

Host Agency: Sapelo Island National Estuarine Research Reserve (SINERR) and the Sapelo Island Cultural & Revitalization Society (SICARS) on Sapelo Island, GA

Host Location: Sapelo Island, GA; SINERR and SICARS offices, 2-3 days a week each

Fellowship Mentors: Doug Samson (SINERR) and Jazz Watts (SICARS)

Work hours: 8:30 am – 5 pm (access to Sapelo is by daily passenger ferry) Occasional overnight or short-term stays on Sapelo may be necessary or desirable.

Fellowship Goals: To significantly enhance the resilience of Hogg Hummock (aka, Hog Hammock), the private community on Sapelo Island and widely known as the last “Saltwater Geechee” community on the East Coast. The primary project objective will be to develop *draft* comprehensive flood mitigation recommendations that address two forms of current flooding impacts to the community: 1) “regular” freshwater flooding as a result of high-precipitation events; 2) irregular saltwater flooding due to high tides, storm surge, or both. The latter will include assessments of scenarios of increased impacts over time due to higher rates of sea level rise into the future. The recommendations will also outline potential mitigation measures in two categories: 1) those that would involve modifications to the existing drainage ditch network and associated infrastructure (e.g., culverts) within the community and on adjacent State-owned lands, and; 2) those that would involve structural or engineered modifications to private homes and properties in the community. The latter recommendations would include cost estimates for the various approaches, as well as a directory of sources of financial and technical assistance available to homeowners.

The second project objective will be to work with SICARS, founded in 1993 to “preserve and revitalize the Hogg Hummock community,” to help develop new programs and projects that will increase community economic and cultural well-being, as well as resilience to future global threats, in the context of changing socioeconomic and sociodemographic patterns and trends in the community.

Preferred Qualifications of Fellow:

- familiarity with hydrological analyses in developed areas and/or natural habitats
- experience conducting informational interviews or surveys, or ability to learn such methods
- experience conducting outreach and/or educational programs in underserved communities
- excellent communication & writing skills, self-motivating & ability to work independently
- familiarity with Georgia or Southeast coastal landscapes, both human and natural
- GIS experience/expertise a plus, prior experience on Sapelo Island a plus

Project Context: Sapelo Island is crisscrossed by an extensive network of drainage ditches constructed by private landowners on the island over a period of more than 100 years, starting with Thomas Spaulding in the early 1800s and continuing into the 1940s and ‘50s. The earliest ditches were dug by the enslaved ancestors of the island’s current Gullah/Geechee residents to drain freshwater wetlands and facilitate agriculture. Later, additional ditches were dug to

facilitate road construction and road maintenance. The ditch network on State-owned lands (~10,000 acres) largely runs through natural habitats (managed for wildlife) while the ditches in Hogg Hummock (434 ac) largely run alongside roads and property lines. There are numerous, diverse connections between the two networks, both of which also connect to adjacent tidal marsh habitat. Various paper and digital maps, databases and other information related to both systems are available.

After several years of inactivity, SICARS has reestablished strong leadership and is assessing new programs and projects that will reinvigorate the economic and cultural vitality of Hogg Hummock, while also assessing needs and opportunities for enhancing the resilience of the community into the future.

Roles & Responsibilities of Fellow: In order to begin to solve the “problems” of flooding – current and future - in Hogg Hummock, we need a better understanding of the types (i.e., precipitation vs tidal), causes (e.g., clogged culverts or ditches), frequencies, spatial patterns in the scope, magnitude and extent of impacts, locations of specific “trouble spots,” and so on. This information will be collected and compiled through: 1) on-site observation and documentation (notes, photos, measurements, etc.); 2) interviews with community residents; 3) interviews with Sapelo DNR staff; 4) interviews with McIntosh County public roads staff (Hogg Hummock is an unincorporated area within McIntosh Co.); 5) interviews with other knowledgeable people. Information and data will be compiled in written summaries, spreadsheets and on maps. Project information will be supplemented by data and information being collected by other researchers (e.g., Dean Hardy, see below) and consultants, as appropriate.

An alternative approach to potential solutions would be to ask the general question “What structural or engineering techniques might be used to minimize flooding impacts to private homes in the community?” Associated questions include: What is the feasibility of different engineering methods, given the types and locations of vulnerable homes present in Hogg Hummock? What are the costs of different approaches? What financial and technical assistance for homeowners is available from federal, state and local agencies, and how do homeowners apply for such assistance? The Fellow will compile information and materials addressing these questions.

The Fellow will produce a “one-pager” factsheet summarizing the goals, objectives and methods of the project to distribute to the community at the beginning of the project, and also conduct an introductory presentation to the Hogg Hummock community. The Fellow will offer quarterly update presentations subsequently, and also do a “results” factsheet and final presentation highlighting the priority recommendations at the end of the Fellowship. The Fellow will deliver a summary report of results to the Mentors, as well as copies of various other materials and products (e.g., maps, spreadsheets, etc.) produced during the Fellowship.

The Fellow will assist SICARS as needed with developing new programs and projects that will enhance economic opportunities and the sociocultural vitality of Hogg Hummock, and that may also increase the resilience of the community to future threats like climate change and sea level rise.

Roles & Responsibilities of Mentors: SINERR and SICARS will jointly mentor the Fellow, collaboratively providing relevant information, guidance, input, reference materials, and so on. SINERR and SICARS will both provide workspace and associated facilities, as the Fellow will spend equal time (more or less) working at each location (SICARS office is in Hogg Hummock).

SINERR will provide a laptop computer and associated office supplies and accessories. SINERR will also be responsible for the Fellows' on-island transportation. If overnight or short-term stays on the island are necessary or desirable, SINERR will provide housing (but not food).

SICARS will facilitate the Fellow's orientation to SICARS's mission, goals and objectives, and current projects and priorities, and will provide a comprehensive orientation to Hogg Hummock. SICARS will have lead responsibility for introducing the Fellow to community residents, especially Gullah/Geechee "descendants," and will assist with interviews and other community engagement activities, as capacity allows. SICARS will also facilitate the Fellow's participation in community events and activities, as appropriate and desirable.

SINERR will facilitate introductions to, and communications with, relevant coastal researchers and managers, such as Jason Lee (GA DNR), who first mapped the Sapelo ditches in GIS. An important external advisor to this project will be Dr. Dean Hardy (Univ. South Carolina), who conducted a portion of his dissertation research on Sapelo and is currently conducting a study to identify the effect of Sapelo's drainage ditch network on the probability of inundation and recurrent tidal flooding due to sea level rise. SINERR will also invite the Fellow to participate in monthly Reserve staff meetings, and to observe programs, projects and activities being carried out by the Reserve's Research, Stewardship, Education, and Coastal Training sectors. As appropriate, SINERR will also facilitate the Fellow's participation in relevant professional development opportunities (e.g., meetings, conferences, workshops) in coastal Georgia during the Fellowship period.

SINERR and SICARS are fully committed to diversity and inclusion in the workplace, and do not discriminate on the basis of race, religion, age, gender identification, abilities or any other factor.