

# RESEARCH REVIEW AND ADVISORY COMMITTEE

## ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

### ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0065(4)(o), FLORIDA STATUTES

---

Final Minutes of the Meeting held at the Southwood Office Complex, 4025 Bald Cypress Way, Room  
220P, Tallahassee, Florida  
April 29, 2019

#### In attendance:

#### Research Review and Advisory Committee (RRAC) Members and Alternates:

##### In person:

- Bill Melton (vice chair, member, Consumer)
- Eberhard Roeder (member, Department of Health)
- Elke Ursin (alternate, Department of Health)

##### Via teleconference:

- Roxanne Groover (chair, member, Septic Tank Industry)
- Bob Himschoot (member, Home Building Industry)
- Bob Washam (alternate, Consumer)
- John Schert (member, State University System)
- Daniel Meeroff (alternate, State University System)
- Mark Tumeo (member, Professional Engineer)
- Clay Tappan (alternate, Professional Engineer)
- Eric Rollings (member, Real Estate Profession)
- Thomas Baker (alternate, Real Estate Profession)

##### Absent members and alternates:

- Craig Diamond (member, Environmental Interest Group)
- Matt Surrency (member, Local Government)
- Chris Pettit (alternate, Local government)
- Geoff Luebkemann (member, Restaurant Industry)

#### Department of Health (DOH), Onsite Sewage Program (OSP):

##### In person:

- Ed Barranco
- Robin Eychaner
- Xueqing Gao
- Debby Tipton

#### Other attendees:

##### Via teleconference:

- Denworth Cameron (Presby Environmental)
- Glenn Will Bryant (Citrus County Health Department)
- Joseph Sullivan (Florida Association of Environmental Soil Scientists)
- Kriss Kaye (Florida Engineering Society)

1. **Introductions** – Seven out of ten groups were present, representing a quorum. The meeting started at 1:00 pm. The agenda was presented, introductions were made, and some housekeeping issues were discussed.
2. **Review of previous meeting minutes** – **Vice Chair Bill Melton** called to review the RRAC meeting minutes of the December 10, 2018 meeting.

# RESEARCH REVIEW AND ADVISORY COMMITTEE

## ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

### ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0065(4)(a), FLORIDA STATUTES

---

**Motion by Ms. Roxanne Groover and seconded by Mr. Eric Rollings for the RRAC to approve the minutes of the December 10, 2018 meeting with no changes. All were in favor, none opposed, and the motion passed unanimously.**

**3. Old Business and Research Program News – Xueqing Gao went over the action items from the last meeting.**

- (1) Elect a new RRAC chair.
- (2) Continue with high priority research projects.
- (3) Update memberships for several RRAC members.
- (4) Find out to whom with the Home Builder Association the OSP sent a letter regarding OSTDS permitting affected by the Florida Springs and Aquifer Protection Act.
- (5) Post meeting materials used for December 10 meeting onto Department of Health (DOH) RRAC webpage.
- (6) Legislative budget requests from the OSP program.

Action Item 1 - Elect a new chair for RRAC.

Xueqing Gao stated that, during the December 10, 2018 meeting, the then RRAC chair Carl Ludecke recommended that Mr. Bob Himschoot be the new chair. Mr. Himschoot indicated that he would like RRAC to make the decision. Since Mr. Bill Melton, who is RRAC's vice chair, was not at the meeting, RRAC decided to make the decision during the April 29, 2019 meeting. After the December 10, 2018 meeting, OSP staff sent emails to all committee members to seek other volunteers who would like to be considered for the position. Ms. Roxanne Groover indicated that she would like to be considered for the position.

During the April 29, 2019 meeting, **Mr. Bob Himschoot** asked Mr. Bill Melton whether he would like to be considered for the chair position. **Mr. Melton** politely declined the position but indicated that he would like to continue serving as the vice chair of RRAC. Further discussion and voting results are shown later in these minutes.

Action Item 2 – Continue with high priority research projects.

**Xueqing Gao** reviewed the five high priority research projects ranked by RRAC during the December 2017 meeting. OSP has been focusing on the top three projects which include:

- (1) Continuation of the Florida Water Management Inventory project.
- (2) Conducting continued monitoring on existing passive nitrogen-reducing system constructed during the Florida Onsite Sewage Nitrogen Reduction Strategy (FOSNRS) study.
- (3) Development of funding mechanisms for OSTDS remediation and upgrades.

The two projects that OSP hadn't formally started are:

- (1) Correlations between water quality, OSTDS, and health effects.
- (2) Estimation of failure or non-conformance rates of OSTDS.

# RESEARCH REVIEW AND ADVISORY COMMITTEE

## ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

### ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0065(4)(a), FLORIDA STATUTES

---

**Xueqing Gao** stated that OSP would like to hear recommendations from RRAC whether these two projects can be started after the other three projects, especially projects (2) and (3), are completed or whether these two projects should be contracted out (e.g. using the invitation to negotiation process) before the other three projects are completed.

**Ms. Elke Ursin** recommended to also consider the State Term Contract, which is competitively negotiated. Staff augmentation for a specific project is possible using the State Term Contractual fund.

**Dr. Mark Tumeo** stated that Wakulla County has a Request for Proposal to evaluate the onsite system failure rate in the entire county. The county will select the candidate in May to conduct the study.

**Mr. Bob Himschoot** mentioned that the Carmody system were used to track maintenance issues and performance-based systems. He wanted to know whether the system still exists and whether it is available to provide the inspection information. **Dr. Eb Roeder** pointed out that the Carmody system still exists and is mainly used to store maintenance reports. There are some counties that contract with Carmody to provide the services. Currently, the state does not have a contract with Carmody. **Ms. Elke Ursin** indicated that DOH had incorporated a maintenance entity reporting feature into the Environmental Health Database (EHD). It is called MARS (Maintenance Activity Reporting System) and provides a service like that of the Carmody system. **Mr. Ed Barranco** stated that there were only a few counties that have contracts with Carmody to store maintenance entity reports. However, these maintenance reports are only for systems requiring operating permits. Data from inspections not conducted specifically for operating permits, for example, point-of-sale inspections, might not be entered into the Carmody system.

**Ms. Roxanne Groover** considered cooperation between different sources is critical. She pointed out that there are many agencies collecting data but there is no cooperation to share these data. She suggested that, as we continue with the research, we should understand where data are, who owns them, and who can have them. Part of the Carmody challenge is that Mr. Carmody owns the data. If not paid, the Carmody data are not available. As we reach out to different projects, we need to understand the data sharing. It is very important that we cross reference information from different data sources because each data source may only have very scattered data. **Mr. Eric Rollings** concurred with Roxanne. He stated that Orange County is conducting an isotope study. Some other counties are conducting similar studies but using different methods. Without coordinating these efforts, it is hard to compare and interpret results from these studies.

**Xueqing Gao** offered to check into the Wakulla County study. He also mentioned that he received response from Santa Rosa county that their point-of-sale inspection data are still available (Note: the program was discontinued when 2012 statutory changes prohibited point-of sale inspection requirements). He will follow up with the county to find out how to access these data. **Mr. Bill Melton** asked Xueqing how he would correlate different data from different counties. **Xueqing** said that some sort of standardization would be needed in order to compare data from different sources. However, we first need to identify those data, understand what have been collected, and how they are different or related to each other. Then we can think about ways to standardize them for our own analyses.

# RESEARCH REVIEW AND ADVISORY COMMITTEE

## ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

### ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0065(4)(a), FLORIDA STATUTES

---

#### Action Item 3 – RRAC membership update.

**Xueqing Gao** mentioned that memberships of several RRAC members, including those representing the Home Building Industry, Professional Engineer, and Real Estate Profession, expired at the end of January of 2019. He contacted these members and the organizations that they represent, obtained recommendation letters to renew or upgrade their RRAC memberships, their resumes and membership renewal applications. All the application materials have been received and processed. OSP obtained reappointment approvals for these members from the DOH management. The reappointment letters have been mailed to all RRAC members whose memberships required a renewal. An updated RRAC member list has been posted to the DOH RRAC website.

**Dr. Mark Tumeo** reminded Xueqing that he previously sent an updated contact information.

**Xueqing** promised to update the contact information on the RRAC member list posted on the DOH RRAC website.

#### Action Item 4 – Post the final meeting minutes for the December 10, 2018 meeting on the DOH RRAC website.

**Xueqing Gao** reported that the final meeting minutes approved by RRAC have been posted on the DOH RRAC webpage.

#### Action Item 5 – Find out who in the Florida Home Builder Association received the letter regarding onsite sewage treatment and disposal system (OSTDS) permitting in a county affected by the Florida Springs and Aquifer Protection Act

**Mr. Bob Himschoot** had asked during the December 10, 2018 meeting to whom in the Florida Home Builder Association DOH sent the letter regarding the OSTDS permitting impacted by the Florida Springs and Aquifer Protection Act. OSP informed Mr. Himschoot that the letter was emailed to Mr. Doug Buck, the director of Government Affairs for the association, on May 15, 2018.

#### Action Item 6 – Mr. Bob Himschoot mentioned during the December 2018 RRAC meeting that if the OSP program makes any legislative budget requests, the program should inform RRAC members so that the committee can discuss how to help.

**Xueqing** mentioned that OSP staff contacted the DOH budget people and found that, for fiscal year 2019 through 2020, other than budget requests for the migration of the Environmental Health Database (EHD) and a vehicle purchase, the overall budget of the OSP program generally stays the same. **Dr. Eb Roeder** pointed out that the budget request for the EHD improvement is for the spending authority for a federal grant.

#### 4. Elect the new RRAC chair

**Xueqing Gao** mentioned that there are two nominees who would like to be considered for the RRAC chair position, Ms. Roxanne Groover and Mr. Bob Himschoot. Xueqing first checked with both to ensure that they still wanted to be considered for the position. **Mr. Himschoot** indicated that he would like Mr. Bill Melton to consider the chair position and he would be the vice chair. But **Mr. Melton** politely declined the position and wished to continue serving as the vice chair. **Ms. Groover** confirmed that she still would like to be considered for the chair position and appreciated that **Mr. Melton** would stay as the vice chair to assist.

# RESEARCH REVIEW AND ADVISORY COMMITTEE

## ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

### ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0065(4)(a), FLORIDA STATUTES

---

**Mr. Melton** announced that the committee had two nominees and asked whether there are any other members who would like to be considered for the position. No other members volunteered. **Mr. Melton** asked what procedure the committee should follow to elect the new chair.

**Xueqing Gao** stated that OSP consulted an DOH attorney whether email voting would be an option. The answer obtained was no. An Adobe Connect survey can be set up to solicit the votes from RRAC members. However, not all RRAC members attend the RRAC meeting through Adobe Connect. Based on the Robert's Rules of Order, a roll call voting can be conducted to elect the new chair. When a RRAC member's name is called, he or she can state his or her vote. If the primary member attends the meeting, the primary member will state the vote. If only the alternate member attends the meeting, the alternate member will state the vote on behalf of the interest group. OSP staff will record the vote from each RRAC member and determine the final result.

**Mr. Melton** indicated that the roll call approach will only get the votes from members who attend the RRAC meeting. He wondered whether there are any chances that all RRAC members can cast their votes? **Xueqing** asked whether it is required to get votes from all RRAC members or votes from the quorum will be sufficient. **Ms. Elke Ursin** stated that it is open to interpretation. There are no statutory requirements for the procedure, and we are just following recommendation from the Robert's Rules of Order. She asked which group did not attend today's meeting. **Xueqing** stated that members representing the Environmental Interest Group, the Local Government, and the Restaurant Industry were absent. **Ms. Ursin** suggested that it is up to the committee to decide whether a roll call voting is acceptable.

**Motion by Dr. Mark Tumeo and seconded by Dr. Eb Roeder for the RRAC to elect the chair by voice roll call with the quorum present. All were in favor, none opposed, and the motion passed unanimously.**

**Ms. Roxanne Groover** asked whether the candidates should abstain from voting. **Vice chair Melton** indicated that they should be allowed to vote.

**Mr. Eric Rollings** motioned that each candidate takes two minutes to address the quorum as part of the voting. **Dr. Mark Tumeo** would like to take Mr. Rollings' motion as a friendly amendment to his motion to avoid conflict with the motion on the floor. As the second to the Mr. Tumeo's original motion, **Dr. Eb Roeder** also accept Mr. Rolling's proposal as a friendly amendment to the motion.

**Mr. Bill Melton** suggested that Ms. Groover be the first candidate to address the quorum.

**Ms. Roxanne Groover** introduced herself as the executive director for the Florida Onsite Wastewater Association (FOWA). Her background is in engineering although she is not a practicing PE in the State of Florida. Ms. Groover has been with the association for 14 years. Prior to that, she worked as a consulting engineer in the manufacturing industry. Even before she held a position with the RRAC committee, Ms. Groover started to get involved in RRAC committee decisions through legislative processes. She believes that FOWA's focus should be to represent the entire OSTDS industry instead of forming limited partnership with only one portion of that industry. As a chair of

# RESEARCH REVIEW AND ADVISORY COMMITTEE

## ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

### ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0065(4)(a), FLORIDA STATUTES

---

the RRAC committee, Ms. Groover will extend this philosophy to bring all stakeholders together, working to protect Florida waters, public health and environmental health. **Ms. Groover** believes the focus of the RRAC committee should be on the research on the effective technology and not allow politics to get involved.

**Mr. Bob Himschoot** introduced himself as the president of Crews Environmental. He has also been a member of FOWA and a board member of the Home Builder Association. He also served as a board member for the National Onsite Wastewater Recycling Association (NOWRA). He has been involved in the RRAC committee either as a primary member for FOWA or as an alternate member for the Home Builder Association for 16 years. Mr. Himschoot believes the importance for a strong industry representation in RRAC in assisting permitting and technology development in the field of onsite wastewater treatment. He has been a strong advocate to legislature to generate a more favorable environment to the onsite wastewater treatment approach.

**Xueqing Gao** started the roll call vote by calling each member's name. **Ms. Debby Tipton** recorded members' votes:

- **Dr. Eb Roeder** (member) from the Florida Department of Health voted for Ms. Roxanne Groover.
- **Ms. Roxanne Groover** (member) from the Florida Onsite Wastewater Association voted for herself.
- **Mr. Bob Himschoot** (member) from the Florida Home Builder Association voted for himself.
- **Mr. Bill Melton** (member) from the Consumer Group voted for Ms. Roxanne Groover.
- **Dr. John Schert** (member) from the State University System voted for Ms. Roxanne Groover.
- **Dr. Mark Tumeo** (member) from the Professional Engineer Group voted for Ms. Roxanne Groover.
- **Mr. Eric Rollings** (member) from the Florida Association of Realtors voted for Ms. Roxanne Groover.

Members from the following interest groups were missing for the vote:

- Environmental Interest
- Local Government
- Restaurant Industry.

Based on the roll call votes, Ms. Roxanne Groover was elected as the new RRAC chair. The committee congratulated Ms. Groover for being the new chair.

**Ms. Elke Ursin** asked Ms. Groover whether she has a preference on how she should be named, chairman, chairwoman, or chairperson. **Ms. Groover** indicated that chairperson is fine. In response to vice chair Mr. Melton's invitation to chair the RRAC meeting, **Ms. Groover** indicated that she would defer to next RRAC meeting to chair so that this RRAC meeting can move as it has been.

**Ms. Elke Ursin** indicated that chairperson Groover is the first female chair since the RRAC was established in 1983.

# RESEARCH REVIEW AND ADVISORY COMMITTEE

## ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

### ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0065(4)(a), FLORIDA STATUTES

---

#### 5. Establish a monitoring Project for the In-ground Nitrogen-Reducing Biofilter (INRB)

**Xueqing Gao** explained that OSP is in the process of developing a monitoring project to expand the dataset on nitrogen-reducing efficiency of the in-ground nitrogen-reducing biofilter (INRB) system adopted into 64E-6.009(7), F. A. C. in 2018. He hoped to get some guidance and help from RRAC to improve this project.

**Xueqing** first provided a brief overview of the 13 basin management action plans (BMAPs) adopted by the Florida Department of Environmental Protection (DEP) in 2018. He indicated that five of these BMAPs were under petitions. Eight of them became effective. He presented a map showing the locations of these BMAPs. These BMAPs requires using nitrogen-reducing OSTDS technologies for new constructions on lots less than one acre in the priority focus area (PFA) of the impaired Outstanding Florida Spring (OFS) if sewer is not available and will not be available within five years from the time of permit application. **Xueqing** reviewed the three permitting categories of nitrogen-reducing technologies approved to be used in Florida, including the nitrogen-reducing aerobic treatment unit (ATU), the nitrogen-reducing performance-based treatment system (PBTS), and the inground nitrogen-reducing biofilter (INRB).

With the data from EHD, **Xueqing** showed that, by April 26, 2019, the county health departments (CHDs) across the impaired spring basins have received 149 applications for nitrogen-reducing systems. Among them, 11 are INRB systems. Xueqing presented a map that shows the location of these nitrogen-reducing systems. He indicated that there is an interest by a variety of stakeholder groups in monitoring the performance of INRBs.

The goals of the INRB monitoring project include:

- (1) What is the INRB nitrogen-removal effectiveness in various installations?
- (2) Evaluate how reliably INRB can achieve the minimum 65% nitrogen-removal effectiveness goal.
- (3) Evaluate INRB's phosphorous-removal effectiveness.
- (4) Evaluate the factors that may influence the nutrient-removal effectiveness.
- (5) Document system installation and maintenance effort and costs.
- (6) Possibly evaluate rate of organic carbon decomposition.

**Xueqing** presented a cross-section of the rule-adopted INRB system, explained the general structure of the system in converting and removing nitrogen from domestic wastewater. The proposed monitoring project plans to monitor at least eight INRB systems in spring areas across the state. Xueqing also presented that lysimeter samplers will be installed in three rows from the proximal to the distal ends of the drainfield and at both the bottoms of the nitrification media and the denitrification media. Water quality samples will be taken from the septic tank effluent, bottom of the nitrification media, and bottom of the denitrification media to evaluate the nitrification and denitrification efficiencies. Observation ports will be installed along the central line of the drainfield at the top of the nitrification media and the top of the denitrification media. These observation ports will allow OSP to inspect hydraulic ponding as well as assess possible system subsidence.

# RESEARCH REVIEW AND ADVISORY COMMITTEE

## ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

### ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0065(4)(a), FLORIDA STATUTES

---

Water quality sampling will be focused on different nitrogen species, including the total Kjeldahl nitrogen (TKN), ammonia, nitrate/nitrite, and total nitrogen. Concentration dynamics of these nitrogen species at different parts of the treatment train will provide information regarding system performance on nitrification and denitrification. In addition, total phosphorus will be measured to estimate INRB's capability to remove phosphorus. Total organic carbon will be measured to assess organic carbon availability to denitrification bacteria and the residual amount of organic carbon that leaves the INRB system and enters the groundwater. Alkalinity is also a constituent that the monitoring project will examine to ensure that the system nitrification will not be limited by the pH buffering capacity because nitrification is an alkalinity consumption process. Several field parameters, including dissolved oxygen concentration, specific conductivity, pH, and oxidation-reduction potential will also be measured to evaluate the overall redox condition for the system nitrification and denitrification as well as the stormwater/groundwater dilution effect on measurements of pollutant concentrations.

The proposed monitoring project will monitor each INRB system eight times in eight consecutive quarters. In addition to the water quality sample collection and field parameter measurements, weather conditions such as rainfall and air temperature, elevations of the grade and the tops of the nitrification and denitrification media, drainfield configuration (size and type), media type and size, household water use, installation and maintenance costs will also be documented.

The overall cost of the project is about \$300,000. At the time of the RRAC meeting, OSP was in the process of applying for an \$180,000 funding support from 319 grant. It is expected that the Onsite Sewage Research Fund can provide the remaining \$120,000 as a match to the 319 grant. The \$120,000 will be spent over three year with expected annual expenditure of \$40,000 for the first three years.

**Ms. Roxanne Groover** asked whether the INRB systems that the project will monitor are new construction or repair. **Xueqing** said they are both. Some of the INRB applications are for new constructions. However, there are many INRB applications are for repair using DEP's Septic Upgrade Incentive Program fund.

**Mr. Bill Melton** asked what the separation between the bottom of the drainfield and seasonal high water table is. **Xueqing** responded that, considering 18 inches of nitrification media, 12 inches of denitrification media, and 6 inches separation between the bottom of the denitrification media and the seasonal high water table, the required separation between the bottom of drainfield and seasonal high water table for INRB systems is 36 inches.

**Mr. Bill Melton** asked whether the 36 inches separation also applies to the repair systems. **Xueqing** said yes. He also added that the INRB is not a silver bullet for all site conditions. The site needs to have a reasonable water table. The entire area of the system needs to have slightly limited soil.

**Mr. Joe Sullivan** from DHS Leon County asked why INRB systems cannot be put in the slightly limited or more limited soil.

**Xueqing** responded that INRB systems are required to be installed in slightly limited soil.

# RESEARCH REVIEW AND ADVISORY COMMITTEE

## ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

### ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0065(4)(o), FLORIDA STATUTES

---

**Mr. Ed Barranco** explained that the woody media layer used in the INRB systems for denitrification will reduce the capability of the system to take the wastewater so that the slightly limited soil above the woody layer can take the overflow of the wastewater and avoid hydraulic failure. This is especially important for the INRB with a liner when it is adopted into the rule because the liner will prevent wastewater going through the system vertically, and, therefore, sufficiently high perimeter flow rate is critical for the normal function of the system.

**Mr. Bill Melton** confirmed with Mr. Barranco that if a system in BMAP area fails, the INRB will be one of the options to repair the system. The other options include nitrogen-reducing ATU and PBTS.

**Mr. Ed Barranco** confirmed Mr. Melton's statement regarding the nitrogen-reducing ATUs and PBTSs. He emphasized that under tighter soil condition, the ATUs and PBTSs that achieve the NSF-245 standard will be more effective because they not only can achieve single digit effluent concentrations for biochemical oxygen demand and total suspended solid, but also achieve at least 50% reduction in nitrogen. Considering the drainfield can remove another 30% of the remaining 50% of the nitrogen, which account for about 15% more nitrogen removal, the nitrogen-reducing ATU/PBTS - drainfield combination can remove 65% of the nitrogen in wastewater.

**Dr. Mark Tumeo** asked whether flow measurements will be part of the system monitoring. **Xueqing** responded that OSP discussed the feasibility of installing flow meters for selected INRB systems. The challenge is that the rule does not require the low-pressure dosing systems for INRBs. Unless lift dosing is required for a system, most INRB systems are expected to be gravity flow, which makes installation of regular flow meters infeasible. The OSP is considering using the water meter reading as a surrogate for the flow measurements. The OSP is also looking into the possibility of using external magnetic flow meter attached to the flow pipe to get the flow velocity, combining with the water depth measurement in the pipe to estimate the flow. But the type of equipment within an acceptable price range has not been identified.

**Ms. Roxanne Groover** asked whether there is a list of selection criteria for the INRB system to be monitored, for example, long-term residence vs. snow bird and houses with at least three or more bedrooms. She pointed out that, since only eight systems will be monitored, if they are very different, it would be difficult to know how helpful the documentation would be. She suggested to limit the systems to be monitored to a specific type that will be impacted the most and a specific type of houses that the system is used because the number of systems to be monitored will be small.

**Dr. Eb Roeder** confirmed that one option is to ensure that systems to be involved are all for year-round houses. **Ms. Roxanne Groover** confirmed that it is what she meant.

**Dr. Mark Tumeo** commented that it is a good approach because it is easier to scale down than scale up.

**Mr. Eric Rollings** asked why OSP decided to monitor eight systems. He feels that, since the geographical area to be covered is so large, eight systems appear to be low. **Xueqing** responded that monitoring eight systems is the about the maximum amount of workload that OSP currently can handle internally. The number of systems involved is also limited by the overall cost of the project, possible funding that OSP will likely be able to obtain, and the money that the Onsite Sewage Research fund

# RESEARCH REVIEW AND ADVISORY COMMITTEE

## ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

### ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0065(4)(a), FLORIDA STATUTES

---

can provide. But OSP is also considering other options to expand the number of systems to be monitored. For example, installing two rows of drainfield sampler instead of three rows. This project does not exclude the possibility that, when the results from the study shows that more systems is needed to confirm certain trend, efforts will be put into seeking more funding support and involve more systems into the project.

**Mr. Eric Rollings** asked whether there is any opportunity for local government, counties and spring recreational fund to help in monitoring these systems. **Xueqing** responded that not only the local fund is welcome, but also, if local government or counties want to participate in the monitoring project, it would be deeply appreciated. Xueqing mentioned that the Alachua County is in the process of applying permits to install two INRB systems in the Poe Spring State Park. Alachua County Environmental Protection Division obtained funding support from the Suwannee River Water Management District to conduct this study. The Institute of Food and Agriculture Sciences (IFAS) is also working with the South Florida Water Management District to plan similar types of studies.

**Mr. Ed Barranco** mentioned that we have been communicating with these entities to understand what they are doing to establish possible cooperation and information sharing. **Mr. Barranco** also emphasized that INRB is an alternative nitrogen-reducing technology. People want the alternatives and it is difficult to come up with an alternative nitrogen-reducing technology. The OSP made the effort to include this alternative into the rule. Monitoring these systems and ensure that they perform as expected is not the only important aspect of the proposed project. The monitoring will also help us learn more about these systems and transfer what we learned into the rule making process.

**Dr. Eb Roeder** pointed out that one effort from OSP is to communicate with the Technical Review and Advisory Panel (TRAP) and let TRAP know about this project. At the same time, this project also adds to OSP's research agenda. He wondered whether there is any way that the committee can recommend to DOH to move this project ahead.

**Motion by Chairperson Roxanne Groover and seconded by Dr. Mark Tumeo, as a suggestion from the RRAC committee to DOH, to move forward with the INRB monitoring project. All were in favor, none opposed, and the motion passed unanimously.**

#### 6. Updates on Proposed Legislation Impacting the Onsite Sewage Program

**Mr. Ed Barranco** updated the committee with the legislature activities taking place since the last RRAC meeting in December of 2018. **Mr. Barranco** mentioned that, around the time of last RRAC meeting, the only legislature activity was the mandatory inspection program that came back in the form of House Bill 85. Since then the OSP office has done analyses on about 14 different bills that impacted the onsite sewage program. These bills went from inspection programs to moneys that will be given to Indian River Lagoon for extensive sewing which would have impacted DOH in terms of permits and abandonment permits. The four most important bills were paired as House Bill 1395 and Senate Bill 1758 and the House Bill 973 and Senate Bill 1022. All these four bills proposed to move the Onsite Sewage Program from the DOH to DEP as a Type Two transfer, meaning that the computers, equipment, position numbers, and people in those positions with the program will be transferred to DEP.

# RESEARCH REVIEW AND ADVISORY COMMITTEE

## ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

### ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0065(4)(a), FLORIDA STATUTES

---

**Mr. Ed Barranco** pointed out that one of the problems with these bills was that they didn't clearly differentiate the CHD staff from the staff with the counties that these CHDs serve. They thought that the CHD staff are county employees and they created a situation where they will move as many as 320 full time employees that representing 700 individuals. Some of these bills morphed later. The first one to do so was the Senate Bill 1758, which eliminated the transfer of the program in exchange for a memorandum of understanding (MOU) that DOH and DEP will enter an agreement to make the transition happen. Eventually, only one of these bills moved through three committees. The other went through either one or two or none. House Bill 1395 did not see any committee. Senate Bill 1022 saw one committee. Senate Bill 1758 saw two committees. The current form of House Bill 973 is CS3 House Bill 973. It is currently on the floor of the house for the second reading on Friday (April 26, 2019). It was temporarily postponed, and not read a second time. Most bills need to go through three readings before they can be sent on to the Governor. Each of these bills needs a companion bill. The House Bill 973 does not have one. The House Bill 973 continuous to have the transfer of the OSP program as the Type II transfer. It does require DOH and DEP to work on recommendations. Recommendations will be due to the legislature and the Governor by December 1, 2019. These recommendations will include how the Type II transfer can be efficiently and effectively accomplished. If it passes, it will be mandated that DOH work with DEP to make the transfer happen.

**Mr. Ed Barranco** also pointed out that House Bill 973 is a huge bill that covers numerous aspects. It deals with clean water program, bio-solid management, municipal water spill notification, and so on. One of the other things that the bill does is to repeal the RRAC and TRAP, and creates a Technical Advisory Committee (TAC), which will function only for eight months from January 1 of 2020 through August 1 of 2020. During the period, the TAC will assist DEP to create additional technologies for nitrogen reduction. If the bill passes, it will become effective on July 1, 2020. The recommendations from the two agencies are due December 1, 2019.

**Mr. Bill Melton** commented that, in order to operate the OSP, the program needs to have capacity in every county in the state. DEP does not have that. How will DEP run the program?

**Dr. Mark Tumeo** asked whether OSP can send an update on the House Bill 973 after the legislature session ends if the bill pass although it does not sound like the bill will pass. Just in case.

**Mr. Ed Barranco** promised to send an email to the RRAC with a quick final bill analyses if the bill passes. None of the other bills OSP looked at went through the committee assigned. **Mr. Barranco** did not believe that they will have any impact on the program.

**Ms. Roxanne Groover** commented that, even if House Bill 973 will pass, what happened in the legislative session should give us a pause to think. She encouraged all RRAC members to speak to those law makers who are pro moving the OSP program to DEP and find out what their concerns are. She believed that this discussion will not end and will come back in full force after the legislative session.

Mr. Ed Barranco thought Ms. Groover raised a very good point. He indicated that, internally, OSP has already started deal with several issues that these interest groups are interested, for example, drafting language regarding BMAP and refining language regarding INRB and include them in the rule. One

# RESEARCH REVIEW AND ADVISORY COMMITTEE

## ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

### ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0065(4)(a), FLORIDA STATUTES

---

other thing that is perceived as an issue is the lack of alternatives to nitrogen reduction. It is very important for OSP to work with RRAC to come up with new alternatives. OSP will monitor the INRB. That is a step forward. But OSP also wants to find out whether there are other alternatives. The INRB system with the liner provides another option. The OSP is also working with Brevard County in assessing other media for denitrification. An MOU between the Brevard County and DOH OSP is very close to be signed. Soon, Brevard County will start installing INRB with other types of media, which may provide other options. OSP will explore more options and we need help from RRAC, TRAP, and the others.

**Mr. Bill Melton** commented that DEP ran the septic program for a couple of years in the 1970s. The reason why DEP gave the program back to DOH was because they don't have the staffing in every county of the state. Mr. Melton urged the RRAC members who work in the industry to be cognitive that a process as simple as getting a construction permit would be problematic if the OSP program goes to DEP.

#### 7. Updates on the Florida Water Management Inventory (FLWMI) Project

**Ms. Elke Ursin** reviewed the Cycle II activities of the inventory project. The Cycle II project was completed in September of 2018. A Cycle II final report has been prepared and sent to DEP. It is also routed for an internal review. The report will be provided to RRAC as soon as it becomes available.

Ms. Ursin stated that the basic results after the two cycles is that, out of 9.7 million total parcels, there are about 7.7 built parcels of land. About 82% of the built parcels were classified as known or estimated regarding whether the parcel is served with public water or private well. About 18% of the built parcels are unknown about the water supply method. There are about 10% of the built parcels that are unknown about their wastewater treatment method. Those who are interested in more details about the Cycle II results can contact Ms. Ursin or the new project lead Mr. Michael Mitchell. Mr. Mitchell is the environmental health preparedness lead. The FLWMI project fits very well to his program area because he is involved in many aspects of environmental health and used the inventory for preparedness and response.

**Ms. Ursin** provided a link to the Searchable Web Application, which is <https://gis.flhealth.gov/FLWMI>. This application allows users to type in their address information and find out the type of drinking water supply and wastewater treatment methods. This website can also be accessed through Google search by typing in FLWMI as the searching key word. The website will be updated soon to make it more user friendly. All GIS files and Excel files are on the FLWMI website and available to the general public.

For Cycle 3, the current task is to ensure that a unique identifier linking the property to a specific drinking water system is assigned to every single one property. This process can be complicated especially for large water facilities that have multiple wells each having a different ID number or having blending water systems. In addition, the turning-on and off of wells in drinking water supply systems causes more complication for data processing. The project is partly funded by the Public Health Tracking Program of the Center for Disease Control (one of the funding sources for the FLWMI project). The program is very interested in knowing how many parcels are connected to a specific drinking water

# RESEARCH REVIEW AND ADVISORY COMMITTEE

## ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

### ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0065(4)(a), FLORIDA STATUTES

---

system. If a specific drinking water system experiences water quality problem, the inventory project will be able to provide information regarding what population will be impacted.

From the wastewater side, it is good to know who is connected to what wastewater systems so that information regarding wastewater volume and availability of sewer in a given area can be generated. It will also assist in estimating the nitrogen load reduction for a given BMAP areas when septic to sewer projects are implemented.

The project team also standardized some GIS attribute table fields to make it easier for users to see the information. For example, the permit number of the onsite wastewater systems were included in the comment fields and not easily accessible. Standardizing the field will make the permit information more available to users. The project team is also working closely with the EHD group, which is migrating to a new database system. The EHD system migration provides a great opportunity for integrating the system with other data sources, such as FLWMI.

**Mr. Denworth Cameron** from Presby Environmental asked Ms. Ursin whether the permit number in the FLWMI will link to the EHD permit information.

**Ms. Ursin** responded that it would be a good integration that the FLWMI project team can do. She will check to see if it is in the inventory project scope of work. If not, it is certainly a good thing to add onto the list.

**Ms. Roxanne Groover** mentioned that she heard some legislative language talks about doing similar things that FLWMI is now doing and will continue to do. She wanted to know what the best way is to publicize the FLWMI system so that more people will know the systems and utilize it and the inventory can continuously grow. Ms. Groover felt that many people are still not aware of this product and have the level of confidence that it should have based on the dataset.

**Ms. Elke Ursin** mentioned that the number of people contacted her for the inventory project is impressive. The project team have the web statistics that they can download to see how many people have access the database. This information can be provided at the next RRAC meeting so that RRAC members can see how many people have been impacted by the project. Ms. Ursin mentioned that information based on the inventory data were provided for the bill analyses on three to four bills. This is also a way of making people aware of the project. The project team has also been giving presentations at numerous occasions about the project. At the same time, she is open to suggestions on how to better market the project.

**Ms. Roxanne Groover** clarified that what she wanted to know is how RRAC members can help further publicize the project. A solution does not have to be reached at this meeting. But it is something that all RRAC members can think about.

**Ms. Elke Ursin** agreed with Ms. Groover. She mentioned that the Wakulla County RFP for the master wastewater plan project calls for creating an inventory of the onsite systems in the county while the inventory work has been done many times, and we also have the FLWMI project to provide the inventory data for the county. It is not something that people have to repetitively spend money on. She agreed that it is an important thing to think about how to more broadly publicize the inventory project.

# RESEARCH REVIEW AND ADVISORY COMMITTEE

## ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

### ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0065(4)(a), FLORIDA STATUTES

---

**Mr. Bob Himschoot** mentioned that he heard discussions among some bill drafters about generating onsite system inventory data. Obviously, they did not talk to Ms. Ursin about the FLWMI project. In addition, making sure county planners know about this project is also important. He wondered whether some sort of notification can be sent to the League of Cities, Association of Counties, and water management districts about the FLWMI project so that they are aware of this project.

**Ms. Elke Ursin** said this is a very good suggestion. She mentioned that she is now going to graduate school for planning. She believed there will be some sort of annual county planner meeting and it could be a very good avenue to work with county planners. She thought county preparedness planners are another targeted group to which the information can be delivered.

To continue the FLWMI presentation, **Ms. Elke Ursin** described possible future tasks of the project, which include updating the parcel data to the most recent Department of Revenue parcel information, filling the current drinking water and wastewater data gaps, updating existing utility data, and refining estimation assumptions. Ms. Ursin mentioned that the FLWMI project currently does not financially impact the onsite system research fund. She would like to keep it this way. However, she acknowledged that there is no dedicated funding source for the FLWMI project. The project is still funded through multiple funding sources including Center for Disease Control's Public Health Tracking program and the Environmental Preparedness program and Agency for Toxic Substances and Disease Registry.

#### 8. Updates on the OSTDS Funding Investigation

**Xueqing Gao** first reviewed the major funding sources that potentially can be used for onsite system related activities, and the importance of being able to use the Clean Water State Revolving Fund (CWSRF) to support the onsite systems repair and modifications. The major disbursement approaches used by states to distribute the CWSRF fund include direct lending, linked deposit, and the pass-through funding. More than 20 states across the United States used CWSRF to support onsite systems. But in Florida, most of the projects being funded by CWSRF are wastewater treatment plan projects and stormwater projects. OSTDS related activities are eligible for the CWSRF fund. But DEP does not have the staff resource to distribute the fund to each individual homeowner who needs the fund. Using the pass-through funding approach with the help of an intermediate fund management entity between DEP and homeowners to distribute CWSRF is DEP's favored funding mechanism. However, DEP contacted several counties, and nobody showed any interest in being the intermediate funding management entity.

In order to investigate the possible reason for the lack of interest in managing CWSRF at the local level and find out possible entities that may be appropriate to serve as the intermediate fund management entity, the OSP staff sent a survey questionnaire to all 67 county health departments. The questions included in the survey:

- (1) Are there strong needs for financial assistance to support OSTDS repairs and modifications?
- (2) How are OSTDS failures addressed without enough funding support?
- (3) Are there any lenders available to the local people, and, if yes, who are they?
- (4) If no lenders are available, are there any discussions of establishing local funding mechanisms?

# RESEARCH REVIEW AND ADVISORY COMMITTEE

## ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

### ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0065(4)(a), FLORIDA STATUTES

- 
- (5) What entities in local areas may be able to manage a loan fund from DEP and dispense money to homeowners?
  - (6) What are the major challenges for local jurisdictions to become or establish such entities?

OSP received responses from 28 county health departments and found out:

- (1) About 60% of the responses indicated strong needs of financial support for OSTDS management.
- (2) Available state and local funding for OSTDS is insufficient. Loan availability to OSTDS is also limited.
- (3) About 50% of the responses indicated that the State Housing Initiative Partnership (SHIP) program managed by county housing departments can be a potential candidate to function as CWSRF management and distribution entity.
- (4) DEP CWSRF program does not have any problem using SHIP as a vessel.
- (5) Florida Housing Finance Corporation – the SHIP program administrator.

**Ms. Roxanne Groover** mentioned that FOWA is working on a proposal to become a utility type entity that manages OSTDS fund from DEP. She mentioned that FOWA initiated the discussion with DEP about 18 months ago. The major issue was that even for those communities where sewer connection is not feasible, somebody needs to manage the onsite systems. But it is not clear under what mechanism these onsite systems should be managed. As a nonprofit organization, FOWA started to work with DEP and several other groups to see if it is feasible for FOWA to be the management entity. The original response from DEP was that they did not feel comfortable with an industry-run utility being able to get the grant money. Then DEP generated the incentive-oriented program, but the grant did not attract a lot of attention which could be because of the messaging issue. So FOWA met with DEP again right after the legislature session started and discuss whether the FOWA utility is a mechanism that DEP may now be interested. FOWA has a very broad range of memberships including contractors, plumbers, and engineers. Staff from DOH get the education from FOWA and FOWA also works with a lot of other groups. If FOWA can serve the purpose, it will certain move forward. Part of the discussions with DEP came from the early discussions with NOWRA. One of the issues NOWRA discussed was the rural community assistance partnership to get some funding from the federal government. Florida is under what they called SRCAP (Southeast Rural Community Assistance Project), which includes experts in taking applications and decide who is eligible for grant and low-income loans. If FOWA can form a partnership with that mechanism, we will have income dispersion mechanism, which is a big challenge because of the availability of staff resource and expertise. FOWA's partnership would be to bring in the technology, the people and the industry, hopefully, with the assistance from the rural community assistant group because they are the experts in taking the application and being able to determine who is eligible and what funding they are eligible for. This effort is still at a very early stage. It is first efforts to bring people together to ensure that the homeowners using the onsite systems have the equal opportunity to financial assistance. Roxanne encouraged RRAC members who are interested in this partnership to contact her to work together.

**Dr. Eb Roeder** asked Ms. Groover whether the Clean Water State Revolving Fund can be included as part of the funding sources for the FOWA partnership.

**Ms. Roxanne Groover** stated that the beauty of the FOWA partnership is that if it is set up right, no funding sources will be excluded regardless whether it is funding for wastewater and clean water

# RESEARCH REVIEW AND ADVISORY COMMITTEE

## ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

### ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0065(4)(a), FLORIDA STATUTES

---

infrastructures, spring protection, or anything else. FOWA partnership works on to ensure no funding sources will be excluded because no single one funding source has all the fund to assist everything.

**Xueqing Gao** asked whether the SRCAP group has only one regional office in Florida or multiple offices across the state.

**Ms. Roxanne Groover** stated that the SRCAP group has office in Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, and Florida. They are one of the regional groups of the rural group.

In continuing the funding investigation presentation, **Xueqing Gao** summarized that the funding investigation found out how many states in the United States used the CWSRF to support the OSTDS related activities, the approaches that those states used to distribute the fund, and the challenge of using the CWSRF to support the OSTDS activities in Florida. Through the 67-county survey, OSP was able to get opinion from CHD to understand the local reality. Based on the survey, it appears that the SHIP program is likely an appropriate intermediate entity to funnel the CWSRF fund from DEP to homeowner. As Ms. Roxanne Groover mentioned, FOWA partnership is also making the effort to funnel the funding sources to the hands of homeowners.

**Xueqing** wanted to get guidance from RRAC on how to move forward with the funding investigation project. There appear to be several options. First is to wrap up the project by preparing a summary report of the findings. OSP has prepared a write-up that summarizes the online search investigation. Results from the survey can also be added into the summary. A document can be prepared to include all the funding sources and share with county health departments so that when people applying for a permit needs financial assistance, they will know these sources. Xueqing pointed out that OSP got feedback from CHDs that some of them do not know all these founding sources. Some website links can also be set up, pointing to webpages of various funding agencies.

**Xueqing** mentioned that OSP contacted the SHIP program at both the headquarter and county level for their funding information and possibility of including CWSRF into the SHIP partnership. But no responses have been received at the time of the RRAC meeting. So, one option is to continue contacting them to seek their feedback. However, Xueqing felt that convincing a state agency to do something that they haven't been doing is beyond the scope of the funding research.

**Mr. Bob Himschoot** agreed to wrap up the project and prepare a summary document. He suggested that we should also reach out to county managers, state and county planners, legislative offices, people decide to draft legislation to solve wastewater problems. These people need to know what funding sources are available. Mr. Himschoot believes that some of these people, especially bill drafters, may not know all the available funding sources. We need to disseminate the information to them.

**Mr. Ed Barranco** pointed out that the major issue is the need of a go-between entity to funnel the money. There are numerous OSTDS owners out there without being represented. Until local entities recognize that there is a need of financial assistance and they need to try to draw the financial aid from the funding agencies and distribute them to the OSTDS owners in need, nothing will happen. We need to prepare the education materials and make them available. But we may not be the best entity to market the information to all those entities. What we need is to define a clear need and clear authority to disburse the funding.

# RESEARCH REVIEW AND ADVISORY COMMITTEE

## ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

### ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0065(4)(a), FLORIDA STATUTES

---

**Mr. Bob Himschoot** stated that Governor Ron DeSantis appointed Dr. Tom Frazer as the state first science officer. He is going to work on water quality. The funding information should be part of his introduction. We have some solutions, technologies and mechanisms. He can use the information to generate fund to support onsite wastewater system.

#### 9. Updates on the Continued Monitoring

**Xueqing** gave a brief update on the continued monitoring. By February of 2019, OSP staff had conducted five sampling events on the four-remaining nitrogen-reducing systems installed during the Florida Onsite Sewage Nitrogen-reducing Strategy (FOSNRS) study (from 2013 through 2014). The project is supported by a 319 grant. In total, eight sampling events will be needed to complete the project.

Using the data, **Xueqing** showed that the effluent total nitrogen concentration at different treatment components of these nitrogen-reducing systems measured during the past five sampling events were not statistically significantly different from those measured at the same treatment components during the FOSNRS period, suggesting these systems, after being constructed for five to six years, still function properly in removing nitrogen. However, he pointed out that, for the two in-tank nitrogen-reducing systems, the TN concentrations from the sulfur media chamber effluent were higher than those measured from the lignocellulose media chamber while, theoretically, the results should be opposite. OSP staff conducted sampling along the depth profiles of both sulfur and lignocellulosic media to examine where inside these denitrification media elevated nitrogen concentration starts to show. The results showed that from the inlet part of the lignocellulose media to the sampling point immediately below the effluent of the sulfur media, TN concentrations showed consistent decrease. The increase of TN concentration was only observed at the effluent part of the sulfur media chamber. Dr. Eb Roeder suggested this could be caused by existence of preferential flow paths in both media.

OSP staff will do some further study to evaluate possible causes for the elevated TN concentration in the sulfur media chamber effluent.

**Motion by Dr. Eb Roeder and seconded by Dr. Mark Tumeo, for the RRAC to adjourn at 4:00 p.m. None opposed, and the motion passed.**

The meeting adjourned at 4:00 pm.