

CAPTIVA WASTEWATER REVIEW

CAPTIVA COMMUNITY PANEL

December 2017

In 2015 the Captiva Community Panel formed a Wastewater Committee to review and evaluate alternative long-term wastewater strategies for the island. This action was a response to community requests expressed in Panel workshops and surveys. It also was encouraged by the City of Sanibel because city leadership has long been concerned about potential environmental risks to Sanibel arising from Captiva's reliance on conventional septic tanks.

The majority of Captiva homes use unregulated conventional septic systems for wastewater disposal. The community relies on individual property owners to maintain their own septic systems in proper operating condition. Some homes use newer "performance-based" septic systems which require annual inspection and maintenance under supervision from Lee County Department of Health. The South Seas Resort is served by a sewer system and central treatment facility operated by FGUA (Florida Government Utility Authority). Tween Waters Inn, Sunset Captiva and Captiva Shores own and operate their own package wastewater treatment facilities.

The Wastewater Committee conducted fact-finding meetings with septic system engineers, FGUA, Sanibel city leadership and staff, SCCF and Lee County staff. Following is a review of the Committee's findings.

Conventional septic systems are not an ideal wastewater strategy for the geological conditions existing on Captiva. Captiva has porous soil and a water table that is generally only 2-3 feet below grade. Captiva is also densely populated. In these conditions the possibility exists that effluent can flow through drain fields into the water table without enough soil or time for proper filtration. Conventional septic systems are better suited to rural areas where the ground water table lies well below the septic drain field. Sea level rise and higher tide impacts may further exacerbate the environmental risks over time. At present there is no regulatory regimen to keep records, perform routine inspections and ensure that conventional septic systems are maintained in sound operating condition.

Newer technology "performance-based" septic systems treat effluent to minimize harmful elements prior to discharge into the drain field. These systems are regulated by Lee County Department of Health and require documented annual inspection and maintenance. These systems potentially mitigate environmental risk but do have disadvantages. Performance-based systems are considerably more expensive than conventional systems to install. Performance-based systems operate best when use is continuous and steady vs. the irregular use patterns characteristic of seasonal properties.

The Committee met with SCCF leadership and reviewed results of a Captiva water quality study performed by SCCF and reported in 2011. The study compared coastal

water samples from areas adjacent to South Seas (served by FGUA central sewer) to areas outside South Seas (served by septic systems). The study found NO significant difference in bacteria levels in the water samples from the two areas. There was, however, a significant elevation of nitrogen content in the water samples from areas served by septic systems. Elevated nitrogen supports growth of algae and may be associated with “red tides.”

At the request of the Panel, FGUA provided an estimate of what it might cost to expand capacity at the FGUA treatment facility and extend central sewer service from the South Seas Resort to all of Captiva. FGUA projected a cost of \$30 million for plant expansion and installation of a central sewer line. This estimate does not include the cost of connecting individual properties to the central sewer line nor does it include the costs of all the community and business disruption that might result during the transition. In addition, the FGUA facilities are surrounded by a mangrove forest. Destruction of mangroves would be very difficult to permit as part of an FGUA capacity expansion.

The Committee met with Sanibel Mayor Kevin Ruane, other city council members and city staff. Sanibel now provides central sewer service to nearly all Sanibel businesses and residents. The Committee learned that Sanibel, potentially, has significant unused treatment capacity and would be supportive of working with Captiva to develop a central sewer solution for Captiva. The Committee again noted a general belief in Sanibel that Captiva’s septic systems pose an environmental risk to Sanibel.

Throughout its fact finding effort the Committee became aware of the many complexities and issues that would be involved in development of a long term wastewater strategy. One key concern voiced by many is the possibility of unintended consequences impacting future density on Captiva. It might become easier for developers to create multi unit housing if such development did not require on site wastewater treatment. Further, land now dedicated to drain fields could be repurposed. The Panel is a strong proponent of maintaining existing population and building density. To this end the Panel has commenced additional planning efforts to strengthen existing zoning and codes.

In late 2016 the Panel reviewed all of the Committee’s findings and developed three possible long term strategic alternatives for Captiva wastewater:

1. Do nothing. Conventional septic systems are not “best practice” for Captiva’s geological conditions and may contribute to elevated nitrogen levels in our coastal waters. However, there is no day-to-day evidence of bacterial pollution or significant, observable environmental impact
2. Retain septic systems as the principal wastewater strategy but determine methods to improve efficacy and reduce environmental risk. Such efforts might include long term conversion to performance based systems and/or establishment of regulatory regime to ensure proper septic system operation.

3. Develop the best plan to create a central sewer system and present it to Captiva for approval in democratic fashion. Such a plan might include expanding capacity at the FGUA South Seas facility or utilizing Sanibel capacity. Within the broad central sewer alternative there are likely multiple options.

The Panel determined that the Committee had produced much information but many additional facts and analyses to make community-wide recommendations were needed:

1. To determine how other Florida coastal communities evaluated septic vs. sewer strategic alternatives and rationale for decisions made.
2. To better understand the environmental impacts of septic vs. sewer wastewater strategies in geological areas such as Captiva.
3. To determine what regulatory options are possible to improve performance of existing septic-based systems and minimize environmental impact.
4. To develop the best central sewer design for Captiva and determine its cost.
5. To determine the cost of central sewer vs. septic systems for the community on a long-term basis.
6. To determine how the community would pay the cost of establishing a central sewer system.
7. To determine how a final wastewater strategy would be approved in democratic fashion by Captiva property owners.

The Panel presented its findings to Doug Meurer (Lee County Assistant County Manager) and Pamela Keyes (Lee County Director of Public Utilities). The Panel recommended that Lee County retain outside experts to undertake a comprehensive review of Captiva's alternative wastewater strategies. After several meetings the Panel and Lee County staff agreed upon study objectives and design. The project was presented to the Lee County Board of County Commissioners for approval and funding by Lee County. The BOCC approved the project and budget last March.

Lee County staff selected TKW Consulting Engineers, a Ft. Myers based engineering consulting firm, to complete the study. Lee County staff has had extensive experience with TKW and the firm has completed similar projects in the past. The Wastewater Committee has met twice with TKW to ensure that the study objectives and work plan will develop the information necessary for Captivans to make informed decisions about future wastewater strategy. The study has begun with the expectation that study results will be reported to all of Captiva via public meetings to be held late Spring, 2018.

A portion of the study is dedicated to determination of the best design for a central sewer system for Captiva. In addition, the study will estimate the costs to establish such a system, how the costs could be funded and how such costs would compare to continued use of septic systems long term. Any decision to establish a central sewer system would require approval by a simple majority (50% plus one) of property

owners within the proposed area of the sewer system as part of a process to establish a tax unit to fund construction of such a system.

It is NOT the objective of the Captiva Community Panel or the TKW project to advocate for any single wastewater strategy. This entire effort is designed solely to provide the information for Captiva, in democratic fashion, to make informed decisions about long term wastewater strategy. The Panel wants to develop ALL available economic, technological, regulatory, and quality of life FACTS that we, as a community, need to consider to determine the best wastewater strategy for Captiva.

After completion of the TKW study and public presentation of findings the Panel will develop a long-term wastewater strategy recommendation for Captiva. This effort will proceed with full public transparency and ample opportunity for public input to the process.

Any questions relating to this review can be directed to Jay Brown, Chair of the Captiva Community Panel Wastewater Committee, at jaywbrown1@icloud.com. Jay Brown will also meet with any Captiva community organizations that wish to hold meetings with their constituencies to discuss the information contained in this review.