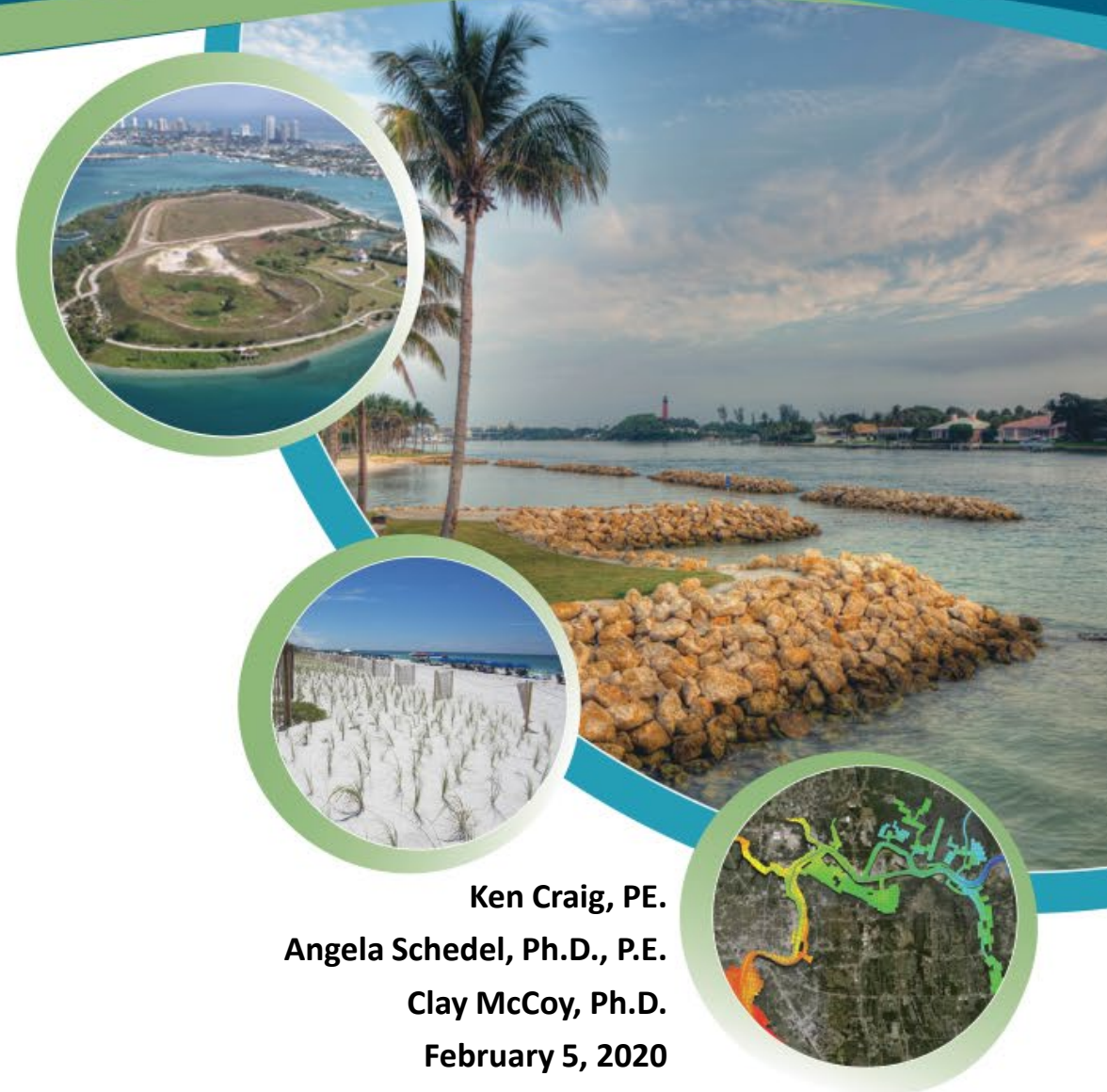
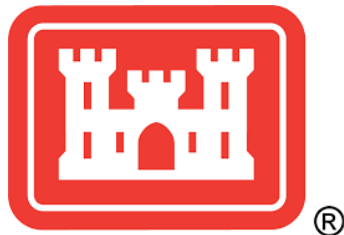




TAYLOR ENGINEERING, INC.

USACE Jacksonville SAD SAND Status



Ken Craig, PE.
Angela Schedel, Ph.D., P.E.
Clay McCoy, Ph.D.
February 5, 2020

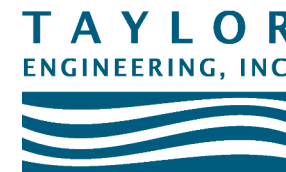
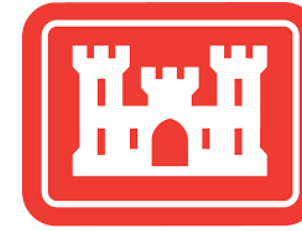
SAD SAND Project

- Part 1 – SAD Sand Availability and Needs Determination
- Part 2 – Jacksonville District Sand Search Project
- Part 3 – SAD DMMA Off-loading and Sediment Exchange Study

The SAND Team

USACE TEAM:

Name	Position	email: @usace.army.mil
Clay McCoy	Project Manager	clay.a.mccoy
Barbara Nist	Tech Lead, Jax Lead	barbara.u.nist
Walt Haven	Wilmington Lead	walter.t.haven
Sara Brown	Charleston Lead	sara.a.brown
Roger Lafond	Savannah Lead	roger.e.lafond
Mike FitzHarris	Mobile Lead	michael.s.fitzharris
Peter Gori	Geotech CoP	peter.d.gori
Jackie Keiser	SACS Program Manager	jacqueline.j.keiser
Pam Castens	SACS Project Manager	pamela.g.castens



EXTERNAL PROJECT DELIVERY TEAM:

NC DEQ - Division of Coastal Management	Alabama Dept. of Conservation & Natural Resources
Bureau of Ocean Energy Management	Mississippi Dept. of Marine Resources
SC DHEC - Ocean and Coastal Resource Management	PR Dept. of Environmental and Natural Resources
SC Dept. of Natural Resources	Geological Survey of Alabama
GA DNR - Coastal Resources Division	Environmental Protection Agency
Florida Dept. of Environmental Protection	Univ. of Southern Mississippi, Stennis



SAD-SAND Task Order Team Leads

- Taylor Engineering contact info
 - Jacksonville (904) 731-7040, fax (904) 731-9847
 - www.taylorengineering.com

Role	Name	Email
Program Manager	Ken Craig, P.E.	kcraig@taylorengineering.com
Part 1 Project Manager <i>Sand Availability and Needs Determination</i>	Angela Schedel, Ph.D., P.E.	aschedel@taylorengineering.com
Part 2 Project Manager <i>SAJ Sand Search</i>	Bill Aley, P.G.	baley@taylorengineering.com
Part 3 Project Manager <i>DMMA Off-loading & Sediment Exchange Study</i>	Angela Schedel, Ph.D., P.E.	aschedel@taylorengineering.com

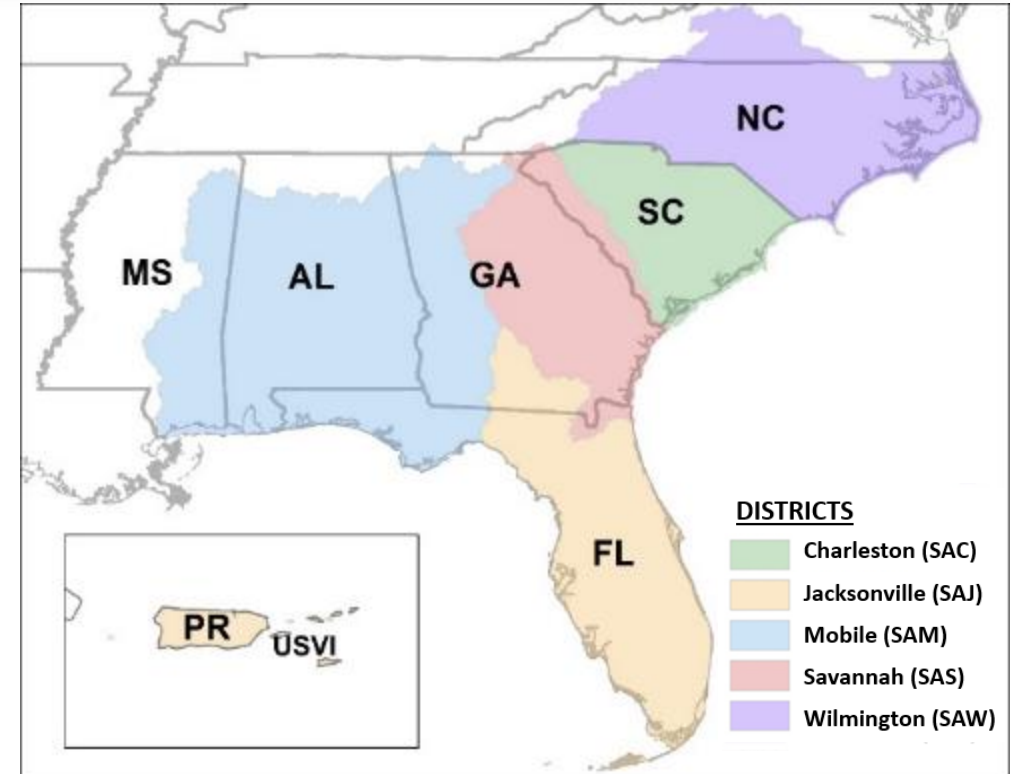
Part 1 – Sand Availability and Needs Determination

QUESTIONS ANSWERED:

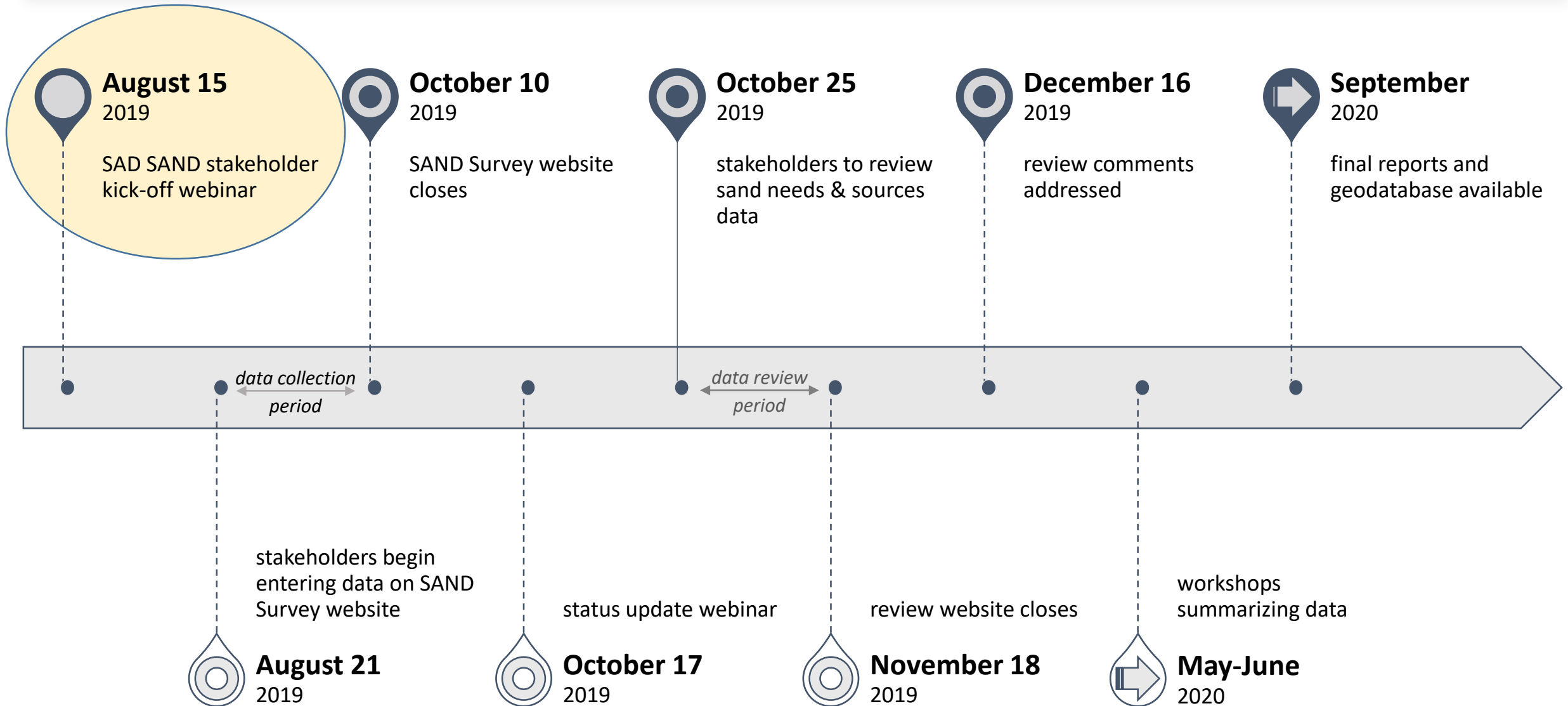
- What/Where are **ALL** beach nourishment resource NEEDS within the South Atlantic Division (SAD) over the next 50 years?
- What are the SOURCES of sand for **ALL** projects within SAD and how long will it last?

PRODUCTS:

- Database of sand needs for all beaches in region
- Database of available sand resources in coastal zone (offshore/nearshore, beneficial use)
- Regional workshops
- Final Report



Project Milestones



Part 1 – Sand Availability and Needs Determination (SAND)

- Develop Tables & Report
- Build Geodatabase
- Prepopulate w/available data

Table 4. Individual project needs determinations by County and project.

County	Project Name	Monument Range	Estimated 50 yr Sand Requirement (cy)	County total (cy)
St. Lucie	Ft. Pierce Shore Protection Project	from Ft. Pierce Inlet (200 ft north of R34 - T41)	13,000,000	
	South County Beach Project		5,017,487	18,017,487
Martin	Martin County Hurricane and Storm Damage Reduction Project	R1 - R25	8,186,000	
	Bathtub Beach/Sailfish Point	R34.2 - R40.5	1,425,000	
	Town of Jupiter Island	R76A - R84, R88 - R112	12,500,000	22,111,000
		R13.5 - R19	5,467,000	
		R26 - R38	6,300,000	
		R90 - R101	7,250,000	
		R119 - R126	7,250,000	
		R153 - R159	3,410,000	
		R180 - R188.5	7,200,000	
		R205 - R212	4,550,000	
		R216 - H222	4,150,000	45,577,000
		R6 - R14	2,000,000	
		R25 - R72	2,750,000	
	Lloyd)	R85.7 - R93	2,910,000	
	ale/Dania)	R99 - R128	3,990,000	11,650,000
		R7 - R19.3	2,965,500	
	overnment Cut ark	R19.3 - R74	11,551,800	
		R75 - R78	26,000	
		R79 - R88	0	
		R89 - R110	425,000	14,968,300
				112,323,787

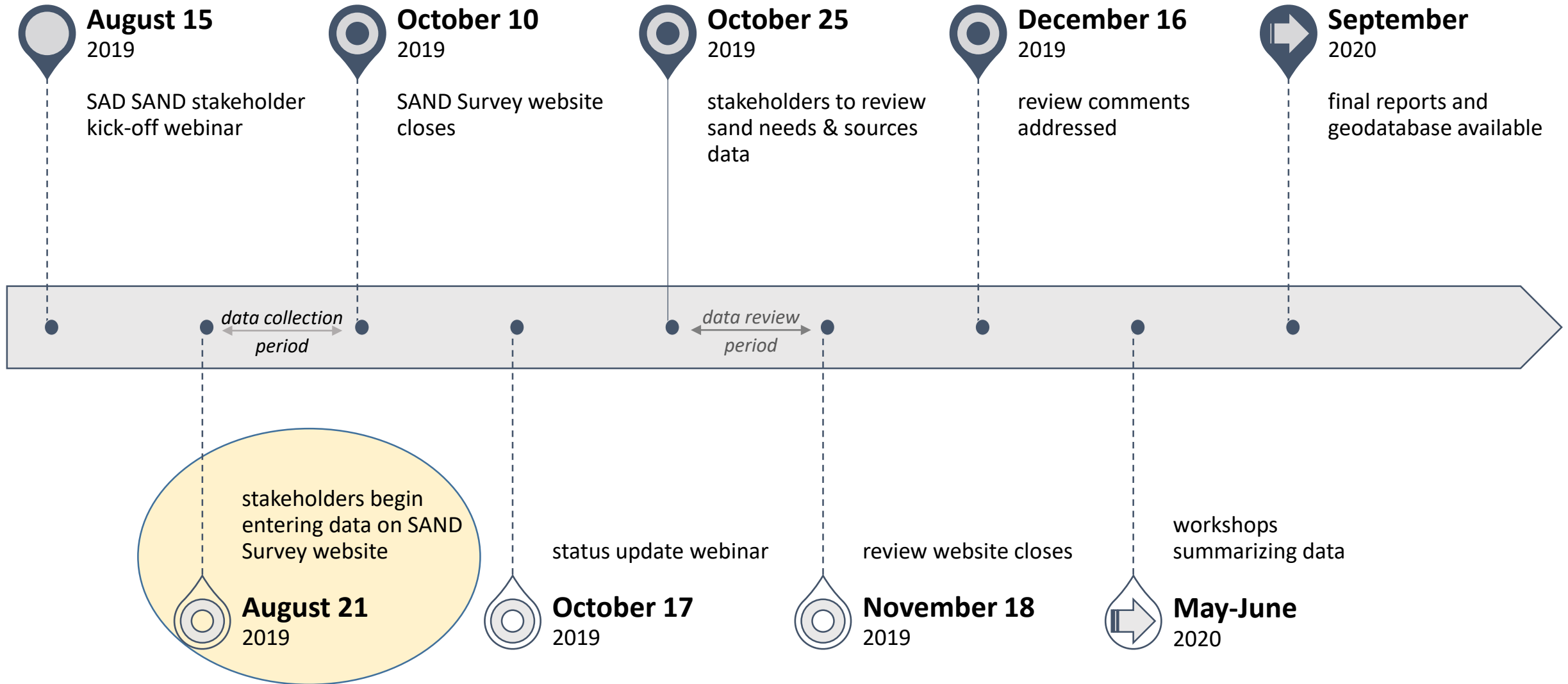
Table E.1 Estimate of Martin County's 50-Year Sand Needs

MARTIN COUNTY, FLORIDA											
Projected Sand Requirement over next 50 years (Current and Future)											
						Estimated Future Annual Sand Demand *not including current requirement					
Name	Sponsor/Agency	Initial Construction Date	Monument Range	Length of Nourishment (ft)	"C" Estimated Current Requirement (cy)	"R" Estimated Rate (cy/yr)	"F" = R x 50 Estimated Future Demand Over 50 Years (cy)	"C + F" Estimated 50-yr Requirement (cy)	"(C + F)/50/ft" Estimated Requirement per Linear Foot (cy/yr/ft)	Basis of Estimate	Comments
Martin County Hurricane and Storm Damage Reduction Project	Martin County/USACE	1996	R1 to R25	21,630	286,000	158,000	7,900,000	8,186,000	8	Placement history Historic erosion rates 2010 survey results	Assumes volumetric requirements at historic rates. *R includes 50% contingency to account for uncertainty in future projections.
Bathtub Beach/Sailfish Point	Martin County	2010	R34.2 to R40.5	5,600	175,000	25,000	1,250,000	1,425,000	5	Historic erosion rates	Assumes combined Martin County/Sailfish Point project
Town of Jupiter Island	Town of Jupiter Island	1973	R76A to R84 R88 to R112	28,000	0	250,000	12,500,000	12,500,000	9	Historic erosion rates	Nourishment completed in 4/2012. Assumes volumetric requirements at historic rates. More effective utilization/ bypassing at St. Lucie Inlet could reduce this value.
Total					461,000	433,000	21,650,000	22,111,000			

Sand Balance

- 50-year need x 55% contingency (SLR / dredge inefficiency)
- Sources
 - Federal and non-federal RSM included
 - Offshore

Project Milestones





Welcome John Messer! [Sign Out](#)

Sand Survey

Please fill out both sections (if applicable) of this survey completely. The Sand Needs section specifies your projects in need of sand. Add each of your applicable projects using the "Add" button. The Sand Source section specifies each of your sand sources or borrow areas. Add each sand source using the "Add" button. Please use the appropriate units specified in each field when entering numeric values.

Sand Needs

[Add...](#)

General				Size/Dimensions			Changes	
Project Name	State	County	Sponsor	Extent	Length (ft)	Est 50 yr Req (cy)	Edit	Delete
Test Project	Florida	Duval County	Federal	R1 - R20	8,000	20,300,000		

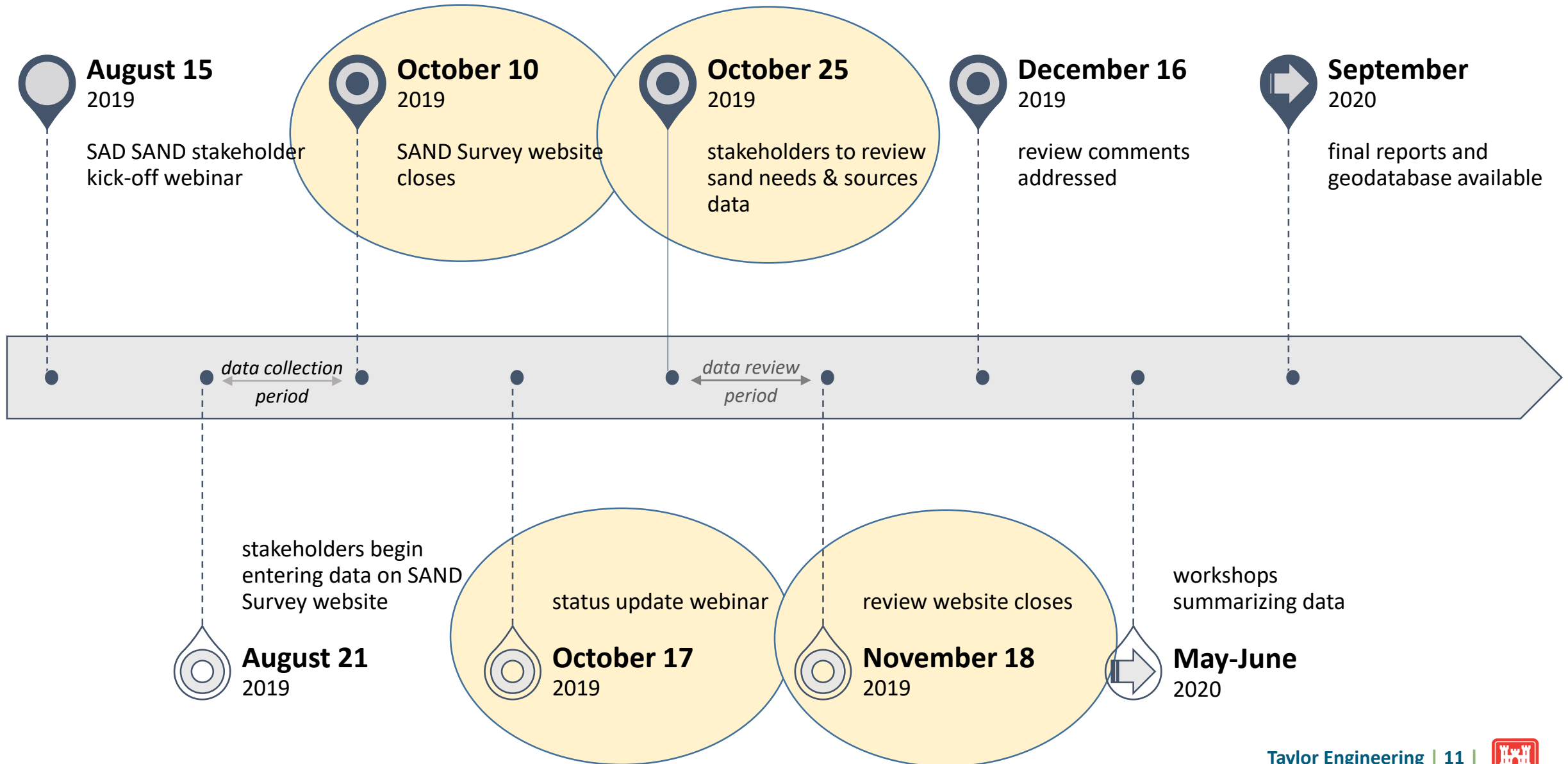
Sand Sources

[Add...](#)

General				Borrow Area Location		Details					Changes	
Source Name	State	County	Project/Beach	Centroid Easting	Centroid Northing	Est. Volume (cy)	Depleted?	Last Used (if depleted)	Permit	NEPA	Edit	Delete
DU4-R042	Florida	Duval County	Jax Beach	-9,055,433	3,547,040	20,000	No		Permit 123	Test NEPA		

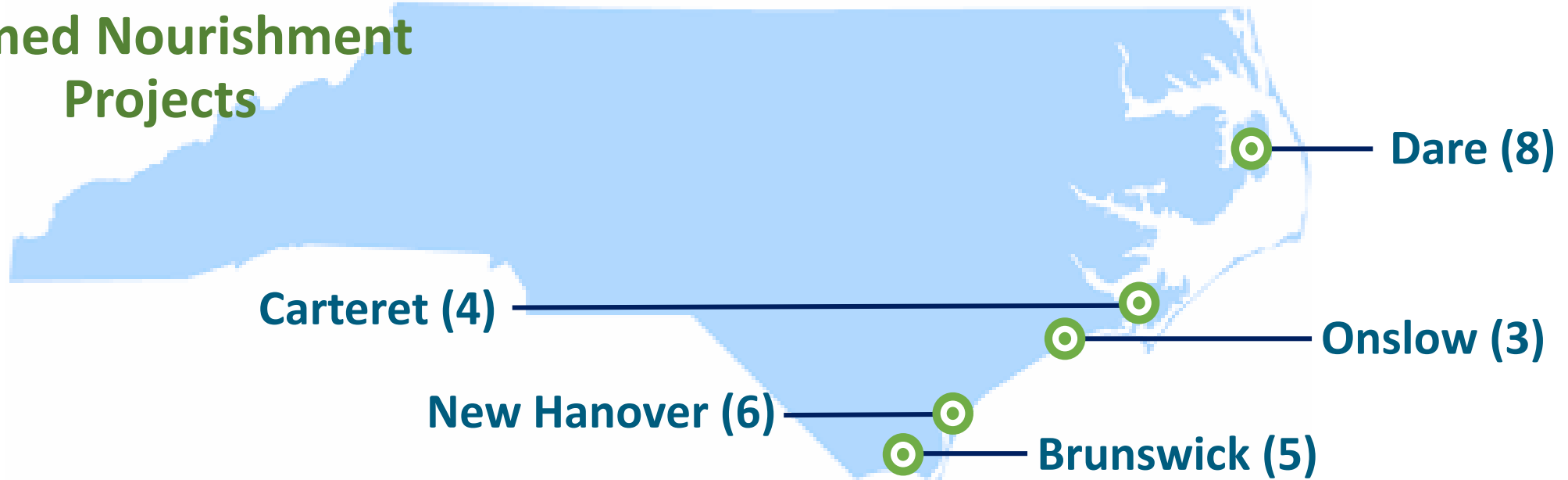


Project Milestones



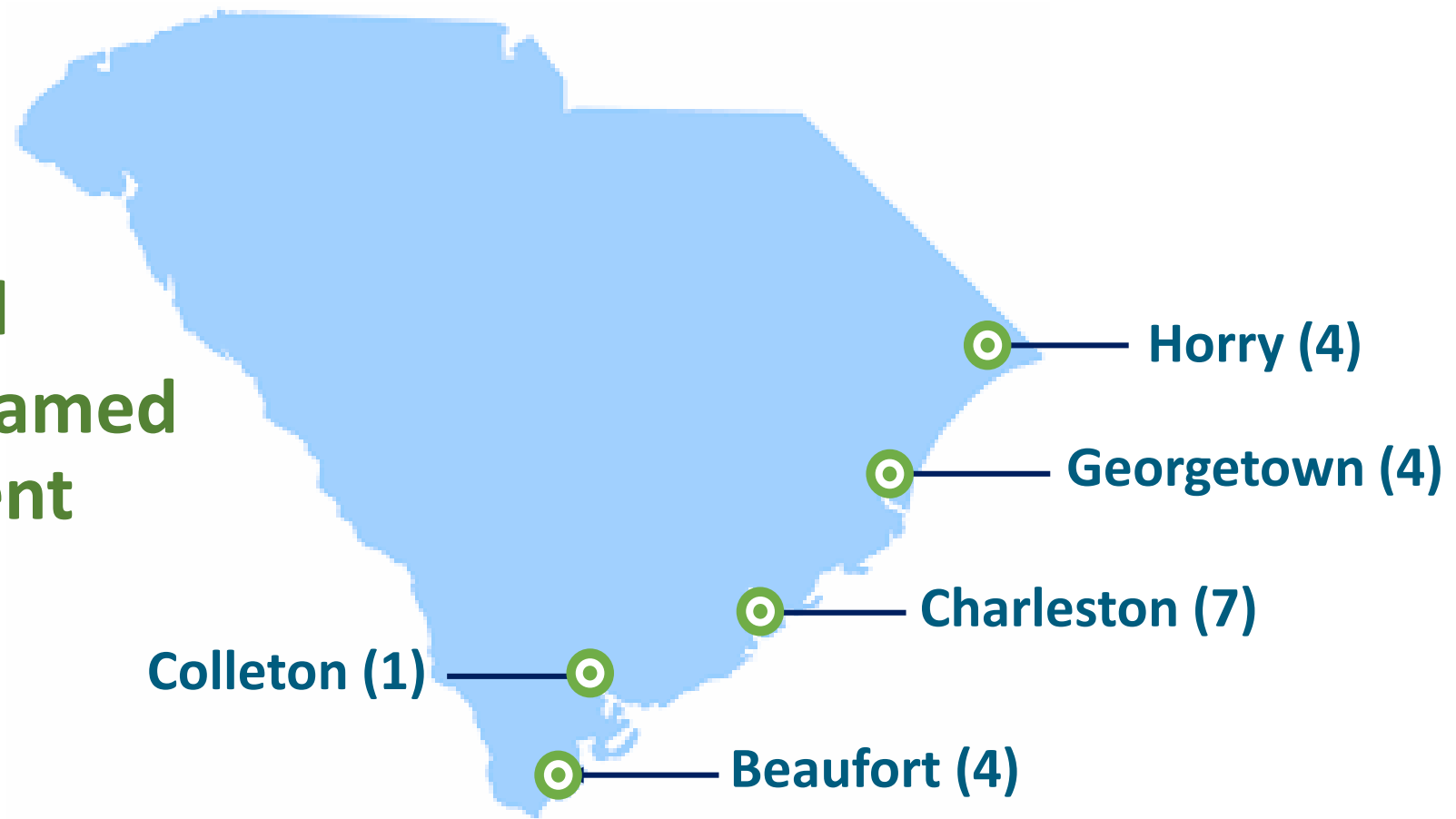
Summary of Sand Needs Data: North Carolina SAW

26 Total Individually
Named Nourishment
Projects



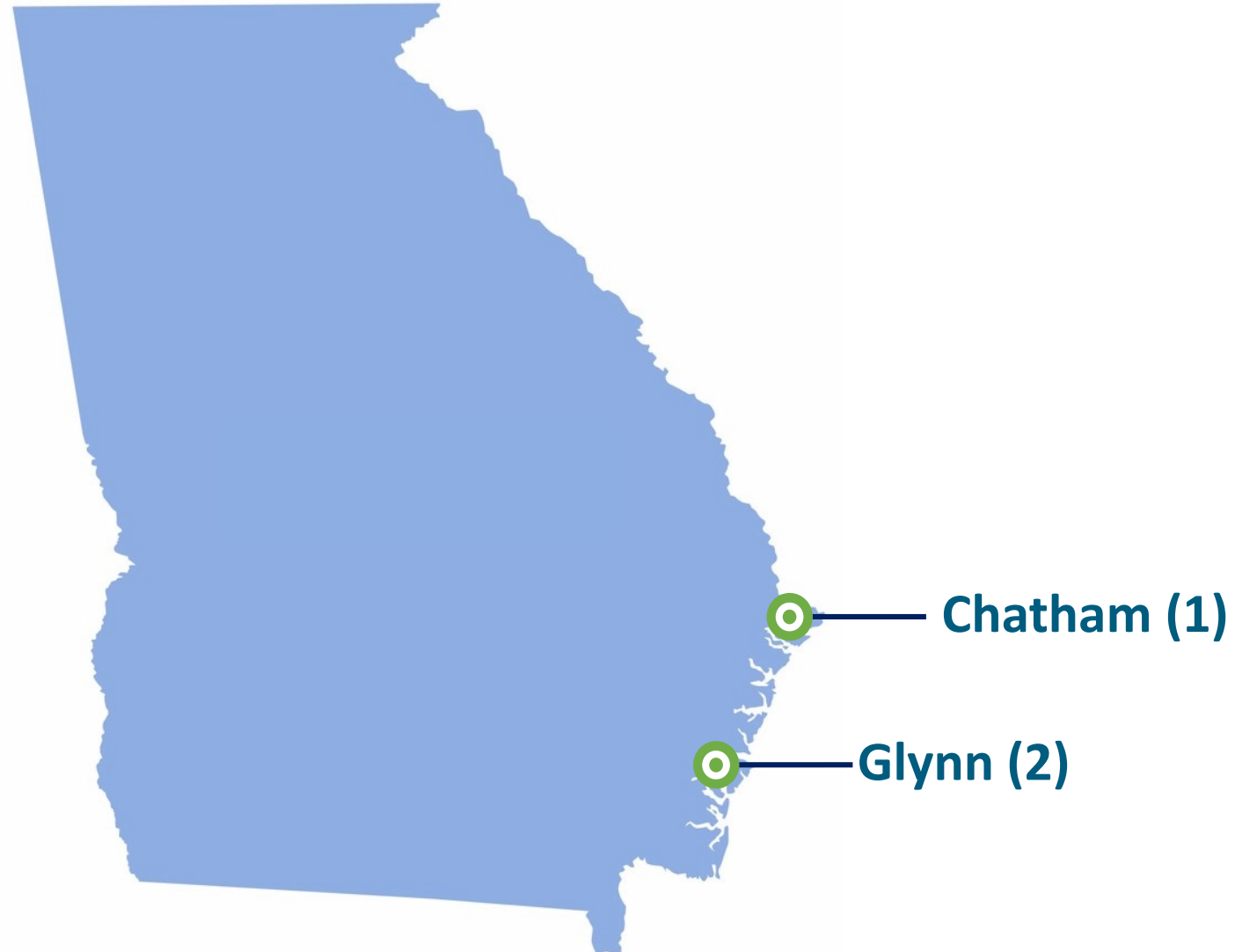
Summary of Sand Needs Data: South Carolina SAC

20 Total
Individually Named
Nourishment
Projects



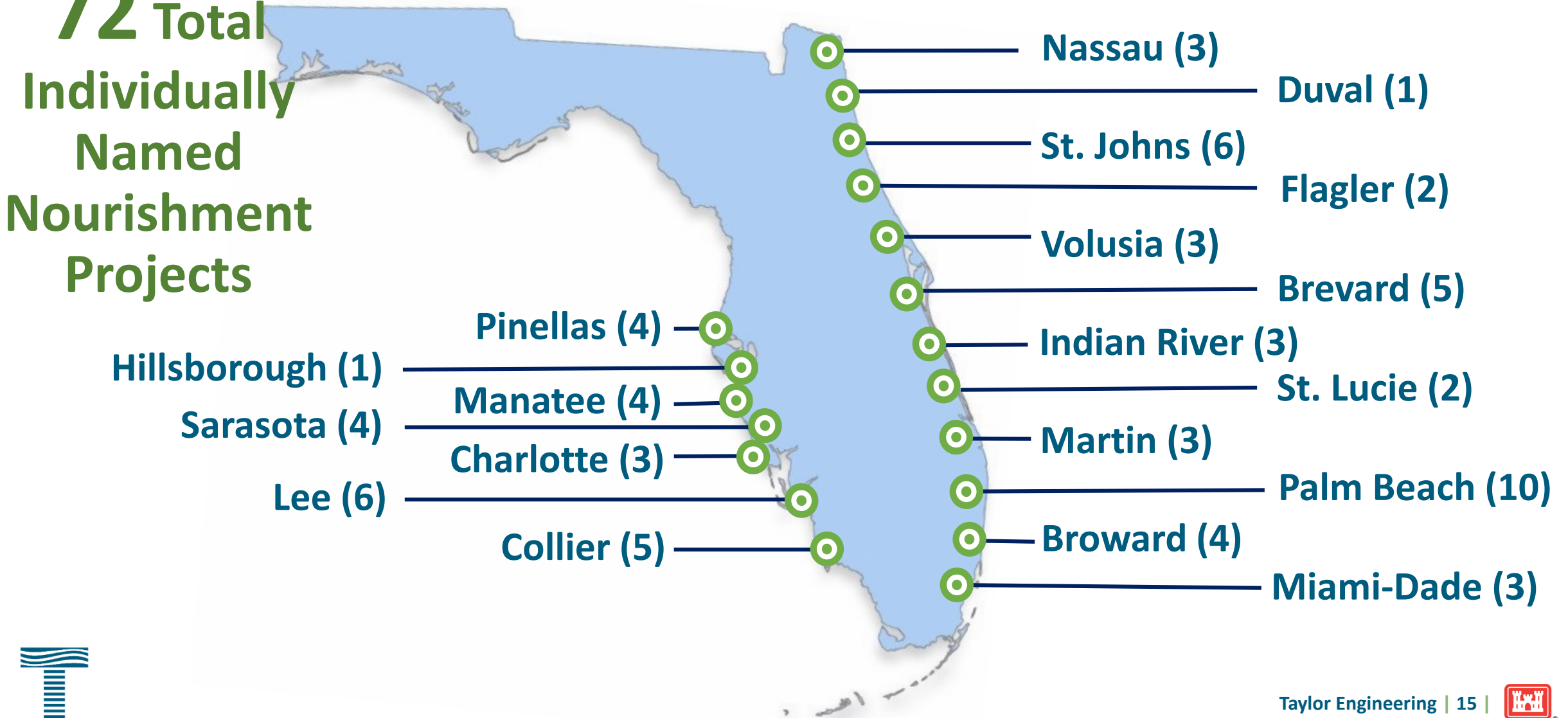
Summary of Sand Needs Data: Georgia SAS

**3 Total
Individually
Named
Nourishment
Projects**

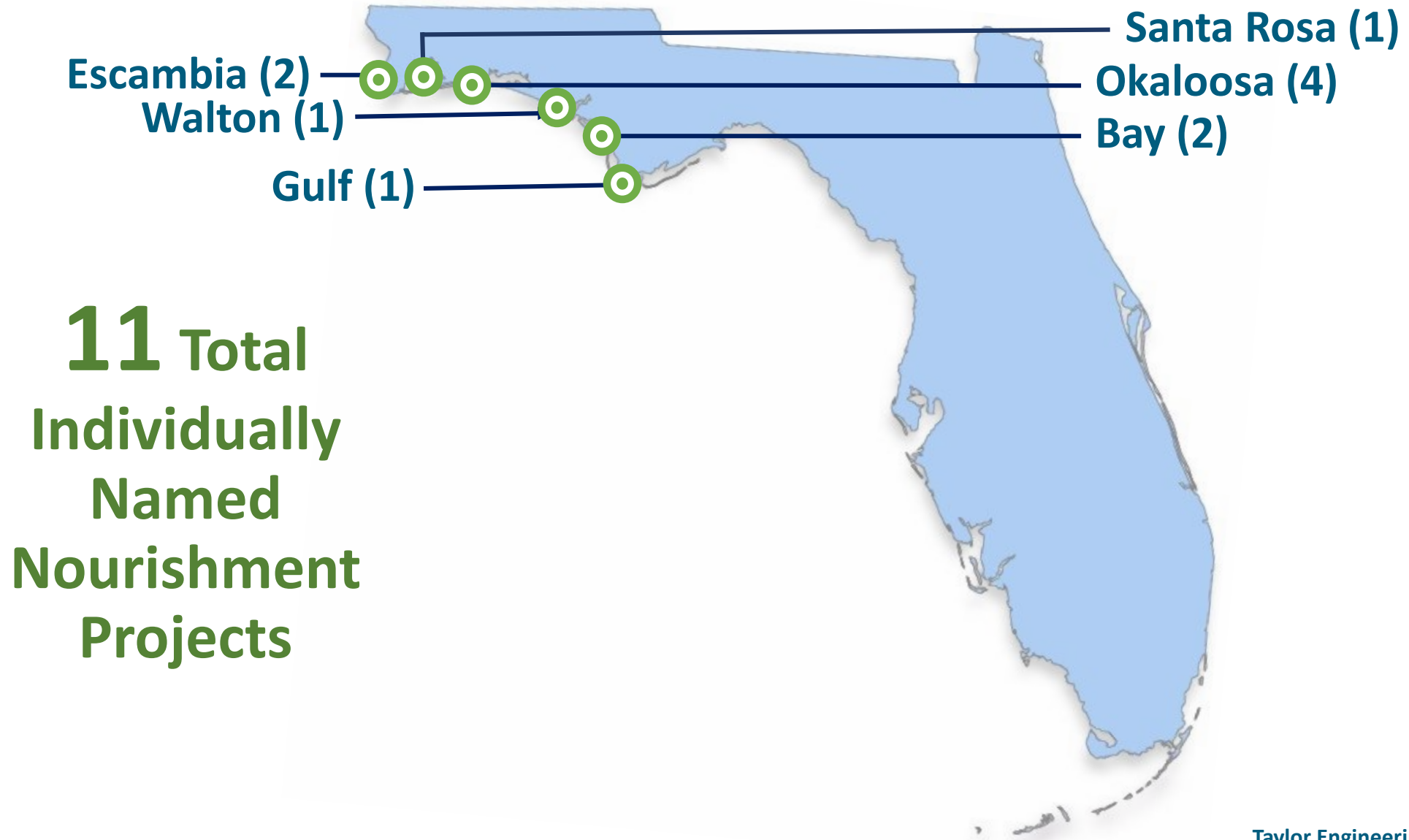


Summary of Sand Needs Data: Florida SAJ

**72 Total
Individually
Named
Nourishment
Projects**



Summary of Sand Needs Data: Florida Panhandle SAM

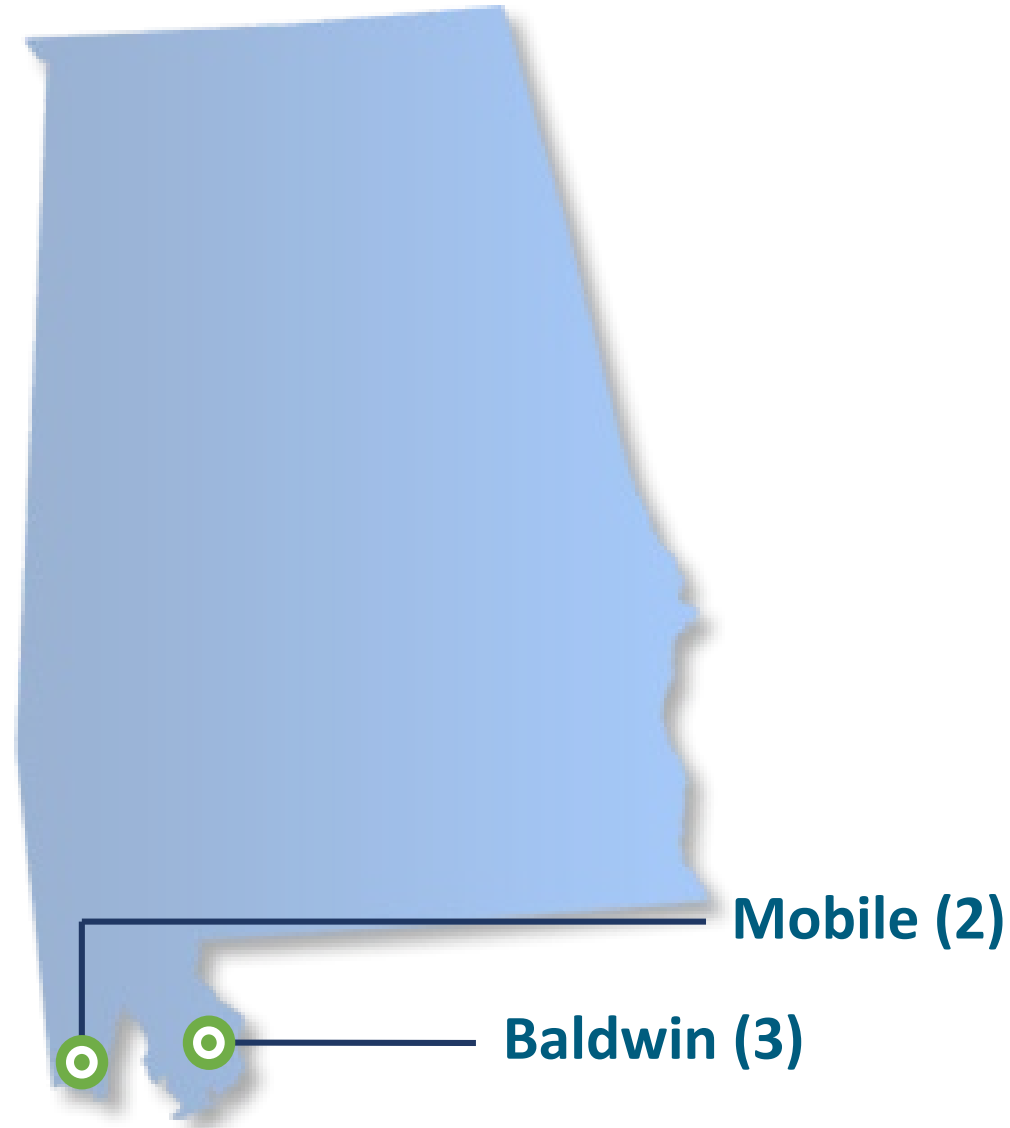


11 Total
Individually
Named
Nourishment
Projects



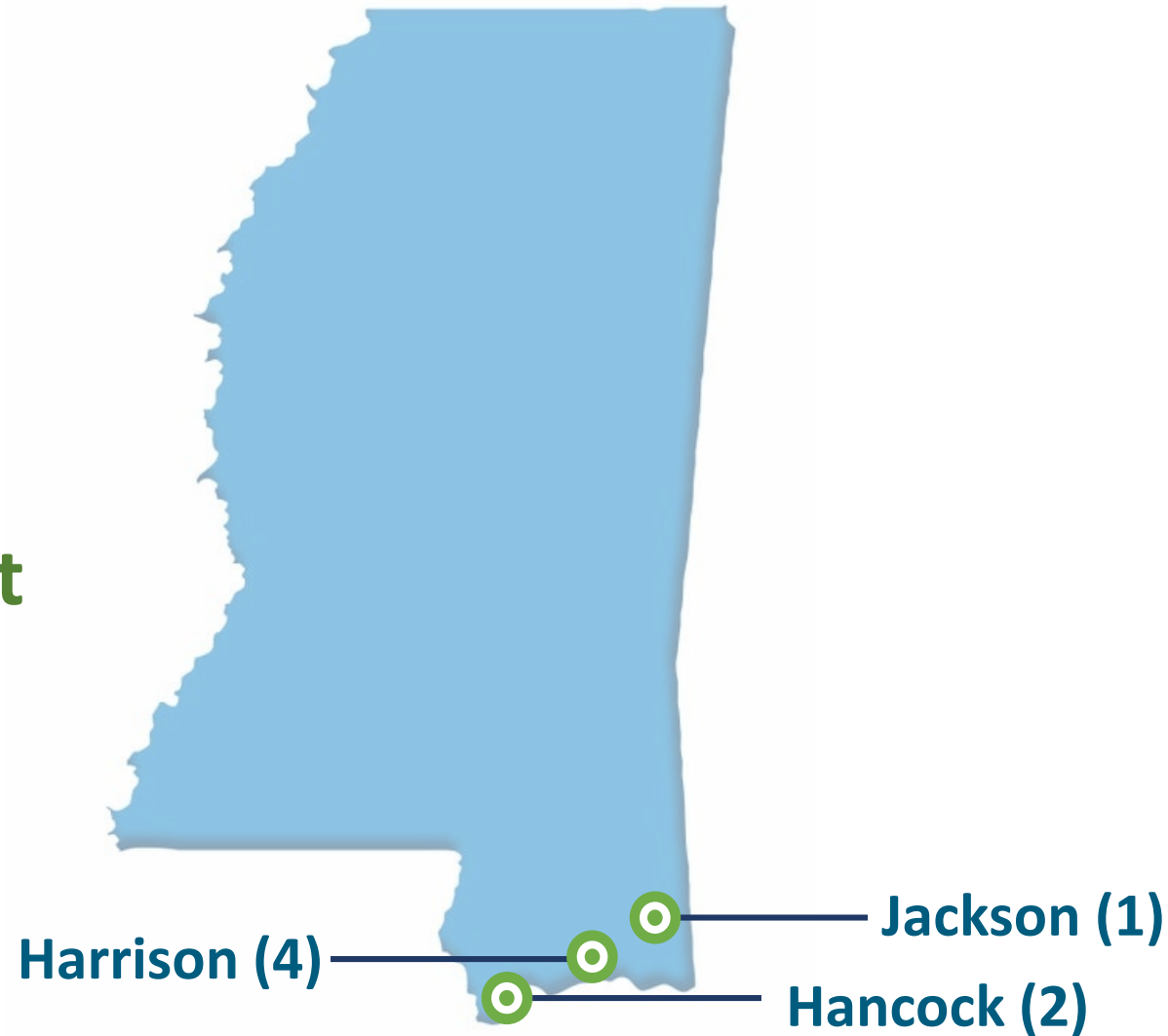
Summary of Sand Needs Data: Alabama SAM

**5 Total
Individually
Named
Nourishment
Projects**



Summary of Sand Needs Data: Mississippi SAM

**7 Total
Individually
Named
Nourishment
Projects**



Summary of Sand Needs Data: Puerto Rico SAJ

2 Total
Individually
Named Projects

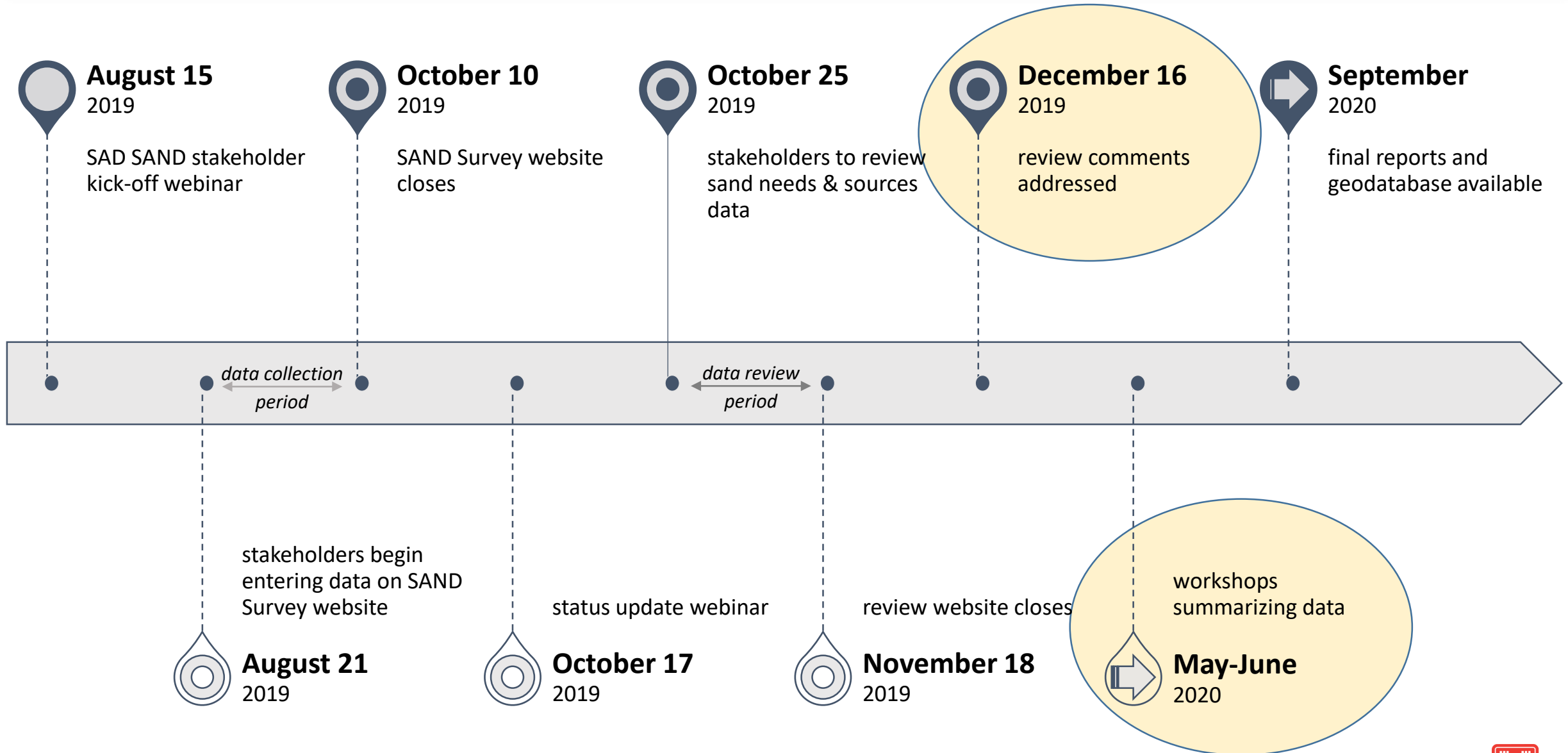


Summary of Sand Needs Data: U.S. Virgin Islands SAJ

6 Total
Individually
Named Projects



Workshops & Study Products



Sand Sources

- ROSSI database
- BOEM database
- USACE RSM database
- Local stakeholder inputs – non-federal RSM projects
- Classifications

Category	Confidence
Proven	90%
Potential	70%
Unverified Plus	30%
Unverified	0%
Unusable	0%

Part 2 – Jacksonville District Sand Search

- Focus on Southeast and Southwest Florida
- Geophysical data collected along 120 miles
- Vibracores → +/-120
- Initial field plans submitted for review
- AmDrill → data collection (m/v Thunderforce)
 - March/April – geophysics
 - May/June – vibracores
- Geotechnical lab → Taylor Engineering's Coastal Geoscience Lab
 - See Bill Aley

Part 3 – SAD DMMA Off-Loading and Sediment Exchange Study

- PM – Angela Schedel, Ph.D., P.E.
- South Atlantic Division (except Puerto Rico and U.S.V.I.)
- Geodatabase:
 - **ALL** confined upland placement facilities
- Sediment Exchange Report
 - Current management & offloading practices
 - Beneficial re-use opportunities
 - District specific maps and tables

DMMA Characteristics

- Facility Footprint
- Volume Capacity
- Current Volume
- Dredged Material Placement and Frequency
- Dike Elevation
- Crest Height
- Weir Type
- Year Constructed
- Facility Access
- Owner
- Points of Contact
- Offloading Frequency
- Sediment Characteristics



Data Sources

- ASBPA's RSM Database
- FIND's Dredged Material Management Plans (DMMP)
- AIWW Initial Plan Development DMMP
- Dredging Volume Projections for WCIND / GIWW
- USACE's Placement Areas Database - SAM
- USACE's SAD Regional Sediment Management Optimization Report - SAJ



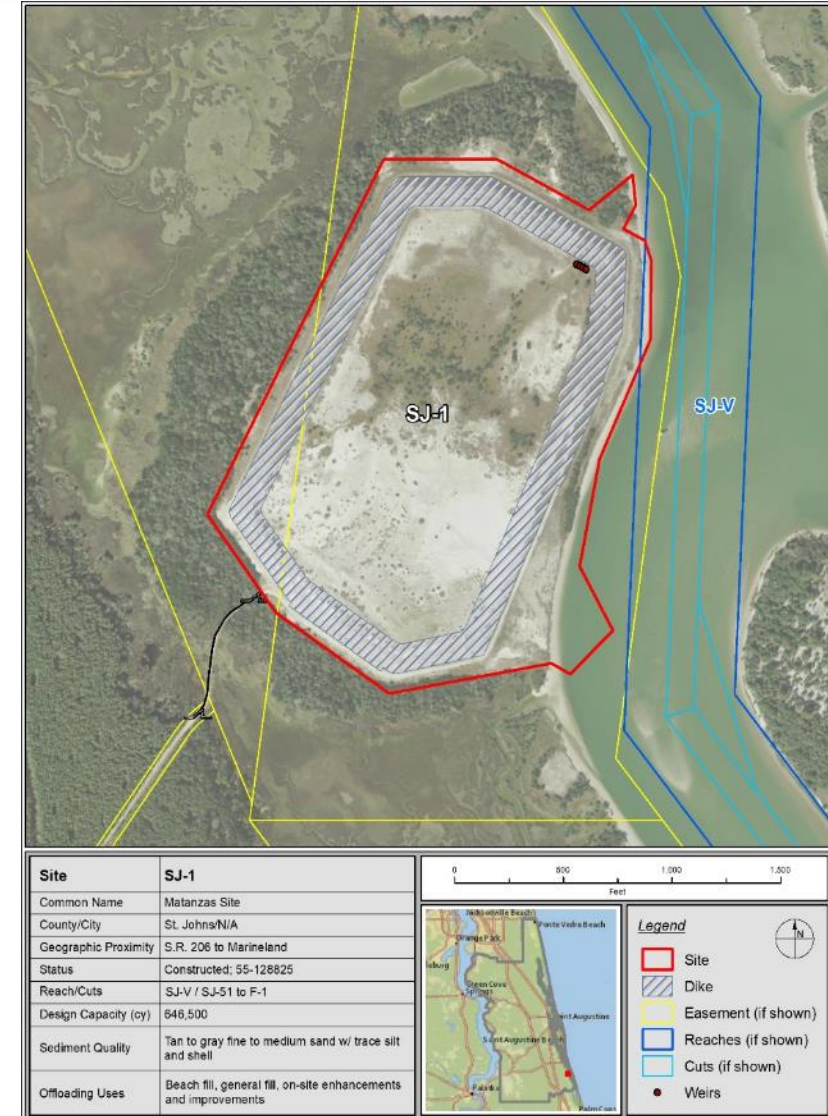
Work in Progress – Identification of SAD DMMA's

USACE DISTRICT	ESTIMATED NUMBER OF USACE PLACEMENT AREAS*	ESTIMATED NUMBER OF PORTS	ESTIMATED NUMBER OF U.S. NAVY FACILITIES	TOTAL
WILMINGTON	314	3	1 (Camp Lejeune)	318
CHARLESTON	97	3	2 (Beaufort, Charleston)	102
SAVANNAH	68	5	0	73
JACKSONVILLE	66 (FIND) + 31 (WCIND)	9	2 (Mayport, Kings Bay)	108
MOBILE	29	19	3 (Panama City, Pensacola, Pascagoula)	51
TOTAL	605	39	8	652



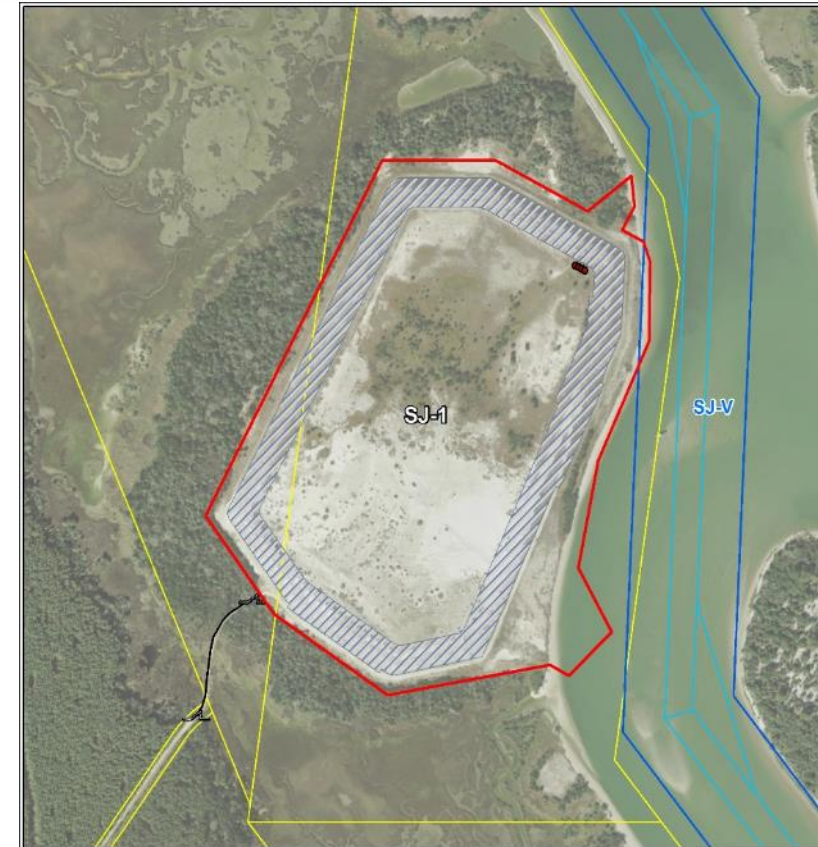
Deliverable - Sediment Exchange Report

- Five Chapters: one per District
- Spatial database summary
- Current management and offloading practices
- Beneficial re-use opportunities
- Data limitations
- Additional offloading opportunities
- Estimated cost comparisons



Part 3 – SAD DMMA Off-Loading and Sediment Exchange Study / Tasks & Deliverables

- Web-Based ArcGIS Spatial Database (SDSFIE Compliant)
- Recently submitted draft database – Corps comments pending
- Final deliverables June 2020



Site	SJ-1
Common Name	Matanzas Site
County/City	St. Johns/N/A
Geographic Proximity	S.R. 206 to Marineland
Status	Constructed; 55-128825
Reach/Cuts	SJ-V / SJ-51 to F-1
Design Capacity (cy)	646,500
Sediment Quality	Tan to gray fine to medium sand w/ trace silt and shell
Offloading Uses	Beach fill, general fill, on-site enhancements and improvements

0 500 1,000 1,500
feet

Legend

- Site (Red outline)
- Dike (Hatched area)
- Easement (if shown) (Yellow line)
- Reaches (if shown) (Blue outline)
- Cuts (if shown) (Light blue outline)

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THANK YOU
Questions?
