Research Priorities Ranking Workshop 2011

RRAC Member/Alternate Name:

Number	Project Title	Weight: Choose top five projects (highest priority = 5, lowest priority = 1)
1	**Continuation of Inventory of OSTDS in Florida**	
2	**Grease Sludge Waste Reduction and Reuse Study**	
3	**Correlations Between Water Quality, OSTDS, and Health Effects**	
4	**Introducing and Evaluating Improved Treatment Methods in OSTDS (Other Than Nitrogen)**	
5	**Urine Separation in OSTDS**	
6	**Growth Management and Septic Systems Symposium**	
7	**Linkages Between Optical Brighteners and Other Wastewater Indicators Such as Coliforms and Nutrients**	
8	**Effectiveness of Outlet Filters**	
9	**OSTDS Wastewater Strength & Flow Study**	
10	**Literature Review on Other OSTDS Research**	
11	**Fate and Transport of Nitrogen and Bacteria from OSTDS as it Relates to EPA Nutrient Criteria Rules, TMDLs, and State-Wide Water Quality Rules**	
12	**Pros and Cons of Using Cisterns for Potable Water Use**	
13	**Life Expectancy of Onsite Systems**	
14	**Drip Disposal With Septic Tank Quality Effluent**	
15	**Loading Rates and Effective Soil Depths Between Drip Irrigation, Low Pressure Dosing, Lift Dosing, and Conventional OSTDS**	
16	**Disparities in OSTDS Management**	
17	**Pharmaceuticals, Personal Care Products, and Other Organic Compounds in OSTDS: Occurrence, Persistence, Effects**	

PROJECT DESCRIPTION #1	
Project Title	**Continuation of Inventory of OSTDS in Florida**
Proposed By	Elke Ursin
Background	Having an inventory of OSTDS is the first step to any management program. A snapshot inventory was completed in 2009 per the request of the State Legislature. There has been much interest in these data by DEP, consultants, county health departments (CHD's), etc. This information is quickly outdated if not updated. The original data had many unknown/estimated parcels due to a lack of response for data from many DEP regulated Wastewater Treatment Plants (WWTP's). Part of this project would be to make another attempt at gathering that data.
Objectives and Outcomes	Update the current inventory from 2009 and develop a method to make this process easier for future efforts.
Research Approach	• Merge the existing inventory data into the Environmental Health Database (EHD) which will allow for real-time data updates as permits are entered into the system by the CHD's • Update EHD with Department of Revenue data annually for updated parcel information • Update with DEP data on WWTP's • Send letters to WWTP's to gather their sewer data and update the inventory • Develop and implement a grant program so CHD's can verify and update unknown parcels
Potential Collaboration	Collaborate with DEP on the information gathering for the WWTP's. DEP has indicated they are interested in collaborating. This was not done with the first round of data collection and will likely yield a higher response rate.
Duration	1-2 years
Estimated Budget ($)	$150,000
Ease of Implementation	Medium effort, some work can be contracted out but several components are best handled by staff. Updating EHD can be done through modifying an existing DOH contract, updating DOR and WWTP information could possibly be done through a purchase order (if under $35,000), and the grant program with CHD's to be implemented by staff.
Comments	This project ranks highly with Gerald Briggs, Bureau Chief for the Onsite Sewage Program, as this inventory is the starting point for any onsite sewage management program.

PROJECT DESCRIPTION #2	
Project Title	**Grease Sludge Waste Reduction and Reuse Study**
Proposed By	Elke Ursin
Background	Establishments generating fats, oils, and grease (FOG) such as restaurants and commercial kitchens face particular challenges with their waste and wastewater disposal. Utility-owned centralized wastewater collection systems often have utility-specific requirements to install certain precautions to prevent FOG from entering the collection system. Onsite sewage treatment and disposal systems (OSTDS) are regulated state-wide but have fewer required continued preventative measures. Often these business owners do not have the expertise or resources to know how they can prevent their sewage system from failing by performing simple daily tasks to reduce the amount of FOG entering the system.
Objectives and Outcomes	The objective of this project is to reduce FOG waste and increase reuse among these small businesses by providing technical assistance and education.
Research Approach	• Identify the scale of the problem/opportunity in Florida • Conduct a survey to better understand current practices and opportunities for improvement • Approximately 25 businesses will be selected for a more in depth characterization, which will then lead to recommending and implementing changes in practices, and monitoring the outcomes over time • Provide education and outreach to industry professional organizations as well as to business owners and their employees
Potential Collaboration	Florida Onsite Wastewater Association (FOWA), Florida Environmental Health Association (FEHA), Department of Business and Professional Regulation (DBPR), Orange County Utilities Water Reclamation Division
Duration	1-2 years
Estimated Budget ($)	$150,000
Ease of Implementation	Medium effort, most of the work can be contracted out with staff involvement in project oversight and Florida OSTDS data gathering, procurement of contracts (survey will likely be a purchase order and case-studies will be through an ITN), and contract administration.
Comments	This project was submitted as a grant proposal to EPA's Pollution Prevention Program and was not funded due to the scope being too narrow for the grant program (program looked at number of pounds of pollution prevented). EPA suggested for DOH to do this project first and then come back for funding for implementation, which would be easier for them to fund.

PROJECT DESCRIPTION #3	
Project Title	**Correlations Between Water Quality, OSTDS, and Health Effects**
Proposed By	Eberhard Roeder
Background	Many field studies are very site specific, focusing on single OSTDS. Different approaches can be used to assess quantify broader questions about environmental and public health impacts of OSTDS. A 1999 cohort study on an association of Giardiasis and Shigellosis 1994-1996 with the location of repair permits relative to a cohort of functional (systems without a repair permit) was inconclusive, in part due to small sample sizes. In 2005 several FAMU interns gathered data on the public health effects of OSTDS with a focus on drinking water wells. In another project, reported failures, as indicated by repair permit issuance, of onsite sewage systems statewide show a seasonal pattern, with a peak during the first quarter of a year. Variations in environmental conditions, system usage, funding or reporting are possible explanations.
Objectives and Outcomes	Perform an analysis using a geographic information system (GIS) of any correlations between water quality in drinking water wells, OSTDS, and health effects.
Research Approach	Gather data and put into a GIS database / map. A key question will be what data are available. Analyze the data to see if any correlations exist. Produce a final report.
Potential Collaboration	Environmental Public Health Tracking programs at CDC and DOH may have related databases and project expertise. The Bureau of Water Programs has information on some private wells. A University program with GIS and/or public health expertise
Duration	1-year
Estimated Budget ($)	Depending on the final approach, the budget could be approximately $5,000 if conducted in house to $30,000 if contracted out.
Ease of Implementation	Medium to high effort depending on if the work will be conducted in house or contracted out. Staff involvement will be considerable in either case for project oversight and Florida OSTDS data gathering.
Comments	

PROJECT DESCRIPTION #4	
Project Title	**Introducing and Evaluating Improved Treatment Methods in OSTDS (Other Than Nitrogen)**
Proposed By	Eberhard Roeder
Background	While the research programs focus has recently been on nitrogen treatment effectiveness and fate and transport, other contaminants, regulated and unregulated, are also of concern. There has been very limited interest, development, and evaluation in Florida of new alternatives to current treatment approaches for the following: -Enhancements/alternatives for primary treatment (i.e. septic tank) to remove more cBOD5and TSS. Eventually, can improvements in geometry provide secondary treatment for cBOD5 and TSS without aeration? -Enhancements/alternatives for phosphorus treatment. Treatment in the Keys is based on absorption media. Larger wastewater treatment systems employ other processes that tend to require additives and more intensive operational control. What can be useful for OSTDS? -Enhancements/alternatives for disinfection treatment. Chlorination is codified, and soil treatment has been used in designs for the treatment of fecal coliforms. The former needs ongoing supply and maintenance, the latter may not treat as effectively for viruses as for fecal coliform. Industry has shown very limited interest in pursuing innovative system applications for UV-disinfection, with its own operational challenges. What can be useful for OSTDS?
Objectives and Outcomes	Identify treatment approaches with improved effectiveness Encourage establishment as innovative systems Evaluate performance at field installations in Florida Establish alternatives to currently used technologies
Research Approach	Could be similar to the passive nitrogen study, with a third party organizing the selection, installation, and testing
Potential Collaboration	NSF field testing protocol development
Duration	Several years
Estimated Budget ($)	$500k –several millions
Ease of Implementation	difficult
Comments	

PROJECT DESCRIPTION #5	
Project Title	**Urine Separation in OSTDS**
Proposed By	RRAC / TRAP recommendation
Background	During the July 30, 2008 RRAC meeting and the August 27, 2008 TRAP meeting, presentations were made by Dominique Buhot with Green's Environmental Services on alternative methods to remove nitrate and phosphorus from wastewater using urine separation. RRAC asked the Department to see how this type of treatment and disposal would be possible under current rules. The TRAP was interested in this technology and suggested that the product be presented to the Florida Building Commission.
Objectives and Outcomes	The objective of this project will be to research life cycle / nutrient cycle management for nutrients in OSTDS from sources such as urine, and evaluate energy efficiencies in such approaches.
Research Approach	Perform a literature review of existing technologies, report back to RRAC on a proposed process forward, and develop a scope of work based on RRAC recommendations.
Potential Collaboration	This concept has been discussed in the passive nitrogen study literature review. It was ranked at a low priority, so most likely no further study would be done on this topic within that project. There has been some study of precipitating fertilizer out of fairly concentrated wastewater in the wastewater literature that may be applicable to this.
Duration	6 months for literature review
Estimated Budget ($)	Staff time
Ease of Implementation	Semi-difficult due to limited staff time available to devote to this project in the immediate future.
Comments	

PROJECT DESCRIPTION #6	
Project Title	**Growth Management and Septic Systems Symposium**
Proposed By	Elke Ursin
Background	In January of 2007, DOH and FOWA held a Florida Wastewater Summit that was extremely successful. This project would be to expand the audience to those outside the Environmental Health profession to make individuals more educated on the topic of decentralized systems.
Objectives and Outcomes	Develop an informational education program to county government, real estate industry, builders, planning agencies, and other interested groups on decentralized systems.
Research Approach	Develop overall meeting format, coordinate speakers and agenda, and determine location. Advertise and solicit attendees. Conduct the symposium.
Potential Collaboration	Florida Onsite Wastewater Association (FOWA), Florida Environmental Health Association (FEHA), Florida Home Builders Association, Florida Association of Realtors, Department of Community Affairs, etc.
Duration	1-year
Estimated Budget ($)	$25,000 (could also be grant funded if opportunity exists); possibility of using the existing OSTDS Training Center contract for FOWA to handle registration, etc.
Ease of Implementation	Difficult as it would require much staff time to coordinate and implement.
Comments	There is a potential this might be something that could be grant funded if the opportunity presents itself.

PROJECT DESCRIPTION #7	
Project Title	**Linkages Between Optical Brighteners and Other Wastewater Indicators Such as Coliforms and Nutrients**
Proposed By	Eberhard Roeder
Background	The previous remote sensing project found that wastewater had a characteristic optical signature that could be used to estimate a fraction of sewage equivalent in waters. Very limited work was completed on correlating this fraction to other water quality parameters such as coliforms or nutrients, and was inconclusive.
Objectives and Outcomes	Further characterization of the agent that provides the optical signature, which was not an optical brightener as expected. Validation that a two-wavelength method that was proposed in the previous reports gives similar sewage fraction results as evaluations of the full spectrum. Assessment of the relationships between the sewage fraction estimates based on this method and other water quality parameters. Evaluation of the use of optical assessment in constraining source identification and mass balances of water bodies of concern.
Research Approach	Combined field and laboratory study with statistical analysis Could be combination of a broader survey with assessment efforts at particular water bodies
Potential Collaboration	Coordination with water quality sampling and assessment by other agencies
Duration	1-2 years
Estimated Budget ($)	Depending on extend of coordination and sampling, 100k-300k
Ease of Implementation	Medium (depending on ability to find partners), very limited knowledge base
Comments	

PROJECT DESCRIPTION #8	
Project Title	**Effectiveness of Outlet Filters**
Proposed By	Eanix Poole
Background	The objective/purpose of outlet filters is to retain solids in the tank where further digestion can take place thus "in theory" extending the life of the drainfield because of a cleaner higher quality effluent. Outlet filters first appeared in the rule in 1995 as an alternative to multi-chambered tanks. In 1997, Florida became the first state to require outlet filters in new installations. For several years prior to 1997, outlet tees were required to have a gas baffle to prevent solids being directly discharged to the drainfield (same theory). Economics played a role in this as there was only one manufacturer who made outlet filters and the product was quite expensive. This manufacturer developed a simple, inexpensive, filter targeting the Florida market. Other companies soon developed similar products. The Department developed Approval Standards for Outlet Devices that were incorporated by reference into the rule to ensure minimum design and performance criteria. Other states are now requiring outlet filters and industry has responded with a multitude of products at various price ranges.
Objectives and Outcomes	1. Determine whether outlet filters are performing as expected/described and not causing unnecessary expense to the homeowner as in unnecessary cleanings and or pump outs. 2. Determine average maintenance frequency such as filter cleaning or pump outs. 3. Determine whether Department's Approval Standards for Outlet Filters are adequate.
Research Approach	Phase I. Perform survey in a minimum of 3 counties: one small, one medium, and one large. Take a small sample of installations since 1997 and determine history of maintenance and pump outs. Survey Environmental Health offices and get their input on filter performance. Survey Installer/Pumper Companies to determine their experience with filters. Survey Pumper Companies to determine their perspective. Phase II. Depending on findings of Phase I, may need to field test filters for performance.
Potential Collaboration	Health Departments, Florida Onsite Wastewater Association, Universities, Private Research Contractor
Duration	Survey should be finished within 6 months of work start approval.
Estimated Budget ($)	Phase I: $35,000; Phase II: dependant on results of Phase I
Ease of Implementation	Should be a simple project. Depends on whether the Department chooses to perform or contracts to other entity.
Comments	Filters on the market today are capable of performing for at least five years in a normal usage household without maintenance. It needs to be determined if Florida homeowners are facing unnecessary expenses for more frequent maintenance and or pump outs.

PROJECT DESCRIPTION #9	
Project Title	**OSTDS Wastewater Strength & Flow Study**
Proposed By	Eberhard Roeder / Elke Ursin
Background	Both variability of use and long-term changes of plumbing fixtures and use patterns introduce variations in sewage flow and strength. Residential flow strength may be higher now than previously in Florida due to low flow fixtures and other water conservation activities. A recent WERF-study suggests that this effect appears most clearly for nitrogen, less so for cBOD5 and phosphorus, and least for total suspended solids. Are there parts of the code that should be revised to account for these changes, such as the definition of domestic strength sewage, and estimated sewage flows? Commercial flow strength is also changing due, in part, to changes in grease composition (more vegetable grease and less animal grease).
Objectives and Outcomes	Determine factors that influence excessive wastewater strength and flows that cause systems to become out-of-compliance with the current sizing standards, and develop alternatives to address these factors. The focus will be on generating more information on specific establishment and treatment types.
Research Approach	Determine the effects of water saving fixtures on influent / effluent concentrations and flow amounts for residential and various commercial establishments (sampling of systems that do not have water saving fixtures, then install the fixtures and resample). Compare current commercial sewage strengths with those found in the restaurant study. Determine if current sizing criteria for various establishments (restaurants, convenience stores, etc.) is still adequate. When the sewage waste is separated, do blackwater/graywater concentrations exceed domestic sewage waste concentrations limits? A failure study could also be done for establishments that are shown to exceed current concentration standards. Perform a data analysis of vacation rentals and/or other establishments that have short term overloading. What is the performance of systems under such conditions (peak factor relative to average or median flow); what is the performance of mitigating factors, such as over-design or time-dosing, both under the peak conditions and under average conditions?
Potential Collaboration	Department of Business and Professional Regulation, local governments
Duration	3-years
Estimated Budget ($)	$150,000 (focus on one or two questions)
Ease of Implementation	Medium effort, most of the work can be contracted out with staff involvement in project oversight and Florida OSTDS data gathering, procurement of contract (will likely be an ITN), and contract administration.
Comments	

PROJECT DESCRIPTION #10	
Project Title	**Literature Review on Other OSTDS Research**
Proposed By	Carl Ludecke
Background	Several projects have come to the RRAC's attention over the recent years, which are related to several research projects that the program is conducting or considering conducting. Having a method to regularly keep up with what other people are looking into regarding OSTDS research may help in streamlining DOH's research efforts.
Objectives and Outcomes	Conduct a literature review of current research on OSTDS being conducted, or having been recently completed. Create a method to update this information.
Research Approach	Develop a contact list of other agencies, private companies, colleges, and universities that have or are conducting research on OSTDS. Create a database to hold the contact information, results of inquiries, copies of reports and other related information, and suggested follow-up. Report back to the RRAC on the results of this research and any potential areas that warrant further research.
Potential Collaboration	Multiple other agencies, private companies, colleges, and universities. Information sharing will likely occur, broadening the reach of the research that DOH has done or is conducting.
Duration	6 months
Estimated Budget ($)	$2,000 for copies
Ease of Implementation	Somewhat difficult as it will be time-consuming for staff. No contracts or purchase orders are anticipated to be made.
Comments	Once the initial framework is set-up this type of information gathering on an annual basis will be easier to conduct and will be valuable in prioritizing future research projects.

PROJECT DESCRIPTION #11	
Project Title	**Fate and Transport of Nitrogen and Bacteria from OSTDS as it Relates to EPA Nutrient Criteria Rules, TMDLs, and State-Wide Water Quality Rules**
Proposed By	Kriss Kaye
Background	There have been several developments recently regarding the EPA nutrient criteria rules, TMDLs, and state-side water quality rules. These new developments raise several questions: What is the strength of the effluent at the outlet filter and what is an appropriate constituent level / loading at the property line? How effective is the soil in treating the wastewater? How much phosphorus removal occurs under drainfields? How much groundwater mounding occurs under drainfields that then can impact drainfield performance?
Objectives and Outcomes	Determine how the fate and transport of contaminants of concern relates to current developments regarding the EPA nutrient criteria rules, TMDLs, and state-side water quality rules.
Research Approach	Strength of effluent can be incorporated in one of the other priorities and based on current literature and studies. Nitrogen fate and transport is part of the ongoing passive nitrogen reduction strategies study. This leaves the following questions: -Mounding effects: Survey a sample of systems in high groundwater conditions and compare the results to existing model predictions. -Effects on water bodies: Possible approach might be to sample areas that have recently been sewered to see if there are any advantages of sewering looking at inland / fresh water bodies and compare to the Town of Suwannee and Taylor County study results. (overlap with optical brightener topic) -Fate and transport of phosphorus and fecal coliforms: Literature review and/or site-scale field studies Analyze results and compare with current developments regarding the EPA nutrient criteria rules, TMDLs, and state-side water quality rules.
Potential Collaboration	The test center in Wimauma could be used to help answer some of these questions for the soil conditions present there. Nitrogen fate and transport monitoring and modeling is part of the passive nitrogen strategies study. Could consider collaboration and additional samples. DEP has funded studies that look at similar questions that could provide data.
Duration	2 years
Estimated Budget ($)	$100,000- (estimated assuming one semi-large-scale sampling effort, could vary from literature review to project on the scale of the nitrogen strategies study)
Ease of Implementation	Medium effort, most of the work can be contracted out with staff involvement in project oversight, procurement of contracts (will likely be through an ITN), and contract administration.
Comments	

PROJECT DESCRIPTION #12	
Project Title	**Pros and Cons of Using Cisterns for Potable Water Use**
Proposed By	Kriss Kaye
Background	Recently the code has been modified to allow for the conversion of septic tanks to cisterns in lieu of abandonment for single family residences. The variance committee had been granting numerous variances to allow this, mainly in the Keys, prior to the rule change. Use of a cistern is beneficial for conserving water with the main use of the water being for irrigation.
Objectives and Outcomes	Review the current practice of converting septic tanks to cisterns to ensure public health and the environment are protected.
Research Approach	For all final approved cistern conversions, review lab results, inspection results, and survey homeowners and CHD's to assess the pros and cons. An option would be to fund sampling of the cisterns some time after conversion. Write a report on the findings.
Potential Collaboration	Monroe county Health Department, other health departments where this practice has been implemented.
Duration	1 year
Estimated Budget ($)	$5,000-50k (if contracted out with student involvement)
Ease of Implementation	Medium effort. Data gathering and analysis to be conducted in-house. Survey to be contracted out through a purchase order.
Comments	

PROJECT DESCRIPTION #13	
Project Title	**Life Expectancy of Onsite Systems**
Proposed By	Eberhard Roeder
Background	A summary of three Florida studies (statewide, Marion, Sarasota) in late 1998 found an average age at failure (defined as getting a repair permit) of OSTDS of about 18 years, and described a bimodal failure distribution, with early failures attributed to hydraulic overloading, and older failures attributed to roots. One of the studies saw an increase to about 28 years that was attributed to a change in county ordinances. On the other hand, repair rates of one to two percent would lead to an estimate of 50-100 years as life expectancy. Possibly explaining part of the difference is an observation that average age at failure appears to be higher in areas with older housing stock. Still other observations suggest that tank corrosion varies regionally. So, what is the expected life of an OSTDS? How representative are repair rates for the frequency of failure and non-conformance of OSTDS to standards? Are there categories (which) of systems that get repaired less frequently? Are there factors that are important such as soils, treatment effectiveness, and code conformance?
Objectives and Outcomes	Determine the life expectancy of a septic tank and various kinds of drainfields.
Research Approach	Review of permitting databases. Follow-up on data sources used in 1998 study. Statistical analysis to identify predictors/confounders. Follow-up on the systems that were part of Marion county's assessment (50 systems were tracked in 1992, 1993, and 1996)
Potential Collaboration	Repair evaluation gathering tool by Bureau Statewide or county inspection programs (depending on existence)
Duration	1 year
Estimated Budget ($)	$50,000 (university student project; some field work to assess systems)
Ease of Implementation	Medium (initially heavy involvement in gathering and preparing databases, later depending on who does the work)
Comments	

PROJECT DESCRIPTION #14	
Project Title	**Drip Disposal With Septic Tank Quality Effluent**
Proposed By	Sam Averett
Background	This is being done in other states, with a back washing filtering system. This is generally a more thorough back washing approach than the filter surface flushing that appears to be usually used with more pretreated effluent in Florida.
Objectives and Outcomes	Determine the effectiveness of permitting drip disposal using septic tank quality effluent. Determine maintenance requirements and how these can be assured.
Research Approach	• Perform a literature review to see what research has already been conducted on this topic. • Develop a project plan to address outstanding research issues. One possibility could be to allow several systems to be installed and monitor them yearly and in 5 years If it works allow wide spread use.
Potential Collaboration	The passive nitrogen project anticipates some evaluation of this approach at the test center. The Keys OWNRS-study included a couple of such systems, and perhaps up to half a dozen systems appear to have been permitted this way before pretreatment by PBTS or ATU became standard.
Duration	5 years (could be shorter)
Estimated Budget ($)	Up to $100,000 depending on results of literature review.
Ease of Implementation	Medium effort, most of the work can be contracted out with staff involvement in project oversight, procurement of contracts (will be through an ITN), and contract administration.
Comments	There are several of these units on the market right now; let them into the state and make them warranty the system. If this was approved it could be a less expensive way to upgrade existing systems, and get them out of the water table. Because of the height reduction and footprint, it could be a better choice than a conventional drainfield.

PROJECT DESCRIPTION #15	
Project Title	**Loading Rates and Effective Soil Depths Between Drip Irrigation, Low Pressure Dosing, Lift Dosing, and Conventional OSTDS**
Proposed By	Eberhard Roeder
Background	Drip irrigation, low-pressure-dosed, lift-dosed, and gravity-fed drainfields are sized largely the same, with loading rates and effective soil depths determined based on the material surrounding the infiltrative surface. Some differences are introduced by "rating" alternative drainfield products, by adjustments for pretreatment for slightly limited soils, and by proposals to treat drip systems differently. While there is a general perception that dosing is beneficial for drainfield function, a preliminary assessment as part of a repair data evaluation indicated higher odds of getting a repair permit for systems with a dosing pump. Is there a universal drainfield formula that can be used to consistently evaluate proposed changes to drainfield sizing, so that the odds of failure are uniform?
Objectives and Outcomes	Assess what the effects of dosing are on drainfield function and odds of needing a repair permit Assess the effect of different infiltrative surface architectures on drainfield function and odds of needing a repair permit Assess the effect of different soil profiles on drainfield function and odds of needing a repair permit Assess combined effects
Research Approach	Review of literature and experiences in other states. (contract or in-house) Review of failure evaluations and repair permit information to assess differences in failure rates. (contract or in-house) Modeling studies to assess effect of differences. (contract out) Laboratory / test center / field studies. (contract out)
Potential Collaboration	Alternative drainfield product study
Duration	2 years
Estimated Budget ($)	Can vary widely, depending on extent of scope (5k-millions)
Ease of Implementation	Difficult
Comments	

PROJECT DESCRIPTION #16	
Project Title	**Disparities in OSTDS Management**
Proposed By	Elke Ursin
Background	Populations of demographic (gender, race, age, income, etc.) minorities have been shown to often receive a lower quality of health services. This study will look to identify if there are any such disparities in OSTDS management and upkeep related to demographic characteristics.
Objectives and Outcomes	Identify if there are any disparities in access to wastewater treatment facilities (either central or decentralized) related to demographic characteristics.
Research Approach	Obtain Florida-specific demographic data, OSTDS information (could be linked to the wastewater inventory), and wastewater treatment plant (WWTP) information. Information to look at could include cost of wastewater treatment, sanitary nuisances, location of types of treatment systems, etc. Do an analysis, possibly utilizing a geographic information system (GIS), to determine if there are any correlations between various demographic categories and various wastewater treatment issues.
Potential Collaboration	FDEP, as this will include looking at WWTP's. Possibly Florida Onsite Wastewater Association (FOWA) in gathering cost information and other OSTDS non-permit related questions.
Duration	1-year
Estimated Budget ($)	$30,000
Ease of Implementation	Medium effort, most of the work can be contracted out with staff involvement in project oversight and Florida OSTDS data gathering, procurement of contracts, and contract administration.
Comments	

PROJECT DESCRIPTION #17	
Project Title	**Pharmaceuticals, Personal Care Products, and Other Organic Compounds in OSTDS: Occurrence, Persistence, Effects**
Proposed By	Eberhard Roeder
Background	While wastewater treatment has tended to look at a few bulk contaminants, in recent years concern about the cumulative effects of endocrine disrupting compounds and pharmaceuticals and personal care products have prompted an increasing number of studies. These look at concentrations of compounds in wastewater, treatment effectiveness, and concentrations in water bodies. Another line of inquiry is about the human health effects of the exposure to endocrine disrupters and pharmaceuticals via wastewater discharges. Examples for concentration studies: WERF-study on wastewater composition; USGS studies in Leon and Wakulla counties
Objectives and Outcomes	Summarize current knowledge of fate and transport of such compounds in OSTDS, in the environment, and their likely effects on human health. Fill in gaps through either lab, field, or modeling studies. Contamination sources that might provide particularly high concentrations include hospitals, pharmaceutical manufacturing, and group care facilities.
Research Approach	Literature review to determine next steps
Potential Collaboration	Research program that has an interest in this (?)
Duration	One year
Estimated Budget ($)	$30,000 – (assumes graduate student or similar)
Ease of Implementation	Medium
Comments	