



St. Andrews and St. Joseph Bay Estuary Program Economic Valuation

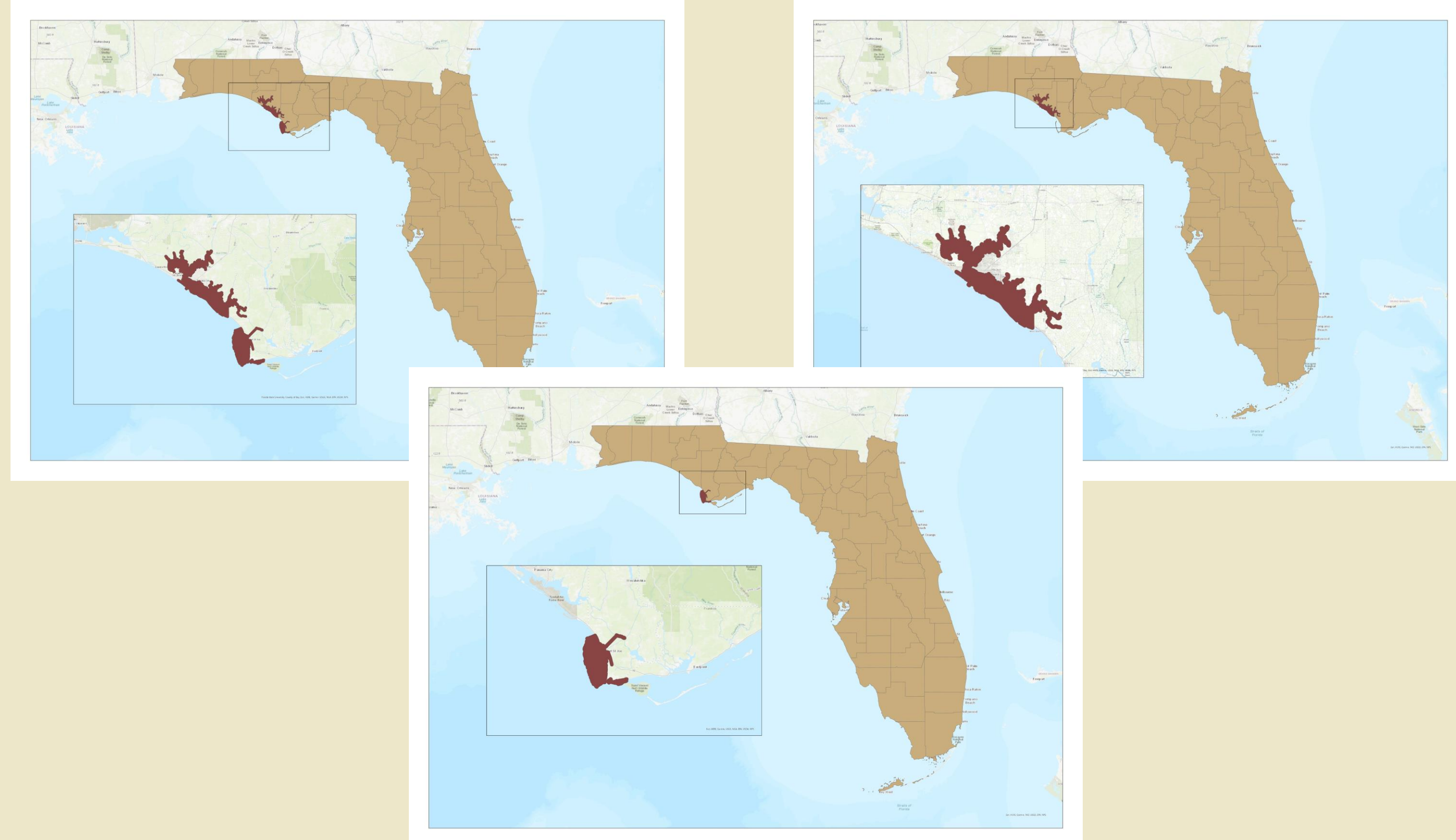


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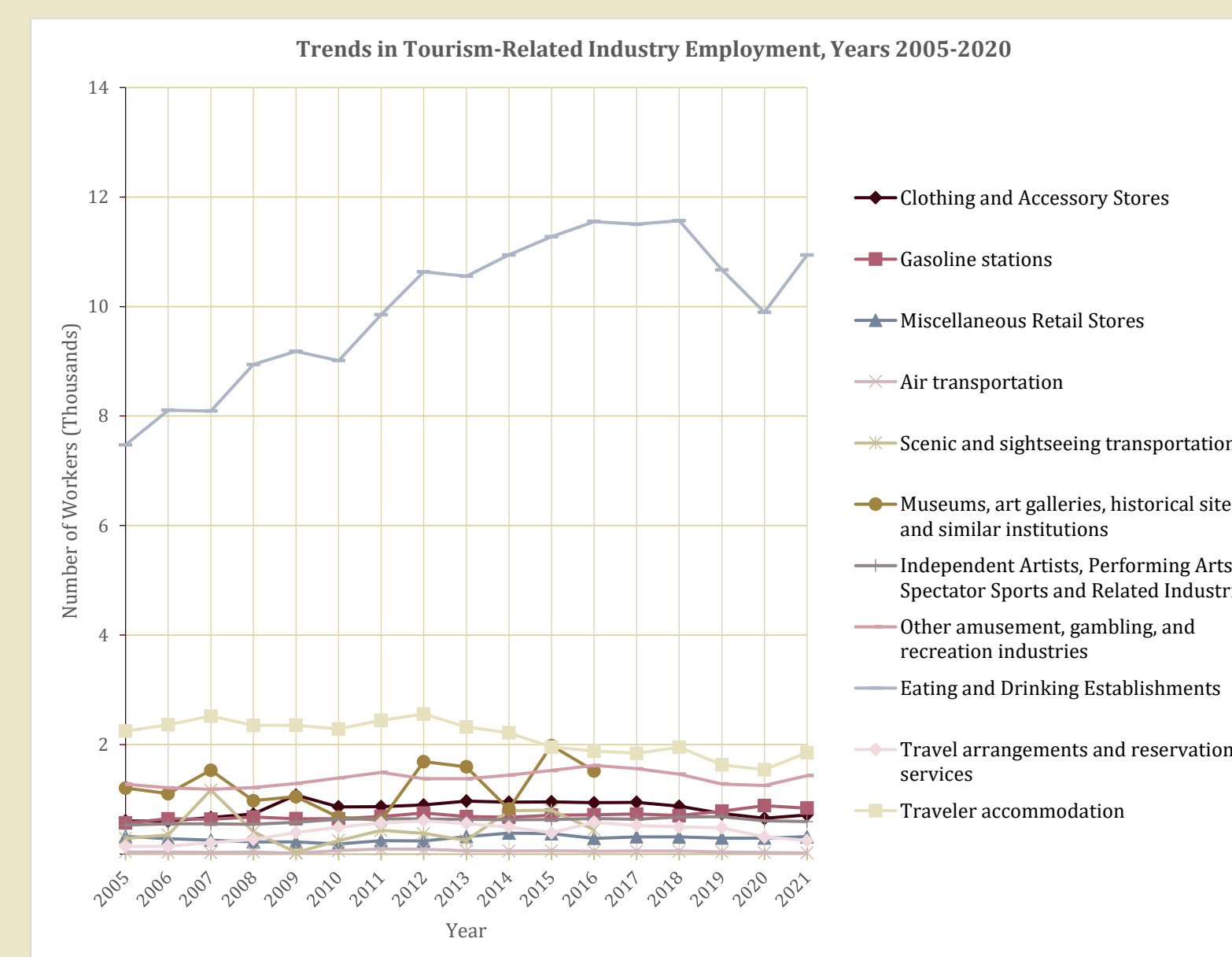
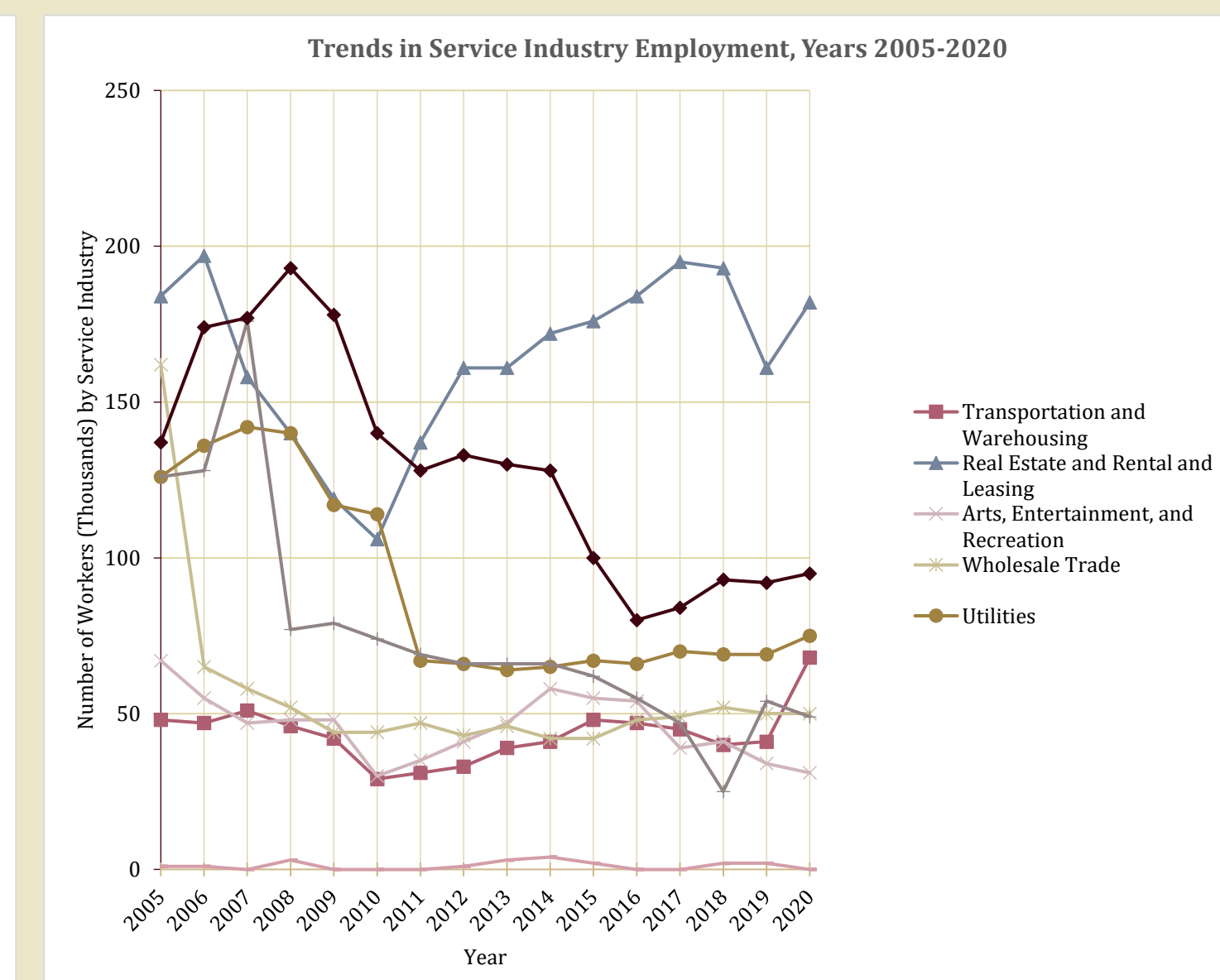
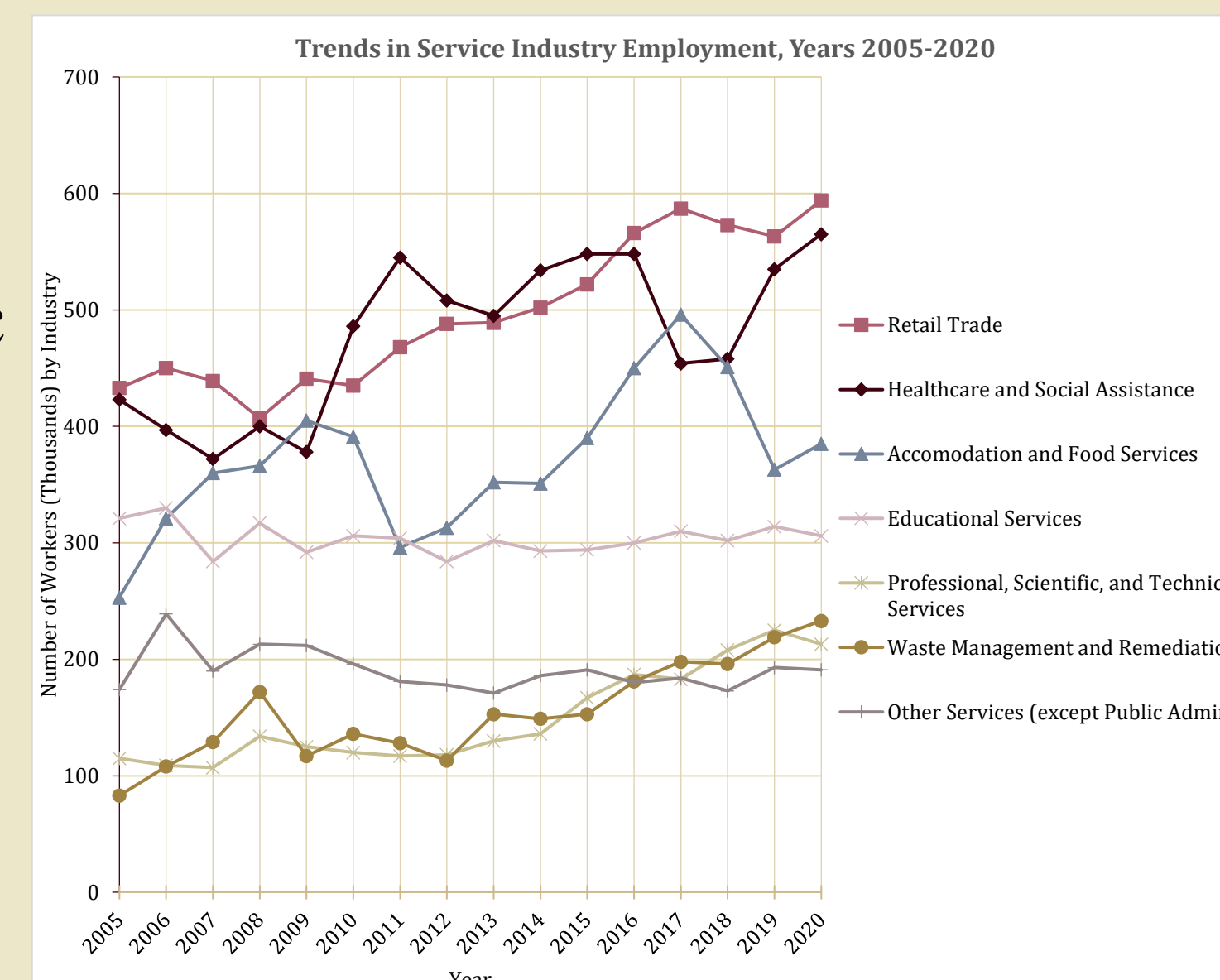
Background

Florida State University's (FSU) Center for Economic Forecasting (CEFA) and Analysis in union with FSU's Florida Resources and Environmental Analysis Center (FREAC) are working on an economic valuation and impact study for the St. Andrew and St. Joseph Bay estuaries and the surrounding counties. The project is working in conjunction with the St. Andrew and St. Joseph Bays Estuary Program (SASJBEP) to evaluate the impact and contributions of the watershed associated with these estuaries. The St. Andrew Bay Watershed is located in North Florida, in the central Florida panhandle, and covers 1,156 square miles. This watershed covers both the St. Andrew Bay and St. Joseph Bay. The watershed supports the biological diversity of the region and provides economic benefits to the surrounding regions through tourism based on the social and recreational benefits of the estuaries



Methods

- NETs data, property appraiser parcel data from the Florida Department of Revenue (FDOR), 100-year flood data, and sea-level rise data from the Florida Division of Emergency Management (FDEM) is being gathered
- Boundaries of the estuary are being mapped in the GIS software ArcGIS Pro.
- A half-mile buffer is being added around the boundaries
- Python code and GIS are used to create a final reports
 - of the sales of businesses withing a half-mile of the estuary
 - the just-value of the land parcels said businesses are on.



Large, Medium, and Small Businesses within 1/2 Mile of the SASJBEP Area			
Sector (by SIC)	Number of Businesses	Number of Employees	Total Sales
Agriculture, Forestry, and Fishing	220	500	\$20,176,187
Mining	1	6	\$1,050,012
Construction	1,184	2,769	\$288,390,534
Manufacturing	144	475	\$47,611,964
Transportation, Communications, Electric, Gas, and Sanitary Services	286	890	\$65,771,966
Wholesale Trade	207	630	\$100,492,869
Retail Trade	688	2,305	\$212,396,838
Finance, Insurance, and Real Estate	789	2,253	\$215,139,533
Services	4,867	12,103	\$686,575,754
Public Administration	49	152	\$479,397
Totals	8,435	22,123	\$1,638,085,054

Large, Medium, and Small Businesses within 1/2 Mile of the SASJBEP Area (Cont.)			
Sector (by SIC)	Number of Businesses	Number of Employees	Total Sales
Agriculture, Forestry, and Fishing	0	0	\$0
Mining	0	0	\$0
Construction	5	365	\$69,400,362
Manufacturing	14	2,551	\$446,174,104
Transportation, Communications, Electric, Gas, and Sanitary Services	12	1,069	\$271,914,536
Wholesale Trade	3	189	\$74,936,291
Retail Trade	13	1,070	\$128,041,646
Finance, Insurance, and Real Estate	6	635	\$32,764,523
Services	57	9,182	\$932,061,000
Public Administration	32	4,975	\$0
Totals	142	20,036	\$1,955,292,462

Results

- The results thus far are preliminary.
- Excluding carbon sequestration
- St. Andrews sequesters \$11.8 million worth of carbon per year
- St. Joseph sequesters \$2.4 million worth of carbon per year
- Future results include:
 - the economic impact and value of the estuary
 - the direct business sales and property values that are impacted by the estuary

County	Proximity to Bay	Market Value of Properties by Proximity to the SASJBEP Area		
		Number of Units	Average Market Value	Total Market Value
Bay	Off Front	4,874	\$174,775	\$851,338,263
	Bay View	6,768	\$106,566	\$721,181,627
	Partial Bay View	6,455	\$184,482	\$1,189,907,741
	No Bay View	11,269	\$175,517	\$1,978,936,392
	Total	29,366	\$172,977	\$2,691,374,203
Gulf	Off Front	43,829	\$127,241	\$5,587,294,212
	Bay View	1,516	\$109,555	\$167,254,607
	Partial Bay View	1,200	\$106,497	\$127,783,814
	No Bay View	1,489	\$175,886	\$261,145,186
	Total	48,034	\$140,007	\$5,943,477,819
Panhandle	Off Front	0	\$0	\$0
	Bay View	0	\$0	\$0
	Partial Bay View	0	\$0	\$0
	No Bay View	0	\$0	\$0
	Total	0	\$0	\$0
Grand Total	77,400	\$173,007	\$8,634,852,042	

Discussion

At the time of presentation, the economic valuation is still being performed. The results will contribute to the economic literature of valuation of natural resources. The preliminary results presented here have shown the invaluable contribution of ecosystem services to the economic health of the surrounding areas.

References

- Harrington, J., Holland, M., Strode, G., Kabbani, J. (2022). An Economic Impact and Valuation Analysis of the Pensacola and Perdido Bays Estuary Program (PPBEP)
- Stokes-Cawley, O., Stroud, H., Lyons, D., Wiley, P., & Goodhue, C. (2021). Economic Contribution Analysis of National Estuarine Research Reserves. *Water*, 13(11), 1596. <https://doi.org/10.3390/w13111596>

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