval dispersal data to predict oyster recruitment patterns and population connectivity (**quarter 4, year 2**)

Objective D: Monitoring oyster communities and their environment

- Database containing environmental data (temperature, salinity, oxygen, turbidity, pH, Chlorophyll a) from the suite of instruments deployed by ABSI (**years 1-5**).
- Database containing monitoring data (collected monthly), including (but not limited to) oyster recruitment rates, juvenile survival and growth, adult size and abundance, and incidence of predators, parasites, and diseases (**years 1-5**).
- Analysis of monitoring and environmental data to determine effects of different factors on oyster productivity (**years 2-5**).
- Provision of our data to the FWC statewide oyster integrated mapping and monitoring program (OIMMP) (**years 1-5**).
- Web-based annual reports on the status of oyster populations in Franklin Co. (**years 1-5**)

Objective E: Oyster population genetic structure:

- Genetic data and analysis of oyster population structure throughout Franklin Co. (**quarter 3, year 2**).
- Delivery of novel genetic codes or primers to appropriate public-access gene repositories (e.g. Oyster base, Genbank), (**quarter 3, year 2**).

Objective F: Experimental ecology

- Data and analysis of larval lifespan, survival and growth under different environmental conditions (**quarter 4, year 2**).
- Data and analysis of response of multiple genetic oyster strains (adults, larvae and juveniles) to various environmental (temperature, salinity etc.) and biological (disease, predation) factors (**quarter 2, year 3**)
- Data and analysis of restoration experiments, including recruitment, survival, growth of oysters, and incidence of disease and predation (**quarter 4, year 4**).

Objective G: Coupled Ecosystem-Life History model

- A functional model that integrates data generated through various other objectives, and can be used to forecast oyster productivity under different environmental scenarios (**quarter 1, year 5**).
- a user-friendly web-based interface for the model that provides easy access to stakeholders (**quarter 2, year 5**).

- Beta testing of the model interface by different stakeholders (managers, educators, fishers and non-profits), **(quarter 3, year 5)**.
- The final model would be available to the public, ideally through a State or Federal agency that can host, maintain and improve the model over time **(quarter 4, year 5)**.

Objective H: Management and restoration plan development

- A science-based adaptive management plan developed in partnership with management and conservation entities, using data and tools generated through the ABSI studies and other programs. This management approach will seek to maintain sustainable harvest under variable regimes of abiotic (water flow, environmental conditions) and biotic (recruitment rates, growth, survival, disease) factors **(quarter 4, year 5)**.
- A region-specific best practices manual for comprehensive restoration efforts, based on outcomes of restoration experiments (Section F above), with stakeholder input (Section I below). This roadmap to recovery of the Apalachicola Bay will serve a purpose far beyond the funded life of the project. At this point it is anticipated that major funding for the initial stage of bay restoration will have been identified **(quarter 4, year 5)**.

Objective I: Targeted outreach to the community

- Establishment of an ABSI Advisory Board **(Year 1)**
- Development of multiple K-12 education programs in concert with the Apalachicola National Estuarine Research Reserve **(years 1-5)**
- Interactive workshops for stakeholders (fishers, hatchery managers, management, and policy makers) throughout the project to provide input, update progress, and solicit feedback **(years 1-5)**
- Development of a volunteer shell recycling program, which could develop into a private business **(year 2-3)**
- 5-10 hatchery internships annually **(year 3 onward)**
- In addition to these structured deliverables, outreach efforts will include a number of public events at the FSUCML and partner institutions **(years 1-5)**

Section 3: Priorities

1. Priorities

This proposal meets four of the nine statutorily defined Triumph Gulf Coast Inc. priorities, including:

- Leverage or further enhance key regional assets, including educational institutions, research facilities, and military bases.
- Benefit the environment, in addition to the economy.
- Provide outcome measures.
- Are recommended by the board of county commissioners of the county in which the project or program will be located.

2. Please explain how the proposed project meets the priorities identified above.

- *Leverage or further enhance key regional assets, including educational institutions, research facilities, and military bases.* - ABSI will enhance the capabilities of FSUCML, a research facility that is located in an unspoiled area of the St. George Sound in Franklin County.
 - ABSI funding will be used to recruit two new research faculty and five supporting staff who will bring new expertise to FSUCML and the region, enhancing the lab's long-standing history for research in coastal marine ecology, habitat restoration, fisheries ecology, and fish and invertebrate biology. The increased scientific capacity will address the ABSI objectives and leverage significant new funds from outside sources. These additional resources will create synergies with ABSI to enhance the biophysical, ecological, economic, and social outcomes. The field technicians and hatchery staff will continue to provide support for training and research in restoration and aquaculture techniques. FSU will be assuming the salaries of these individuals after the five-year period of Triumph Gulf Coast Inc. support. ABSI will leverage existing expertise and research facilities located on the main campus of Florida State University.
 - ABSI funding will enhance research capabilities at FSUCML through the renovation of existing laboratory space and construction of new research space required to support the research and education agenda of the effort. This includes early construction of a pilot-scale oyster hatchery. This facility will be a regional resource that will produce techniques, expertise and materials that can be transferred to the private sector for development of industrial-scale hatcheries. Local goods and services will be used wherever possible.
 - The FSUCML and the Apalachicola National Estuarine Research Reserve in Eastpoint, FL, are already on course to strengthen their partnership, having

identified significant potential to work together throughout the ABSI project and far into the future, leveraging facilities, personnel, and other assets.

- ABSI has already leveraged significant support from state and federal natural resource agencies and NGOs involved in recovery of Apalachicola River ecosystem services. It is our intent to have representatives of these organizations become part of an Advisory Committee for the life of the ABSI effort. Further, ABSI can help fill critical information and expertise gaps that the agencies do not have the capacity to fill.
 - ABSI will provide opportunities for young people in the county to obtain educational and work experience associated with restoration, hatchery management and operation, the development of entrepreneurial businesses, and other aspects that are relevant to the county's economic growth.
 - In sum, ABSI funding will have a transformational impact on FSUCML's ability to provide research, outreach and service to the region and Franklin County and in so doing help accelerate new business models.
- *Benefit the environment, in addition to the economy.* – Apalachicola Bay is an integrated system in which oysters are a key component and provide a suite of important ecosystem services (e.g. fisheries, habitat provision for many economically and ecologically important species, water quality improvement and stabilization of the bottom and shoreline). Recovery of productive oyster reefs in the bay will contribute substantially to ecosystem health and services, including the ecological, economic and social services that it provides.
 - *Provide outcome measures.* – ABSI has a large number of very specific deliverables and products that will be rolled out over the five-year period of Triumph Gulf Coast Inc. funding. These deliverables as project milestones are described in Section 4 part #3 of **Approvals and Authority** (below), and are outlined in detail in Appendix 2
 - *Are recommended by the board of county commissioners of the county in which the project or program will be located.* – Please see supporting letter from the Franklin County Commission (Appendix 6).

3. Please explain how the proposed project or program meets the discretionary priorities identified by the Board.

- ***Are located in a Rural Area of Opportunity as defined by the State of Florida (DEO).*** – Virtually the entire project will take place in Franklin County which is within DEO's Northwest RAO (<http://www.floridajobs.org/community-planning-and-development/rural-community-programs/rural-areas-of-opportunity>).
- ***Provide a wider regional impact versus solely local.*** Unique techniques, technologies and practical knowledge will be developed during the ABSI effort that can be transferred to entities within Franklin County and throughout the Florida Gulf Coast region. For example, the genetic analysis of oyster populations will potentially identify strains that are more viable and productive under certain environmental conditions. The pilot oyster hatchery will then develop region-specific resilient strains of oysters to

produce spat for restoration and seed for aquaculture. These techniques could then be transferred to hatcheries throughout the broader Gulf Coast region. The biophysical model will extend beyond the ABSI and identify connectivity of oyster populations across the region. This model can also be adapted for other species, creating a more general tool to assess species connections. Similarly, the management and restoration plans will have applications over a much broader geographical scope than ABSI. Finally, the collaborations and partnerships established through this project will create synergies that will continue to impact the region after the conclusion of the project.

- ***Align with other similar programs across the regions for greater regional impact, and not be duplicative of other existing projects or programs.*** – We will be working closely with other entities carrying out oyster research, monitoring and recovery programs and with state and federal agencies that have broad authority to ensure that results are comparable and transferrable among entities. Further, there is great interest in the State and the broader Gulf Coast region in the development and operation of oyster hatcheries, primarily to support the aquaculture industry. The pilot-scale hatchery created and operated in the ABSI effort will not compete with these endeavors but rather will freely provide know-how and products to support these efforts. Furthermore, the pilot-scale hatchery will serve as the prototype and design model for a private-sector, industrial scale hatchery that could potentially be needed to support bay restoration efforts. This large scale hatchery could be replicated elsewhere.
- ***Enhance research and innovative technologies in the region.*** – ABSI is a multi-disciplinary effort that brings to bear the strengths of university-managed marine facility as well as allied capabilities on the main campus of Florida State University. ABSI will bring new expertise to FSUCML, which will expand opportunities for a new generation of students and diversify local research. As a result of ABSI, innovative technologies for resource management and restoration will be developed; these include the biophysical and ecological models for adaptive management applications, novel techniques for restoration and region-specific resilient strains of oysters for restoration and aquaculture. The synergism of new and existing faculty, staff and their students will facilitate the ABSI project and will likely exceed expectations in terms of innovative products are applicable across the region.
- ***Create a unique asset in the region that can be leveraged for regional growth of targeted industries.*** – The overall goal of ABSI is to improve the health of the Apalachicola Bay and restore the ecosystem services it provides, which will stimulate the local economy. Improved science-based management approaches will help accomplish this goal, but extensive oyster reef restoration may also be required. Large scale restoration will require industrial scale activities in terms of cultch acquisition, storage, preparation and transport. We envision a number of entrepreneurial small business opportunities developing as a result of the ABSI project. One of these would be an oyster shell recycling plant, given that oyster cultch is a precious commodity and can be hard to come by. Other regions have developed successful shell recycling programs that collect shell from area restaurants and shucking houses, clean it and sell for shelling and restoration activities. Through the ABSI, we will start an oyster shell recycling program in Franklin County. Once established, this program could be further

developed by the commercial sector into a profitable business, given the potential extent of oyster reef restoration anticipated for the county

- **Demonstrate long-term financial sustainability following Triumph Gulf Coast, Inc. funding.** – In year 6 of the ABSI effort, Florida State University will assume responsibility for the salaries of the two permanent faculty and five staff members hired initially using Triumph Gulf Coast Inc. funding. The total cost for year 6 will be \$536,241; \$6,136,858 total for years 6-15 (please see Appendix 5). Facilities and other infrastructure created in the ABSI effort will be maintained through resources from requested plant operations and maintenance (PO&M) funding from the University, leveraging existing FSU-funded supported staff on site. Operating funds in out-years for research, restoration and outreach will be derived from external contract and grants secured by FSUCML faculty, faculty from the main FSU campus and a broad range of external partners (see next bullet).
- **Leverage funding from other government and private entity sources.** – ABSI will serve as a nucleating agent for developing partnerships supporting the recovery of Apalachicola Bay. The research, restoration and outreach efforts supported by Triumph Gulf Coast and the FSU cost-share will be leveraged to develop a broad team of regional, state and national partners that will seek funding for the long-term efforts required to restore and maintain the bay. **See Appendix 4 for letters of support.**
- **Provide local investment and spending.** – The Florida State University is initially making a \$1,500,000 cash contribution to the ABSI effort which will be allocated in years 1 and 2. Please note that this cost-share is above and beyond the assumption by FSU of ABSI-supported personnel in years 6 and beyond. The ABSI objectives will require considerable expenditures in goods and services from the local area, and some of the funds will be allocated to hatchery internships to increase local workforce capacity in aquaculture, which is a rapidly developing industry across the region. Local watermen will be employed to assist with the deployment of restoration experiments, and the shell recycling program could create business opportunities. Hatchery products such as local resilient strains of oysters could increase productivity in regional aquaculture efforts, thereby improving local economic opportunities.
- **Provide clear performance metrics over duration of program or project.** – ABSI has a large number of very specific deliverables and products that will be produced over the five-year period of Triumph Gulf Coast, Inc. funding. These deliverables and project milestones are described in part #3 of **Approvals and Authority** (below), together with their performance metrics, where applicable.
- **Are environmentally conscious and business focused.** – The overall focus of the effort is to restore oyster populations in the ABSI region, thereby contributing to the health of the ecosystem and the services that it provides, including increasing the availability of economically important seafood species, specifically oysters. We anticipate the development of entrepreneurial green businesses associated with the project. For example, clean cultch for restoration and shelling is in short supply, and one of the ABSI components involves developing a shell recycling program. In other Florida counties, shell recycling is operated as a business and there may be potential for commercial shell recycling in the ABSI region. We also see tremendous opportunity for

a recovered bay to support more tourism as fresh wild oysters once more become the prized menu item in local restaurants. A healthy bay will also support recreational fisheries, which generates tourism revenues to local marinas, fuel stations, tackle shops and restaurants.

4. In which of the eight disproportionately affected counties is the proposed project or program located?

Franklin County

5. Was this proposed project or program on a list of proposed projects and programs submitted to Triumph Gulf Coast Inc., by one or more of the eight disproportionately affected Counties as a project and program located within its county?

Yes, Franklin County

6. Does the Board of County Commissioners for each County listed in response to question 5, above, recommend this project or program to Triumph?

Yes, see Appendix 6 for letter from Franklin County Board of County Commissioners

Section 4: Approvals and Authority

1. Authority for executing agreement with Triumph Gulf Coast, Inc.

Dr. Gary K. Ostrander, Vice President for Research and President of the FSU Research Foundation, Florida State University.

2. Board or Commission Approvals. N/A

3. Describe the timeline for the proposed project or program if an award of funding is approved, including milestones that will be achieved following an award through completion of the proposed project or program.

<u>Project Deliverables Timelines</u>	<u>Yr-1</u>	<u>Yr-2</u>	<u>Yr-3</u>	<u>Yr-4</u>	<u>Yr-5</u>
Assess temporal and spatial changes in status of oyster communities	█	█	█		
Construct a pilot-scale oyster hatchery	█	█	█		
Bio-physical modeling		█	█		
Monitoring of oyster communities and their environment	█	█	█	█	█
Oyster population genetic structure		█	█		
Experimental ecology		█	█	█	
Coupled Ecosystem-Life History model				█	█
Management and restoration plan development				█	█
Targeted outreach to the community	█	█	█	█	█

Milestones:

- Assessment of temporal and spatial changes in oyster communities in Franklin County (completed by quarter 2, year 2)
- Construction a pilot-scale oyster hatchery (completed by quarter 2, year 3)
- Completion of bio-physical model that allows prediction of oyster recruitment and population connectivity (completed by quarter 4, year 2)
- On-going monitoring of oyster communities and their environment (conducted throughout years 1-5 with quarterly data updates)
- Evaluation of the oyster population genetic structure throughout Franklin County (completed quarter 3, year 2)
- On-going experiments on impact of different environmental conditions on oyster larval biology (completed quarter 4, year 2), responses of different genetic strains of oysters to a variety of environmental and other stress factors (completed quarter 2, year 3) and oyster restoration experiments (completed quarter 4, year 4)
- Completion and dissemination of a coupled ecosystem-life history model that can be used to forecast oyster productivity under different environmental scenarios (completed quarter 4, year 5)
- Development of an oyster management and restoration plan (completed quarter 4, year 5)
- On-going, targeted outreach to the community including K-12 education programs (years 1-5), stakeholder workshops (years 1-5), volunteer shell recycling programs (years 2-3) and hatchery internships (year 3 and on)

4. Approval Authority. Please see Appendix 7 for letter from VP Ostrander.

Section 5: Funding and Budget

- 1. Identify the amount of funding sought from Triumph Gulf Coast, Inc. and the time period over which funding is requested.**

We are requesting **\$7,998,678** from Triumph Gulf Coast, Inc. spread out over a period of five years as follows: Year 1 = \$1,984,334, Year 2 = \$2,072,065, Year 3 = \$1,795,935, Year 4 = \$1,093,982 and Year 5 = \$1,052,312 (please see Appendix 8 for a break-down of costs)

- 2. What percentage of total program or project costs does the requested award from Triumph Gulf Coast, Inc. represent?** (Please note that an award of funding will be for a defined monetary amount and will not be based on percentage of projected project costs.)

Florida State University will contribute **\$1,500,000 in direct cash support** of this project. Thus, **Triumph Gulf Coast Inc.** will assume **84.2%** of the project costs in years 1-5. However, it is anticipated that FSUCML faculty will also generate approximately **\$900,000** in related contracts and grants in years 3-5 to support of the overall ABSI effort. This contribution has not been factored into the percentage calculation above and in point 5B below.

- 3. Please describe the types and number of jobs expected from the proposed project or program and the expected average wage.**

At the end of the five-year period there will be **seven** full-time, permanent employees at FSUCML with an **average annual salary of \$63,950** (this does not include fringe benefits which amount to 30% of the base salary). In addition, there will be a large number of local temporary employees involved in the lab and field experiments. Furthermore, we expect the generated contracts & grants during this period to employ postdoctoral fellows, graduate research assistants and technicians. Note that in years 6-15 Florida State University will assume responsibility of the salaries of the seven permanent FSUCML employees at a total projected costs of **\$6,136,858** (please refer to Appendix 5).

- 4. Does the potential award supplement but not supplant existing funding sources?**

This award will supplement existing resources at the FSUCML provided by Florida State University and external contracts and grants. Triumph funding will allow FSUCML to undertake the ABSI project, which otherwise would not be feasible with existing resources.

5. **Please provide a Project/Program Budget.** Include all applicable costs and other funding sources available to support the proposal.

A. Project/Program Costs (See Appendix 8 for details)	
Renovations to existing buildings and enhancements of research infrastructure	\$750,000
Pilot-scale Oyster Hatchery	\$3,350,000
Research consultants	\$305,947
Permanent staff (includes fringe benefits)	\$2,670,959
Temporary staff (includes fringe benefits)	\$691,772
Research and outreach operations	\$1,480,000
Contingency	\$250,000
Total project costs	\$9,498,678
B. Other Project Funding Sources	
City/County	0
Private Sources	0
Other (Florida State University)	\$1,500,000
Total Other Funding	\$1,500,000
Total Amount Requested	\$7,998,678

Note: The total amount requested must equal the difference between the costs in 5A. and the other project funding sources in 5.B.

C. Provide a detailed budget narrative, including the timing and steps necessary to obtain the funding and any other pertinent budget-related information.

For the timing of expenditures please refer to Appendix 8. Justification and explanation of budget elements follows:

- Renovations to existing buildings and enhancements of research infrastructure - FSUCML has a broad array of in-house capabilities. However, it will be necessary to upgrade some capabilities at the lab. This includes extension and enhancement of the free-flowing sea water system, upgrade of bandwidth and IT infrastructure to accommodate increased staff and need to utilize on-campus computational capabilities for modeling/simulations and renovation of staff office space. In addition, during years 1 and 2 there will be a need for small capacity oyster broodstock conditioning, larval growth and setting on cultch. For this purpose, modifications will have to be made to existing lab space including the renovation of an interior lab for the growing of unicellular algal food for oyster larvae.
- Pilot-scale oyster hatchery - This facility will be a free-standing building which will be the most technologically complex structure at FSUCML. It will have the capability of

conditioning multiple strains of broodstock, triggering spawning, rearing larvae, allowing these larvae to develop to the appropriate stage to set on cultch and facilities for creating seed oysters. To achieve these activities there will be a need for mass algal culture capabilities and dry space for lab analysis of larvae. The sea water capabilities will have to be fairly sophisticated with capabilities of raising (and possibly lowering) temperature to achieve long-term reproductive conditioning. We expect that there will be at least three kinds of sea water available- raw with natural plankton, sand-filtered and ultra-filtered. In addition, it will be necessary to create a holding pond for the sea water and tank filtrates coming from the hatchery. The facility will be professionally designed with the assistance of a number of consultants.

- Research consultants - Professional consultants/collaborators will be employed to assist in the design of the pilot-scale hatchery, conduct the biophysical modeling, investigate the genetic structure of oyster populations in the region and create the ecosystem model to be made available to the public and conservation, scientific and regulatory communities.
- Permanent staff - Seven permanent staff will be hired including two faculty members: a restoration ecologist and an invertebrate ecophysiologicalist. A full-time administrative staff person is needed to handle fiscal/HR/purchasing functions as well as to facilitate communication and outreach efforts. A major portion of the ABSI effort will involve field work. A field biology technician will be hired to support this effort. The pilot-scale hatchery will require three full-time staff members including a director.
- Temporary staff - A postdoctoral fellow (years 1-3) and two graduate research assistants (years 2-5) will facilitate research. The postdoctoral fellow will assist the Project Director in ramping up all aspects of the efforts. The Project Director is an FSUCML Research Faculty member and will devote 25% of her effort to managing the scientific elements of ABSI. Project funds will be used to support this effort.
- Research and outreach operations - This will be a multi-faceted effort requiring additional funding from external contracts and grants secured by FSUCML faculty in years 3-5. Based on historic expenditures for related projects, we believe the funds requested are realistic.
- Contingency - We have prudently set aside \$250,000 from the FSU cost-share contribution as a contingency to mitigate unforeseen elements in the above expenditure categories.

Applicant understands that the Triumph Gulf Coast, Inc. statute requires that the award contract must include provisions requiring a performance report on the contracted activities, must account for the proper use of funds provided under the contract, and must include provisions for recovery of awards in the event the award was based upon fraudulent information or the awardee is not meeting the performance requirements of the award. **YES**

Applicant understands that awardees must regularly report to Triumph Gulf Coast, Inc. the expenditure of funds and the status of the project or program on a schedule determined by Triumph Gulf Coast, Inc. **YES**

Applicant acknowledges that Applicant and any co-Applicants will make books and records and other financial data available to Triumph Gulf Coast, Inc. as necessary to measure and confirm performance metrics and deliverables. **YES**

Applicant acknowledges that Triumph Gulf Coast, Inc. reserves the right to request additional information from Applicant concerning the proposed project or program. **YES**

Section 6: Addendum for Infrastructure Proposals

1. Program Requirements

A. Is the infrastructure owned by the public? **YES**

B. Is the infrastructure for public use or does it predominately benefit the public? **YES (predominately benefits the public)**

C. Will the public infrastructure improvements be for the exclusive benefit of any single company, corporation or business entity? **NO**

D. Provide a detailed explanation of how the public infrastructure improvements will connect to a broader economic development vision for the community and benefit additional current and future businesses.

A pilot-scale oyster hatchery will be constructed at the Florida State Coastal & Marine Laboratory consisting of the following components:

- Specialized infrastructure for providing temperature-controlled raw, partially-filtered and ultra-filtered natural sea water.
- Space for maintaining and conditioning oysters to reproductive maturity
- Space for inducing oyster spawning and fertilization of eggs.
- High capacity tanks and space for larval development to setting stage.
- Specialized space for generation of seed oysters.
- High capacity unicellular algal growth capabilities for larval nutrition with associated stock culture preparation and storage space.
- Sufficient space and capacity for cultch storage and preparation.
- High capacity space for setting of spat on cultch and maintenance of spat on cultch until ready for transfer to temporary nursery sites or directly for restoration.
- Specialized laboratory space for microscopic analysis of larvae and adult tissues.
- Specialized isolation capabilities to maintain integrity of distinct strains of oysters identified in the overall effort.
- Demonstration space for interns, students and visitors.

It is envisioned that the pilot-scale hatchery will consist of 6,250 gross square feet @ \$400/GSF for a total construction cost of \$2,500,000. Design, permitting and the extensive amount of specialized tanks and related structures (“soft” costs) will add \$850,000 to the total project cost.

Due to its experimental focus and facility functionalities, the FSUCML oyster hatchery will be a unique resource for Franklin County as well as the region. It will develop specialized techniques and know-how **nuanced to the region**. This includes novel conditioning, spawning, seed

production and larval setting on cultch techniques. Unique products will likely emerge such as strains of broodstock oysters more suited for site specific restoration efforts or aquaculture. The spat on cultch produced by the hatchery will be used in experimental restoration efforts and will provide bridge capacity for restoration efforts in the event a private sector, industrial scale hatchery is needed, constructed and brought on-line. From a broader economic perspective, the hatchery will be a vehicle to facilitate the restoration of the oyster fisheries in the bay. It will be an important training site for interns and other students for developing skills in oyster larval biology and aspects of aquaculture. Furthermore, the facilities will provide capabilities for development of culture techniques for other commercially important species. It is fully expected that the design and operational principles developed for this facility will be highly amenable for scaling up to create large, plant-scale facilities in Franklin County and elsewhere.

E. Provide a detailed description of, and quantitative evidence demonstrating how the proposed public infrastructure project will promote:

- Economic recovery- Construction will create a short-term impact through typical impact multipliers. Once completed and outfitted, three full time staff plus a number of interns will be required to operate the facility. The products of this facility will be critical for the conduct of the laboratory and field research experiments essential for development of the long-term bay restoration plan. Furthermore, the oyster hatchery will provide spat on cultch will be used in restoration of selected portions of the bay. The ultimate end point of the Apalachicola Bay System Initiative is to restore to some degree oyster fisheries and ecosystem services in the bay. The economic impact of such restoration is self-evident given the historic and current features of the economy in Franklin County. It will not be possible to undertake the path towards restoration without the hatchery.
- Economic Diversification- No such capability exists in Franklin County nor is it present 100 miles east or west of FSUCML. Transferable knowledge and skills will be provided to interns, students and others in the area of oyster hatchery procedures, handling and preparation of cultch as well as basic biological principles as applied to oysters and other commercially important bivalve mollusk species. It is anticipated that this kind of knowledge/expertise transfer will engender commercial activities heretofore not present in the county.
- *Enhancement of the disproportionately affected counties*- The oyster hatchery will be a key vehicle for development and implementation of the plan for recovering portions of the Apalachicola Bay and the ecosystem services that it provides. This will not only enhance economic development but will also impact the quality of life for residents and visitors as well.
- Enhancement of a Targeted Industry- Restoration of the health of the Apalachicola Bay ecosystem will strongly impact commercial and recreational fisheries, related processing and transport industries and ecotourism.

2. Additional Information

A. Is the project an expansion of an existing infrastructure project? NO

B. Provide the proposed beginning commencement date and number of days required to complete construction of the infrastructure project.

Construction will start at the beginning of the first quarter 1 of year 2 and conclude at the end of the second quarter year 3 (585 days to substantial completion and occupancy).

C. What is the location of the public infrastructure? (Provide the road number, if applicable.)

Florida State University Coastal & Marine Laboratory, 3618 Coastal Highway 98
St. Teresa, FL 32358-2702

D. Who is responsible for maintenance and upkeep? (Indicate if more than one are applicable.)

The staff of the Florida State University Coastal & Marine Laboratory will maintain and operate the facility.

E. What permits are necessary for the infrastructure project?

Detail whether required permits have been secured, and if not, detail the timeline for securing these permits. Additionally, if any required permits are local permits, will these permits be prioritized?

A permit for building construction will be obtained through the Florida State University Building Code official. This permit will be secured by the contractor prior to the start of construction, in the first quarter of year 2 of the project.

The project will also be subject to permitting with the Florida Department of Environmental Protection, Environmental Resource Program, for storm water. Depending on the requirements of the project, this permit or application will be made prior to the start of construction, in the first quarter of year 2 of the project.

F. What is the future land use and zoning designation on the proposed site of the Infrastructure improvement, and will the improvements conform to those uses?

The future land use and zoning designations (Franklin County) are Z-1, Public Facilities. The proposed infrastructure conforms to the allowable current and future uses in that designation.

G. Will an amendment to the local comprehensive plan or a development order be required on the site of the proposed project or on adjacent property to accommodate the infrastructure and potential current or future job creation opportunities? NO

H. Does this project have a local match amount? If yes, please describe the entity providing the match and the amount.

Yes. Florida State University is contributing \$1,500,000 in cash to the overall ABSI effort. Furthermore, in years 6-15 FSU will be paying the salaries of the permanent ABSI staff including the oyster hatchery director and two hatchery support staff.

I. Provide any additional information or attachments to be considered for this proposal.

Construction of this facility will be managed by FSU's Office of Facilities Design & Construction. The project manager will be Mary Jo Spector, Director of Research Facilities Design, Construction & Maintenance, who has oversight on projects linked to the Office of Research at the University.

Section 7: Appendices

List of Appendices:

Appendix 1: Financial Status of Applicant

Appendix 2: Apalachicola Bay System Initiative (ABSI) Detailed Objectives

Appendix 3: Economic Impacts of ABSI

Appendix 4: Letters of Support

- Apalachicola National Estuarine Research Reserve (ANERR)
- Florida Fish and Wildlife Conservation Commission, Marine Fisheries Division
- Florida Fish and Wildlife Conservation Commission, Molluscan Fisheries Division
- Florida Department of Agriculture and Consumer Services, Division of Aquaculture
- The Nature Conservancy
- Apalachicola Riverkeeper
- The Pew Charitable Trusts
- Florida Wildlife Federation
- National Wildlife Federation

Appendix 5: Cost Break-Down of Florida State University's Commitment for the Salaries of FSUCML Faculty and Staff in Year 6 and Beyond

Appendix 6: Endorsement Letter from the Franklin County Board of Commissioners

Appendix 7: Approval Authority Letter from Dr. Gary K. Ostrander, Vice President for Research & President of the FSU Research Foundation, Florida State University

Appendix 8: Detailed Break-Down of ABSI Costs During Years 1-5

Appendix 1: Financial Status of the Applicant



FLORIDA STATE UNIVERSITY

ANNUAL REPORT 2016-2017





FLORIDA STATE UNIVERSITY
ANNUAL REPORT 2016-2017

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MESSAGE FROM THE PRESIDENT

As we welcome a new fiscal year, I am proud to reflect on the accomplishments of Florida State University's students, faculty, and staff. The university has made considerable progress as we endeavor to continually advance our academic mission, transform the lives of our students, and create exceptional value for the State of Florida.

The past twelve months were defined by remarkable academic success. Our historically strong four-year graduation rate increased by five percentage points to 65 percent, earning FSU a place among the top 20 public universities nationally. More students than ever seek to attend Florida State: a record 42,325 students submitted applications for admission to the 2017 summer and fall semesters, representing a 16 percent increase over the prior year. This fall, we welcomed the most academically talented class in the university's history with an impressive average GPA of 4.1 and an average ACT score of 29.

These achievements demonstrate the substance behind our significant strides toward becoming ranked among the Top 25 public universities in the nation. Florida State leapt forward five places to number 33 – the greatest gain of all of the Top 50 public universities – in the U.S. News & World Report's "Best Colleges 2018" guidebook.

Our faculty are driven by their passion to innovate, discover, and expand knowledge. Evidence of their outstanding efforts came last year when FSU was recognized among the top 50 universities worldwide for U.S. patents granted. We are working hard to hire even more distinguished faculty with the dual purpose of broadening our impact in vital research areas as well as enriching the student experience through an enhanced student/faculty ratio.

Alumni and friends continue to promote our success through their generous and purposeful giving. Florida State University's "Raise the Torch" campaign has energized our community and is set to achieve its \$1 billion goal well before its end date next year. FSU's alumni continue to give at a rate that is among the best in the country. The new Jim Moran School of Entrepreneurship welcomed its inaugural class this fall, less than two years after Jan Moran and the Jim Moran Foundation gave a transformative \$100 million to enable Florida State's singular leadership in the realm of entrepreneurial education.

Our newly adopted five-year strategic plan reinforces our upward momentum and outlines a future centered on our strengths. Faculty, students, staff, and alumni from all of our colleges, programs, and disciplines provided input for this plan. FSU is setting its sights on six key priorities: committing to continuous innovation; pursuing excellence across all of our academic programs; realizing the full potential of diversity and inclusion; ensuring student success on campus and beyond; preparing our graduates for 21st century careers; and investing strategically in our institution and reputation.

Thanks to the dedicated work of the entire Florida State family, we look to the future with great optimism. We have set our sights high, and we know the way forward.

John Thrasher, President
Florida State University



KYLE C. CLARK

INTRODUCTION FROM THE VICE PRESIDENT FOR FINANCE AND ADMINISTRATION

Florida State University has achieved extraordinary success strategically, financially, and operationally during the past fiscal year. It is my pleasure to share several notable accomplishments as I present Florida State University's 2016-2017 Annual Financial Report.

STRATEGIC PLAN

Our new five-year strategic plan, "The Future is Florida State," builds on FSU's mission, strengths, and core values to provide an ambitious framework as we endeavor to become among the most entrepreneurial and innovative universities in the nation. The plan was the result of contributions from faculty, students, staff, and alumni across FSU. We have focused on several fundamental goals that work together to illuminate

the path forward. These objectives have been incorporated into our budgeting process to ensure that resources are aligned with priorities.

PREMINENCE & PERFORMANCE FUNDING

Florida State University has completed its third year as one of two preeminent universities designated by the Florida Legislature. Again, FSU met all 12 of the required metrics, and preeminence- and performance- based funding increased by \$20.8 million and \$2.9 million, respectively. These resources have been utilized to make investments in faculty hires, improve recruiting tools for prospective students, enhance financial aid offerings, create additional opportunities for need-based and merit-based scholarships, as well as fund efforts to enhance our strong graduation and retention rates.

OPERATIONAL EFFECTIVENESS

For the sixth consecutive year, Florida State University is among the most efficient of the nation's highest ranked universities, according to a new list by U.S. News & World Report. FSU is No. 2 among national universities on the list and has placed first or second every year since 2013.

- FSU's outstanding reputation for efficiency reflects how deeply we take to heart our stewardship as a public institution of the State of Florida. Many key initiatives and accomplishments over the past year clearly demonstrate our commitment to continuously improving on this strength.
- Florida State announced an innovative new dining services contract with Sodexo. Worth more than \$173 million over 10 years, this contract merges residential, retail, concessions, and catering and includes unique components such as locally sourced menu options, internships and scholarships for students, funding for sustainability initiatives, and highlights celebrity chef and FSU alumnus Art Smith as our campus Culinary Ambassador.
- Cost savings and cost avoidance have resulted from the development and introduction of a research asset management system. This web-based portal catalogs, tracks, and promotes the shared use of scientific equipment across campus and leverages existing technologies to meet an emerging need. The system was awarded a Prudential Productivity Award by Florida TaxWatch.
- We continued to hone our budgeting system and policies as we strive toward greater transparency and efficiency for campus users. The system was awarded a Prudential Productivity Award by Florida TaxWatch and was recognized by the Southern Association of College and University Business Officers as an outstanding business practice.
- FSU's Procurement Services office was recognized for the second year in a row by the National Procurement Institute's Achievement of Excellence in Procurement Award. Among other initiatives, a new on-campus lab supply service opened its doors, providing enhanced service and inventory control as well as cost savings.
- Lean principles and practices have been used to analyze and further improve administrative processes, and emphasize continuous improvement, employee engagement and customer satisfaction. Significant improvements have been made in the vehicle immobilization process and facilities work order system.
- The Office of Inspector General Services became the first among its peers to receive accreditation from the Commission for Florida Law Enforcement Accreditation.
- We continue to realize cost savings and cost avoidance of more than \$39 million by negotiating, maintaining, and expanding the use of strategic sourcing, shared initiatives, buying consortiums, and enterprise software agreements that support strategically aligned initiatives across the University community. The university community has focused on strategies for streamlining operations, reducing costs and optimizing processes and policies, along with new services products, services and standards that benefit students, faculty and staff.

FACILITIES

Construction crews across campus are working diligently to bring a variety of facilities improvement projects to fruition.

- Magnolia and Azalea Halls, Phase 2 of the \$120 million residence hall project, opened for occupancy at the start of the 2017-2018 academic year. This complex includes a unique food service concept situated along an active roadway adjacent to campus.
- The Jim Moran School of Entrepreneurship and Jim Moran Institute for Global Entrepreneurship will occupy the renovated Guaranty Bank Building in downtown Tallahassee this spring. This one-of-a-kind facility will accommodate collaboration and connection in support of FSU's efforts to lead the way in entrepreneurial education.
- The new Black Student Union will open this spring. In 2016, the Florida Legislature awarded \$1.5 million to support the construction of the union, which houses exhibit space, student lounge areas, and multipurpose spaces.
- Florida State is initiating work to conceptualize the Oglesby Union expansion project adjacent to the soon-to-be-completed reconstructed Earth, Ocean, and Atmospheric Science (EOAS) building. Together, these two projects will transform a vital entryway to campus, offering a modern and student-centered introduction to FSU.

If the achievements of the past twelve months are any indication, the Florida State University community has much to look forward to in the coming year.



UNIVERSITY OVERVIEW

Florida State University - A Component Unit of the State of Florida



ABOUT FSU

Florida State University is a premier, comprehensive, graduate research university offering a broad array of academic and professional programs at all degree levels. Located in Tallahassee, Florida's capital city, and founded in 1851, FSU is the oldest of the twelve public institutions of higher learning in the State University System. The university is fully accredited by the Commission on Colleges of the Southern Association of Colleges and Schools and is officially designated as a preeminent research university in the state by the Florida Legislature.

MISSION AND VISION

Florida State University preserves, expands, and disseminates knowledge in the sciences, technology, arts, humanities, and professions, while embracing a philosophy of learning strongly rooted in the traditions of the liberal arts. The university is dedicated to excellence in teaching, research, creative endeavors, and service. The university strives to instill the strength, skill, and character essential for lifelong learning, personal responsibility, and sustained achievement within a community that fosters free inquiry and embraces diversity.

Florida State University endeavors to be among the nation's most entrepreneurial and innovative universities, transforming the lives of our students and shaping the future of our state and society through exceptional teaching, research, creative activity, and service. We strive to amplify these efforts through our distinctive climate – one that places a premium on interdisciplinary inquiry and draws from the rich intellectual and personal diversity of our students, faculty, staff, and alumni. These three forces – entrepreneurship, interdisciplinary, and diversity – deepen FSU's impact and result in a powerful return to our students and the people of Florida for their continued support and trust.

ACADEMICS

Florida State University offers leading undergraduate, graduate, and professional programs that consistently rank among the nation's top twenty-five public universities. Baccalaureate degrees are offered in 107 programs, master's degrees in 126 programs, advanced master's/specialist degrees in 25 programs, doctorates in 80 programs, and three professional degrees.

STUDENTS

Designated as a Carnegie Research University, Florida State awards more than 3,000 graduate and professional degrees each year, and is recognized as a national leader in the number of doctorates awarded to African-American students and in the graduation rate of African-American undergraduates.

During the Fall 2016 semester, there were 22 freshmen and 59 total undergraduate National Merit Scholars enrolled at Florida State University. The middle 50 percent high school GPA for the Fall 2016 freshman class was 3.8-4.3 and middle 50 percent SAT scores were 1160-1290.

With more than 41,000 students enrolled in Fall 2016, the student body was comprised of 78 percent undergraduates, 19 percent graduates, and 3 percent unclassified. Our student body is diverse and represents every county in Florida, all 50 states, and 130 countries. Minorities represent 33 percent, and women represent 55 percent of our students.



UNIVERSITY OVERVIEW

Florida State University - A Component Unit of the State of Florida



FACULTY

At Florida State University, we are fortunate that our faculty comprises men and women who are widely acknowledged as the finest in their fields. They have distinguished themselves in many disciplines and have gained the high regard of peers around the world. Their academic careers are marked by excellence and the excitement of discovery so important to educating the next generation.

Our faculty members continually strive to build stronger programs in critical areas of technology and science and in the arts and humanities. The result is the expansion of knowledge as well as the discovery of new inventions, products, and processes benefiting the state of Florida, our nation, and the world.

RESEARCH

Research and creative activity is about discovery. It is about having an idea and finding the right environment in which to explore that idea. At FSU, we take great pride in our ability to provide supportive environments for the exploration of all types of ideas; and with approximately \$200 million in research expenditures each year, and more than 50 prominent research centers and institutes calling our campuses home, FSU continues to be one of the top idea-incubators in the nation.

Florida State University is also home to the National High Magnetic Field Laboratory (NHMFL), funded by the National Science Foundation. The only national lab in Florida, the NHMFL holds the most world records for the most powerful magnets on earth. Other research centers, such as the Center for Advanced Power Systems (CAPS), are supported by the U.S. Departments of Defense and Energy. The NHMFL and CAPS, among other labs, place Florida State University at the cutting edge of research and its application to industry.

DIVERSITY

At Florida State University, we recognize that every competitive advantage begins with people. By valuing, celebrating, and leveraging the differences and similarities of our students, faculty, and staff, we inspire an environment of innovation and passion – one that enables us to create a teaching, research, and service environment that better reflects the needs of our students, faculty, staff, customers, constituents, communities, and other key stakeholders.

VETERANS

The Florida State University Veterans Alliance represents the university's campus-wide commitment to veteran support and success. The Veterans Alliance encompasses FSU's initiatives that ease the transition from military service to campus life, foster a community of past, present, and future veterans, raise awareness of veterans issues among campus and local communities, and support student veterans through graduation and into rewarding careers and graduate-education programs. It is the goal of the Veterans Alliance that FSU be the most veteran-friendly and veteran-empowering university in the country.

FLORIDA STATE UNIVERSITY IN 2016-17

FSU's rankings and achievements during fiscal year 2016-17 include:

- The University jumped five places, the greatest gain of all the Top 50 public universities, in the *U.S. News & World Report's* "Best Colleges 2017" guidebook
- FSU was ranked by *Kiplinger's Personal Finance* as the 12th best value among public colleges for out-of-state students, a seven-place jump over last year
- Florida State was recognized for a second consecutive year by *INSIGHT Into Diversity* magazine as a "Diversity Champion" in higher education
- FSU was one of four universities to earn the 2017 Senator Paul Simon Award for Campus Internationalization for the University's extensive offerings in global education
- University researchers brought in record funding of \$35.8 million from the National Institutes of Health, more than double the amount the University received five years ago
- College of Motion Picture Arts alumnus Barry Jenkin's film "Moonlight" won the Academy Award for Best Picture
- The University was the only Football Bowl Subdivision (FBS) school in the nation to have each of its sports advance to the NCAA postseason
- For the fifth consecutive year, FSU placed in the top two most efficient universities, according to *U.S. News & World Report*





Sherrill F. Norman, CPA
Auditor General

AUDITOR GENERAL STATE OF FLORIDA

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The President of the Senate, the Speaker of the
House of Representatives, and the
Legislative Auditing Committee

INDEPENDENT AUDITOR'S REPORT

Report on the Financial Statements

We have audited the accompanying financial statements of Florida State University, a component unit of the State of Florida, and its aggregate discretely presented component units as of and for the fiscal year ended June 30, 2017, and the related notes to the financial statements, which collectively comprise the University's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We did not audit the financial statements of the aggregate discretely presented component units, which represent 100 percent of the transactions and account balances of the aggregate discretely presented component units' columns. Those statements were audited by other auditors whose reports have been furnished to us, and our opinion, insofar as it relates to the amounts included for the aggregate discretely presented component units, is based solely on the reports of the other auditors. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, based on our audit and the reports of other auditors, the financial statements referred to above present fairly, in all material respects, the respective financial position of Florida State University and of its aggregate discretely presented

component units as of June 30, 2017, and the respective changes in financial position and, where applicable, cash flows thereof for the fiscal year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matter

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that **MANAGEMENT'S DISCUSSION AND ANALYSIS**, the **Schedule of Funding Progress – Other Postemployment Benefits Plan**, **Schedule of Net Pension Liability – Florida Retirement System Defined Benefit Pension Plan**, **Schedule of Contributions – Florida Retirement System Defined Benefit Pension Plan**, **Schedule of Net Pension Liability – Health Insurance Subsidy Defined Benefit Pension Plan**, and **Schedule of Contributions – Health Insurance Subsidy Defined Benefit Pension Plan**, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise Florida State University's basic financial statements. The Message from the President, Introduction from the Vice President for Finance and Administration, and University Overview, as listed in the table of contents, are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The Message from the President, Introduction from the Vice President for Finance and Administration, and University Overview have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued a report dated March 6, 2018, on our consideration of Florida State University's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, rules, regulations, contracts, and grant agreements and other matters included under the heading **INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS**. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering Florida State University's internal control over financial reporting and compliance.

Respectfully submitted,



Sherrill F. Norman, CPA
Tallahassee, Florida
March 6, 2018
Audit Report No. 2018-129





MANAGEMENT'S DISCUSSION AND ANALYSIS

Florida State University - A Component Unit of the State of Florida

Management's discussion and analysis (MD&A) provides an overview of the financial position and activities of the University for the fiscal year ended June 30, 2017, and should be read in conjunction with the financial statements and notes thereto. The MD&A, and financial statements and notes thereto, are the responsibility of University management. The MD&A contains financial activity of the University for the fiscal years ended June 30, 2017, and June 30, 2016.

OVERVIEW OF FINANCIAL STATEMENTS

Pursuant to GASB Statement No. 35, the University's financial report includes three basic financial statements: the statement of net position; the statement of revenues, expenses, and changes in net position; and the statement of cash flows. The financial statements, and notes thereto, encompass the University and its component units. Based upon the application of the criteria for determining component units, the Florida State University College of Medicine Self-Insurance Program is included within the University reporting entity as a blended component unit. In addition, twelve component units are included within the University reporting entity as discretely presented component units. Information regarding these component units, including summaries of the discretely presented component units' separately issued financial statements, is presented in the notes to financial statements. This MD&A focuses on the University, excluding the component units. For those component units reporting under GASB standards, MD&A information is included in their separately issued audit reports.

THE STATEMENT OF NET POSITION

The statement of net position reflects the assets, deferred outflows of resources, liabilities, and deferred inflows of resources of the University, using the accrual basis of accounting, and presents the financial position of the University at a specified time. Assets, plus deferred outflows of resources, less liabilities, less deferred inflows of resources, equals net position, which is one indicator of the University's current financial condition. The changes in net position that occur over time indicate improvement or deterioration in the University's financial condition.

Condensed Statement of Net Position at June 30 (In Thousands)

	2017	2016
Assets		
Current Assets	\$ 759,057	\$ 786,342
Capital Assets, Net	1,934,318	1,893,823
Other Noncurrent Assets	124,133	124,939
Total Assets	2,817,508	2,805,104
Deferred Outflows of Resources	123,927	64,812
Liabilities		
Current Liabilities	178,755	197,530
Noncurrent Liabilities	680,512	572,812
Total Liabilities	859,267	770,342
Deferred Inflows of Resources	2,337	24,481
Net Position		
Net Investment in Capital Assets	1,668,116	1,635,368
Restricted	258,112	229,688
Unrestricted	153,603	210,037
Total Net Position	\$ 2,079,831	\$ 2,075,093

The University's assets totaled \$2.8 billion at June 30, 2017. This balance reflects a \$12.4 million, or less than 1 percent, increase as compared to the 2015-16 fiscal year.

Funds utilized for new construction by the University on behalf of the Seminole Boosters component unit decreased current liabilities by \$29.6 million. This decrease in current liabilities was partially offset by a \$6.6 million increase in unearned revenue, primarily caused by an increase in capital appropriations from the State. These two factors were the principal drivers of the overall \$18.8 million, or 9.5 percent, decrease in current liabilities.

The \$107.7 million, or 18.8 percent, increase in noncurrent liabilities is primarily attributable to an increase of \$98.1 million in net pension liability and a \$6.7 million increase in other postemployment benefits payable (OPEB). Deferred outflows and deferred inflows of resources also relate to pensions, with deferred outflows of pension resources increasing \$59.1 million, or 91.2 percent and deferred inflows of pension resources decreasing by \$22.1 million, or 90.5 percent. These changes in pension-related balances were driven by changes in the University's proportionate share of the State's net pension liabilities, along with differences between actual and expected experience of the plans based on updated actuarial valuations.

As a result, the University's net position increased by \$4.7 million, and remained consistent in total with the prior year's balance of \$2.1 billion.

THE STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

The statement of revenues, expenses, and changes in net position presents the University's revenue and expense activity, categorized as operating and nonoperating. Revenues and expenses are recognized when earned or incurred, regardless of when cash is received or paid.

Condensed Statement of Revenues, Expenses, and Changes in Net Position For the Fiscal Years (In Thousands)

	2016-17	2015-16
Operating Revenues	\$ 598,718	\$ 590,541
Less, Operating Expenses	(1,148,356)	(1,101,212)
Operating Loss	(549,638)	(510,671)
Net Nonoperating Revenues	531,546	537,182
Gain (Loss) Before Other Revenues, Expenses, Gains or Losses	(18,092)	26,511
Other Revenues, Expenses, Gains, or Losses	22,830	37,669
Net Increase in Net Position	4,738	64,180
Net Position, Beginning of Year	2,075,093	2,010,913
Net Position, End of Year	\$ 2,079,831	\$ 2,075,093



MANAGEMENT'S DISCUSSION AND ANALYSIS

Florida State University - A Component Unit of the State of Florida

OPERATING REVENUES

GASB Statement No. 35 categorizes revenues as either operating or nonoperating. Operating revenues generally result from exchange transactions where each of the parties to the transaction either give up or receive something of equal or similar value.

Operating Revenues (In Thousands)

	2016-17	2015-16
Net Tuition and Fees	\$ 248,668	\$ 253,263
Grants and Contracts	176,880	168,362
Sales and Services of Auxiliary Enterprises	168,882	160,914
Other	4,288	8,002
Total Operating Revenues	\$ 598,718	\$ 590,541

The University's operating revenues totaled \$598.7 million for the 2016-17 fiscal year, representing a 1.4 percent increase over the 2015-16 fiscal year. Net tuition and fees decreased by \$4.6 million, or 1.8 percent, primarily due to an increase of \$6.6 million in scholarship allowances. After decreasing in the prior fiscal year, Federal, State, and Local grants and contracts revenues increased by \$8.5 million, or 5.1 percent.

OPERATING EXPENSES

Expenses are categorized as operating or nonoperating. The majority of the University's expenses are operating expenses as defined by GASB Statement No. 35. GASB gives financial reporting entities the choice of reporting operating expenses in the functional or natural classifications. The University has chosen to report the expenses in their natural classification on the statement of revenues, expenses, and changes in net position and has displayed the functional classification in the notes to financial statements.

Operating Expenses (In Thousands)

	2016-17	2015-16
Compensation and Employee Benefits	\$ 732,050	\$ 688,868
Services and Supplies	219,481	212,630
Utilities and Communications	34,092	36,411
Scholarships, Fellowships and Waivers	83,229	83,250
Depreciation	79,504	80,053
Total Operating Expenses	\$ 1,148,356	\$ 1,101,212

Operating expenses totaled \$1.1 billion for the 2016-17 fiscal year, representing an increase of \$47.1 million, or 4.3 percent, over the 2015-16 fiscal year. Compensation and employee benefits increased by \$43.2 million, or 6.3 percent increase, primarily due to a \$22.4 million increase in the recognition of actuarially determined pension expense.

NONOPERATING REVENUES AND EXPENSES

Certain revenue sources that the University relies on to provide funding for operations, including State noncapital appropriations, Federal and State student financial aid, certain gifts and grants, and investment income, are defined by GASB as nonoperating. Nonoperating expenses include capital financing costs and other costs related to capital assets.

Nonoperating Revenues (Expenses) (In Thousands)

	2016-17	2015-16
State Noncapital Appropriations	\$ 424,808	\$ 395,276
Federal and State Student Financial Aid	83,026	87,317
Noncapital Grants, Contracts, and Gifts	46,036	49,725
Investment Income, Net of Expenses	10,606	10,069
Net Increase (Decrease) in Fair Value of Investments	(14,739)	9,119
Other Nonoperating Revenues	1,203	4,082
Loss on Disposal of Capital Assets	(4,111)	(4,782)
Interest on Capital Asset-Related Debt	(8,455)	(9,055)
Other Nonoperating Expenses	(6,828)	(4,569)
Net Nonoperating Revenues	\$ 531,546	\$ 537,182

State noncapital appropriations increased by \$29.5 million, or 7.5 percent, primarily due to preeminence and performance based funding. The fair value of investments decreased by \$23.9 million, or 261.6 percent, which was driven by a decrease in the fair value of underlying securities held in the State Treasurer's Investment Pool. Overall, net nonoperating revenues totaled \$531.5 million, representing a decrease of \$5.6 million, or 1 percent, from the 2015-16 fiscal year.

OTHER REVENUES, EXPENSES, GAINS, OR LOSSES

This category is composed of State capital appropriations and capital grants, contracts, donations, and fees.

Other Revenues, Expenses, Gains, or Losses (In Thousands)

	2016-17	2015-16
State Capital Appropriations	\$ 14,034	\$ 8,194
Capital Grants, Contracts, Donations, and Fees	8,796	29,475
Total	\$ 22,830	\$ 37,669

State capital appropriations increased by \$5.8 million, or 71.3 percent, mainly due to an increase in public education capital outlay funding, the largest portion of which was related to the construction of the Earth, Ocean, and Atmospheric Science Building. The acquisition of capital assets as a result of the University's assumption of budgetary management for the joint FAMU/FSU College of Engineering in the previous fiscal year drove a higher than usual capital grants, contracts, donations, and fees balance in 2015-16; as a result, this balance decreased by \$20.7 million, or 70.2 percent, in the current fiscal year.

THE STATEMENT OF CASH FLOWS

The statement of cash flows provides information about the University's financial results by reporting the major sources and uses of cash and cash equivalents. This statement will assist in evaluating the University's ability to generate net cash flows, its ability to meet its financial obligations as they come due, and its need for external financing. Cash flows from operating activities show the net cash used by the operating activities of the University. Cash flows from capital financing activities include all plant funds and related long-term debt activities. Cash flows from investing activities show the net source and use of cash related to purchasing or selling investments, and earning income on those investments. Cash flows from noncapital financing activities include those activities not covered in other sections.

Condensed Statement of Cash Flows (In Thousands)

	2016-17	2015-16
Cash Provided (Used) by:		
Operating Activities	\$ (429,730)	\$ (424,873)
Noncapital Financing Activities	521,360	572,561
Capital and Related Financing Activities	(123,880)	(86,842)
Investing Activities	27,049	(68,975)
Net Decrease in Cash and Cash Equivalents	(5,201)	(8,129)
Cash and Cash Equivalents, Beginning of Year	18,340	26,469
Cash and Cash Equivalents, End of Year	\$ 13,139	\$ 18,340

Major sources of funds came from State noncapital appropriations (\$424.8 million), net student tuition and fees (\$249.6 million), grants and contracts (\$174.5 million), sales and services of auxiliary enterprises (\$170.9 million), and Federal and State student financial aid (\$83 million). Major uses of funds were for payments made to and on behalf of employees (\$701.5 million), payments to suppliers (\$256.2 million), payments to and on behalf of students for scholarships (\$83.2 million), and the purchase or construction of capital assets (\$115.7 million).

CAPITAL ASSETS

At June 30, 2017, the University had \$2.9 billion in capital assets, less accumulated depreciation of \$1 billion, for net capital assets of \$1.9 billion. Depreciation charges for the current fiscal year totaled \$79.5 million.

Capital Assets, Net at June 30 (In Thousands)

	2017	2016
Land	\$ 83,426	\$ 78,606
Buildings	1,443,660	1,457,303
Infrastructure and Other Improvements	70,484	68,140
Furniture and Equipment	99,750	108,212
Library Resources	33,326	32,427
Works of Art and Historical Treasures	74,972	74,483
Construction in Progress	128,700	74,652
Capital Assets, Net	\$ 1,934,318	\$ 1,893,823

Additional information about the University's capital assets is presented in the notes to financial statements.

CAPITAL EXPENSES AND COMMITMENTS

Major capital expenses through June 30, 2017, were incurred on the following projects: University Housing Expansion, Phase 2 totaling \$69.9 million, Doak Campbell Stadium Scoreboard totaling \$14.8 million, and Earth, Ocean, and Atmospheric Science Building totaling \$6.9 million.

Major Capital Commitments, at June 30 (In Thousands)

	2017
Total Committed	\$ 268,469
Completed to Date	(128,700)
Balance Committed	\$ 139,769

Additional information about the University's capital commitments is presented in the notes to financial statements.

DEBT ADMINISTRATION

As of June 30, 2017, the University had \$264.4 million in outstanding capital improvement debt, representing a decrease of \$13.3 million, or 4.8 percent, from the prior fiscal year.

Long-Term Debt, at June 30 (In Thousands)

	2017	2016
Capital Improvement Debt	\$ 264,385	\$ 277,728
Loans and Notes Payable	159	252
Total	\$ 264,544	\$ 277,980

Additional information about the University's long-term debt is presented in the notes to financial statements.

ECONOMIC FACTORS THAT WILL AFFECT THE FUTURE

As a public institution, the condition of the State of Florida's economy is the primary factor impacting the University's future. The 2017-18 budget adopted by the Florida Legislature included total recurring General Revenue and Lottery funding for the University of \$414.9 million, which represented an increase from the prior fiscal year of \$45.5 million. The University also received State Capital Appropriations of \$16 million for a new Earth, Ocean, and Atmospheric Science (EOAS) building, \$6.8 million for a new Interdisciplinary Research Commercialization Building (IRCB), \$5 million for a new College of Business Building, \$4.3 million for Student Union renovations, \$4.2 million for a STEM Teaching Lab, and \$6.6 million for building maintenance and repairs. State funding for the EOAS building and the Student Union now totals \$56.9 million and \$23.0 million, respectively.

Student tuition was unchanged for the fourth consecutive year, as the cost of higher education remains a concern of the State Legislature; however, the State has shown a willingness to aid the University's efforts to elevate FSU's reputation as a preeminent research institution. This shared commitment to increased excellence was evidenced by the inclusion of new recurring funding to FSU of \$17.3 million of preeminence money, \$11.7 million for a World Class Faculty and Scholar Program, and \$9.5 million for a Professional and Graduate Degree Excellence Program.

In addition to State funding and tuition and fees, the University receives a large share of revenues from other sources such as grants and contracts and auxiliary operations. Additionally, the University's ability to fundraise remains strong, as reflected in the successful Raise the Torch Campaign, which will end on June 30, 2018, and is anticipated to exceed its \$1 billion goal. Given this diversification of resources and the sustained commitment of the Legislature and Governor to support Florida State University's initiative to become a top 25 public university, the future for FSU looks extremely positive.

REQUESTS FOR INFORMATION

Questions concerning information provided in the MD&A or other required supplemental information, and financial statements and notes thereto, or requests for additional financial information should be addressed to the University Controller's Office, Florida State University, 2200A University Center, Tallahassee, Florida 32306.



STATEMENT OF NET POSITION AS OF JUNE 30, 2017 (in thousands)

Florida State University - A Component Unit of the State of Florida

	University	Component Units
ASSETS		
Current Assets:		
Cash and Cash Equivalents	\$ 10,544	\$ 38,026
Investments	618,788	152,147
Accounts Receivable, Net	45,663	89,581
Loans and Notes Receivable, Net	1,840	8
Due from State	62,224	-
Due from Component Units/University	6,162	28,115
Inventories	2,381	162
Other Current Assets	11,455	1,084
Total Current Assets	759,057	309,123
Noncurrent Assets:		
Restricted Cash and Cash Equivalents	2,595	18,175
Restricted Investments	108,881	619,897
Loans and Notes Receivable, Net	8,173	33,836
Depreciable Capital Assets, Net	1,647,220	227,027
Nondepreciable Capital Assets	287,098	24,843
Other Noncurrent Assets	4,484	113,695
Total Noncurrent Assets	2,058,451	1,037,473
TOTAL ASSETS	2,817,508	1,346,596
DEFERRED OUTFLOWS OF RESOURCES		
Related to Pensions	123,927	-
Loss on Debt Refunding	-	2,316
LIABILITIES		
Current Liabilities:		
Accounts Payable	\$ 13,326	\$ 13,522
Construction Contracts Payable	11,078	-
Salaries and Wages Payable	26,874	-
Deposits Payable	10,075	28
Due to Component Units/University	20,937	18,941
Unearned Revenue	71,235	17,950
Other Current Liabilities	1,437	3,674
Long-Term Liabilities - Current Portion:		
Capital Improvement Debt Payable	14,599	-
Bonds Payable	-	5,932
Loans and Notes Payable	86	1,141
Accrued Self-Insurance Claims	123	-
Compensated Absences Payable	4,891	-
Revenue Received in Advance	1,730	31,723
Net Pension Liability	2,364	-
Total Current Liabilities	178,755	92,911
Noncurrent Liabilities:		
Capital Improvement Debt Payable	249,786	-
Bonds Payable	-	164,688
Loans and Notes Payable	73	28,963
Accrued Self-Insurance Claims	401	-
Compensated Absences Payable	67,878	1,103
Revenue Received in Advance	15,480	34,547
Other Noncurrent Liabilities	19,398	7,604
Other Postemployment Benefits Payable	71,849	-
Net Pension Liability	255,647	-
Total Noncurrent Liabilities	680,512	236,905
TOTAL LIABILITIES	859,267	329,816
DEFERRED INFLOWS OF RESOURCES		
Related to Pensions	2,337	-
NET POSITION		
Net Investment in Capital Assets	\$ 1,668,116	\$ 68,766
Restricted for Nonexpendable, Endowment	-	484,993
Restricted for Expendable:		
Debt Service	3,716	-
Loans	3,961	-
Capital Projects	89,358	-
Other	161,077	77,089
Endowment	-	237,133
Unrestricted	153,603	151,115
TOTAL NET POSITION	\$ 2,079,831	\$ 1,019,096

The accompanying notes to financial statements are an integral part of this statement.



STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION FOR THE FISCAL YEAR ENDED JUNE 30, 2017 (in thousands)

Florida State University - A Component Unit of the State of Florida

	University	Component Units
OPERATING REVENUES		
Student Tuition and Fees, Net of Scholarship Allowances of \$132,181	\$ 248,668	\$ -
Federal Grants and Contracts	142,633	-
State and Local Grants and Contracts	21,469	-
Nongovernmental Grants and Contracts	12,778	-
Sales and Services of Auxiliary Enterprises	168,882	-
Sales and Services of Component Units	-	30,523
Royalties and Licensing Fees	-	13,853
Gifts and Donations	-	81,480
Interest on Loans and Notes Receivable	281	-
Other Operating Revenues	4,007	19,758
Total Operating Revenues	598,718	145,614
OPERATING EXPENSES		
Compensation and Employee Benefits	732,050	29,236
Services and Supplies	219,481	132,105
Utilities and Communications	34,092	340
Scholarships, Fellowships, and Waivers	83,229	-
Depreciation	79,504	9,472
Total Operating Expenses	1,148,356	171,153
OPERATING LOSS	(549,638)	(25,539)
NONOPERATING REVENUES (EXPENSES)		
State Noncapital Appropriations	424,808	-
Federal and State Student Financial Aid	83,026	-
Noncapital Grants, Contracts, and Gifts	46,036	-
Investment Income	10,647	17,535
Net Increase (Decrease) in the Fair Value of Investments	(14,739)	54,531
Investment Expense	(41)	(104)
Other Nonoperating Revenues	1,203	7,514
Gain (Loss) on Disposal of Capital Assets	(4,111)	1,195
Interest on Capital Asset-Related Debt	(8,455)	(5,942)
Other Nonoperating Expenses	(6,828)	(9,434)
NET NONOPERATING REVENUES	531,546	65,295
Income (Loss) Before Other Revenues, Expenses, Gains, or Losses	(18,092)	39,756
State Capital Appropriations	14,034	-
Capital Grants, Contracts, Donations, and Fees	8,796	11,562
Additions to Permanent Endowments	-	14,051
Increase in Net Position	4,738	65,369
Net Position, Beginning of Year	2,075,093	953,714
Adjustments to Net Position, Beginning of Year	-	13
Net Position, Beginning of Year (As Restated)	2,075,093	953,727
NET POSITION, END OF YEAR	\$ 2,079,831	\$ 1,019,096



STATEMENT OF CASH FLOWS FOR THE FISCAL YEAR ENDED JUNE 30, 2017 (in thousands)

Florida State University - A Component Unit of the State of Florida

	University
CASH FLOWS FROM OPERATING ACTIVITIES	
Tuition and Fees, Net	\$ 249,572
Grants and Contracts	174,508
Sales and Services of Auxiliary Enterprises	170,881
Interest on Loans and Notes Receivable	281
Other Operating Receipts	15,142
Payments to Employees	(701,497)
Payments to Suppliers for Goods and Services	(256,155)
Payments to Students for Scholarships and Fellowships	(83,229)
Payments on Self-Insurance Claims	(56)
Loans issued to Students	(1,796)
Collections on Loans to Students	2,619
Net Cash Used by Operating Activities	(429,730)
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES	
State Noncapital Appropriations	424,808
Noncapital Grants, Contracts and Gifts	46,978
Federal and State Student Financial Aid	83,026
Federal Direct Loan Program Receipts	176,460
Federal Direct Loan Program Disbursements	(176,386)
Net Change in Funds Held for Others	(29,105)
Other Nonoperating Receipts	1,061
Other Nonoperating Disbursements	(5,482)
Net Cash Provided by Noncapital Financing Activities	521,360
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES	
Proceeds from Capital Debt	7,555
State Capital Appropriations	10,205
Capital Grants, Contracts, Donations, and Fees	4,873
Purchase or Construction of Capital Assets	(115,680)
Principal Paid on Capital Debt	(20,050)
Interest Paid on Capital Debt	(10,783)
Net Cash Used by Capital and Related Financing Activities	(123,880)
CASH FLOWS FROM INVESTING ACTIVITIES	
Proceeds from Sales and Maturities of Investments	801,390
Purchase of Investments	(784,991)
Investment Income	10,650
Net Cash Provided by Investing Activities	27,049
Net Decrease in Cash and Cash Equivalents	(5,201)
Cash and Cash Equivalents, Beginning of Year	18,340
Cash and Cash Equivalents, End of Year	\$ 13,139
RECONCILIATION OF OPERATING LOSS TO NET CASH USED BY OPERATING ACTIVITIES	
Operating Loss	\$ (549,638)
Adjustments to Reconcile Operating Loss to Net Cash Used by Operating Activities	
Depreciation Expense	79,504
Change in Assets and Liabilities:	
Loans and Notes Receivable, Net	869
Other Receivables, Net	(500)
Inventories	(26)
Deferred Charges and Other Assets	825
Accounts Payable	(3,428)
Salaries and Wages Payable	3,244
Accrued Insurance Claims	(56)
Deposits Payable	49
Compensated Absences Payable	3,731
Other Postemployment Benefits Payable	6,741
Unearned Revenue	12,118
Pension Liability	98,096
Pension Deferred Outflows	(59,115)
Pension Deferred Inflows	(22,144)
NET CASH USED BY OPERATING ACTIVITIES	\$ (429,730)
SUPPLEMENTAL DISCLOSURE OF NONCASH CAPITAL AND RELATED FINANCING AND INVESTING ACTIVITIES	
Unrealized losses on investments were recognized on the statement of revenues, expenses and changes in net position, but are not cash transactions for the statement of cash flows.	\$ (14,739)
Losses from the write off of capital assets were recognized on the statement of revenues, expenses and changes in net position, but are not cash transactions for the statement of cash flows.	\$ (4,111)

The accompanying notes to financial statements are an integral part of this statement.





NOTES TO FINANCIAL STATEMENTS

Florida State University - A Component Unit of the State of Florida

1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

REPORTING ENTITY

The University is a separate public instrumentality that is part of the State university system of public universities, which is under the general direction and control of the Florida Board of Governors. The University is directly governed by a Board of Trustees (Trustees) consisting of thirteen members. The Governor appoints six citizen members and the Board of Governors appoints five citizen members. These members are confirmed by the Florida Senate and serve staggered terms of five years. The chair of the faculty senate and the president of the student body of the University are also members. The Board of Governors establishes the powers and duties of the Trustees. The Trustees are responsible for setting policies for the University, which provide governance in accordance with State law and Board of Governors' Regulations. The Trustees select the University President. The University President serves as the executive officer and the corporate secretary of the Trustees, and is responsible for administering policies prescribed by the Trustees.

Criteria for defining the reporting entity are identified and described in the Governmental Accounting Standards Board's (GASB) *Codification of Governmental Accounting and Financial Reporting Standards*, Sections 2100 and 2600. These criteria were used to evaluate potential component units for which the primary government is financially accountable and other organizations for which the nature and significance of their relationship with the primary government are such that exclusion would cause the primary government's financial statements to be misleading. Based on the application of these criteria, the University is a component unit of the State of Florida, and its financial balances and activities are reported in the State's Comprehensive Annual Financial Report by discrete presentation.

BLENDED COMPONENT UNIT

The Florida State University College of Medicine Self-Insurance Program was created on July 1, 2006, by the Board of Governors, pursuant to Section 1004.24, Florida Statutes. Although it is legally separate from the University, the Self-Insurance Program is included within the University's reporting entity as a blended component unit based on the application of the criteria for determining component units. Specifically, the Self-Insurance Program is organized exclusively to provide general and professional liability insurance coverage for the educational, research, and service programs of the Colleges of Medicine and Nursing, and the Student Health Center. Condensed financial statements for the University's blended component unit are shown in a subsequent note.

DISCRETELY PRESENTED COMPONENT UNITS

Based on the application of the criteria for determining component units, the following organizations met all of the financial accountability criteria necessary for inclusion as discretely presented component units and therefore are included within the University reporting entity, or are included based on the nature and significance of their relationship with the University.

These organizations and their purposes are explained as follows:

- The Florida State University Foundation, Inc. (Foundation) - The University's fundraising and private support programs are accounted for and reported separately by the Foundation. The Foundation revenues include unrestricted and restricted gifts and grants, rental income, and investment income. The Foundation expenses include scholarship distributions to students and departmental faculty, staff development support, various memorials and class projects, departmental research, and administrative costs of the Foundation's development program.
- Seminole Boosters, Inc. (Boosters) - The primary purpose of the Boosters is to stimulate and promote the education, health, and physical welfare of University students by providing financial support from the private sector for the Intercollegiate Athletic Program. Funds raised by the Boosters are utilized for scholarships, recruiting expenses, and authorized travel and entertainment in accordance with the rules and regulations of the National Collegiate Athletic Association. The Boosters' financial information includes the activities of the Florida State University Financial Assistance, Inc., as a blended component unit.
- The Florida State University Research Foundation, Inc. (Research Foundation) - The Research Foundation was established to promote and assist the research and training activities of the University through income from contracts, grants, and other sources, including income derived from the development and commercialization of the University's work products.
- Florida State University International Programs Association, Inc. (International Programs Association) - The purpose of the International Programs Association is to promote intercultural activities among students, educators, and others. It provides teaching, studying, research, and conference opportunities to U.S. students, scholars, and other professionals and community groups through Florida State University Study-Abroad Programs in England, Italy, Costa Rica, and other sites.
- Florida State University Schools, Inc. (School) - The School is a charter school established pursuant to Section 1002.33(5)(a), Florida Statutes. The School provides a setting where University faculty, School faculty, and graduate students can design, demonstrate, and analyze the effectiveness of new instructional materials, technological advances, and strategies under controlled conditions. It also offers an environment for the systematic research, evaluation, and development of commercial or prototype materials and techniques adaptable to other Florida public schools and is supported by School and University researchers or private sector partners.
- Florida State University Alumni Association, Inc. (Alumni Association) - The Alumni Association serves as a connecting link between alumni and the University. The nature and purpose of the Alumni Association is to aid, strengthen, and expand the University and its alumni. The Alumni Association utilizes private gifts, devises, other contributions, and advertising income to publish and

exchange information with University alumni, to assist the University's development programs, and to provide public and community service.

- The John and Mable Ringling Museum of Art Foundation, Inc. (Ringling Museum Foundation) - The Ringling Museum Foundation was established to provide charitable and educational aid to the University's John and Mable Ringling Museum of Art.
- Florida Medical Practice Plan, Inc. (FMPP) – FMPP's purpose is to improve and support medical education in the Florida State University College of Medicine.
- Florida State University Magnet Research and Development, Inc. (Magnet Research and Development) - The Magnet Research and Development organization was incorporated to promote, encourage, and assist the research and training activities of faculty, staff, and students of the University and specifically to design, develop, invent, assemble, construct, test, repair, maintain, and fabricate magnets or magnet systems of any type or design.
- The Florida State University Real Estate Foundation, Inc. (Real Estate Foundation) – The Real Estate Foundation was established to receive, hold, manage, lease, develop, or sell real estate, and to make expenditures, grants, and contributions to or for the benefit of the University.
- The Florida State University College of Business Student Investment Fund, Inc. (Student Investment Fund) – The Student Investment Fund was established to support a student managed investment fund and other FSU College of Business programs.
- Florida State University Athletics Association, Inc. (Athletics Association) – The Athletics Association was established to provide supplemental contracts for athletic staff.

An annual audit of each operational organization's financial statements is conducted by independent certified public accountants. The annual reports are submitted to the Auditor General and the University Board of Trustees. Additional information on the University's discretely presented component units, including copies of audit reports, is available by contacting the University Controller. Condensed financial statements for the University's discretely presented component units are shown in a subsequent note. The Athletics Association was not operational during the 2016-17 fiscal year, and therefore is not included in the condensed financial statements.

BASIS OF PRESENTATION

The University's accounting policies conform with accounting principles generally accepted in the United States of America applicable to public colleges and universities as prescribed by GASB. The National Association of College and University Business Officers (NACUBO) also provides the University with recommendations prescribed in accordance with generally accepted accounting principles promulgated by GASB and the Financial Accounting Standards Board (FASB). GASB allows public universities various reporting options. The University has elected to report as an entity engaged in only business-type activities. This election requires the adoption of the accrual basis of accounting and entity-wide reporting including the following components:

- Management's Discussion and Analysis
- Basic Financial Statements:
 - » Statement of Net Position
 - » Statement of Revenues, Expenses, and Changes in Net Position
 - » Statement of Cash Flows
 - » Notes to Financial Statements
- Other Required Supplementary Information

BASIS OF ACCOUNTING

Basis of accounting refers to when revenues, expenses, and related assets, deferred outflows of resources, liabilities, and deferred inflows of resources are recognized in the accounts and reported in the financial statements. Specifically, it relates to the timing of the measurements made, regardless of the measurement focus applied. The University's financial statements are presented using the economic resources measurement focus and the accrual basis of accounting. Revenues, expenses, gains, losses, assets, deferred outflows of resources, liabilities, and deferred inflows of resources resulting from exchange and exchange-like transactions are recognized when the exchange takes place. Revenues, expenses, gains, losses, assets, deferred outflows of resources, liabilities, and deferred inflows of resources resulting from nonexchange activities are generally recognized when all applicable eligibility requirements, including time requirements, are met. The University follows GASB standards of accounting and financial reporting.

The University's blended and discretely presented component units use the economic resources measurement focus and accrual basis of accounting whereby revenues are recognized when earned and expenses are recognized when incurred, and follow GASB standards of accounting and financial reporting except for the Foundation, Real Estate Foundation, and Student Investment Fund, which follow FASB standards of accounting and financial reporting for not-for-profit organizations.

Significant interdepartmental sales between auxiliary service departments and other institutional departments have been accounted for as reductions of expenses and not revenues of those departments.



NOTES TO FINANCIAL STATEMENTS

Florida State University - A Component Unit of the State of Florida

The University's principal operating activities consist of instruction, research, and public service. Operating revenues and expenses generally include all fiscal transactions directly related to these activities as well as administration, operation and maintenance of capital assets, and depreciation on capital assets. Nonoperating revenues include State noncapital appropriations, Federal and State student financial aid, and investment income. Interest on capital asset-related debt is a nonoperating expense. Other revenues generally include revenues for capital construction projects.

The statement of net position is presented in a classified format to distinguish between current and noncurrent assets and liabilities. When both restricted and unrestricted resources are available to fund certain programs, it is the University's policy to first apply the restricted resources to such programs, followed by the use of the unrestricted resources.

The statement of revenues, expenses, and changes in net position is presented by major sources and is reported net of scholarship allowances. Scholarship allowances are the differences between the stated charge for goods and services provided by the University and the amount that is actually paid by a student or a third party making payment on behalf of the student. The University applied "The Alternate Method" as prescribed in NACUBO Advisory Report 2000-05 to determine the reported net scholarship allowances. Under this method, the University computes these amounts by allocating the cash payments to students, excluding payments for services, on a ratio of total aid to the aid not considered third-party aid.

The statement of cash flows is presented using the direct method in compliance with GASB Statement No. 9, *Reporting Cash Flows of Proprietary and Nonexpendable Trust Funds and Governmental Entities That Use Proprietary Fund Accounting*.

CASH AND CASH EQUIVALENTS

Cash and cash equivalents consist of cash on hand and cash in demand accounts. University cash deposits are held in banks qualified as public depositories under Florida law. All such deposits are insured by Federal depository insurance, up to specified limits, or collateralized with securities held in Florida's multiple financial institution collateral pool required by Chapter 280, Florida Statutes. Cash and cash equivalents that are externally restricted to make debt service payments, maintain sinking or reserve funds, or to purchase or construct capital or other restricted assets, are classified as restricted.

INVESTMENTS AND FAIR VALUE MEASUREMENT

The University categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets, Level 2 inputs are significant other observable inputs, and Level 3 inputs are significant unobservable inputs.

CAPITAL ASSETS

University capital assets consist of land, works of art and historical treasures, construction in progress, buildings, infrastructure and other improvements, furniture and equipment, library resources, and computer software and other capital assets. These assets are capitalized and recorded at cost at the date of acquisition or at acquisition value at the date received in the case of gifts and purchases of State surplus property. Additions, improvements, and other outlays that significantly extend the useful life of an asset are capitalized. Other costs incurred for repairs and maintenance are expensed as incurred. The University has a capitalization threshold of \$5,000 for tangible personal property, \$50,000 for new buildings, and \$100,000 for building improvements.

Depreciation is computed on the straight-line basis over the following estimated useful lives:

- Buildings – 10 to 50 years
- Infrastructure and Other Improvements – 12 to 50 years
- Furniture and Equipment – 3 to 20 years
- Library Resources - 10 years
- Computer Software and Other Capital Assets – 5 years

NONCURRENT LIABILITIES

Noncurrent liabilities include capital improvement debt payable, loans and notes payable, accrued self-insurance claims, compensated absences payable, other noncurrent liabilities, other postemployment benefits payable, revenue received in advance, and net pension liability that are not scheduled to be paid within the next fiscal year. Capital improvement debt payable is reported net of unamortized premium or discount. The University amortizes debt premiums and discounts over the life of the debt using the straight-line method.

PENSIONS

For the purposes of measuring the net pension liabilities, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net positions of the Florida Retirement System (FRS) defined benefit plan and the Health Insurance Subsidy (HIS) defined benefit plan and additions to/deductions from the FRS and HIS fiduciary net positions have been determined on the same basis as they are reported by the FRS and HIS plans. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with benefit terms. Investments are reported at fair value.

OPERATING REVENUES AND EXPENSES

Operating revenues include activities that have characteristics of exchange transactions, such as student fees, net of scholarship allowances; sales and services of auxiliary enterprises; and Federal, State, local and nongovernmental grants and contracts. Operating expenses include all expense transactions incurred other than those related to investing, capital or noncapital financing activities.

NONOPERATING REVENUES AND EXPENSES

Nonoperating revenues include activities that have characteristics of nonexchange transactions, such as gifts and contributions, and other revenue sources that are defined as nonoperating revenues by GASB Statement No. 9, *Reporting Cash Flows of Proprietary and Nonexpendable Trust Funds and Governmental Entities That Use Proprietary Fund Accounting*, and GASB Statement No. 35, *Basic Financial Statements – and Management’s Discussion and Analysis – for Public Colleges and Universities*, as amended by GASB Statements Nos. 37 and 38, such as appropriations and investment income. Nonoperating expenses include interest paid on capital asset-related debt and losses on the disposal of capital assets.

2 INVESTMENTS

Section 1011.42(5), Florida Statutes, authorizes universities to invest funds with the State Treasury and State Board of Administration (SBA), and requires that universities comply with the statutory requirements governing investment of public funds by local governments. Accordingly, universities are subject to the requirements of Chapter 218, Part IV, Florida Statutes. The University’s Board of Trustees has adopted a written investment policy providing that surplus funds of the University shall be invested in those institutions and instruments permitted under the provisions of Florida Statutes. Pursuant to Section 218.415(16), Florida Statutes, the University is authorized to invest in the Florida PRIME investment pool administered by the SBA; interest-bearing time deposits and savings accounts in qualified public depositories, as defined in Section 280.02, Florida Statutes; direct obligations of the United States Treasury; obligations of Federal agencies and instrumentalities; securities of, or interests in, certain open-end or closed-end management type investment companies; Securities and Exchange Commission registered money market funds with the highest credit quality rating from a nationally recognized rating agency; and other investments approved by the University’s Board of Trustees as authorized by law. Investments set aside to make debt service payments, maintain sinking or reserve funds, or to purchase or construct capital assets are classified as restricted.

The University’s investments at June 30, 2017, are reported as follows:

Investments by Fair Value Level	Fair Value	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
External Investment Pool:				
State Treasury Special Purpose Investment Account	\$ 711,044,335	\$ -	\$ -	\$ 711,044,335
State Board of Administration Debt Service Accounts	3,574,756	3,574,756	-	-
Mutual Funds:				
Bonds	5,159,047	5,159,047	-	-
Equities	2,599,889	2,599,889	-	-
Other Investments	5,290,654	-	-	5,290,654
Total Investments by Fair Value Level	\$ 727,668,681	\$ 11,333,692	\$ -	\$ 716,334,989



NOTES TO FINANCIAL STATEMENTS

Florida State University - A Component Unit of the State of Florida

Investments held by the University's component units at June 30, 2017, are reported as follows:

Investments by Fair Value Level	Fair Value	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Domestic Bonds and Notes	\$ 765,986	\$ 765,986	\$ -	\$ -
Domestic Stocks	33,791,218	23,301,757	-	10,489,461
International Stocks	334,388	334,388	-	-
Mutual Funds	156,623,515	100,414,159	56,209,356	-
Real Estate Investments	90,489	-	-	90,489
Other Investments	1,298,947	1,298,947	-	-
Total Investments by Fair Value Level	\$ 192,904,543	\$ 126,115,237	\$ 56,209,356	\$ 10,579,950
Investments Measured at the Net Asset Value (NAV)				
Domestic Bonds and Notes	73,247,892			
Domestic Stocks	93,943,745			
International Stocks	146,518,337			
Real Estate Investments	27,774,526			
Hedge Funds	123,867,267			
Private Equity Funds	44,549,962			
Private Real Estate Funds	29,056,339			
Total investments measured at NAV	<u>538,958,068</u>			
Other				
SBA Florida PRIME	38,917,111			
Certificates of Deposit	154,267			
Real Estate Investments	1,109,320			
Total Other Investments	<u>40,180,698</u>			
Total Investments	\$ 772,043,309			

The University's component units' investments measured at the net asset value (NAV), as of June 30, 2017, totaled \$538,958,068 as follows:

Investments Measured at the NAV	Fair Value	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Domestic Bonds and Notes	\$ 73,247,892	\$ -	Daily	2-10 Days
Domestic Stocks	93,943,745	-	Daily to semi-annually	2-60 Days
International Stocks	146,518,337	-	Daily to semi-annually	2-60 Days
Real Estate Investments	27,774,526	-	Daily	2 Days
Hedge Funds	123,867,267	-	Monthly to every 3 years	10-90 Days
Private Equity Funds	44,549,962	36,149,924		
Private Real Estate Funds	29,056,339	15,302,330		
Total Investments Measured at NAV	\$ 538,958,068	\$ 51,452,254		

Investments measured at net asset value are comprised of the following categories:

- Domestic Bonds and Notes – domestic institutional pooled funds.
- Domestic Stocks – equity interests in domestic institutional pooled funds.
- International Stocks – equity interests in global and emerging market institutional pooled funds.
- Real Estate – equity interests in global real estate institutional pooled funds, and a real estate limited partnership.
- Hedge Funds – interests in offshore funds that invest both long and short in domestic and international equities as well as absolute return strategy interests in offshore funds that are designed to produce results that are largely independent of, or have low correlation to, the broader markets.
- Private Equity – interests in several limited partnership funds that invest in private equity, venture capital, and distressed assets.
- Private Real Estate - a global real estate investment trust fund, a commodity index fund, and real estate limited partnerships.

EXTERNAL INVESTMENT POOLS

The University reported investments at fair value totaling \$711,044,335 at June 30, 2017, in the State Treasury Special Purpose Investment Account (SPIA) investment pool, representing ownership of a share of the pool, not the underlying securities. Pooled investments with the State Treasury are not registered with the Securities and Exchange Commission. Oversight of the pooled investments with the State Treasury is provided by the Treasury Investment Committee per Section 17.575, Florida Statutes. The authorized investment types are set forth in Section 17.57, Florida Statutes. The SPIA carried a credit rating of A+f by Standard & Poor's, had an effective duration of 2.8 years and fair value factor of 0.9923 at June 30, 2017. Participants contribute to the Treasury Pool on a dollar basis. These funds are commingled and a fair value of the pool is determined from the individual values of the securities. The fair value of the securities is summed and a total pool fair value is determined. A fair value factor is calculated by dividing the pool's total fair value by the pool participants' total cash balances. The fair value factor is the ratio used to determine the fair value of an individual participant's pool balance. The University relies on policies developed by the State Treasury for managing interest rate risk or credit risk for this investment pool. Disclosures for the State Treasury investment pool are included in the notes to financial statements of the State's Comprehensive Annual Financial Report.

The Research Foundation reported investments at fair value totaling \$38,917,111 at June 30, 2017, in the Florida PRIME investment pool administered by the SBA pursuant to Section 218.405, Florida Statutes. These investments in the Florida PRIME investment pool, which the SBA indicates is a Securities and Exchange Commission Rule 2a7-like external investment pool, at June 30, 2017, are similar to money market funds in which shares are owned in the fund rather than the underlying investments. The Florida PRIME investment pool carried a credit rating of AAAm by Standard & Poor's and had a weighted average days to maturity (WAM) of 39 days as of June 30, 2017. A portfolio's WAM reflects the average maturity in days, based on final maturity or reset date, in the case of floating rate instruments. WAM measures the sensitivity of the Florida PRIME investment pool to interest rate changes. The investments in the Florida PRIME investment pool are reported at fair value, which is amortized cost. Section 218.409(8)(a), Florida Statutes, states that "the principal, and any part thereof, of each account constituting the trust fund is subject to payment at any time from the moneys in the trust fund. However, the executive director may, in good faith, on the occurrence of an event that has a material impact on liquidity or operations of the trust fund, for 48 hours limit contributions to or withdrawals from the trust fund to ensure that the Board [State Board of Administration] can invest moneys entrusted to it in exercising its fiduciary responsibility. Such action must be immediately disclosed to all participants, the trustees, the Joint Legislative Auditing Committee, the Investment Advisory Council, and the Participant Local Government Advisory Council. The trustees shall convene an emergency meeting as soon as practicable from the time the executive director has instituted such measures and review the necessity of those measures. If the trustees are unable to convene an emergency meeting before the expiration of the 48-hour moratorium on contributions and withdrawals, the moratorium may be extended by the executive director until the trustees are able to meet to review the necessity for the moratorium. If the trustees agree with such measures, the trustees shall vote to continue the measures for up to an additional 15 days. The trustees must convene and vote to continue any such measures before the expiration of the time limit set, but in no case may the time limit set by the trustees exceed 15 days." As of June 30, 2017, there were no redemption fees or maximum transaction amounts, or any other requirements that serve to limit a participant's daily access to 100 percent of their account value.

STATE BOARD OF ADMINISTRATION DEBT SERVICE ACCOUNTS

The University reported investments at fair value totaling \$3,574,756 at June 30, 2017, in the SBA Debt Service Accounts. These investments are used to make debt service payments on bonds issued by the State Board of Education for the benefit of the University. The University's investments consist of United States Treasury securities, with maturity dates of six months or less, and are reported at fair value. The University relies on policies developed by the SBA for managing interest rate risk or credit risk for these accounts. Disclosures for the Debt Service Accounts are included in the notes to the financial statements of the State's Comprehensive Annual Financial Report.

OTHER INVESTMENTS

In addition to external investment pools, the University, its blended component unit, and its discretely presented component units invested in various debt and equity securities, mutual funds, and real estate funds.

The University reported investments at fair value totaling \$5,290,654 at June 30, 2017, in the Florida State University Foundation's investment pool, representing ownership of a share of the pool, not the underlying securities.

The Florida State University College of Medicine Self-Insurance Program (SIP), a blended component unit (see Note 1), reported other investments at fair value totaling \$7,758,936 at June 30, 2017, in various debt and equity mutual funds. Bond mutual fund investments totaling \$5,159,047 consist of shares owned in Vanguard Short-Term Bond Index Fund and Vanguard Intermediate Term Bond Index Fund. Equity mutual fund investments totaling \$2,599,889 consist of shares owned in Vanguard International Stock Index Fund and Vanguard Total Stock Market Index Fund.

For the discretely presented component units, the majority of investments are those reported by the Foundation. Because the Foundation, Real Estate Foundation, and the Student Investment Fund report under the FASB reporting model, disclosure of the various investment risks is not required for the investments of these component units.

The following are required risk disclosures applicable to investments of the blended component unit as well as the remaining discretely presented component units, which report under the GASB reporting model.

Interest Rate Risk: Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. The University's blended component unit (SIP) has investments in bond mutual funds that are subject to interest rate risk. Additionally,



NOTES TO FINANCIAL STATEMENTS

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investments of the University's discretely presented component units (excluding those reporting under FASB standards) in debt securities, bonds and notes, and bond mutual funds are also subject to interest rate risk. These investments and their future maturities at June 30, 2017, are as follows:

	Investment Maturities (in years)		
	Fair Value	Less Than 1	1-7
Blended Component Unit (SIP)	\$ 5,159,047	\$ -	\$ 5,159,047
Discretely Presented Component Units	\$ 2,893,411	\$ 2,173,123	\$ 720,288

Credit Risk: Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. Obligations of the United States government or obligations explicitly guaranteed by the United States government are not considered to have credit risk (by the GASB) and do not require disclosure of credit quality. The University's blended component unit (SIP) and the University's discretely presented component units (excluding those reporting under FASB standards) held bond mutual funds which have underlying investments with quality ratings by nationally recognized rating agencies at June 30, 2017, as follows:

	Fair Value	AA/Aa	A/Ba	Not Rated
Blended Component Unit (SIP)	\$ 5,159,047	\$ 4,188,110	\$ 970,937	\$ -
Discretely Presented Component Units	\$ 2,893,411	\$ 572,976	\$ 147,312	\$ 2,173,123

Custodial Credit Risk: Custodial credit risk is the risk that in the event of the failure of the counterparty, the component unit will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. Exposure to custodial credit risk relates to investment securities that are held by someone other than the component unit and are not registered in the component unit's name. Neither the University's blended component unit (SIP) nor its discretely presented component units have identified any investments falling into this category as of June 30, 2017.

Concentration of Credit Risk: Concentration of credit risk is the risk of loss attributed to the magnitude of the component unit's investment in a single issuer. The University's discretely presented component units manage their concentration of credit risk based on various investment policies, which may be obtained separately from the discretely presented component units. The University's blended component unit (SIP) places no limit on the amount it may invest in any one issuer. Individual investments that consist of more than five percent of the SIP's total investments as of June 30, 2017, are as follows:

Investment Type	Fair Value	Percentage of Total Investments
Short Term Bond Index Fund	\$ 4,188,110	54
Total Stock Market Index Fund	1,734,298	22
Intermediate Term Bond Index Fund	970,937	13
International Stock Index Fund	865,591	11
Total	\$ 7,758,936	100

3 RECEIVABLES

ACCOUNTS RECEIVABLE

Accounts receivable represent amounts for student tuition and fees, grant and contract reimbursements due from third parties, various sales and services provided to students and third parties, and interest accrued on investments and loans receivable.

As of June 30, 2017, the University reported the following amounts as accounts receivable:

Description	Amount
Student Tuition and Fees	\$ 14,526,010
Grants and Contracts	16,699,637
Sales and Services of Auxiliary Enterprises	14,187,861
Interest	1,036,796
Other	1,251,923
Total Accounts Receivable	\$ 47,702,227

LOANS AND NOTES RECEIVABLE

Loans and notes receivable represent all amounts owed on promissory notes from debtors, including student loans made under the Federal Perkins Loan Program and other loan programs. Loans and notes receivable totaled \$12,320,293 at June 30, 2017.

ALLOWANCE FOR DOUBTFUL RECEIVABLES

Allowances for doubtful accounts, and loans and notes receivable, are reported based on management's best estimate as of fiscal year end considering type, age, collection history, and other factors considered appropriate. Accounts receivable, and loans and notes receivable, are reported net of allowances of \$2,039,447 and \$2,307,149, respectively, at June 30, 2017. No allowance has been accrued for grants and contracts receivable. University management considers these to be fully collectible.

4 DUE FROM STATE

This amount consists of \$44,074,722 of Public Education Capital Outlay and \$18,149,359 of Capital Improvement Fee Trust Fund allocations due from the State to the University for construction of University facilities.

5 DUE FROM AND TO COMPONENT UNITS/UNIVERSITY

The University's financial statements are reported for the fiscal year ended June 30, 2017. The University's component units' financial statements are reported as of the most recent fiscal year for which an audit report is available. One component unit has a fiscal year other than June 30. Accordingly, amounts reported by the University as due from and to component units on the statement of net position do not agree with amounts reported by the component units as due from and to the University.

6 CAPITAL ASSETS

Capital assets activity for the fiscal year ended June 30, 2017, is shown below:

Description	Beginning Balance	Additions	Reductions	Ending Balance
Nondepreciable Capital Assets:				
Land	\$ 78,605,733	\$ 4,819,765	\$ -	\$ 83,425,498
Works of Art and Historical Treasures	74,482,784	490,629	1,069	74,972,344
Construction in Progress	74,651,669	112,367,121	58,318,785	128,700,005
Total Nondepreciable Capital Assets	\$ 227,740,186	\$ 117,677,515	\$ 58,319,854	\$ 287,097,847
Depreciable Capital Assets:				
Buildings	\$ 1,967,183,922	\$ 33,451,233	\$ 7,035,430	\$ 1,993,599,725
Infrastructure and Other Improvements	136,703,533	6,165,245	5,000	142,863,778
Furniture and Equipment	328,377,976	18,624,347	13,158,500	333,843,823
Library Resources	144,397,235	8,218,497	1,787,182	150,828,550
Computer Software and Other Capital Assets	55,109,230	443,077	135,625	55,416,682
Total Depreciable Capital Assets	2,631,771,896	66,902,399	22,121,737	2,676,552,558
Less, Accumulated Depreciation:				
Buildings	509,880,450	43,188,202	3,129,272	549,939,380
Infrastructure and Other Improvements	68,563,873	3,815,542	-	72,379,415
Furniture and Equipment	231,309,046	20,134,198	10,809,077	240,634,167
Library Resources	111,969,890	7,319,415	1,787,182	117,502,123
Computer Software and Other Capital Assets	43,966,098	5,046,500	135,624	48,876,974
Total Accumulated Depreciation	965,689,357	79,503,857	15,861,155	1,029,332,059
Total Depreciable Capital Assets, Net	\$ 1,666,082,539	\$ (12,601,458)	\$ 6,260,582	\$ 1,647,220,499



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7 UNEARNED REVENUE

Unearned revenue includes Public Education Capital Outlay appropriations for which the University had not yet received approval from the Florida Department of Education, as of June 30, 2017, to spend the funds, as well as grants and contracts, auxiliary sales and services, and other revenues received prior to fiscal year end related to the subsequent accounting period.

As of June 30, 2017, the University reported the following amounts as unearned revenue:

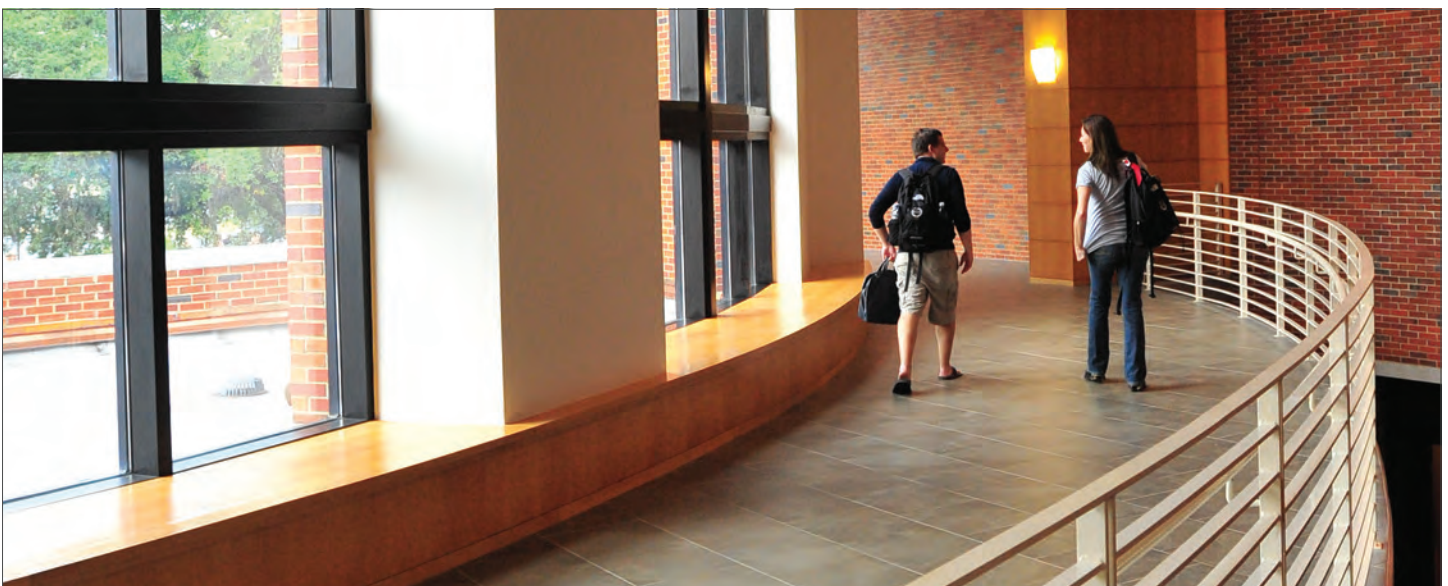
Description	Amount
State Capital Appropriations	\$ 53,596,931
Grants and Contracts	1,925,330
Sales and Services of Auxiliary Enterprises	15,656,801
Other	55,502
Total Unearned Revenue	\$ 71,234,564

8 LONG-TERM LIABILITIES

Long-term liabilities of the University at June 30, 2017, include capital improvement debt payable, loans and notes payable, accrued self-insurance claims, compensated absences payable, other noncurrent liabilities, other postemployment benefits payable, revenue received in advance, and net pension liability. Other noncurrent liabilities consist mainly of the liability for the Federal Capital Contribution (advance) provided to fund the University's Federal Perkins Loan Program. This amount will ultimately be returned to the Federal Government should the University cease making Federal Perkins Loans or if the University has excess cash in the loan program.

Long-term liabilities activity for the fiscal year ended June 30, 2017, is shown below:

Description	Beginning Balance	Additions	Reductions	Ending Balance	Current Portion
Capital Improvement Debt Payable	\$ 277,727,770	\$ 7,791,838	\$ 21,133,905	\$ 264,385,703	\$ 14,599,473
Loans and Notes Payable	251,574	191,499	283,860	159,213	85,831
Accrued Self-Insurance Claims	580,269	62,863	119,326	523,806	122,997
Compensated Absences Payable	69,019,503	8,150,417	4,401,265	72,768,655	4,891,038
Other Noncurrent Liabilities	20,962,010	-	1,564,202	19,397,808	-
Other Postemployment Benefits Payable	65,108,000	11,487,000	4,746,000	71,849,000	-
Revenue Received in Advance	-	17,210,658	-	17,210,658	1,730,232
Net Pension Liability	159,914,926	142,633,186	44,537,547	258,010,565	2,363,552
Total Long-Term Liabilities	\$ 593,564,052	\$ 187,527,461	\$ 76,786,105	\$ 704,305,408	\$ 23,793,123



CAPITAL IMPROVEMENT DEBT PAYABLE

The University had the following capital improvement debt payable outstanding at June 30, 2017:

Capital Improvement Debt Type and Series	Amount of Original Issue	Amount Outstanding (1)	Interest Rates (Percent)	Maturity Date To
Auxiliary Revenue Debt:				
2010A Housing	\$ 18,910,000	\$ 16,113,621	3.0 - 4.75	2040
2011A Housing	27,745,000	21,561,834	3.0 - 4.125	2031
2013A Housing	42,495,000	41,767,475	4.0 - 5.0	2033
2014A Housing	46,085,000	46,911,625	3.25 - 5.0	2031
2015A Housing	59,575,000	63,243,674	3.0 - 5.0	2035
Total Student Housing Debt	194,810,000	189,598,229		
2011A Parking	22,145,000	15,115,439	3.0 - 5.25	2031
2014A Parking	13,485,000	12,070,979	5.0	2025
2017A Parking	7,857,000	7,791,838	2.12	2026
Total Student Parking Debt	43,487,000	34,978,256		
2005A Dining	10,000,000	5,275,000	2.29	2025
2010A Wellness Center	31,320,000	24,027,756	4.0 - 5.0	2030
Total Auxiliary Debt	279,617,000	253,879,241		
2012 Research Foundation Revenue Debt	11,920,000	10,506,462	3.0 - 4.0	2031
Total Capital Improvement Debt	\$ 291,537,000	\$ 264,385,703		

(1) Amount outstanding includes unamortized bond discounts and premiums.

The University has pledged a portion of future housing rental revenues, traffic and parking fees, food service revenues, and assessed student transportation and student health fees based on credit hours to repay \$279.6 million in capital improvement (housing, parking, etc.) revenue bonds issued by the Florida Board of Governors on behalf of the University. Proceeds from the bonds provided financing to construct student parking garages, student housing facilities, a health center, and other student service facilities. The bonds are payable solely from housing rental income, traffic and parking fees, food service revenues, and assessed student transportation and student health fees, and are payable through 2040. The University has committed to appropriate each year from the housing rental income, traffic and parking fees, food service revenues, and assessed student transportation and student health fees amounts sufficient to cover the principal and interest requirements on the debt. Total principal and interest remaining on the debt is \$330 million, and principal and interest paid for the current year totaled \$23 million.

Revenue Pledged	Amount
Housing Rental Income	\$ 42,485,845
Traffic, Parking and Transportation Fees	12,064,191
Food Service Revenues	2,232,484
Student Health Fees	14,941,184

On February 2, 2017, the Florida Board of Governors issued \$7,857,000 of Florida State University Parking Facility Revenue Refunding Bonds, Series 2017A with an interest rate of 2.12 percent. The proceeds from this debt were used to defease \$7,555,000 of outstanding State of Florida, Board of Governors, Florida State University Parking Facility Revenue Bonds, Series 2007A. As a result of the refunding, the University reduced its capital improvement debt service requirement by \$749,460 over the next ten years and obtained an economic gain of \$678,875.





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Annual requirements to amortize all capital improvement debt outstanding as of June 30, 2017, are as follows:

Fiscal Year Ending June 30	Principal	Interest	Total
2018	\$ 13,434,000	\$ 10,527,069	\$ 23,961,069
2019	13,991,000	9,971,810	23,962,810
2020	14,616,000	9,385,839	24,001,839
2021	15,241,000	8,764,764	24,005,764
2022	15,934,000	8,098,089	24,032,089
2023-2027	75,571,000	30,081,258	105,652,258
2028-2032	68,840,000	14,290,381	83,130,381
2033-2037	27,250,000	3,008,481	30,258,481
2038-2040	3,155,000	304,237	3,459,237
Subtotal	248,032,000	94,431,928	342,463,928
Plus: Unamortized Premiums and Discounts, Net	16,353,703	-	16,353,703
Total	\$ 264,385,703	\$ 94,431,928	\$ 358,817,631

COMPENSATED ABSENCES PAYABLE

Employees earn the right to be compensated during absences for annual leave (vacation) and sick leave earned pursuant to Board of Governors regulations, University regulations, and bargaining agreements. Leave earned is accrued to the credit of the employee and records are kept on each employee's unpaid (unused) leave balance. The University reports a liability for the accrued leave; however, State noncapital appropriations fund only the portion of accrued leave that is used or paid in the current fiscal year. Although the University expects the liability to be funded primarily from future appropriations, generally accepted accounting principles do not permit the recording of a receivable in anticipation of future appropriations. At June 30, 2017, the estimated liability for compensated absences, which includes the University's share of the Florida Retirement System and FICA contributions, totaled \$72,768,655. The current portion of the compensated absences liability, \$4,891,038, is the amount expected to be paid in the coming fiscal year, and represents a historical percentage of leave used applied to total accrued leave liability.

OTHER POSTEMPLOYMENT BENEFITS PAYABLE

The University follows GASB Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, for certain postemployment healthcare benefits administered by the State Group Health Insurance Program.

Plan Description - Pursuant to the provisions of Section 112.0801, Florida Statutes, all employees who retire from the University are eligible to participate in the State Group Health Insurance Program, an agent multiple-employer, defined benefit (OPEB) Plan. The University subsidizes the premium rates paid by retirees by allowing them to participate in the OPEB Plan at reduced or blended group (implicitly subsidized) premium rates for both active and retired employees. These rates provide an implicit subsidy for retirees because, on an actuarial basis, their current and future claims are expected to result in higher costs to the OPEB Plan on average than those of active employees. Retirees are required to enroll in the Federal Medicare program for their primary coverage as soon as they are eligible. A stand-alone report is not issued and the OPEB Plan information is not included in the annual report of a public employee retirement system or another entity.

Funding Policy - OPEB Plan benefits are pursuant to the provisions of Section 112.0801, Florida Statutes, and benefits and contributions can be amended by the Florida Legislature. The State has not advance-funded OPEB costs or the net OPEB obligation. Premiums necessary for funding the OPEB Plan each year on a pay-as-you-go basis are established by the Governor's recommended budget and the General Appropriations Act. For the 2016-17 fiscal year, 1,330 retirees received postemployment healthcare benefits. The University provided required contributions of \$4,746,000 toward the annual OPEB cost, comprised of benefit payments made on behalf of retirees for claims expenses (net of reinsurance), administrative expenses, and reinsurance premiums. Retiree contributions totaled \$4,654,000, which represents 1 percent of covered payroll.

Annual OPEB Cost and Net OPEB Obligation - The University's annual OPEB cost (expense) is calculated based on the annual required contribution (ARC), an amount actuarially determined in accordance with the parameters of GASB Statement No. 45. The ARC represents a level of funding that if paid on an ongoing basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities over a period not to exceed 30 years.

The following table shows the University's annual OPEB cost for the fiscal year, the amount actually contributed to the OPEB Plan, and changes in the University's net OPEB obligation:

Description	Amount
Normal Cost (Service Cost for One Year)	\$ 5,559,000
Amortization of Unfunded Actuarial Accrued Liability	5,296,000
Interest on Normal Cost and Amortization	434,000
Annual Required Contribution	11,289,000
Interest on Net OPEB Obligation	2,604,000
Adjustment to Annual Required Contribution	(2,406,000)
Annual OPEB Cost (Expense)	11,487,000
Contribution Toward the OPEB Cost	(4,746,000)
Increase in Net OPEB Obligation	6,741,000
Net OPEB Obligation, Beginning of Year	65,108,000
Net OPEB Obligation, End of Year	\$ 71,849,000

The University's annual OPEB cost, the percentage of annual OPEB cost contributed to the OPEB Plan, and the net OPEB obligation as of June 30, 2017, and for the two preceding fiscal years, were as follows:

Fiscal Year	Annual OPEB Cost	Percentage of OPEB Cost Contributed	Net OPEB Obligation
2014-15	\$ 17,143,000	22	\$ 57,721,000
2015-16	11,444,000	35	65,108,000
2016-17	11,487,000	41	71,849,000

Funded Status and Funding Progress - As of July 1, 2015, the most recent actuarial valuation date, the actuarial accrued liability for benefits was \$140,923,000, and the actuarial value of assets was \$0, resulting in an unfunded actuarial accrued liability of \$140,923,000 and a funded ratio of 0 percent. The covered payroll (annual payroll of active participating employees) was \$438,212,856 for the 2016-17 fiscal year, and the ratio of the unfunded actuarial accrued liability to the covered payroll was 32.7 percent.

Actuarial valuations for an OPEB plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment and termination, mortality, and healthcare cost trends. Actuarially determined amounts regarding the funded status of the OPEB Plan and the annual required contributions of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The Schedule of Funding Progress, presented as required supplementary information following the notes to financial statements, presents multi-year trend information that shows whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

Actuarial Methods and Assumptions - Projections of benefits for financial reporting purposes are based on the substantive OPEB Plan provisions, as understood by the employer and participating members, and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and participating members. The actuarial calculations of the OPEB Plan reflect a long-term perspective. Consistent with this perspective, the actuarial valuations used actuarial methods and assumptions that include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets.

The University's OPEB actuarial valuation as of July 1, 2015, used the entry-age cost actuarial method to estimate the actuarial accrued liability as of June 30, 2017, and the University's 2016-17 fiscal year ARC. This method was selected because it is the same method used for the valuation of the Florida Retirement System. Because the OPEB liability is currently unfunded, the actuarial assumptions included a 4 percent rate of return on invested assets. The actuarial assumptions also included a payroll growth rate of 3.25 percent per year and an inflation rate of 3 percent. Initial healthcare cost trend rates were 3.1, 7.5, and 8.8 percent for the first three years, respectively, for all retirees in the Preferred Provider Option (PPO) Plan, and 3.0, 5.7, and 7.0 percent for the first three years for all retirees in the Health Maintenance Organization (HMO) Plan. The PPO and HMO healthcare trend rates both grade down to an ultimate rate of 3.9 percent over 60 years. The unfunded actuarial accrued liability is being amortized over 30 years using the level percentage of projected payroll on an open basis.

REVENUE RECEIVED IN ADVANCE

Long-term revenue received in advance represents funds received but not yet earned under the terms and conditions of a dining contract. Total long-term revenue received in advance at June 30, 2017, amounted to \$17,210,658, with \$1,730,232 expected to be earned during the 2017-18 fiscal year.



NOTES TO FINANCIAL STATEMENTS

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NET PENSION LIABILITY

As a participating employer in the Florida Retirement System, the University recognizes its proportionate share of the collective net pension liabilities of the FRS and HIS cost-sharing multiple-employer defined benefit plans. As of June 30, 2017, the University's proportionate share of the net pension liabilities totaled \$258,010,565.

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RETIREMENT PLANS - DEFINED BENEFIT PENSION PLANS

GENERAL INFORMATION ABOUT THE FLORIDA RETIREMENT SYSTEM (FRS)

The Florida Retirement System (FRS) was created in Chapter 121, Florida Statutes. The FRS was created to provide a defined benefit pension plan for participating public employees. The FRS was amended in 1998 to add the Deferred Retirement Option Program (DROP) under the defined benefit plan and amended in 2000 to provide a defined contribution plan alternative to the defined benefit plan for FRS members effective July 1, 2002. This integrated defined contribution pension plan is the FRS Investment Plan. Chapter 112, Florida Statutes, established the Retiree Health Insurance Subsidy (HIS) Program, a cost-sharing multiple-employer defined benefit pension plan to assist retired members of any State-administered retirement system in paying the costs of health insurance. Chapter 121, Florida Statutes, also provides for nonintegrated, optional retirement programs in lieu of the FRS to certain members of the Senior Management Service Class (SMSC) employed by the State and faculty and specified employees in the State university system.

Essentially all regular employees of the University are eligible to enroll as members of the State-administered FRS. Provisions relating to the FRS are established by Chapters 121 and 122, Florida Statutes; Chapter 112, Part IV, Florida Statutes; Chapter 238, Florida Statutes; and Florida Retirement System Rules, Chapter 60S, Florida Administrative Code; wherein eligibility, contributions, and benefits are defined and described in detail. Such provisions may be amended at any time by further action from the Florida Legislature. The FRS is a single retirement system administered by the Florida Department of Management Services, Division of Retirement, and consists of two cost-sharing, multiple-employer defined benefit plans and other nonintegrated programs. A comprehensive annual financial report of the FRS, which includes its financial statements, required supplementary information, actuarial report, and other relevant information, is available from the Florida Department of Management Services' website (www.dms.myflorida.com).

The University's pension expense for the FRS and HIS cost-sharing multiple-employer defined benefit plans totaled \$38,992,956 for the 2016-17 fiscal year.

FRS PENSION PLAN

Plan Description - The FRS Pension Plan (Plan) is a cost-sharing multiple-employer defined benefit pension plan, with a DROP for eligible employees. The general classes of membership are as follows:

- Regular Class – Members of the FRS who do not qualify for membership in the other classes.
- Senior Management Service Class (SMSC) – Members in senior management level positions.
- Special Risk Class – Members who are employed as law enforcement officers and meet the criteria to qualify for this class.

Employees enrolled in the Plan prior to July 1, 2011, vest at six years of creditable service and employees enrolled in the Plan on or after July 1, 2011, vest at eight years of creditable service. All vested members, enrolled prior to July 1, 2011, are eligible for normal retirement benefits at age 62 or at any age after 30 years of service, except for members classified as special risk who are eligible for normal retirement benefits at age 55 or at any age after 25 years of service. All members enrolled in the Plan on or after July 1, 2011, once vested, are eligible for normal retirement benefits at age 65 or any time after 33 years of creditable service, except for members classified as special risk who are eligible for normal retirement benefits at age 60 or at any age after 30 years of service. Members of the Plan may include up to 4 years of credit for military service toward creditable service. The Plan also includes an early retirement provision; however, there is a benefit reduction for each year a member retires before his or her normal retirement date. The Plan provides retirement, disability, death benefits, and annual cost of living adjustments to eligible participants.

DROP, subject to provisions of Section 121.091, Florida Statutes, permits employees eligible for normal retirement under the Plan to defer receipt of monthly benefit payments while continuing employment with an FRS-participating employer. An employee may participate in DROP for a period not to exceed 60 months after electing to participate. During the period of DROP participation, deferred monthly benefits are held in the FRS Trust Fund and accrue interest. The net pension liability does not include amounts for DROP participants, as these members are considered retired and are not accruing additional pension benefits.

Benefits Provided - Benefits under the Plan are computed on the basis of age, and/or years of service, average final compensation, and credit service. Credit for each year of service is expressed as a percentage of the average final compensation. For members initially enrolled before July 1, 2011, the average final compensation is the average of the five highest fiscal years' earnings; for members initially enrolled on or after July 1, 2011, the average final compensation is the average of the eight highest fiscal years' earnings. The total percentage value of the benefit received is determined by calculating the total value of all service, which is based on retirement plan and/or the class to which the member belonged when the service credit was earned. Members are eligible for in-line-of-duty or regular disability and survivors' benefits. The following table shows the percentage value for each year of service credit earned:

Class, Initial Enrollment, and Retirement Age/Years of Service	% Value
Regular Class members initially enrolled before July 1, 2011	
Retirement up to age 62 or up to 30 years of service	1.60
Retirement at age 63 or with 31 years of service	1.63
Retirement at age 64 or with 32 years of service	1.65
Retirement at age 65 or with 33 years of service or more	1.68
Regular Class members initially enrolled on or after July 1, 2011	
Retirement up to age 65 or up to 33 years of service	1.60
Retirement at age 66 or with 34 years of service	1.63
Retirement at age 67 or with 35 years of service	1.65
Retirement at age 68 or with 36 years of service or more	1.68
Senior Management Service Class	2.00
Special Risk Regular	
Service on and after October 1, 1974	3.00

As provided in Section 121.101, Florida Statutes, if the member was initially enrolled in the FRS before July 1, 2011, and all service credit was accrued before July 1, 2011, the annual cost-of-living adjustment is 3 percent per year. If the member was initially enrolled before July 1, 2011, and has service credit on or after July 1, 2011, there is an individually calculated cost-of-living adjustment. The annual cost-of-living adjustment is a proportion of 3 percent determined by dividing the sum of the pre-July 2011 service credit by the total service credit at retirement multiplied by 3 percent. Plan members initially enrolled on or after July 1, 2011, will not have a cost-of-living adjustment after retirement.

Contributions - The Florida Legislature establishes contribution rates for participating employers and employees. Contribution rates during the 2016-17 fiscal year were as follows:

Class or Plan	Percent of Gross Salary	
	Employee	Employer (1)
Florida Retirement System, Regular	3.00	7.52
Florida Retirement System, Senior Management Service	3.00	21.77
Florida Retirement System, Special Risk	3.00	22.57
Teachers' Retirement System, Plan E	6.25	11.90
Deferred Retirement Option Program - Applicable to Members from All of the Above Classes or Plan	0.00	12.99
Florida Retirement System, Reemployed Retiree	(2)	(2)

(1) Employer rates include 1.66 percent for the postemployment health insurance subsidy. Also, employer rates, other than for DROP participants, include .06 percent for administrative costs of the Investment Plan.
(2) Contribution rates are dependent upon retirement class in which reemployed.

The University's contributions to the Plan totaled \$18,696,925 for the fiscal year ended June 30, 2017.

Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions - At June 30, 2017, the University reported a liability of \$181,310,252 for its proportionate share of the net pension liability. The net pension liability was measured as of June 30, 2016, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of July 1, 2016. The University's proportionate share of the net pension liability was based on the University's 2015-16 fiscal year contributions relative to the total 2015-16 fiscal year contributions of all participating members. At June 30, 2016, the University's proportion was 0.72 percent, which was equal to its proportionate share measured as of June 30, 2015.



NOTES TO FINANCIAL STATEMENTS

Florida State University - A Component Unit of the State of Florida

For the fiscal year ended June 30, 2017, the University recognized pension expense of \$32,200,775. In addition, the University reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

Description	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ 13,882,507	\$ 1,688,121
Changes of Assumptions	10,968,728	-
Net difference between projected and actual earnings on pension plan investments	46,866,490	-
Changes in proportion and differences between University contributions and proportionate share of contributions	15,940,875	474,679
University contributions subsequent to the measurement date	18,696,925	-
Total	\$ 106,355,525	\$ 2,162,800

The deferred outflows of resources totaling \$18,696,925, resulting from University contributions subsequent to the measurement date, will be recognized as a reduction of the net pension liability in the fiscal year ended June 30, 2018. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Fiscal Year Ending June 30	Amount
2018	\$ 14,201,035
2019	14,201,035
2020	32,472,503
2021	20,845,523
2022	2,908,419
Thereafter	867,286
Total	\$ 85,495,801

Actuarial Assumptions - The total pension liability in the July 1, 2016, actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

- Inflation 2.60 percent
- Salary Increases 3.25 percent, average, including inflation
- Investment Rate of Return 7.60 percent, net of Plan investment expense, including inflation

Mortality rates were based on the Generational RP-2000 with Projection Scale BB.

The actuarial assumptions used in the July 1, 2016, valuation were based on the results of an actuarial experience study for the period July 1, 2008, through June 30, 2013.

The long-term expected rate of return on Plan investments was not based on historical returns, but instead is based on a forward-looking capital market economic model. The allocation policy's description of each asset class was used to map the target allocation to the asset classes shown below. Each asset class assumption is based on a consistent set of underlying assumptions, and includes an adjustment for the inflation assumption. The target allocation and best estimates of arithmetic and geometric real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation (1)	Annual Arithmetic Return	Compound Annual (Geometric) Return	Standard Deviation
Cash	1.0%	3.0%	3.0%	1.7%
Fixed Income	18.0%	4.7%	4.6%	4.6%
Global Equity	53.0%	8.1%	6.8%	17.2%
Real Estate (Property)	10.0%	6.4%	5.8%	12.0%
Private Equity	6.0%	11.5%	7.8%	30.0%
Strategic Investments	12.0%	6.1%	5.6%	11.1%
Total	100.0%			
Assumed Inflation - Mean			2.6%	1.9%

(1) As outlined in the Plan's investment policy.

Discount Rate - The discount rate used to measure the total pension liability was 7.60 percent. The Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the discount rate for calculating the total pension liability is equal to the long-term expected rate of return.

Sensitivity of the University's Proportionate Share of the Net Pension Liability to Changes in the Discount Rate - The following presents the University's proportionate share of the net pension liability calculated using the discount rate of 7.60 percent, as well as what the University's proportionate share of the net pension liability would be if it were calculated using a discount rate that is 1 percentage-point lower (6.60 percent) or 1 percentage-point higher (8.60 percent) than the current rate:

Pension Plan Fiduciary Net Position - Detailed information about the Plan's fiduciary net position is available in the separately issued FRS Pension Plan and Other State Administered Systems Comprehensive Annual Financial Report.

	1% Decrease (6.60%)	Current Discount Rate (7.60%)	1% Increase (8.60%)
University's proportionate share of the net pension liability	\$ 333,804,449	\$ 181,310,252	\$ 54,378,972

HIS PENSION PLAN

Plan Description - The HIS Pension Plan (HIS Plan) is a cost-sharing multiple-employer defined benefit pension plan established under Section 112.363, Florida Statutes. The benefit is a monthly payment to assist retirees of State-administered retirement systems in paying their health insurance costs and is administered by the Florida Department of Management Services, Division of Retirement.

Benefits Provided - For the fiscal year ended June 30, 2017, eligible retirees and beneficiaries received a monthly HIS payment of \$5 for each year of creditable service completed at the time of retirement with a minimum HIS payment of \$30 and a maximum HIS payment of \$150 per month, pursuant to Section 112.363, Florida Statutes. To be eligible to receive a HIS Plan benefit, a retiree under a State administered retirement system must provide proof of health insurance coverage, which can include Medicare.

Contributions - The HIS Plan is funded by required contributions from FRS participating employers as set by the Florida Legislature. Employer contributions are a percentage of gross compensation for all active FRS members. For the fiscal year ended June 30, 2017, the contribution rate was 1.66 percent of payroll pursuant to section 112.363, Florida Statutes. The University contributed 100 percent of its statutorily required contributions for the current and preceding three years. HIS Plan contributions are deposited in a separate trust fund from which HIS payments are authorized. HIS Plan benefits are not guaranteed and are subject to annual legislative appropriation. In the event the legislative appropriation or available funds fail to provide full subsidy benefits to all participants, benefits may be reduced or canceled.

The University's contributions to the HIS Plan totaled \$3,459,247 for the fiscal year ended June 30, 2017.

Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions - At June 30, 2017, the University reported a liability of \$76,700,313 for its proportionate share of the net pension liability. The current portion of the net pension liability is the University's proportionate share of benefit payments expected to be paid within one year, net of the University's proportionate share of the HIS Plan's fiduciary net position available to pay that amount. The net pension liability was measured as of June 30, 2016, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of July 1, 2016. The University's proportionate share of the net pension liability was based on the University's 2015-16 fiscal year contributions relative to the total 2015-16 fiscal year contributions of all participating members. At June 30, 2016, the University's proportion was 0.66 percent, which was an increase of 0.01 from its proportionate share measured as of June 30, 2015.

For the fiscal year ended June 30, 2017, the University recognized pension expense of \$6,792,181. In addition, the University reported deferred outflows of resources and deferred inflow of resources related to pensions from the following sources:

Description	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ -	\$ 174,695
Changes of Assumptions	12,036,229	-
Net difference between projected and actual earnings on HIS Plan investments	38,781	-
Changes in proportion and differences between University contributions and proportionate share of contributions	2,037,255	-
University contributions subsequent to the measurement date	3,459,247	-
Total	\$ 17,571,512	\$ 174,695



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The deferred outflows of resources totaling \$3,459,247 was related to pensions resulting from University contributions subsequent to the measurement date and will be recognized as a reduction of the net pension liability in the fiscal year ended June 30, 2018. Other amounts reported as deferred outflows of resources related to pensions will be recognized in pension expense as follows:

Fiscal Year Ending June 30	Amount
2018	\$ 2,550,325
2019	2,550,325
2020	2,542,940
2021	2,539,396
2022	2,091,116
Thereafter	1,663,468
Total	\$ 13,937,570

Actuarial Assumptions - The total pension liability at July 1, 2016, actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

- Inflation 2.60 percent
- Salary Increases..... 3.25 percent, average, including inflation
- Municipal Bond Rate 2.85 percent

Mortality rates were based on the Generational RP-2000 with Projected Scale BB.

While an experience study had not been completed for the HIS Plan, the actuarial assumptions that determined the total pension liability for the HIS Plan were based on certain results of the most recent experience study for the FRS Plan.

Discount Rate - The discount rate used to measure the total pension liability was 2.85 percent. In general, the discount rate for calculating the total pension liability is equal to the single rate equivalent to discounting at the long-term expected rate of return for benefit payments prior to the projected depletion date. Because the HIS benefit is essentially funded on a pay-as-you-go basis, the depletion date is considered to be immediate, and the single equivalent discount rate is equal to the municipal bond rate selected by the plan sponsor. The Bond Buyer General Obligation 20-Bond Municipal Bond Index was adopted as the applicable municipal bond index. The discount rate used to determine the total pension liability decreased from 3.80 percent from the prior measurement date.

Sensitivity of the University's Proportionate Share of the Net Pension Liability to Changes in the Discount Rate - The following presents the University's proportionate share of the net pension liability calculated using the discount rate of 2.85 percent, as well as what the University's proportionate share of the net pension liability would be if it were calculated using a discount rate that is 1 percentage-point lower (1.85 percent) or 1 percentage-point higher (3.85 percent) than the current rate:

	1% Decrease (1.85%)	Current Discount Rate (2.85%)	1% Increase (3.85%)
University's proportionate share of the net pension liability	\$ 87,992,686	\$ 76,700,313	\$ 67,328,262

Pension Plan Fiduciary Net Position - Detailed information about the HIS Plan's fiduciary net position is available in the separately issued FRS Pension Plan and Other State Administered Comprehensive Annual Financial Report.

10 RETIREMENT PLANS - DEFINED CONTRIBUTION PENSION PLANS

FRS INVESTMENT PLAN

The SBA administers the defined contribution plan officially titled the FRS Investment Plan (Investment Plan). The Investment Plan is reported in the SBA's annual financial statements and in the State of Florida Comprehensive Annual Financial Report.

As provided in Section 121.4501, Florida Statutes, eligible FRS members may elect to participate in the Investment Plan in lieu of the FRS defined benefit plan. University employees already participating in the State University System Optional Retirement Program or

DROP are not eligible to participate in this program. Employer and employee contributions are defined by law, but the ultimate benefit depends in part on the performance of investment funds. Service retirement benefits are based upon the value of the member's account upon retirement. Benefit terms, including contribution requirements, are established and may be amended by the Florida Legislature. The Investment Plan is funded with the same employer and employee contributions, that are based on salary and membership class (Regular Class, Senior Management Service Class, etc.), as the FRS defined benefit plan. Contributions are directed to individual member accounts, and the individual members allocate contributions and account balances among various approved investment choices. Costs of administering the Investment Plan, including the FRS Financial Guidance Program, are funded through an employer contribution of 0.06 percent of payroll and by forfeited benefits of Investment Plan members. Allocations to the Investment Plan member accounts during the 2016-17 fiscal year were as follows:

Class or Plan	Percent of Gross Compensation
Florida Retirement System, Regular	6.30
Florida Retirement System, Senior Management Service	7.67
Florida Retirement System, Special Risk	14.00

For all membership classes, employees are immediately vested in their own contributions and are vested after one year of service for employer contributions and investment earnings regardless of membership class. If an accumulated benefit obligation for service credit originally earned under the FRS Pension Plan is transferred to the FRS Investment Plan, the member must have the years of service required for FRS Pension Plan vesting (including the service credit represented by the transferred funds) to be vested for these funds and the earnings on the funds. Nonvested employer contributions are placed in a suspense account for up to five years. If the employee returns to FRS-covered employment within the five year period, the employee will regain control over their account. If the employee does not return within the five year period, the employee will forfeit the accumulated account balance. For the fiscal year ended June 30, 2017, the information for the amount of forfeitures was unavailable from the SBA; however, management believes that these amounts, if any, would be immaterial to the University.

After termination and applying to receive benefits, the member may rollover vested funds to another qualified plan, structure a periodic payment under the Investment Plan, receive a lump-sum distribution, leave the funds invested for future distribution, or any combination of these options. Disability coverage is provided in which the member may either transfer the account balance to the FRS Pension Plan when approved for disability retirement to receive guaranteed lifetime monthly benefits under the FRS Pension Plan, or remain in the Investment Plan and rely upon that account balance for retirement income.

The University's contributions to the Investment Plan totaled \$3,122,270 and employee contributions totaled \$1,199,537 for the 2016-17 fiscal year.

STATE UNIVERSITY SYSTEM OPTIONAL RETIREMENT PROGRAM

Section 121.35, Florida Statutes, provides for an Optional Retirement Program (ORP) for eligible university instructors and administrators. The ORP is designed to aid State universities in recruiting employees by offering more portability to employees not expected to remain in FRS for eight or more years.

The ORP is a defined contribution plan, which provides full and immediate vesting of all contributions submitted to the participating companies on behalf of the participant. Employees in eligible positions can make an irrevocable election to participate in the ORP, rather than the FRS, and purchase retirement and death benefits through contracts provided by certain insurance carriers. The employing university contributes 5.14 percent of the participant's salary to the participant's account, 2.83 percent to cover the unfunded actuarial liability of the FRS pension plan, and 0.01 percent to cover administrative costs, for a total of 7.98 percent, and employees contribute 3 percent of the employee's salary. Additionally, the employee may contribute, by payroll deduction, an amount not to exceed the percentage contributed by the University to the participant's annuity account. The contributions are invested in the company or companies selected by the participant to create a fund for the purchase of annuities at retirement.

The University's contributions to the ORP totaled \$18,507,588 and employee contributions totaled \$11,765,302 for the 2016-17 fiscal year.



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11 CONSTRUCTION COMMITMENTS

The University's construction commitments at June 30, 2017, are as follows:

Project Description	Total Commitment	Completed to Date	Committed Balance
Earth, Ocean, and Atmospheric Science Building	\$ 46,850,000	\$ 6,895,098	\$ 39,954,902
Student Union Expansion	18,751,607	209,697	18,541,910
Technology Services Building Renovations	7,500,000	123	7,499,877
Jim Moran Building Renovations	8,015,734	1,443,321	6,572,413
Seminole Dining Improvements	6,354,844	828	6,354,016
Donald L. Tucker Civic Center Renovations	5,940,286	327,100	5,613,186
Other (1)	175,056,771	119,823,838	55,232,933
Total	\$ 268,469,242	\$ 128,700,005	\$ 139,769,237

(1) All other projects with committed balances less than \$5 million.

12 RISK MANAGEMENT PROGRAMS

The University is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. Pursuant to Section 1001.72(2), Florida Statutes, the University participates in State self-insurance programs providing insurance for property and casualty, workers' compensation, general liability, fleet automotive liability, Federal Civil Rights, and employment discrimination liability. During the 2016-17 fiscal year, for property losses, the State retained the first \$2 million per occurrence for all perils except named windstorm and flood. The State retained the first \$2 million per occurrence with an annual aggregate retention of \$40 million for named windstorm and flood losses. After the annual aggregate retention, losses in excess of \$2 million per occurrence were commercially insured up to \$85 million for named windstorm and flood losses through February 14, 2017, and increased to \$92.5 million starting February 15, 2017. For perils other than named windstorm and flood, losses in excess of \$2 million per occurrence were commercially insured up to \$200 million through February 14, 2017, and increased to \$225 million starting February 15, 2017; and losses exceeding those amounts were retained by the State. No excess insurance coverage is provided for workers' compensation, general and automotive liability, Federal Civil Rights and employment action coverage; all losses in these categories are completely self-insured by the State through the State Risk Management Trust Fund established pursuant to Chapter 284, Florida Statutes. Payments on tort claims are limited to \$200,000 per person, and \$300,000 per occurrence as set by Section 768.28(5), Florida Statutes. Calculation of premiums considers the cash needs of the program and the amount of risk exposure for each participant. Settlements have not exceeded insurance coverage during the past three fiscal years.

Pursuant to Section 110.123, Florida Statutes, University employees may obtain healthcare services through participation in the State group health insurance plan or through membership in a health maintenance organization plan under contract with the State. The State's risk financing activities associated with State group health insurance, such as risk of loss related to medical and prescription drug claims, are administered through the State Employees Group Health Insurance Trust Fund. It is the practice of the State not to purchase commercial coverage for the risk of loss covered by this Fund. Additional information on the State's group health insurance plan, including the actuarial report, is available from the Florida Department of Management Services, Division of State Group Insurance.

UNIVERSITY SELF-INSURANCE PROGRAM

The Florida State University College of Medicine Self-Insurance Program was established pursuant to Section 1004.24, Florida Statutes on July 1, 2006. The Self-Insurance Program provides professional and general liability protection for the Florida State University Board of Trustees for claims and actions arising from the clinical activities of the College of Medicine faculty, staff and resident physicians. This includes the faculty and staff of the College of Nursing, effective July 1, 2009, and the faculty and staff of the Student Health Center, effective July 1, 2010. Liability protection is afforded to the students of each college. The Self-Insurance Program provides legislative claims bill protection.

The University is protected for losses that are subject to Section 768.28, Florida Statutes, to the extent of the waiver of sovereign immunity as described in Section 768.28(5), Florida Statutes. The Self-Insurance Program also provides \$1,000,000 per legislative claims bills inclusive of payments made pursuant to Section 768.28, Florida Statutes; \$250,000 per occurrence of protection for the participants that are not subject to the provisions of Section 768.28, Florida Statutes; \$250,000 per claim protection for participants who engage in approved community service and act as Good Samaritans; and student protections of \$200,000 for a claim arising from an occurrence for any one person, \$300,000 for all claims arising from an occurrence and professional liability required by a hospital or other healthcare facility for educational purposes not to exceed a per occurrence limit of \$1,000,000.

The Self-Insurance Program's estimated liability for unpaid claims at fiscal year-end is the result of management and actuarial analysis and includes an amount for claims that have been incurred but not reported. Changes in the balances of claims liability for the Self-Insurance Program during the 2016-17 fiscal year are presented in the following table:

Fiscal Year	Claims Liabilities Beginning of Year	Current Claims/ Changes in Estimates	Claims Payments	Claims Liabilities End of Year
2015-16	\$ 945,174	\$ 96,001	\$ (460,906)	\$ 580,269
2016-17	580,269	(55,999)	(464)	523,806

13 FUNCTIONAL DISTRIBUTION OF OPERATING EXPENSES

The functional classification of an operating expense (instruction, research, etc.) is assigned to a department based on the nature of the activity, which represents the material portion of the activity attributable to the department. For example, activities of academic departments for which the primary departmental function is instruction may include some activities other than direct instruction such as research and public service. However, when the primary mission of the department consists of instructional program elements, all expenses of the department are reported under the instruction classification. The operating expenses on the statement of revenues, expenses, and changes in net position are presented by natural classifications. The following are those same expenses presented in functional classifications as recommended by NACUBO:

Functional Classification	Amount
Instruction	\$ 380,058,285
Research	147,371,885
Public Service	36,050,451
Academic Support	90,724,317
Student Services	51,449,789
Institutional Support	63,444,525
Operation and Maintenance of Plant	70,018,046
Scholarships and Fellowships	83,229,398
Depreciation	79,503,857
Auxiliary Enterprises	146,097,995
Loan Operations	407,098
Total Operating Expenses	\$ 1,148,355,646





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Florida State University - A Component Unit of the State of Florida

14 SEGMENT INFORMATION

A segment is defined as an identifiable activity (or grouping of activities) that has one or more bonds or other debt instruments outstanding with a revenue stream pledged in support of that debt. In addition, the activity's related revenues, expenses, gains, losses, assets, and liabilities are required to be accounted for separately. The following financial information for the University's Parking and Housing facilities represents identifiable activities for which one or more bonds are outstanding:

Condensed Statement of Net Position	Parking Facility	Housing Facility
Assets		
Current Assets	\$ 4,500,907	\$ 59,333,087
Capital Assets, Net	71,454,846	290,493,728
Other Noncurrent Assets	2,683,133	18,116,264
Total Assets	78,638,886	367,943,079
Liabilities		
Current Liabilities	3,839,485	16,992,488
Noncurrent Liabilities	31,495,909	181,972,193
Total Liabilities	35,335,394	198,964,681
Net Position		
Net Investment in Capital Assets	36,476,590	100,895,499
Restricted - Expendable	2,639,575	14,760,946
Unrestricted	4,187,327	53,321,953
Total Net Position	\$ 43,303,492	\$ 168,978,398
Condensed Statement of Revenues, Expenses, and Changes in Net Position		
Operating Revenues	\$ 12,064,191	\$ 42,485,845
Depreciation Expense	(1,982,015)	(6,127,275)
Other Operating Expenses	(6,763,035)	(22,735,543)
Operating Income	3,319,141	13,623,027
Net Nonoperating Expenses	(1,681,180)	(12,859,779)
Income Before Other Revenues, Expenses, Gains, or Losses	1,637,961	763,248
Other Revenues, Expenses, Gains, or Losses	(115,120)	(4,988,022)
Increase (Decrease) in Net Position	1,522,841	(4,224,774)
Net Position, Beginning of Year	41,780,651	173,203,172
Net Position, End of Year	\$ 43,303,492	\$ 168,978,398
Condensed Statement of Cash Flows		
Net Cash Provided (Used) by:		
Operating Activities	\$ 5,459,106	\$ 19,930,917
Noncapital Financing Activities	(247,268)	(3,219,851)
Capital and Related Financing Activities	(4,722,810)	(46,225,918)
Investing Activities	(490,312)	29,591,154
Net Increase (Decrease) in Cash and Cash Equivalents	(1,284)	76,302
Cash and Cash Equivalents, Beginning of Year	49,500	109,032
Cash and Cash Equivalents, End of Year	\$ 48,216	\$ 185,334

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BLENDED COMPONENT UNIT

The University has one blended component unit as discussed in note 1. The following financial information is presented for the University's blended component unit:

Condensed Statement of Net Position	<u>College of Medicine Self-Insurance Program</u>
Assets	
Other Current Assets	\$ 8,879,523
Total Assets	<u>8,879,523</u>
Liabilities	
Other Current Liabilities	127,497
Noncurrent Liabilities	400,809
Total Liabilities	<u>528,306</u>
Net Position	
Restricted	8,351,217
Total Net Position	<u><u>\$ 8,351,217</u></u>
Condensed Statement of Revenues, Expenses, and Changes in Net Position	
Operating Revenues	\$ 362,263
Other Operating Expenses	(120,516)
Operating Income	<u>241,747</u>
Other Revenues, Expenses, Gains, and Losses	443,796
Increase in Net Position	<u>685,543</u>
Net Position, Beginning of Year	7,665,674
Net Position, End of Year	<u><u>\$ 8,351,217</u></u>
Condensed Statement of Cash Flows	
Net Cash (Used) by:	
Operating Activities	\$ (53,682)
Investing Activities	(438,880)
Financing Activities	(18,347)
Net Decrease in Cash and Cash Equivalents	<u>(510,909)</u>
Cash and Cash Equivalents, Beginning of Year	1,631,495
Cash and Cash Equivalents, End of Year	<u><u>\$ 1,120,586</u></u>





NOTES TO FINANCIAL STATEMENTS

Florida State University - A Component Unit of the State of Florida

16 DISCRETELY PRESENTED COMPONENT UNITS

The University has twelve component units as discussed in note 1. These component units comprise 100 percent of the transactions and account balances of the aggregate discretely presented component units' columns of the financial statements.

	Foundation 6/30/2017	Boosters 6/30/2017	Research Foundation 6/30/2017	International Programs Association 9/30/2016	Florida State University Schools 6/30/2017
Condensed Statement of Net Position					
Assets:					
Current Assets	\$ 86,540,378	\$ 36,589,060	\$ 136,462,713	\$ 18,222,495	\$ 15,887,483
Capital Assets, Net	4,021,137	191,436,169	15,991,686	19,557,148	20,189,355
Other Noncurrent Assets	616,852,838	159,327,734	6,514,455	-	-
Total Assets	707,414,353	387,352,963	158,968,854	37,779,643	36,076,838
Deferred Outflows of Resources	-	2,315,946	-	-	-
Liabilities:					
Current Liabilities	17,669,546	44,963,234	20,326,367	3,537,474	1,262,915
Noncurrent Liabilities	10,668,642	198,614,221	10,202,031	4,565,748	12,854,201
Total Liabilities	28,338,188	243,577,455	30,528,398	8,103,222	14,117,116
Net Position:					
Net Investment in Capital Assets	4,021,137	37,834,016	5,259,655	14,453,149	6,525,852
Restricted	678,801,398	111,001,436	-	-	5,717,532
Unrestricted	(3,746,370)	(2,743,998)	123,180,801	15,223,272	9,716,338
Total Net Position	\$ 679,076,165	\$ 146,091,454	\$ 128,440,456	\$ 29,676,421	\$ 21,959,722
Condensed Statement of Revenues, Expenses, and Changes in Net Position					
Operating Revenues	\$ 38,304,108	\$ 47,213,254	\$ 16,275,303	\$ 18,920,767	\$ 15,310,805
Operating Expenses	60,137,001	56,561,620	14,827,487	15,194,749	14,646,474
Operating Income (Loss)	(21,832,893)	(9,348,366)	1,447,816	3,726,018	664,331
Net Nonoperating Revenues (Expenses)	59,394,545	(4,245,414)	8,815,066	84,315	(587,447)
Other Revenues, Expenses, Gains, and Losses	9,566,721	15,830,437	-	-	215,869
Increase in Net Position	47,128,373	2,236,657	10,262,882	3,810,333	292,753
Net Position, Beginning of Year	631,947,792	143,854,797	118,177,574	25,866,088	21,666,969
Adjustment to Beginning Net Position	-	-	-	-	-
Net Position, End of Year	\$ 679,076,165	\$ 146,091,454	\$ 128,440,456	\$ 29,676,421	\$ 21,959,722



Other Component Units		Total	
6/30/2017			
\$ 15,420,520	\$ 309,122,649		
674,083	251,869,578		
2,908,269	785,603,296		
19,002,872	1,346,595,523		
-	2,315,946		
5,151,223	92,910,759		
-	236,904,843		
5,151,223	329,815,602		
672,554	68,766,363		
3,694,867	799,215,233		
9,484,228	151,114,271		
\$ 13,851,649	\$ 1,019,095,867		
\$ 9,589,850	\$ 145,614,087		
9,785,692	171,153,023		
(195,842)	(25,538,936)		
1,833,804	65,294,869		
-	25,613,027		
1,637,962	65,368,960		
12,200,770	953,713,990		
12,917	12,917		
\$ 13,851,649	\$ 1,019,095,867		





OTHER REQUIRED SUPPLEMENTARY INFORMATION

Florida State University - A Component Unit of the State of Florida

SCHEDULE OF FUNDING PROGRESS – OTHER POSTEMPLOYMENT BENEFITS PLAN

Actuarial Valuation Date	Actuarial Value of Assets (A)	Actuarial Accrued Liability (AAL) (1) (B)	Unfunded AAL (UAAL) (B-A)	Funded Ratio (A/B)	Covered Payroll (C)	UAAL as a Percentage of Covered Payroll [(B-A)/C]
7/1/2011	-	\$ 137,982,000	\$ 137,982,000	0%	\$ 355,518,953	38.8%
7/1/2013	-	233,811,000	233,811,000	0%	389,854,458	60.0%
7/1/2015	-	140,923,000	140,923,000	0%	423,172,345	33.3%

(1) The actuarial cost method used by the institution is the entry-age actuarial cost method.

SCHEDULE OF NET PENSION LIABILITY – FLORIDA RETIREMENT SYSTEM DEFINED BENEFIT PENSION PLAN

Description	2016 (1)	2015 (1)	2014 (1)	2013 (1)
University's proportion of the FRS net pension liability	0.72%	0.72%	0.70%	0.55%
University's proportionate share of the FRS net pension liability	\$ 181,310,252	\$ 93,262,711	\$ 42,528,294	\$ 94,644,224
University's covered payroll (2)	\$ 423,172,345	\$ 407,099,915	\$ 389,854,458	\$ 368,648,639
University's proportion of the FRS net pension liability as a percentage of its covered payroll	42.85%	22.91%	10.91%	25.67%
FRS Plan fiduciary net position as a percentage of the FRS total pension liability	84.88%	92.00%	96.09%	88.54%

(1) The amounts presented for each fiscal year were determined as of June 30.
(2) Covered payroll includes defined benefit plan actives, investment plan members, State University System optional retirement program members, and members in DROP because total employer contributions are determined on a uniform basis (blended rate) as required by Part III of Chapter 121, Florida Statutes.

SCHEDULE OF CONTRIBUTIONS – FLORIDA RETIREMENT SYSTEM DEFINED BENEFIT PENSION PLAN

Description	2017 (1)	2016 (1)	2015 (1)	2014 (1)
Contractually required FRS contribution	\$ 18,696,925	\$ 17,510,994	\$ 17,604,243	\$ 15,267,633
FRS contributions in relation to the contractually required FRS contribution	(18,696,925)	(17,510,994)	(17,604,243)	(15,267,633)
Contribution deficiency (excess)	\$ -	\$ -	\$ -	\$ -
University covered payroll (2)	\$ 438,212,856	\$ 423,172,345	\$ 407,099,915	\$ 389,854,458
FRS contributions as a percentage of covered payroll	4.27%	4.14%	4.32%	3.92%

(1) The amounts presented for each fiscal year were determined as of June 30.
(2) Covered payroll includes defined benefit plan actives, investment plan members, State University System optional retirement program members, and members in DROP because total employer contributions are determined on a uniform basis (blended rate) as required by Part III of Chapter 121, Florida Statutes.

Changes of assumptions - The long-term expected rate of return was decreased from 7.65 percent to 7.60 percent, and the active member mortality assumption was updated.

**SCHEDULE OF NET PENSION LIABILITY –
HEALTH INSURANCE SUBSIDY DEFINED BENEFIT PENSION PLAN**

Description	2016 (1)	2015 (1)	2014 (1)	2013 (1)
University's proportion of the HIS net pension liability	0.66%	0.65%	0.64%	0.62%
University's proportionate share of the HIS net pension liability	\$ 76,700,313	\$ 66,652,215	\$ 59,936,732	\$ 54,347,452
University's covered payroll (2)	\$ 201,302,795	\$ 196,319,296	\$ 188,768,602	\$ 179,775,016
University's proportion of the HIS net pension liability as a percentage of its covered payroll	38.10%	33.95%	31.75%	30.23%
HIS Plan fiduciary net position as a percentage of the HIS total pension liability	0.97%	0.50%	0.99%	1.78%

(1) The amounts presented for each fiscal year were determined as of June 30.
(2) Covered payroll includes defined benefit plan actives, investment plan members, and member in DROP.

**SCHEDULE OF CONTRIBUTIONS –
HEALTH INSURANCE SUBSIDY DEFINED BENEFIT PENSION PLAN**

Description	2017 (1)	2016 (1)	2015 (1)	2014 (1)
Contractually required HIS contribution	\$ 3,459,247	\$ 3,373,247	\$ 2,498,290	\$ 2,195,911
HIS contributions in relation to the contractually required FRS contribution	(3,459,247)	(3,373,247)	(2,498,290)	(2,195,911)
Contribution deficiency (excess)	\$ -	\$ -	\$ -	\$ -
University covered payroll (2)	\$ 206,288,311	\$ 201,302,795	\$ 196,319,296	\$ 188,768,602
HIS contributions as a percentage of covered payroll	1.68%	1.68%	1.27%	1.16%

(1) The amounts presented for each fiscal year were determined as of June 30.
(2) Covered payroll includes defined benefit plan actives, investment plan members, and members in DROP.

Changes of assumptions - As of June 30, 2016, the municipal rate used to determine total pension liability decreased from 3.80 percent to 2.85 percent.





Sherrill F. Norman, CPA
Auditor General

AUDITOR GENERAL STATE OF FLORIDA

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The President of the Senate, the Speaker of the
House of Representatives, and the
Legislative Auditing Committee

INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Florida State University, a component unit of the State of Florida, and its aggregate discretely presented component units as of and for the fiscal year ended June 30, 2017, and the related notes to the financial statements, which collectively comprise the University's basic financial statements, and have issued our report thereon dated March 6, 2018, included under the heading **INDEPENDENT AUDITOR'S REPORT**. Our report includes a reference to other auditors who audited the financial statements of the aggregate discretely presented component units, as described in our report on the University's financial statements. This report does not include the results of the other auditors' testing of internal control over financial reporting or compliance and other matters that are reported on separately by those auditors.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the University's internal control over financial reporting (internal control) to determine audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control. Accordingly, we do not express an opinion on the effectiveness of the University's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the University's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the University's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, rules, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit and, accordingly,

we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the University's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the University's internal control and compliance. Accordingly, this report is not suitable for any other purpose.

Respectfully submitted,



Sherrill F. Norman, CPA
Tallahassee, Florida
March 6, 2018
Audit Report No. 2018-129





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FLORIDA STATE UNIVERSITY

ANNUAL REPORT 2016-2017

Appendix 2: ABSI Detailed Project Objectives

Appendix 2: Apalachicola Bay System Initiative (ABSI) detailed objectives

The main body of the project proposal (Section 2, Eligibility, #2) contains a brief description of the ABSI objectives. This appendix contains more detail on each of the objectives and how they will be integrated to achieve the overall project goals.

Objective A. Assess temporal and spatial changes in oyster communities in Franklin County

The first objective will involve analysis of existing information to assess ecological and environmental changes in the study region from 1950 to the beginning of the ABSI. This effort requires extensive mining of historical and contemporary sources for data on oyster reef distribution, reef associated fish and invertebrate communities, oyster ecology and biology, and environmental conditions within Apalachicola Bay and adjacent waterways. This information will allow us to monitor the trajectory of change over the past several decades. Many of the older reports, while containing valuable information, are unavailable in digital format and often reside in libraries or repositories of government agencies. We will need to visit these sites to digitize the reports and incorporate the data into our analyses. More contemporary reports that contain aerial, lidar, and satellite surveys, monitoring efforts, fishery independent surveys, and long term environmental data sets are far greater in volume and complexity, but are generally available digitally.

Comparisons of historical and contemporary data allow assessment of change across multiple ecosystem services (e.g. fisheries, water quality and shoreline erosion control) and make future projections (e.g. Havens et al 2013, Camp et al 2015, Fisch and Pine 2016,). The initial analysis will provide the 'starting point' from which to evaluate changes observed during ABSI, and help generate target metrics for future restoration and management decisions (e.g. zuErmgassen et al 2017).

Deliverables for this component include a database with information on spatial and temporal changes in oyster reef distribution, productivity and environmental conditions. This information will create the foundation from which to assess the success of ABSI, and will help generate metrics for future restoration efforts. Digital GIS-based maps and reports will be available through the project website and updated annually.

Objective B. Construct a pilot-scale oyster hatchery

The construction of a small-scale oyster hatchery is a critical component of the ABSI. The hatchery will be used to maintain adult oysters from local sub-populations, and will provide a reliable and controlled source of larvae and juveniles for experimentation and development of best practices methodology for large-scale oyster reef restoration and aquaculture. This facility will include algal culture, controlled temperature tanks for brood-stock (adult oysters) conditioning and spawning, larval culture tanks, settlement tanks for seed (individual oysters for research and development of aquaculture strains) and spat on cultch for research and restoration experiments (see Wallace et al 2008 for an overview of hatchery methods).

Research objectives include assessing optimal feeding and environmental conditions for growth and survival of larvae and juveniles and investigating potential for disease resistant and environmentally resilient strains for restoration and aquaculture.

The ABSI hatchery will serve as a demonstration facility that can supply sufficient larvae and seed for the proposed aquaculture research. It will not meet the needs of the burgeoning aquaculture industry, in which the demand for seed already exceeds the supply both within and outside of Florida. The expectation is that the commercial sector will develop a larger scale hatchery that supports high output production to meet the needs of aquaculture and large scale restoration. After the initial 5 years of Triumph funding, the ABSI hatchery would continue to be used for research on optimal strains, producing spat on cultch for restoration and investigating the potential for aquaculture development of other species. The outcome of the research will be shared with stakeholders throughout the study period and beyond.

Deliverables for this objective include the construction of an operational hatchery with manager and technical staff. We estimate that completion of the hatchery will take > 2 years, but in the interim, renovations to FSUCML existing facilities will support broodstock maintenance and spawning, and sufficient larvae and juveniles for experimental purposes. The larger scale production of spat on cultch for the restoration experiments and continuing research will be accomplished when the completed hatchery comes online.

Objective C. Bio-physical modeling

Oyster population distribution is governed by larval dispersal and post-settlement survival. Although larvae are not passive particles, they are strongly influenced by local hydrodynamics. A major input into the hydrodynamic model is freshwater inflow into the estuary. A river-basin model (e.g. Wang et al 2008, Leitman and Kiker 2015,)), will be used to define a range of freshwater input scenarios depending on varying climatic conditions, consumption and reservoir management practices to provide boundaries on the capacity of the watershed's inflow into the estuary and adjacent areas. The freshwater dynamics will be combined with near-shore coastal models to create a composite physical flow model for the ABSI region and beyond. We will use the larvae generated by the hatchery to understand how environmental conditions influence survival, larval lifespan and settlement rates (Tettelbach and Rhodes 1981, Wang and Widdows 1991, Rico-Villa et al 2009). This biological data will be incorporated into the physical oceanography model (e.g. North et al 2008), to create a combined product that will create a powerful tool for estimating dispersal pathways, predicting recruitment and distribution of adult populations, and the connectivity among them (Botsford et al 1997). Understanding how populations are connected allows identification of potential sanctuary areas that protect adult brood-stock, and reefs suitable for traditional harvest. Understanding flow regimes and larval pathways can also help optimize restoration placements (Jones et al 2007, Haase et al 2012). The primary deliverable for this objective is an integrated model that combines habitat distribution, water flow and larval dispersal data to predict oyster recruitment patterns and population connectivity

Objective D. Monitoring of oyster communities and their environment

Several academic, management and conservations entities, including Florida State University (FSU), Florida Fish and Wildlife Research Institute (FWRI), University of Florida (UF), University of South Florida (USF), Apalachicola National Estuarine Research Reserve (ANERR), Department of Agriculture and Consumer Services (DACS) and The Nature Conservancy (TNC), are (or have been) involved in monitoring oyster populations within Apalachicola Bay and adjacent shorelines. These studies have included oyster recruitment, growth rate and survival, adult abundance, and prevalence of predators, parasites and diseases. These efforts differ spatially, temporally and in the type of data collected making comparisons of data sets challenging. Many studies focused on commercial reefs, leaving important data gaps in other areas. Because the dynamics of Apalachicola Bay have likely changed over time, some of these other areas may now be as good or better oyster habitat than the commercial reefs. They are also less affected by harvesting impacts and could serve as comparative sites to assess the effects of harvesting. Discussions with members of several management and conservation organizations suggest that there is strong interest in coordinating efforts throughout northwest Florida counties. In this way, the ABSI field work can fill spatial gaps as well as address additional aspects of oyster ecology. For example, the interaction between flow, productivity and oyster survival, how oyster communities have changed from earlier studies (e.g. Livingston 1984) and why spat are not surviving to produce viable adult populations. Juvenile mortality may be due to predation, disease, unfavorable environmental conditions or a combination of these factors (e.g. Petes et al 2012). Understanding the reasons for this loss of young oysters is critical to restoration and recovery efforts (Havens et al 2013, Camp et al 2015). Our work would address this and other questions through field studies across different areas, over the time span of the project and beyond. One of the strengths of ABSI is the flexibility and capacity to address information needs as they arise, either directly through Triumph funding or from external grants to FSU faculty.

Through ABSI, a suite of data-logging instruments will be deployed within and outside Apalachicola Bay to expand the number and spatial distribution of similar instrumentation supported by the Apalachicola National Estuarine Research Reserve (ANERR). High-resolution, broad-scale environmental data (temperature, salinity, oxygen, turbidity, pH, Chlorophyll a) will be incorporated into the bio-physical model and will provide context for the ecological observations and experiments.

ABSI will partner with FWRI's oyster integrated mapping and monitoring program (OIMMP), by providing data that feeds directly into the system to help provide the framework for a long-term State-managed monitoring program. We will also partner closely with ANERR on all other aspects of the study, particularly related to the staging of restoration experiments and determining genetic variance in local oyster populations

Deliverables from this objective include (but are not limited to): 1) databases containing data (temperature, salinity, oxygen, turbidity, pH, Chlorophyll a) from the suite of instruments deployed within and outside of Apalachicola Bay; 2) monitoring data (collected monthly) from a series of harvested and non-harvested sites throughout Franklin County, including recruitment

rates, juvenile survival and growth, adult size and abundance, and incidence of predators, parasites, and diseases. Our data will be provided to the FWC OIMMP and will be available for management purposes. Digital reports on oyster status will be produced annually and posted on the FSUCML ABSI website.

Objective E. Oyster population genetic structure:

Past research on population genetic structure of the eastern oyster indicated significant differentiation among sites across the Gulf of Mexico; for example, the northeast Gulf population (Anclote Keys to Mississippi River, approximately 800 km) is considered genetically different from the other regions of the Gulf (Varney et al 2009). On a smaller scale, studies of oysters off North Carolina identified differences among populations north and south of the Pamlico Sound, a distance of less than 100 km (Varney et al 2016). Within-region population structure has not been studied for the northern Gulf of Mexico but population differences are likely given the large number of embayments in the region. This component of the ABSI is intended to help identify distributions of oyster sub-populations, which has a number of important applications. Distinct sub-populations may have characteristics that enhance survival under particular environmental conditions (Eierman and Hare 2013; Bible and Sanford 2016), and thus could be used as different genetic lines of broodstock for restoration and aquaculture. With the expansion of aquaculture and importation of seed from elsewhere in the Gulf, it is important to understand local population structure so that genetic integrity (and therefore local adaptation) can be maintained. Analysis of population distribution will also help ground-truth connectivity predictions generated by the bio-physical model.

The deliverables for this objective will be genetic data on oyster population structure throughout Franklin County waters, and identification of local genetic strains or sub-populations for future experiments (Objective 5). Novel genetic codes or primers will be submitted to appropriate public access gene repositories (e.g. Oyster base, Genbank)

Objective F. Experimental ecology

The ABSI includes an experimental component that will provide data to support many of the other objectives. There are currently three main experimental components, but these will undoubtedly increase as new questions arise during the project. As mentioned previously, ABSI will have the capacity to address information needs beyond those originally anticipated, to provide a broad spectrum of ecological information from which to assess the health of the region.

Some physiological experiments have tested responses to individual stressors (e.g. Wang and Widdows 1991), but other studies have shown synergies between multiple factors (e.g. Davis and Calabrese 1964), highlighting the need for more realistic experimental conditions (Crain et al 2010). Through ABSI, a series of experiments will study the survival, development, larval lifespan and behavior of oyster larvae under different environmental conditions (e.g. temperature, salinity, oxygen/CO₂, food), and their interactions. These data will help refine the

bio-physical model and improve predictions of larval dispersal under different climate and water flow scenarios.

If local sub-populations of oysters are identified (through objective E), they will be maintained separately at the FSUML oyster hatchery for studies that will determine whether sub-populations vary in their resilience to environmental conditions (Newkirk et al 1977), ocean acidification (Gobler and Talmage 2014) and disease (Degremont et al 2015), and whether we can establish these traits through selective breeding (Calvo et al 2003). If population genetic structure is limited or absent, experiments will be conducted to determine whether adult exposure to specific conditions can confer resilience to their offspring (Gobler and Talmage 2014), and whether such resilience can be maintained through generations (Degremont et al 2015). These experiments will help identify optimal oyster strains for aquaculture and restoration.

Experiments on restoration approaches conducted in other regions have shown that reef growth and persistence is strongly dependent on depth of the reef foundation, height of the reef above the bottom, and local flow and sediment dynamics (Colden et al 2017). Similar experiments will be conducted in Apalachicola Bay to help formulate optimal restoration strategies that balance success and cost effectiveness. Recent monitoring of Apalachicola oyster reefs has shown consistent juvenile recruitment, but very low survival to adults (FWC pers. comm.). There may be a number of reasons for this, but high predator abundance has been reported by scientists and fishers in the Bay, particularly under high salinity conditions (Kimbro et al 2017). Experiments on the effects of predator exclusion will be conducted on spat-free and spat-seeded cultch from the oyster hatchery to determine the impact of predation on juvenile survival under different levels of recruitment. If predation is shown to be a significant cause of juvenile mortality, even with enhanced recruitment levels, novel approaches may be implemented such as the use of biodegradable mesh as predator exclusion to protect young oysters. Habitat complexity can also reduce predation on young oysters (Grabowski 2004), so materials of different complexity will be tested for restoration purposes.

Restoration experiments will also test the use of spat-seeded cultch versus natural cultch to determine whether there is significant benefit associated with using spat-cultch for restoration. At present, restoration in Florida does not use spat on cultch, which is a common practice in the Chesapeake Bay (US Army Corps 2012). Whether this is a cost effective approach depends on levels of natural recruitment; if low recruitment (and survival) is limiting reef development, then enhancing spat levels through restoration may be required for recovery. If, however; recruitment rates are high, but habitat is limiting, then shelling alone may be sufficient (Pine et al 2015). Placement of small scale experiments is a cost effective method of obtaining data that will allow us to optimize larger scale restoration efforts. Deliverables associated with this objective will inform multiple other objectives (as described above) and are expected to result in several peer reviewed publications.

Objective G. Coupled Ecosystem-Life History model

The vast amount of data produced by ABSI will be integrated into a model that can be used to predict oyster recruitment, growth, disease, predation, and overall productivity under different environmental scenarios (e.g. Boynton et al 1990, Christensen et al 1998, Wang et al 2008). This information can be used to inform decisions on harvest, area closures, restoration placement, and economic viability. The ABSI model will use elements of earlier models, integrated with new biological and environmental data, and will have a user friendly interface that can be used by managers, scientists, fishers, educators and conservation agencies. Ideally this model would be hosted and maintained by an entity (such as FWC) that would utilize the model and continue to refine it with new data over time.

Objective H. Management and restoration plan development

The results of the modeling, monitoring and research described in previous sections will be used to develop optimal approaches for restoring healthy oyster populations in Apalachicola Bay and surrounding area.

Options for ecosystem recovery range from passive management and monitoring, to various scales of active restoration (Havens et al 2013, Pine et al 2015). Recruitment of juvenile oysters appears to be driving oyster productivity (Camp et al 2015), with habitat availability being a significant contributing factor (Pine et al 2015); however, many of the factors that influence recruitment (size and distribution of productive reefs, habitat availability and stability, effects of changing environmental conditions, disease and predation) are not well understood (Pine et al 2015). The influence of reduced freshwater flow and harvesting (illegal and legal) practices also remain unclear (Pine et al 2015). These data gaps and uncertainties need to be addressed if the Bay is to be effectively managed. The need for a comprehensive and flexible management plan has been recognized by a number of management and conservation entities (Pers. Comm.). Through the ABSI infrastructure and partnerships we hope to accomplish this goal. We will use the ABSI data and products to develop a comprehensive ecosystem based adaptive management plan, which integrates the best available science, will allow managers to predict and respond to variable conditions. This plan will be developed in collaboration with our State, Federal and private partners, and with stakeholder engagement.

The practice of shelling (replacing shell removed by harvesting) is commonly used to maintain adequate reef profile; however, there is a lack of information on the optimal size, density, location and timing of shelling for reef maintenance and restoration. Restoration is expensive and costs will no doubt continue to increase. Maximizing cost-effectiveness is critical for both economic and ecological benefits. Some restoration programs use substrate only, but others (e.g. the Chesapeake Bay) deploy spat on cultch to supplement natural recruitment. This is a more expensive and logistically challenging approach that is necessary in areas where broodstock and recruitment are extremely low. Understanding these dynamics is essential for effective restoration. Data and products generated through ABSI will address these information gaps and a comprehensive restoration plan will be developed with partner and stakeholder input. The implementation of such a plan will require resources far beyond those available in this proposal; however, there are multiple potential funding sources (State, Federal and Restore

Act), and we believe the probability of obtaining additional funding will be increased by having a science-based restoration plan in place.

Objective I. Targeted outreach to the community

Public support for management measures and restoration efforts is critical to their success, particularly from citizens that rely on the Bay for their livelihoods. Equally important is public engagement in planning and implementation of management and recovery efforts (e.g., oystermen involvement in restoration to supplement incomes). The ABSI will create many outreach and training opportunities for residents of the region. These opportunities include hatchery internships (which will prepare high school students and/or other local residents for work in commercial hatcheries); active stakeholder working groups that include fishers, hatchery operators, managers, and policy makers (which will facilitate feedback from the community on ABSI progress); and public events showcasing the research both at FSUCML and at the ANERR facility. Project updates, news and outreach events will be posted on the FSUCML website, and will also be communicated through social media. We envision a number of entrepreneurial small business opportunities developing as a result of the ABSI project. One of these would be an oyster shell recycling, given that oyster cultch is a precious commodity and can be hard to come by. Other regions have developed successful shell recycling programs that collect shell from area restaurants and shucking houses, clean it and sell for shelling and restoration activities. Through the ABSI, we will start an oyster shell recycling program in Franklin County. Once established, this program could be further developed by the commercial sector into a profitable business, given the potential future extent of oyster reef restoration in the county.

In addition to these structured deliverables, outreach efforts will include a number of public events at the FSUCML and partner institutions, and websites and social media posts on project progress and other ABSI topics

Literature cited

Bible JM, Sanford E (2016). Local adaptation in an estuarine foundation species: implications for restoration. *Biological Conservation* 193: 95-102

Bosford LW, Castilla JC, Peterson CH (1997) The management of fisheries and marine ecosystems. *Science* 277: 509-515

Boynton W, Hawkins DE, Gray C (1990) A modeling approach to regional planning in Franklin County and Apalachicola Bay, Florida. In: Hall CAS, Day JW (Eds.), *Ecosystem Modeling in Theory and Practice: An Introduction with Case Histories*. University Press of Colorado, Niwot, CO, USA, pp. 477–506.

Calvo LMR, Calvo GW, Burreson E (2003) Dual disease resistance in a selectively bred eastern oyster *Crassostrea virginica* strain tested in Chesapeake Bay. *Aquaculture* 220: 69-87

Camp, EV, Pine WE, Havens K, Kane AS, Walters CJ, Irani T, Lindsey AB, Morris JG (2015) Collapse of a historical oyster fishery: diagnosing causes and identifying paths toward increased resilience. *Ecology and Society* 20(3):45.

Christensen JD, Monaco ME, Battista TA, Klein CJ, Livingston RJ, Woodsum G, Galeprin B, Huang W (1998). Potential impacts of reduced freshwater inflow on Apalachicola Bay. In: FL oyster (*Crassostrea virginica*) populations: coupling hydrologic and biological models. NOAA/NOS Strategic Environmental Assessments Division, Silver Spring, MD, p. 58.

Colden AM, Latour RJ, Lipcius RN (2017) Reef height drives threshold dynamics of restored oyster reefs. *Mar. Ecol. Prog. Ser.* 582: 1-13

Crain CM, Kroeker K, Halpern BS (2010) Interactive and cumulative effects of multiple human stressors in marine systems. *Ecology Letters* 11: 1304-1315

Davis HC, Calabrese A (1964) Combined effects of temperature and salinity on development of eggs and growth of larvae of *M. mercenaria* and *C. virginica*. *Fisheries Bulletin.* 63, 643–655.

Degremont L, Garcia C, Standish KA (2015) Genetic improvement for disease resistance in oysters: A review. *J. Invertebrate Pathology* 131: 226-241

Eierman LE, Hare MP (2013). Survival of oyster larvae in different salinities depends on source population within an estuary. *J. Exp. Mar. Biol. Ecol.* 449: 61–68.

Fisch NC, Pine WE (2016) A complex relationship between freshwater discharge and oyster fishery catch per unit effort in Apalachicola Bay, Florida: an evaluation from 1960 to 2013. *J. Shellfish Research* 35(4): 809-825

Gobler CJ, Talmage SC (2014) Physiological response and resilience of early life-stage eastern oysters (*Crassostrea virginica*) to past, present and future ocean acidification. *Conservation Physiology* 2: 1-15

Grabowski JH (2004) Habitat complexity disrupts predator-prey interactions but not the trophic cascade on oyster reefs. *Ecology* 85(4): 995-1004

Gregalis KC, Powers SP, Heck KL (2008) Restoration of oyster reefs along a bio-physical gradient in Mobile Bay, Alabama. *J. Shellfish Res.* 27(5): 1163-1169

Haase AT, Eggleston DB, Luettich RA, Weaver RJ, Puckett BJ (2012) Estuarine circulation and predicted oyster larval dispersal among a network of reserves. *Estuarine, Coastal and Shelf Science.* 101: 33-43

Havens K, and 10 others (2013) Apalachicola Bay oyster situation report. Prepared for Florida Sea Grant 32pp

Jones GP, Srinivasan M, Almany GR (2007) Population connectivity and conservation of marine biodiversity. *Oceanography* 20(3): 100-111

Kimbrow DL, White JW, Tillotson H, Cox N, Christopher M, Stokes-Cawley O, Yuan S, Pusack TJ, Stallings CD (2017) Local and regional stressors interact to drive a salinization-induced outbreak of predators on oyster reefs. *Ecosphere* 8(11): e01992

Leitman S, Kiker G (2015) Development and comparison of integrated river/reservoir models in the Apalachicola-Chattahoochee-Flint basin, USA. *Environ Syst Decis* 35:410–423

Livingston RJ (1984) The ecology of the Apalachicola Bay System: an estuarine profile. US Fish and Wildlife Service. FWS/OBS 82/05. 148 pp.

Maryland Oyster Restoration Interagency Workgroup (2015) 2014 Oyster Restoration Implementation Update: Progress in the Choptank Complex.

Newkirk GF, Waugh DL, Haley LE (1977) Genetics of larval tolerance to reduced salinities in two populations of *Crassostrea virginica*. *J. Fisheries Research Board of Canada* 34(3): 384-387

North EW, Schlag Z, Hood RR, Li M, Zhong L, Gross T, Kennedy VS (2008) Vertical swimming behavior influences the dispersal of simulated oyster larvae in a coupled particle-tracking and hydrodynamic model of Chesapeake Bay. *Marine Ecology Progress Series* 359: 99-115

Petes LE, Brown AJ, Knight CR (2012) Impacts of upstream drought and water withdrawals on the health and survival of downstream estuarine oyster populations. *Ecology and Evolution* 10.1002/ece3.291

Pine WE, Walters CJ, Camp EV, Bouchillon R, Ahrens R, Sturmer L, Berrigan ME (2015) The curious case of eastern oyster (*Crassostrea virginica*) stock status in Apalachicola Bay, Florida. *Ecology and Society* 20(3): 46

Rico-Villa B, Pouvreau S, Robert R (2009) Influence of food density and temperature on ingestion, growth and settlement of Pacific oyster larvae, *Crassostrea gigas*. *Aquaculture* 287: 395-401

Tettelbach ST, Rhodes EW (1981) Combined Effects of Temperature and Salinity on Embryos and Larvae of the Northern Bay Scallop *Argopecten irradians irradians* *Mar. Biol.* 63: 249-256

U.S. Army Corps of Engineers Baltimore and Norfolk Districts (2012) Chesapeake Bay Oyster Recovery: Native Oyster Restoration Master Plan – Maryland and Virginia. [Link](#)

Varney RL, Galindo-Sanchez CE, Cruz P, Gaffney PM (2009) Population genetics of the eastern oyster *Crassostrea virginica* (Gmelin, 1791) in the Gulf of Mexico. *J. Shellfish Res.* 28(4):855-864

Varney RL, Sackett RE, Wilbur AE (2016) Analysis of spatiotemporal genetic variability in eastern oyster *Crassostrea virginica* (Gmelin, 1791), MtDNA 16D sequences among North Carolina populations. *J. Shellfish Res.* 35(2): 329-342

Wallace RK, Waters P, Rikard FS (2008) Oyster hatchery techniques. Southern Regional Aquaculture Center Publication No. 4302. 6pp

Wang WX, Widdows J (1991) Physiological responses of mussel larvae *Mytilus edulis* to environmental hypoxia and anoxia. *Marine Ecology Progress Series* 70: 223-236

Wang H, Huang W, Harwell MA, Edmiston L, Johnson E, Hsieh P, Milla K, Christensen J, Stewart J, Liub X (2008) Modeling oyster growth rate by coupling oyster population and hydrodynamic models for Apalachicola Bay, Florida, USA. *Ecological Modelling* 211: 77-89

zuErmgassen P, Hancock B, DeAngelis B, Greene J, Schuster E, Spalding M, Brumbaugh R (2017) Setting objectives for oyster habitat restoration: A manager's guide. The Nature Conservancy, Arlington, VA. 76pp

Appendix 3: Economic Impacts of ABSI

Appendix 3: Economic impacts of ABSI

Apalachicola Bay System Initiative

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Introduction

Franklin county is located on the Gulf of Mexico in the Florida panhandle and is bounded on the west by Gulf county and the east by Wakulla county, the eastern most county in the Triumph development corridor. Landlocked Liberty county is directly north of Franklin. There are two major cities, Apalachicola and Carrabelle, and the area is endowed with natural resources including the mouth of the Apalachicola River, national and state forests (parts of both Apalachicola National Forest and Tate’s Hell State Forest), barrier islands (Cape St. George, Dog, St. George, and St. Vincent), two state parks (St. George and Bald Point), a national wildlife refuge (St. Vincent), three rivers (Apalachicola, Carrabelle, and the Ochlocknee), and historic sites (Fort Gadsden and Crooked River Light). These resources coupled with the historical oyster fishery have supported a thriving tourist industry that drives the largest share of private sector employment in the county (Florida OEDR, 2018). Wakulla County to the east of Franklin is the first county that begins Florida’s “Nature Coast” an ongoing marketing campaign to attract tourism to the Florida Big Bend region that extends down to Citrus County, it is curious that Franklin was not included in that effort given the significant extent to which it is endowed with “natural” capital. The three coastal counties, Gulf, Franklin, and Wakulla are combined and marketed as Florida’s “Forgotten Coast,” in an ongoing effort to increase visitation to the area. Other well springs of economic activity in Franklin county include a working waterfront that supports an oyster fishery, recreational finfish fishing, wholesale seafood processors, and post-harvest processing of oysters via the individually quick-frozen method.

The economic crux of the proposed Apalachicola Bay System Initiative that is expected to provide the following economic development benefits and effects over the proposed timeframe of 15 years:

- Oyster hatchery and field nursery: An initial pilot facility plus the potential for development of a full-scale facility in the county
- Oyster aquaculture industry development
- Aquaculture industry resource suppliers
- Increased wild caught oyster production
- Increased activity in the oyster market supply chain
- New fishery related industry startups: post-harvest processors
- Enhanced scientific research and development

- Natural capital development and corresponding non-oyster production ecosystem services
- Increased positive economic migration from amenity enhancement
- Increased tourism
- Technology transfer to other eight counties in the Triumph corridor.

Regional Economic Profile

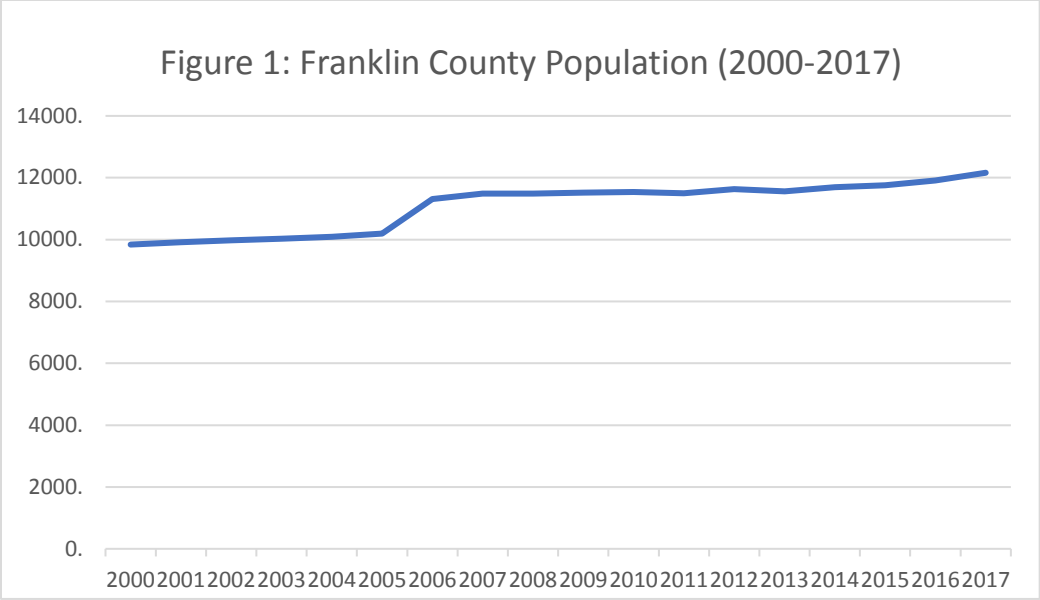
Compared to the rest of Florida’s 67 counties Franklin ranked 65th regarding population and 36th in per capita personal income in 2016. Gulf county ranked 59th and 46th, Wakulla county ranked 49th and 42nd, and Liberty county ranked 67th and 59th in comparison for the same measures (Source: BEA Bearfacts). BEA data for Franklin, Wakulla, and Gulf Counties along with corresponding data for Florida and the U.S. are shown in Table 1. For the most recent period

Table 1. Per Capital Personal Income Growth

	2015-2016 %Change	2006-2016 Compound Annual Growth
Gulf	2.90%	2.50%
Franklin	2.20%	2.60%
Wakulla	4.00%	3.40%
Florida	3.00%	3.00%
U.S.	2.30%	3.40%

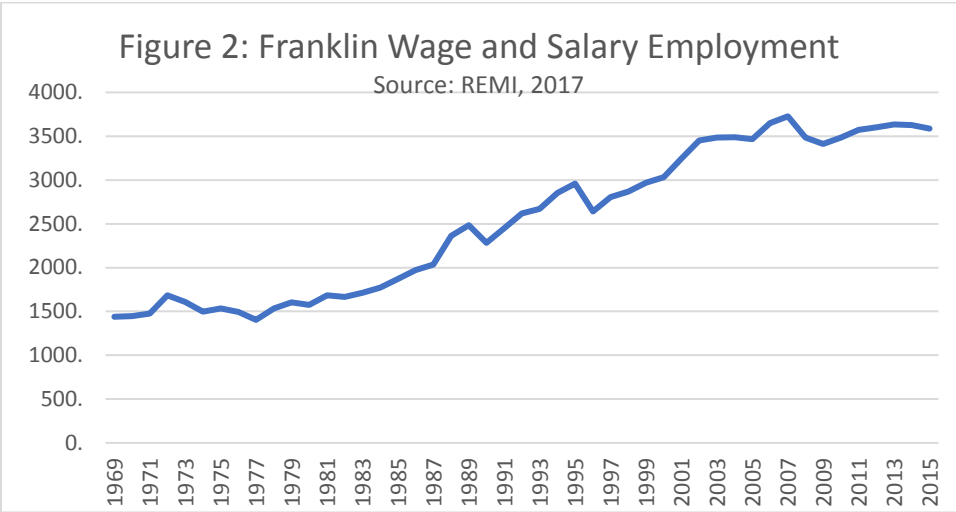
Franklin county had the lowest percent change in income growth and that growth rate was the lowest for the eight counties that make up the Triumph economic corridor. Over the last decade Gulf and Franklin (along with Okaloosa) were the lowest performing corridor counties when reviewing the compound annual growth rate in income measure in Table 1.

Figure 1 displays Franklin county population over the period from 2000 through 2017. Historical data is from the REMI Florida county model and the estimates for 2016 and 2017 are from Rayer and Wang, 2017 and the Florida Office of Economic and Demographic Research (OEDR), respectively. Both those groups provide future population projections and for 2020 they are 12,100 and 12,448 and for 2025 the population is estimated at 12,400 and 12,863, respectively. The OEDR estimates are within the Rayer and Wang (2017) confidence bounds, and Franklin

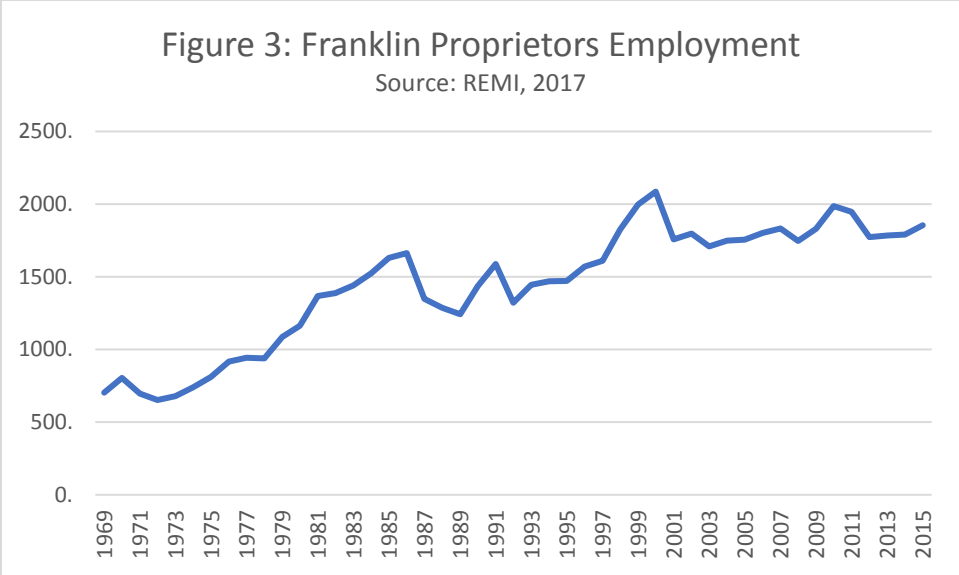


population is expected to reach 13,000 by 2045 (Rayer and Wang, 2017).

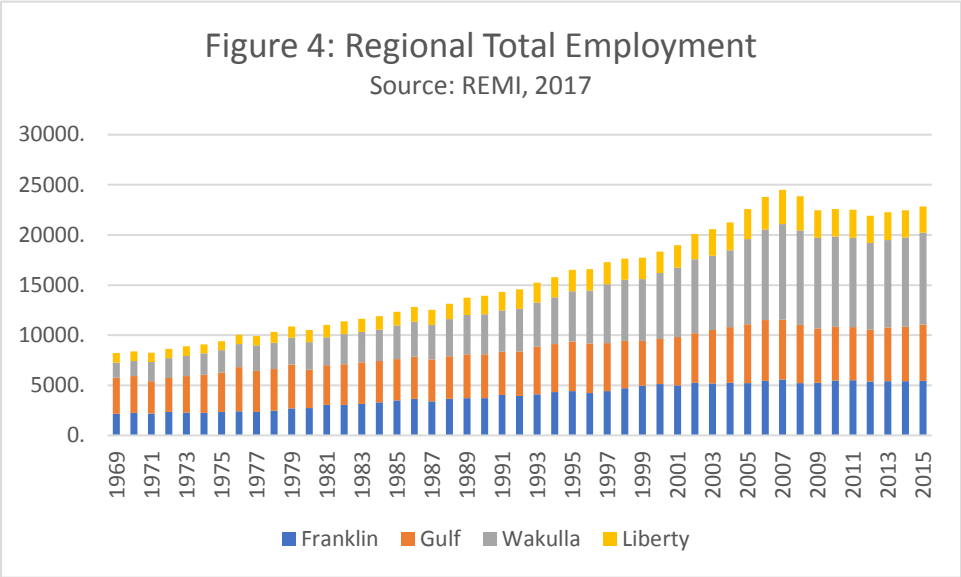
The most recent available Florida Counties Regional Economic Models, Inc. (REMI) Policy Insight model contains regional macroeconomic data through 2015. Employment in Franklin county is displayed in Figures 2 and 3.

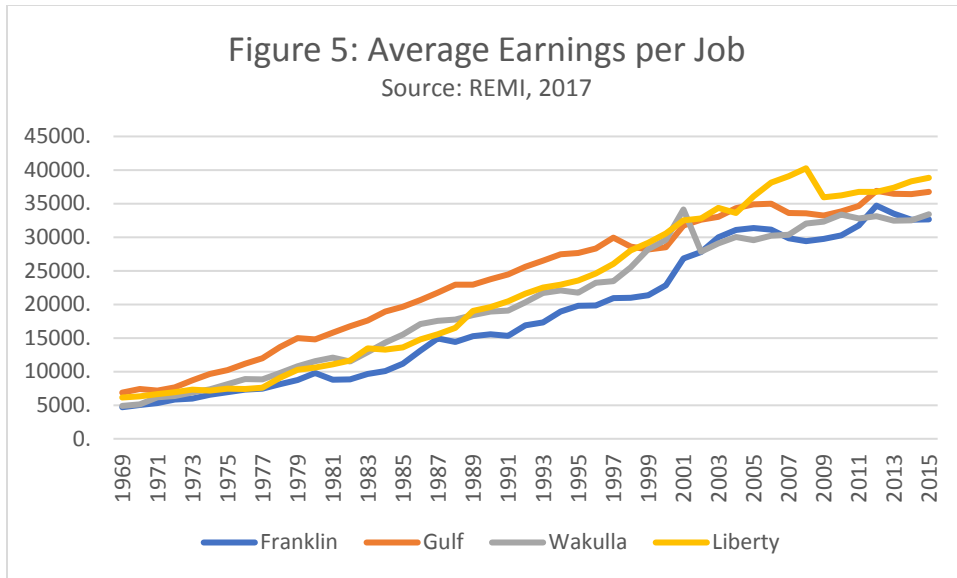


Wage and salary employment declined significantly in 2009/2010 and has been relatively slow to recover since as can be seen in Figure 2. Figure 3 shows proprietors employment and together Figures 2 and 3 are total employment values for the county. Proprietor employment declined in 2008 and again in 2012. Figure 4 displays total employment for Franklin county along with the other counties that surround it (Gulf, Wakulla, and Liberty). Wakulla county employment is relatively large while Gulf and Franklin are similar, and Liberty has the fewest jobs in the region.



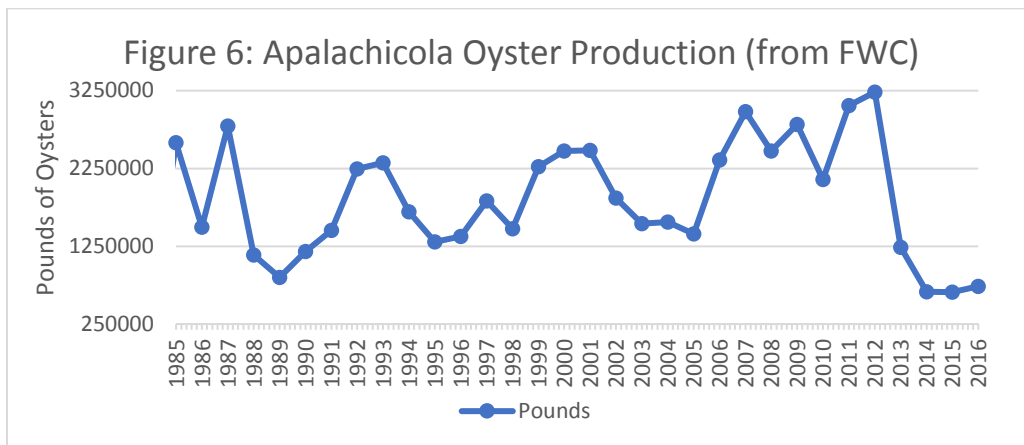
Together this region comprises the most economically disadvantaged counties in Florida. Average earnings per job is displayed in Figure 5 and it shows Franklin County workers generally earn less than their counterparts in the other surrounding counties although in recent years Wakulla and Franklin exhibit similar earnings per job numbers.





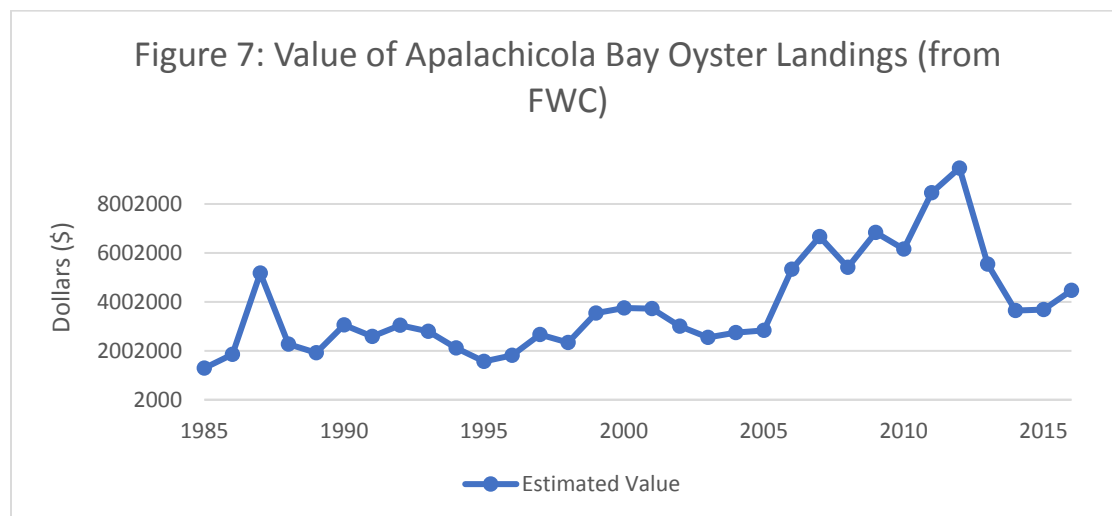
Oyster Industry Final Demand Changes

The Franklin county oyster fishery has been repeatedly affected by a number of natural and human-induced impacts on coastal waters and on the entire Apalachicola-Flint-Chattahoochee (ACF) watershed. In 1985 following hurricanes Elena and Kate, oyster production declined from historic averages of ~3.8 million pounds (1960-1985) to ~1.5 million pounds in 1986. Figure 6 shows the record of oyster production from Apalachicola Bay (obtained from FWC site <http://myfwc.com/research/saltwater/fishstats/commercial-fisheries/landings-in-florida/>).



From 1987 through 2010, the average oyster production increased substantially due to the implementation of restrictive harvesting and a concerted shelling effort (Pine *et al.* 2015). Since 2014, however, oyster production has been under 1 million pounds per year, with profound negative economic consequences for the community. This disaster is discussed in 2013 reports

from the University of Florida (Havens et al. 2013) and from the Florida Fish and Wildlife Conservation Commission (FWC 2013). While no single event appears to be the cause of the fishery collapse, certainly contributing is the combination of severe drought conditions in the southeast US in 2007-2008 that reduced freshwater flow in the ACF rivers and increased saltwater intrusion in Apalachicola Bay, the indirect effects of the 2010 BP oil spill on the fishing industry due to public concerns about seafood safety, and the effects of tropical storm Debby in 2012. Figure 7 shows the value of Apalachicola Bay oyster landings declined precipitously in recent years (obtained from FWC site <http://myfwc.com/research/saltwater/fishstats/commercial-fisheries/landings-in-florida/>).



Given the economic devastation during and after the BP spill, it is fitting that Triumph funds be committed to the economic recovery of a historically and economically valuable fisheries throughout the Gulf of Mexico, including the oyster fishery in Franklin County. Restoration of natural capital will improve ecosystem health, increase wild caught product, and at the same time facilitate the development of an oyster aquaculture production process. These outcomes are transferable to nearly every coastal community in the Triumph economic corridor and elsewhere along the Florida Gulf Coast.

Increased oyster production is likely to attract other industries to the area, especially those engaged in **oyster shell recycling** for restoration, in **post-harvest processing** (e.g., FDA-approved processing methods for controlling *Vibrio* that includes high pressure treatment, warm water pasteurization, and irradiation), and industries supplying **equipment to the aquaculture industry**. Once a full-scale commercial hatchery comes on line, Franklin county could be a center for supplying larvae and seed for restoration and aquaculture throughout the northeastern Gulf of Mexico. There would also be significant changes in wholesale trade and seafood production processing (shucked and half shell markets) as the oyster industry grows. The pilot hatchery proposed in this study would produce larvae, seed, spat-on-shell, and algae for laboratory and field experimentation related to recovery and restoration and continue to contribute the best scientific information possible for recovery and restoration for decades to come.

Tables 2, 3, and 4 contain the various industry classification that would be impacted directly and indirectly by the Apalachicola Bay System Initiative and are taken from the North American Industrial Classification System (NAICS) and the REMI implementation of 160 and 23 sector implementations, respectively.

Table 2: North American Industrial Classification System (NAICS) 6-digit Codes/Sectors for Spending

Title	Code
Shellfish Fishing	114112
Shellfish Farming	112512
Finfish Fishing	114111
Other Marine Fishing	114119
Seafood Product Preparation and Packaging	311710
Finfish and Fish Hatcheries	112511
Water, sewage and other system construction	237110
Industrial Building Construction	236210
Fish and Seafood Merchant Wholesalers	424460
Refrigerated Warehousing and Storage	493120
Testing Laboratories	541380
Research and Development in Biotechnology	541714
Research and Development in Physical, Engineering and Life Sciences	541715
Other Professional , Scientific and Technical Services	541990
Other Concrete Product Manufacturing	327390
Colleges, Universities, and Professional Schools	611310
Hotels and Motels	721110
Full Service restaurants	722511

Table 3: REMI NAICS Codes (160 Industry sectors)

Fishing, hunting and trapping	1132
Water, sewage, and other systems	2213
Construction	23
Cement and concrete product manufacturing	3273
Agriculture, construction, and mining machinery manufacturing	3331
Ship and boat building	3366
Seafood product preparation and packaging	3117
Wholesale trade	42
Retail trade	44, 45
Truck transportation	484
Warehouse and storage	493
Professional, scientific, and technical services	54
Architectural, engineering, and related services	5413
Scientific research and development services	5417

Museums, historical sites, zoos, parks	712
Accommodation	721
Food services and drinking places	722
Electronic and precision equipment repair and maintenance	8112
Commercial and industrial machinery repair and maintenance	8113
Farm (crop and animal production)	111, 112

Table 4: REMI NAICS Codes (23 industry sectors)

Forestry, fishing, and related activities	113, 114, 115
Utilities	22
Construction	23
Manufacturing	31, 32, 33
Wholesale trade	42
Retail Trade	44, 45
Transportation and warehousing	48, 49
Professional, scientific, and technical services	54
Arts, entertainment, and recreation	71
Accommodation and food services	72
Other services, except public administration	81
Farm	111, 112

Table 5 contains relevant policy variables for use in computing the REMI model impacts from the project. It is important to note that improvements in natural capital that increase the economic value of ecosystem services are difficult to model in the REMI PI+ model and that the REMI E3+ is capable of measuring social benefits from environmental benefits.

Table 5: REMI Policy Variables to Compute Impacts

Economic Migration (positive amenity response)
Employment
Detailed Equipment Investment
Exogenous Final Demand
Factor Productivity
Industry Employment
Industry Sales
Tourism Spending
Social Cost (REMI E3+ Model)

Timing of Spending and Revenue:

- a. Years 1-5 Triumph, FSU, contracts and grants – estimated to be \$900,000
- b. Years 6-15 FSU, contracts and grants – estimated to be \$4,000,000

Regional Definition: Franklin, Gulf, and Wakulla Counties

Spending Injections

1. Construction and Renovation Spending

- a. \$750,000 for facility renovation
- b. \$2,500,000 for pilot oyster Hatchery

2. Equipment Costs

- a. \$500,000 hatchery equipment

3. Reef Restoration as prescribed by developed plan

- a. \$2,035,947 cultch purchase, cultch-on-spat, water transport, and labor

4. Oyster production increases when targeted reef recovery area is achieved

- a. 2,000,000 pounds or approximately \$5,000,000

5. Professional, Scientific and Technical

- a. 15 positions at \$3,362,731 total wages and salaries (years 1-5)
- b. Seven positions assumed by FSU at \$6,136,858 total wages and salaries (years 6-15)

5. New Start-ups

- a. Potential Post-Harvest Processor: \$3m construction, 75 jobs, \$10m annual sales
- b. 25 small scale oyster aquaculture farms: 50 jobs, \$625,000 equipment, 30,000 pounds of annual production.

6. Tourism

- a. \$2.5 million annual increase in visitor spending

7. Economic Migration

- a. 100 each year (increase in 1% of normal population growth)

Ecosystem Services

Ecosystem services from oyster reefs include water quality improvement, seashore stabilization and erosion control, carbon sequestration, architectural complexity that creates refuge and nursery

habitat for fish and invertebrates, increased biodiversity, landscape diversification, and oyster production. Grabowski et al. 2012 document the published research on each of these services and discuss the bioeconomic model valuation method employed. They estimated that the economic value of ecosystem services provided by oyster reefs was between a \$5,500 minimum and a \$99,000 maximum per hectare per year not including the value of the oyster harvest. The most likely value between the two extremes was estimated to be \$10,325. In the 1980s, Apalachicola Bay contained about 1660 hectares of oyster reefs (Livingston, 1984). However, the entire Bay is approximately 200 square miles and a square mile is 259 hectares, so the entire bay is 53,872 hectares. Obviously, a large fraction is not suitable oyster habitat. Table 6 shows the economic value for ecosystem services for historic levels of reef coverage in Apalachicola Bay using the most likely dollar multiplier (\$10,325/hectare). As can be seen from

Table 6: Apalachicola Bay Oyster Reef Ecosystem Services
Annual Economic Value Over Historic Periods*

Year	Reef Area (hectares)	Ecosystem Services (current \$/year)
1898	4,856h	\$50,140,000
1973	2,225h	\$22,970,000
1984	1,660h	\$17,140,000
2000	1,214h	\$12,530,000
2018	unknown	TBD
ABSI Target Recovery Goal	485h	\$5,000,000

*Calculations used most likely multiplier of \$10,325/hectare

the table, ecosystem services have a profound impact on the region and such services have proportionately declined with loss of reef area. The post Hurricane Elena reef restoration efforts in Apalachicola Bay in 1986 and 1987 encompassed 225 hectares and 160 hectares, respectively (Berringer, 1990). The total post hurricane reef restoration for this effort amounted to 385 hectares, potentially yielding approximately \$4M constant dollars in ecosystem services per year. This assumes that restored reefs had recovered to full productivity. The long-range target oyster reef recovery goal of the Apalachicola Bay Systems Initiative is 485 hectares which is 40% of the reef coverage in 2000. **This translates into \$5,000,000/year in the annual social benefit from enhanced ecosystem services from Apalachicola Bay restoration efforts and can be input into an economic model (REMI E+) to measure the associated impact.** The time course to attain this targeted goal of recovery of reef area will depend on the plan developed in years 1-5 but it is anticipated that impacts will likely be seen in years 8 and on. The combined restoration area targeted in ABSI is slightly more than the 405 hectares that was recommended in 2013 (Havens et al., 2013).

Enhancements to economic services might well also be determined in economic models by increased economic migration into the region as a direct result of amenity enhancement. Actual estimates of ecosystem service economic value can be difficult but work to date has suggested that the values are significant (Shepard et al., 2013). Research on ecosystem values from other areas of the country (Kroeger, 2012; DePiper et al., 2016) and for other molluscan shell fish (Baker et al., 2015) provide further support for the economic benefits from oyster reef restoration projects above and beyond the direct impacts from restoration spending and resulting harvest enhancements.

References

- Baker, S., Grogan, K., Larkin, S., and Sturmer, L. (2015). "Green Clams: Estimating the Value of Environmental Benefits (Ecosystem Services) Generated by the Hard Clam Aquaculture Industry in Florida." University of Florida IFAS Project Report.
- Berrigan, M. (1988). Management of Oyster Resources in Apalachicola Bay following Hurricane Elena. *Journal of Shellfish Research* 7(2): 281-288.
- Berrigan, M. (1990). Biological and Economical Assessment of an Oyster Resource Development Project in Apalachicola Bay, Florida. *Journal of Shellfish Research* 9(1): 149-158.
- DePiper, G., and Lipton, D. (2016). Valuing Ecosystem Services: Oysters, Denitification, and Nutrient Trading Programs. *Marine Resource Economics* 32(1).
- Florida Fish and Wildlife Conservation Commission (2013). 2012-2013 Florida Gulf Coast Oyster Disaster Report. Florida Department of Environmental Protection, Tallahassee, FL. 68pp.
- Grabowski, J., Brumbaugh, R., Conrad, R., Keeler, A., Opaluch, C., Peterson, C., Piehler, M., Powers, S., and Smyth, A. (2012). Economic Valuation of Ecosystem Services Provided by Oyster Reefs. *BioScience* 62(10): 900-909.
- Havens, K., Allen, M., Camp, E., Irani, T., Lindsey, A., John, G.M., Kane, A., Kimbro, D., Otwell, S., Pine, B., and Walters, C. (2013). Apalachicola Bay Oyster Situation Report. University of Florida, IFAS and Sea Grant.
- Kroeger, T. (2012). Dollars and Sense: Economic Benefits and Impacts from two Oyster Reef Restoration Projects in the Northern Gulf of Mexico. The Nature Conservancy.
- Livingston RJ (1984) The ecology of the Apalachicola Bay System: an estuarine profile. US Fish and Wildlife Service. FWS/OBS 82/05. 148 pp.
- Pine, W. E., III, C. J. Walters, E. V. Camp, R. Bouchillon, R. Ahrens, L. Sturmer, and M. E. Berrigan, 2015. The curious case of eastern oyster *Crassostrea virginica* stock status in Apalachicola Bay, Florida. *Ecology and Society* 20(3):46. <http://dx.doi.org/10.5751/ES-07827-200346>

Rayer, S., and Wang, Y. (2017). Projections of Florida Population by County, 2020-2045, with estimates for 2016. University of Florida, Bureau of Economic and Business Research, Gainesville, FL.

Shepard, A., Valentine, J., D'Ella, C., Yoskowitz, D., and Dismukes, D. (2013). Economic Impact of Gulf of Mexico Ecosystem Goods and Services and Integration into Restoration Decision Making. *Gulf of Mexico Science* (1-2): 10-27.

U.S. Department of Commerce, Bureau of Economic Analysis, Bear Facts

Appendix 4: Letters of Support

- Apalachicola National Estuarine Research Reserve (ANERR)
- Florida Fish and Wildlife Conservation Commission, Marine Fisheries Division
- Florida Fish and Wildlife Conservation Commission, Molluscan Fisheries Division
- Florida Department of Agriculture and Consumer Services, Division of Aquaculture
- The Nature Conservancy
- Apalachicola Riverkeeper
- The Pew Charitable Trusts
- Florida Wildlife Federation
- National Wildlife Federation



Florida Department of Environmental Protection

Apalachicola National Estuarine Research Reserve
108 Island Dr., Eastpoint, FL 32320

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Noah Valenstein
Secretary

March 2, 2018

Jennifer Harper
Apalachicola NERR
108 Island Dr.
Eastpoint, FL 32328

Triumph Board Members
Florida Triumph Gulf Coast, Inc.
P.O. Box 12007
Tallahassee, Florida 32317

Dear Board Members,

I am writing to you to convey my support for the Apalachicola Bay System Initiative (ABSI), proposed by the Florida State University Coastal and Marine Laboratory. Oysters are a keystone species of Apalachicola Bay, providing a multitude of ecosystem services including food and refugia for several species, filtration, substrate stabilization and storm resilience. Not only are oysters integral to the health of the bay, but also historically supported a productive and lucrative fishery. The fishery is part of the cultural identity of the area and several generations of local fishermen earned some or all of their income through oystering. Over the last several years, the number of oysters has declined significantly to the point where strict harvest regulations and reduced bag limits have not produced substantial recovery. In addition, over 10 million dollars has been spent on planting fossilized shell and rock in areas that are limited by substrate. Ongoing monitoring of these recently-shelled areas will inform management of this resource into the future.

The Initiative addresses many crucial knowledge gaps identified by local stakeholders and resource managers. First and foremost is the creation of accurate maps to aid in assessments. Point sampling of restored reefs is providing useful information about the potential for recovery, however it is difficult to extrapolate this information to natural reefs simply because the size and condition of the existing bars is unknown. Second, understanding the genetic structure of the population may lead to adaptive management strategies. The future of Apalachicola Bay is uncertain, but the likelihood of lower freshwater inflows and increasing salinities is high. Understanding genetic nuances in the population may allow for the cultivation of oysters that are able to sustain future conditions and/or areas of the bay not typically considered suitable for oyster growth. Lastly, the development of a hatchery facility has many far-reaching benefits. It provides

seed oysters for research activities. Potentially, seed could also be used for spat-on-shell type restoration. There may also be an opportunity to provide seed oysters to aquaculture operations; increasing their productivity. The hatchery provides learning opportunities at all stages for students at the University, project partners, and the public. Ultimately, the Apalachicola Bay System Initiative will support the recovery of the oyster population in Apalachicola Bay, benefitting both the ecology and the local economy.

The Apalachicola National Estuarine Research Reserve is excited about the concept of the Apalachicola Bay System Initiative and this potential collaboration. The Initiative is an excellent example of the science to management continuum, a tenet of the Reserves. We fully support the proposed research and are willing to share resources to further the work. We think that we could have two significant roles in the Initiative. As we are located on Apalachicola Bay directly, we may be able to support the nursery function of the hatchery. The Reserve headquarters is located on Cat Point and may be ideal for small-scale spawning operations. The Reserve also has a facility in Apalachicola, which may be ideal for oyster settling and spat-on-shell operations. The facility in Apalachicola is adjacent to a boat basin, facilitating the movement of shell offshore for restoration purposes. The Reserve is also able to fulfill the role of local education and outreach. While the University would be targeting undergraduate and graduate students, the Reserve would be able to integrate the Initiative research into K-12 programs. We would also support community engagement through our coastal training program including workshops and hands-on training opportunities.

If you need additional information or have any questions, please don't hesitate to contact me at 850-670-7716 or Jennifer.harper@dep.state.fl.us.

Sincerely,



Jennifer Harper
Manager, Apalachicola NERR



April 4, 2018

Florida Fish and Wildlife Conservation Commission

Triumph Board Members
Florida Triumph Gulf Coast, Inc.
P.O. Box 12007
Tallahassee, Florida 32317

Commissioners

Bo Rivard
Chairman
Panama City

Robert A. Spottswood
Vice Chairman
Key West

Joshua Kellam
Palm Beach Gardens

Gary Lester
Oxford

Gary Nicklaus
Jupiter

Sonya Rood
St. Augustine

Michael W. Sole
Tequesta

Office of the Executive Director

Eric Sutton
Executive Director

Thomas H. Eason, Ph.D.
Assistant Executive Director

Jennifer Fitzwater
Chief of Staff

850-487-3796
850-921-5786 FAX

Managing fish and wildlife resources for their long-term well-being and the benefit of people.

620 South Meridian Street
Tallahassee, Florida
32399-1600
Voice: 850-488-4676

Hearing/speech-impaired:
800-955-8771 (T)
800 955-8770 (V)

MyFWC.com

Dear Board Members:

I would like to express support for Florida State University Coastal and Marine Laboratory's project, "The Apalachicola Bay System Initiative." Oyster populations have experienced declines nationally over the past fifty years, and have especially experienced declines over the past decade in Florida. Our oyster resource is important commercially as well as ecologically. The annual commercial dockside landings of oysters from Apalachicola Bay was \$9 million in 2012 and had decreased to a little more than \$2 million by 2017. More than 1,000 fishermen were licensed to commercially fish for oysters in 2012. The ecosystem services provided by oysters include water filtration, habitat and food for fish and birds. Without oysters, the ecosystem, the economy and the community surrounding Apalachicola Bay will be changed.

The Apalachicola Bay System Initiative should help us better understand this resource in Apalachicola Bay and help us be effective in restoring this resource. The lessons learned from Apalachicola Bay should be transferrable to other areas of the Gulf Coast. This Initiative will also provide opportunities for the public to partner with managers to plan and implement actions to restore the oyster resource in Apalachicola Bay. This is an area where The Florida Fish and Wildlife Conservation Commission (FWC) could partner with the Initiative. We have been working closely over the past 5 years with the public in Franklin County to devise management strategies. Working with the Initiative would further strengthen the bonds that we have with the community. There will also be opportunities for scientists from FWC to work more closely with other agencies and Florida State University should the Initiative be funded.

In summary, we fully support the concept of the Apalachicola Bay System Initiative and look forward to working with the partners should you choose to provide funding.

Sincerely,

James R. Estes



**Florida Fish
and Wildlife
Conservation
Commission**

Commissioners

Bo Rivard
Chairman
Panama City

Robert A. Spottswood
Vice Chairman
Key West

Gary Lester
Oxford

Gary Nicklaus
Jupiter

Sonya Rood
St. Augustine

Michael W. Sole
Tequesta

Office of the
Executive Director
Eric Sutton
Executive Director

Thomas H. Eason, Ph.D.
Assistant Executive Director

Jennifer Fitzwater
Chief of Staff

Fish and Wildlife
Research Institute
Gil McRae
Director

(727) 896-8626
(727) 823-0166 FAX

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resources for their long-term
well-being and the benefit
of people.*

**Fish and Wildlife
Research Institute**
100 Eighth Avenue SE
St. Petersburg, Florida
33701-5020
Voice: (727) 896-8626
Fax: (727) 823-0166
Hearing/speech-impaired:
(800) 955-8771 (T)
(800) 955-8770 (V)
MyFWC.com/Research

April 16, 2018

Felicia Coleman, Ph.D.
Director
The Florida State University Coastal & Marine Laboratory
3618 Coastal Highway
St. Teresa, FL 32358-2702

Dear Dr. Coleman,

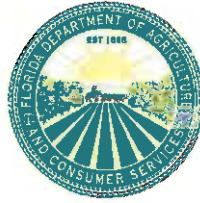
I am writing to express my support for The Florida State University Coastal and Marine Laboratory's proposal to TRIUMPH Gulf Coast, Inc. to develop an Apalachicola Bay System Initiative (ABSI). As an oyster biologist for the Florida Fish and Wildlife Conservation Commission (FWC), I have a vested interest in research that increases our knowledge base on oyster health and abundance in Franklin County. I believe this project will complement ongoing FWC research efforts by addressing crucial data gaps, thus allowing us to gain an overall better understanding of the population ecology of oysters in Apalachicola Bay and surrounding areas in Franklin County.

I am happy to support such a worthy research initiative and look forward to working with you in the future.

Sincerely,

Melanie Parker, Ph.D.
Molluscan Fisheries
Fish and Wildlife Research Institute
Phone: 727-502-4919
Email: Melanie.Parker@MyFWC.com

DIVISION OF AQUACULTURE
(850) 617-7600
(850) 617-7601 FAX



THE HOLLAND BUILDING, SUITE 217
600 SOUTH CALHOUN STREET
TALLAHASSEE, FLORIDA 32399-1300

FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES
COMMISSIONER ADAM H. PUTNAM

March 5, 2018

Triumph Board Members
Florida Triumph Gulf Coast, Inc.
P.O. Box 12007
Tallahassee, Florida 32317

Dear Triumph Board Members:

Please accept this as a letter of support for the proposal titled, The Apalachicola Bay System Initiative submitted by the Florida State University Coastal and Marine Laboratory. Not only are oysters a keystone species critical for healthy marine ecosystems, but they are also an important economic driver in Florida. Oyster aquaculture is growing rapidly throughout the state and additional expertise and research on oyster spawning and culture will benefit this industry immensely. The proposed hatchery to be used for research and demonstration plans to develop disease resistant and environmentally tolerant lines of oysters that could be shared with Florida shellfish hatcheries to bolster their existing broodstock lines and could improve survivability and growth of cultured oysters. Additionally, the project aims to collaborate with aquaculturists to evaluate survivorship and growth of genetic lines of oysters developed in the experimental hatchery.

The Florida Department of Agriculture and Consumer Services supports this type of practical research that may provide positive impacts for shellfish aquaculturists and result in more effective oyster resource management practices in Apalachicola Bay.

Please feel free to contact me with any questions

Sincerely,

Kal Knickerbocker, Director
Division of Aquaculture

March 24, 2018
Triumph Board Members
Florida Triumph Gulf Coast, Inc.
P.O. Box 12007
Tallahassee, Florida 32317

RE: The Apalachicola Bay System Initiative project

Dear Triumph Board Members,

It is with great pleasure that The Nature Conservancy (Conservancy) supports **The Apalachicola Bay System Initiative (ABSI)** submitted by the Florida State University (FSU) Coastal and Marine Laboratory. The ABSI project represents a thoughtful response to the need for a comprehensive approach to restore the health of one of the nation's most ecologically and economically important and iconic bay systems.

The ABSI project focuses on recovery of the Bay through the lens of understanding, restoring and managing its oyster population, habitat, and related economies. A global analysis on the status of shellfish habitat (primarily oysters) conducted by the Conservancy, together with other leading scientists (Beck et al, 2011), found that 85% of the world's shellfish reefs have been lost and that most of the world's remaining wild capture of native oysters (> 75%) were in North America. A key finding of that work – and something that has guided TNC's efforts - is that the Gulf of Mexico represented probably the single best region in the world for jointly achieving oyster conservation and fishery goals. In that study, Apalachicola Bay was rated as in fair condition, which represented one of the best scores globally. Unfortunately that rating is likely no longer accurate given the severe declines in oyster habitat that have occurred since 2010. It is a fair statement to say that recovering the Apalachicola Bay oyster reefs is one of the most critical actions that we can take for these imperiled habitats globally.

Oysters and the reefs they form are critically important components of estuarine systems wherever they occur; they are one of a few species that are a species, form a habitat, and are a fishery. Equally important is the ecosystem services they offer including serving as nursery and feeding habitat for other recreationally and commercially important finfish and shellfish (e.g., sea trout, crab, shrimp), buffering and reducing wave impacts that stabilize shorelines and help protect properties, improve water quality through filtration and reducing excess nitrogen.

Findings from the report include a widespread lack of knowledge of the current extent and condition of oyster reef habitat wherever it occurs, the need for appropriate management practices that provide for the needs of both conservation of reefs for the ecology of the bay systems and sustainable fisheries to continue to support livelihoods and economies that are reliant on a healthy system.

The ABSI project tackles these challenges with the appropriate science and outreach actions and at a scale that will achieve results: filling gaps in the current distribution & status of oyster populations throughout Franklin Co., assessing current scientific knowledge and conducting research that leads to

understanding oyster productivity and ecosystem health, and engaging the community in the planning and implementation of management and recovery efforts

A focus of the Conservancy's work is on science-based actions that reverse the downward trend of loss of marine systems. We work extensively on oyster habitat conservation and applied science with universities, local governments and community stakeholders throughout Florida, the Gulf of Mexico and globally. The multidisciplinary comprehensive approach that FSU brings to the ABSI project is commendable and the right scale to make a difference on improving the economic and ecological future of the Apalachicola Bay system. The results from this project are applicable not only to Apalachicola Bay but to estuarine systems throughout the Panhandle and beyond. We look forward to being involved in this important work led by FSU's Coastal and Marine Laboratory, offering our science, restoration, and community collaborative expertise gained from working on shellfish conservation in communities throughout Florida, the Gulf, U.S., and other countries that are all facing similar issues.

Thank you for your dedication in recovery of Florida's Gulf coast and dedicating funding towards work that leads to practical application of solutions to critical issues affecting Florida's Panhandle region. We look forward to working with the Florida State University's Coastal and Marine Laboratory, and the University of Florida and other project partners in support of this valuable research.

Sincerely,



Anne Birch, Marine Program Manager, Florida Chapter



Michael Beck, Ph.D., Lead Marine Scientist, Global Science Program

APALACHICOLA RIVERKEEPER®

S A V I N G A N A M E R I C A N T R E A S U R E

March 10, 2018

Triumph Board Members
Florida Triumph Gulf Coast, Inc.
P.O. Box 12007
Tallahassee, FL 32317

Dear Triumph Board Members,

I am writing on behalf of Apalachicola Riverkeeper to express full support for the Apalachicola Bay System Initiative, submitted by the Florida State University Coastal and Marine Laboratory. Since 1998, Apalachicola Riverkeeper has been committed to the protection and restoration of the Apalachicola River, Bay and floodplain. During that time, our organization has worked collaboratively with the Florida State University Coastal and Marine Laboratory (FSUCML) in various capacities. We highly value their work. FSUCML's commitment to being a leader in conducting and supporting exceptional research that advances marine ecosystem science and conservation is strongly evident.

This proposed research is essential to adequately understand factors, such as harvesting and climate change affecting oyster populations in the Apalachicola Bay. Apalachicola Riverkeeper and conservation partners rely on good science in all aspects of our outreach, advocacy and education efforts. For example, this type of data is needed for long-term restoration planning for Apalachicola Bay. Additionally, the Initiative has tremendous potential to enhance collaboration of existing projects, especially between community, state and federal entities.

Both the Florida State University Coastal and Marine Lab and Apalachicola Riverkeeper recognize the importance of involving the community members in management and recovery efforts. Commercial fishing and oyster harvesting, which depends on the health and productivity of the Bay, is a livelihood that has fueled the local economy for generations. The ecological collapse of Apalachicola Bay has resulted in the dramatic loss of jobs and a way of life for many residents. Research such as the ABSI, that incorporates working groups of local stakeholders will prove beneficial at multiple levels of future restoration efforts.

A NON-PROFIT ORGANIZATION DEDICATED TO THE PROTECTION AND STEWARDSHIP OF THE APALACHICOLA RIVER & BAY
P.O. Box 8 Apalachicola FL 32329 (850) 653-8936 apalachicolariverkeeper.org



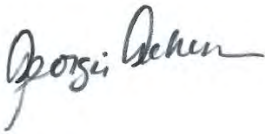
APALACHICOLA RIVERKEEPER®

S A V I N G A N A M E R I C A N T R E A S U R E

Apalachicola Riverkeeper is agreeable to partner with FSUCML's team on the Apalachicola Bay System Initiative, particularly in stakeholder engagement and outreach efforts. We have significant relationships with diverse stakeholders with vested interests in the restoration of Apalachicola Bay. We are eager to see the Initiative launch and look forward to our continued relationship with the Florida State University Coastal and Marine Laboratory.

Please contact me if additional information is needed.

Sincerely,



Georgia Ackerman
Riverkeeper & Executive Director
georgia@apalachicolariverkeeper.org



March 20, 2018

Triumph Board Members
Florida Triumph Gulf Coast, Inc.
P.O. Box 12007
Tallahassee, Florida 32317

RE: Florida State University Coastal and Marine Laboratory's *Apalachicola Bay System Initiative* Research Proposal

Dear Mr. Bense and Triumph Board Members,

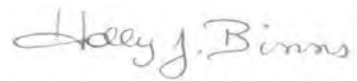
On behalf of The Pew Charitable Trusts (Pew), please accept these comments in support of the **Apalachicola Bay System Initiative** research proposal submitted by the Florida State University Coastal and Marine Laboratory (FSUCML). Pew is a global nongovernmental organization committed to improving public policy, informing the public, and invigorating civic life. Our environment portfolio includes several projects focused on advancing healthy oceans and abundant fisheries. The FSUCML proposal is a comprehensive approach to better understanding and addressing the ecological needs for oyster recovery and management in the Apalachicola Bay system.

Globally, oyster reefs have declined 85% in recent decades. This same level of decline is apparent across the Gulf, and particularly in Apalachicola Bay, which historically has supplied 90% of oysters to Florida and 10% to the nation. The decline in oyster populations has precipitated a dramatic decline in the oyster industry – an economic driver in the region for over a century. However, the loss of oysters is significant beyond just direct fishery implications. Oyster reefs provide habitat for estuarine marine life including numerous economically important recreational and commercial fish species such as red drum (redfish) and spotted seatrout. Recovery of oyster reefs would enhance habitat for these and many other species and provide for a more sustainable and ecologically healthy bay.

The struggling health of oysters in Apalachicola Bay necessitates a more holistic approach to recovery, such as proposed by the FSUCML. This proposal will generate much needed data and science on oyster distribution, production and recruitment, and restoration efforts that could help manage and restore oysters for their ecological value, and as a fishery. In addition, the proposal seeks to resolve a current bottleneck in the emerging aquaculture industry – of growing importance in the region. Lastly, the FSUCML is well positioned geographically and scientifically to undertake public outreach and generate support for ecosystem-based oyster management and restoration in Apalachicola Bay and beyond.

Better science can lead to better management. Pew encourages your support of the FSUCML's **Apalachicola Bay System Initiative** research proposal, which will provide crucial information to guide a return to ecosystem sustainability and economic viability for this area.

Sincerely,

A handwritten signature in cursive script that reads "Holly J. Binns". The signature is written in dark ink on a light background.

Holly J. Binns
Director, U.S. Oceans, Southeast
The Pew Charitable Trusts



Florida Wildlife Federation

Keeping the Wild in Florida since 1936!

www.fwfonline.org

Manley K Fuller | President

P.O. Box 6870, Tallahassee, FL 32314-6870

2545 Blairstone Pines Dr., Tallahassee, FL 32301

Phone: (850) 656-7113

Fax: (850) 942-4431

AFFILIATED WITH THE NATIONAL WILDLIFE FEDERATION

March 6, 2018

Triumph Board Members
Florida Triumph Gulf Coast, Inc.
P.O. Box 12007
Tallahassee, Florida 32317

Dear Board Members,

The Florida Wildlife Federation urges you to support Florida State University Coastal and Marine Laboratory's proposal, The Apalachicola Bay System Initiative. This initiative will greatly enhance our understanding, recovery and management of the Bay's oyster reefs.

The project will allow for a comparison of historic and current oyster distribution and the development of ecosystem models that can be useful in evaluating what is needed for recovery of oyster populations within the Bay. The project will involve active field research to evaluate areas where oyster populations have declined and where there is new recruitment. Genetics differences within the Bay's oyster populations will be investigated and disease resistance investigated. This can lead to development of more disease resistant strains of native oysters which can be propagated in a pilot hatchery and later distributed to the most desirable locations for oyster recovery. The project will involve both University researchers and local people in conducting research as well as the operation of the hatchery and the dissemination of oysters to appropriate sites. Various oyster restoration techniques will be investigated. This project will provide us with vital information that will be applicable in the restoration of the Bay's keystone oyster populations.

The Florida Wildlife Federation is a strong advocate for a healthy Apalachicola River and Bay as well as in the Eastern Gulf of Mexico and believes this initiative will greatly enhance our ability to recover this region both environmentally and economically. We look forward to future opportunities to collaborate with FSU in enhancing ecosystem health as well as strengthening our nature based economy.

Cordially,

Manley Fuller, President
Florida Wildlife Federation



National Wildlife Federation

Gulf of Mexico Restoration Program

505 East Huntland Dr., Suite 485 • Austin, TX 78752 • 512-610-7773

3801 Canal St., Suite 305 • New Orleans, LA 70119 • 504-708-5862

April 4, 2018

Triumph Gulf Coast, Inc. Board Members
P.O. Box 12007
Tallahassee, FL 32317
Via email: info@myfloridatriumph.com

RE: Comments on Project Pre-Proposals under Consideration for Triumph Gulf Coast Funding

The National Wildlife Federation (NWF) appreciates the opportunity to comment on projects being considered for funding through Triumph Gulf Coast, Inc. for the recovery, diversification, and enhancement of the eight Northwest Florida counties disproportionately affected by the oil spill. On behalf of our more than six million members and supporters across the United States, we respectfully submit the following comments for your consideration.

With staff on the ground across the Gulf, including in Florida, NWF is deeply committed to the restoration of the Gulf Coast Region, for the benefit of both people and wildlife. We have supported the investment of oil spill-related funds in ecological restoration projects that benefit the Gulf's economy, with an emphasis on estuaries. Whereas Triumph Gulf Coast seeks to select projects and programs that have the potential to generate increased economic activity in the disproportionately affected counties, the enabling legislation identified that priority be given to projects and programs that benefit the environment, in addition to the economy. NWF has reviewed the 135 pre-applications submitted through March 8, 2018 and identified several projects that offer both economic and ecological benefits.

Last year, NWF released a report highlighting 50 projects across the five Gulf States: [*Making the Most of Restoration: Priorities for a Recovering Gulf*](#). This report used ecological stressors in key estuaries across the Gulf to prioritize projects that will make progress towards meeting each system's restoration needs. NWF believes that a significant portion of the Deepwater Horizon restoration dollars should focus on efforts to improve the Gulf of Mexico's estuaries, including two in Florida's panhandle: Pensacola

Bay and Apalachicola River and Bay. Likewise, we focused on a few specific project types that target known stressors: habitat protection, oyster reefs and living shorelines, hydrologic restoration, and coastal wetlands. Whereas this report and the priorities identified within focus on ecological restoration, some of the projects under consideration by Triumph Gulf Coast, Inc. intended to address economic needs will likewise have direct or indirect ecological benefits. We have identified projects in NWF's two panhandle priority estuaries that will provide such benefits.

Pensacola Bay

The Pensacola Bay system is affected by numerous historic and current environmental stressors. Several portions of the watershed are considered "impaired" under the Clean Water Act – largely a result of urban stormwater, agricultural fertilizer runoff and sewage and septic tank overflows. To address system stressors, NWF supports projects in Pensacola Bay that improve coastal wetlands, restore oyster reefs and living shorelines, and restore hydrologic function.

Project #87, City of Milton - N. Santa Rosa Reg. Water Reclamation Facility is a public infrastructure project that will enhance economic recovery. The project will relocate an existing wastewater treatment plant (WWTP), thereby removing effluent currently discharging into the Blackwater River. Implementation of this project will reduce nutrients entering the Blackwater River, improve water quality, and benefit oyster recovery efforts downstream of the existing WWTP, aligning this proposal with a NWF Priority Project (East Bay Oyster Restoration).

Apalachicola River and Bay

The Apalachicola River and Bay system is an area of exceptional ecological importance. It constitutes one of the least polluted, least developed, resource-rich systems left in the U.S. The Apalachicola River and its floodplain are the biological factories that fuel the estuary's productivity. Despite its ecological value, the Apalachicola ecosystem has been severely degraded over recent years from reduced water flows, channel alterations, prolonged drought, and consumptive use. The economy of the region has been historically linked to the health of the river and bay, and is likewise suffering in recent years. Several pre-proposals will improve both the ecology and economy of the region.

Project #69, Apalachicola Bay System Initiative (ABSI); submitted by Florida State University Coastal and Marine Laboratory) uses a multidisciplinary, collaborative approach to develop a restoration strategy for Apalachicola Bay and the oyster fishery throughout Franklin County, with oyster recovery efforts that address both wild and aquaculture oyster production. ABSI will contribute to both economic and environmental recovery and create jobs (including for local oystermen). ABSI will collaborate with other state, federal, and non-governmental institutions working in the region to optimize their

efforts and integrate with existing projects. This project aligns with the NWF Priority of Restoring Oysters and priority estuary Apalachicola Bay.

Two projects address public infrastructure needs that will lead to enhanced economic recovery, benefit the environment, and align with the NWF priority estuary, Apalachicola Bay. Project #25, City of Carrabelle Septic Tank Abatement will remove dozens of septic tanks systems from a community located along banks of St. George Sound and Apalachicola Bay. Placing these homes on central sewer will improve water quality as well as the economy of the area. Project #35, City of Apalachicola Stormwater/Wastewater Improvements will improve stormwater and wastewater facilities, and thereby promote economic development and improve water quality.

NWF urges the Triumph Gulf Coast Board to prioritize and maximize projects that both invest in economic recovery and diversification and also benefit the environment. We also encourage the board to consider efforts that leverage investments from other oil-spill related funding sources, such as projects to improve water quality in Pensacola and Apalachicola Bays. Thank you very much for all of your hard work for Florida and for considering our comments. Please do not hesitate to contact me to discuss further.

Sincerely,

Jessica Bibza
Florida/Alabama Policy Specialist, Gulf of Mexico Program

Appendix 5: Cost Break-Down of Florida State University's Commitment for the Salaries of FSUCML Faculty and Staff in Year 6 and Beyond

Appendix 5: Cost Break-Down of Florida State University's Commitment for the Salaries of FSUCML Faculty and Staff in Year 6 and Beyond

	Yr6	Yr7	Yr8	Yr9	Yr10	Yr11	Yr12	Yr13	Yr14	Yr15	Total
Admin/Communications Person	\$57,268	\$58,986	\$60,756	\$62,579	\$64,546	\$66,482	\$68,476	\$70,527	\$72,643	\$74,822	\$657,085
FACULTY - Restoration ecologist (0.75 FTE)*	\$113,030	\$116,420	\$119,913	\$123,510	\$127,216	\$131,032	\$134,963	\$139,012	\$143,182	\$147,477	\$1,295,755
FACULTY - Invertebrate ecophysiologicalist (0.75 FTE)*	\$109,737	\$113,030	\$116,420	\$119,913	\$123,510	\$125,215	\$128,971	\$132,840	\$136,825	\$140,930	\$1,247,391
HATCHERY MANAGER	\$90,424	\$93,137	\$95,931	\$98,749	\$101,711	\$104,762	\$107,904	\$111,141	\$114,475	\$117,909	\$1,036,143
TECHNICIAN - Hatchery Tech 1	\$55,261	\$56,919	\$58,626	\$60,385	\$62,196	\$64,061	\$65,983	\$67,962	\$70,001	\$72,101	\$633,495
TECHNICIAN- Hatchery Tech 2	\$55,261	\$56,919	\$58,626	\$60,385	\$62,196	\$64,061	\$65,983	\$67,962	\$70,001	\$72,101	\$633,495
TECHNICIAN - Field Tech (1)	\$55,261	\$56,919	\$58,626	\$60,385	\$62,196	\$64,061	\$65,983	\$67,962	\$70,001	\$72,101	\$633,495
Total	\$536,241	\$552,329	\$568,898	\$585,906	\$603,572	\$619,674	\$638,263	\$657,406	\$677,128	\$697,441	\$6,136,858

*Research faculty at FSUCML are required to generate 25% of their salaries from external sources.

Appendix 6: Endorsement Letter from Franklin County Board of County Commissioners

FRANKLIN COUNTY

REPLY TO:
BOARD OF COUNTY COMMISSIONERS
33 MARKET STREET, SUITE 203
APALACHICOLA, FL 32320
(850) 653-8861, EXT. 100
(850) 653-4795 FAX



REPLY TO:
PLANNING & BUILDING DEPARTMENT
34 FORBES STREET, SUITE 1
APALACHICOLA, FL 32320
(850) 653-9783
(850) 653-9799 FAX

Triumph Board
Florida Triumph Gulf Coast, Inc.
P.O. Box 12007
Tallahassee, Florida 32317

April 2, 2018

Dear Members of the Triumph Board:

The Franklin County Board of Commissioners is pleased to endorse the Florida State University Coastal & Marine Laboratory (FSUCML) proposal - **The Apalachicola Bay System Initiative (ABSI)** – which is being submitted to Triumph Gulf Coast, Inc. We strongly support this application. For oyster production to become a viable industry in Apalachicola Bay, the health of the bay must be restored. This project lays the groundwork necessary to determine how that happens and then implements this effort with local, state, federal and NGO partners. Through ABSI, Florida State University is clearly committed to that endeavor. It will provide the best available science developed throughout the term of the project and far into the future by providing considerable financial and intellectual support both during and long after the Triumph Gulf Coast, Inc. support ends. It is our understanding that FSUCML's first year request to Triumph Gulf Coast, Inc. (of five total years) will not exceed \$2,000,000.

We look forward to partnering with the Coastal & Marine Laboratory in this project.

Sincerely yours,

A handwritten signature in blue ink that reads "Joe A. Parrish".

Joseph A. Parrish, Chairman
Franklin County
Board of County Commissioners

Appendix 7: Approval Authority Letter from Dr. Gary K. Ostrander, Vice President for Research & President of the FSU Research Foundation, Florida State University



March 27, 2018

Triumph Board
Florida Triumph Gulf Coast, Inc.
P.O. Box 12007
Tallahassee, Florida 32317

Dear Board Members,

As Florida State University's Vice President for Research I have the authority to execute all contracts and grants on behalf of the University. This includes the Triumph Gulf Coast Inc. application **Apalachicola Bay System Initiative** which is being submitted by the FSU Coastal and Marine Laboratory.

Best wishes,

A handwritten signature in blue ink, appearing to read "Gary K. Ostrander".

Gary K. Ostrander
Vice President for Research
Professor of Biomedical Sciences

Appendix 8: Detailed Break-Down of ABSI Costs During Years 1-5

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Staff Budget	1/19-12/20	1/20-12/21	1/21-12/22	1/22-12/23	1/23-12/24	
Administration						
Project Director (0.25 FTE)	\$33,150	\$34,145	\$35,169	\$36,224	\$37,311	\$175,999
Support Postdoctoral Fellow	\$64,000	\$65,920	\$67,898			\$197,818
Admin/Communications Person	\$49,400	\$50,882	\$52,408	\$53,981	\$55,600	\$262,271
Research Faculty						
Restoration Ecologist	\$130,000	\$133,900	\$137,917	\$142,055	\$146,316	\$690,188
Start-up	\$50,000	\$50,000	\$25,000			\$125,000
Invertebrate Ecophysiologicalist		\$130,000	\$133,900	\$137,917	\$142,055	\$543,872
Start-up		\$50,000	\$50,000	\$25,000		\$125,000
Graduate students (n=2)		\$76,000	\$78,280	\$80,628	\$83,047	\$317,955
Research Consultants						
Biophysical modeling	\$26,000	\$26,780	\$13,792	\$13,792		\$80,364
Geneticist		\$75,000	\$77,250			\$152,250
Ecosystem modelers				\$43,333		\$43,333
Hatchery Support						
Hatchery Consultant(s)	\$30,000					\$30,000
Hatchery Manager	\$78,000	\$80,340	\$82,750	\$85,233	\$87,790	\$414,113
Hatchery support 1			\$45,500	\$46,865	\$48,271	\$140,636
Hatchery support 2			\$45,500	\$46,865	\$48,271	\$140,636
Field biology tech	\$23,834	\$49,098	\$50,571	\$52,089	\$53,651	\$229,243
INFRASTRUCTURE						
Renovations to existing buildings and enhancements in research infrastructure	\$750,000					\$750,000
Experimental Hatchery						
Programming	\$50,000					\$50,000
Design and permitting	\$300,000					\$300,000
Construction	\$900,000	\$1,500,000	\$600,000			\$3,000,000
RESEARCH & OUTREACH OPERATIONS						
	\$250,000	\$250,000	\$300,000	\$330,000	\$350,000	\$1,480,000
CONTINGENCY						
	\$250,000					\$250,000
Total	\$2,984,384	\$2,572,065	\$1,795,935	\$1,093,982	\$1,052,312	\$9,498,678
FSU Cost-Share	\$1,000,000	\$500,000				
Triumph Gulf Coast Request	\$1,984,334	\$2,072,065	\$1,795,935	\$1,093,982	\$1,052,312	\$7,998,628