



Research Review & Advisory Committee

August 29, 2013

Elke Ursin
Florida Department of Health
Bureau of Environmental Health
Onsite Sewage Programs





Agenda

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| 9:30 – 9:35 | Introductions and Housekeeping |
| 9:35 – 9:40 | Review of Meeting Minutes from December 11, 2012 Meeting |
| 9:40 – 10:10 | Brief update on Nitrogen Reduction Strategies Study and Discussion on Next Meeting Date and Discussion Topics |
| 10:10 – 12:10 | Discussion on Draft Final Report for EPA Non-Point Source Pollution Grant On The Performance and Management of Advanced Onsite Sewage Treatment and Disposal Systems in Florida |
| 12:10 – 12:30 | Updates on Other Projects |
| 12:30 – 12:40 | Research Program Fiscal Year 2013-2014 Budget |
| 12:40 – 12:45 | Other Business |
| 12:45 – 12:50 | Public Comment |
| 12:50 – 1:00 | Closing Comments, Next Meeting, and Adjournment |



Updates to Committee

Groups with updates:

- Real Estate Professionals
 - Reappointed/Reassigned Primary: Quentin Beitel
 - New Alternate: Tony Macaluso
- Professional Engineer
 - Reappointed Primary: Clay Tappan
 - Reappointed Alternate: James Peters
- Home Building Industry
 - Reappointed Primary: Carl Ludecke
 - New Alternate: Ed Dion
 - Previous Alternate: Kriss Kaye



Introductions & Housekeeping

- Committee roll call
- Identification of audience
- How to view web conference
- Mute / unmute phone line = *6
- Do not put phone on hold
- Download meeting material:
<http://www.myfloridaeh.com/ostds/research/Index.html>



Florida Onsite Sewage Nitrogen Reduction Strategies Study

Study Purpose:

- Develop passive strategies for nitrogen reduction
- Complement use of conventional systems
- Develop cost-effective nitrogen reduction strategies

Update:

- Legislative status report on study submitted 2/1/13
- See Progress Report #20
- Increased communication with monthly conference calls between provider, subcontractors, and FDOH



Florida Onsite Sewage Nitrogen Reduction Strategies Study

Update:

- Draft report summarizing the Passive Nitrogen Reduction Study Phase II Test Facility is ready to review
 - Posted on website
- Passive system monitoring at home sites:
 - 3 passive systems installed in Seminole County in June 2013
 - 1 Wakulla County system sampling complete
 - 1 Hillsborough County system continued to be monitored



Florida Onsite Sewage Nitrogen Reduction Strategies Study

Update:

- Soil & groundwater sampling
 - Monitoring almost complete for test and field sites
- Nitrogen fate and transport modeling
 - Simple soil tool (lookup tables)
 - 2-dimensional simulations have been run
 - Validation/Corroboration and Post-processing ongoing
 - Complex soil model (1-dimensional)
 - Modules developed, implementation/validation ongoing
 - Aquifer model (linking complex soil model and groundwater transport)
 - Development started



Florida Onsite Sewage Nitrogen Reduction Strategies Study

Update:

- Public education
 - Elke Ursin provided a brief overview of the Nitrogen Reduction Strategies Study, what results will be helpful, and a schedule for the project to the:
 - Wakulla Basin Management Action Plan Technical Meeting (March 28, 2013)
 - Santa Fe River Springs Working Group
 - Josefin Hirst with Hazen and Sawyer presented to the Florida Environmental Health Association's Treasure Coast District's annual OSTDS training in Stuart, Florida



Next Meeting

Upcoming meeting topics:

- Discussion on draft Passive Nitrogen Reduction Strategies Phase II Report for Nitrogen Study
- Discussion on potential Nitrogen Study contract amendments
- Discussion on ongoing research projects

Proposed dates for next meeting:

- September 10, 11, or 12

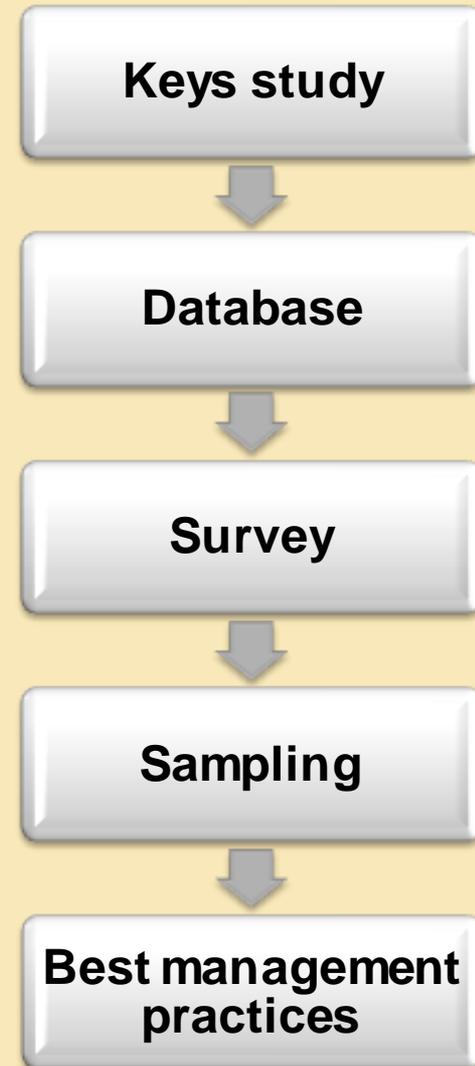


Performance and Management of Advanced Onsite Systems



Assess:

- Water quality protection
- Administration of program
- Effective monitoring practices





Performance and Management of Advanced Onsite Systems

Discussion on draft final project report

- Executive Summary
- Conclusions / Recommendations

Final comments on draft final report due to Elke Ursin on **September 6**

Final report due to DEP beginning of October 2013



Performance and Management of Advanced Onsite Systems

Public Education:

- Article on the database and summary statistics portions of the project submitted to the Florida Onsite Wastewater's *The Voice* and the Florida Environmental Health Association's *Florida Journal of Environmental Health*
- Paper and presentation given for the Florida Water Resources Journal and 2013 Conference titled "Managing the "other" advanced sewage treatment systems: an assessment of Florida's aerobic treatment units and similar onsite sewage treatment systems"



Performance and Management of Advanced Onsite Systems: General System Information

- About 11,700 advanced systems in Florida, based on permit review of a sample of 16,595 possible records
- Mostly in Monroe, Charlotte, Brevard, Franklin, and Lee
- Most are new residential single-family homes at 300 gallons per day of flow
- 50% are mounded drainfields
- 76% are ATUs, 8% PBTS, 16% unknown
- Found in 56 of the 67 Florida counties (37% increase over past 11 years)



Performance and Management of Advanced Onsite Systems: User Group Perceptions

- 55% of system owners reported no problems
- 80% of owners indicated they were satisfied with their system
- All other user groups (regulators, installers, manufacturers, engineers, & maintenance entitles) were also satisfied with the treatment performance



Performance and Management of Advanced Onsite Systems: System Operation

- 30% of visited sites were not operating properly. These were concentrated in vacant/unoccupied properties.
- 70% of operational issues due to power being turned off or aeration issues
- Field screening can be a cheaper/faster alternative to sampling



Performance and Management of Advanced Onsite Systems: System Field Evaluation

- Inspect system to ensure
 - System has power
 - No sanitary nuisance
 - Aeration results in bubbles and mixing
 - No alarms sounding
- Have 2 maintenance entity visits per year
- Have current operating permit



Performance and Management of Advanced Onsite Systems: Sampling Results

- Influent strength varied with lower concentrations than other recent studies
- 95% CBOD₅ reduction
- 75% TSS reduction
- 33% TN reduction
 - PBTS had higher influent concentrations
 - 75% PBTS exceeded TN requirements
- Little or no TP reduction
- Repeat samples stay within a factor of two



Performance and Management of Advanced Onsite Systems: System Operation Results

Vacancy as a factor in advanced system operation

Occupancy Status	Switched off	Power indicator off	Aeration off
Number Determined	485	258	420
Vacant (n=89)	54%	54%	59%
Non-Vacant (n=445)	6%	17%	14%

Distribution of issues leading to a non-operational status for non-vacant advanced OSTDS

Reason for non-operational status	Number	Percent of total non-operational systems
Power switched off	54	43%
Power indicator off	79	62%
Aeration not working	73	57%
Sanitary nuisance	20	16%
Alarm issue	19	15%



Performance and Management of Advanced Onsite Systems: System Sample Results

**Median values for influent and effluent sample results for
advanced systems**

Parameter	Units	Median Influent	Median Effluent	% Reduction
cBOD₅	mg/L	76	5	93%
TSS	mg/L	68	19	72%
TN	mg/L	46	30	35%
TP	mg/L	8.3	7.5	10%



Performance and Management of Advanced Onsite Systems: Best Management Practices

- Accurate and up-to-date records
- Regular and comprehensive system maintenance
- Consistent and fair enforcement
- Sufficient staffing for FDOH and MEs
- Effective training, education, and communication



Performance and Management of Advanced Onsite Systems: Recommendations for Further Study

- Continuing the analysis of the data collected during this project.
- Looking at implementing the suggested EHD and website enhancements.
- Developing a statewide standardized form for maintenance and inspections.
- Evaluating low cost and effective nutrient reduction technologies. The FDOH Nitrogen Reduction Strategies Study is expected to be complete in 2015.
- Developing a homeowner awareness and education campaign.
- Selecting a pilot county to implement the best management practices.
- Improving enforcement procedures.
- Conducting workshops to discuss further best management practices.



Performance and Management of Advanced Onsite Systems: Next Steps

- Send comments to Elke Ursin (Elke_Ursin@doh.state.fl.us) by **September 6**
- Presentation will be given at the National Onsite Wastewater Recycling Association (NOWRA) Annual Conference November 17-20 in Nashville, Tennessee



Onsite Sewage Research Budget

Fiscal Year 2012-2013:

Beginning Cash Balance	\$452,000
Total Revenue	\$67,000
Total Expenditures	\$232,000
Ending Cash Balance	\$287,000



Onsite Sewage Research Budget

Fiscal Year 2013-2014:

Salaries and Benefits	\$60,000
Expense	\$2,000
Contractual	\$0
Total	\$62,000

Fiscal Year 2013-2014:

Total Revenue	\$67,000
Total Expenditures	\$62,000
Ending Cash Balance	\$292,000



Updates on Other Projects



Wastewater Inventory Project

Purpose:

- Update the 2009 wastewater inventory data
- Provide central updateable location for statewide parcel-specific water and wastewater information

Progress:

- Pursued funding through Public Health and Emergency Preparedness Cooperative Agreement
- Letters of support received:
 - Florida DEP Division of Water Resource Management;
 - Palm Beach County's Department of Env. Resources Management
 - Florida Environmental Health Association
 - RRAC
- Project was rated as a high priority, is partially funded now (\$3,000) with remaining funds pending (up to \$95,000) (should know in October/November)



Wastewater Inventory Project

Progress (cont.):

- In May/June 2013 staff worked with Geographic Systems Inc. to develop an application that will allow interested parties to view and edit parcel specific water and wastewater attributes
- This will be the first Florida Department of Health mapping application with editing capabilities.



Other News

- Staff assisted with development of a grant proposal to
 - Assess and manage risks associated with private drinking water wells
 - Develop public health messaging
 - Possibly tie in with the water and wastewater inventory



Other Business



Accomplishments

- Elke Ursin obtained her certification as a Project Management Professional (PMP), which is a globally recognized certification and demonstrates that she has the experience, education, and competency to lead and direct projects
- Student mentoring updates
 - Nicole Pritchard, Nova Southeastern University MPH student (August 2012 – present)
 - Trinity Weaver, FAMU MPH student (June 2013)
 - Keith Hudson, FAMU MPH student (July 2013 with possibility of longer internship during Fall)
 - Working on possibility of creating an affiliation agreement for MPH students with Nova Southeastern University



Accomplishments, cont.

- Bureau of Environmental Health staff are meeting regularly with staff from the Florida Department of Environmental Protection to collaborate and discuss the protection of Florida springs relating to onsite sewage treatment and disposal systems



Public Comment



Recap Next Meeting Information

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Closing Comments and Adjournment