

A Rapid Ethnographic Assessment of the Septic Industry in Snohomish County, Washington

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Executive Summary:

A rapid ethnographic assessment of the septic industry in Snohomish County, Washington reveals that the knowledge of professionals in the field can contribute valuably to a social marketing campaign directed at homeowners. Intensive daily interaction with homeowners gives septic designers, installers and pumpers a front row seat for observing common household mistakes and an insight into possible motivations and barriers to quality care and maintenance of septic systems. Septic professionals working across multiple county boundaries have constructive and valuable suggestions for local government's efforts to guide human behavior through policies, incentives and marketing.

The twenty septic industry professionals who agreed to participate in this rapid ethnographic assessment were appreciative of the efforts of Snohomish County and Snohomish Health District to engage them in a conversation about the best ways to influence the behavior of homeowners. The information gathered should prove quite valuable in the design and implementation of a social marketing campaign. Designers, pumpers and installers identified motivations and barriers that they encounter on a daily basis in their interactions with homeowners.

They report that homeowners need more information about the specific needs, structure and function of their septic systems; need to conserve water; conduct periodic maintenance on a regular schedule; and protect their systems and drain fields from damage by landscaping and construction. Common homeowner mistakes include using too much water, flushing or dumping items that undermine biological processes, damaging systems and associated drain fields with inappropriate landscaping and construction, waiting too long between inspections and pumping, not being informed

about their systems and disrupting the electrical functions of newer systems. High use of water and the concentrations of fats, oils and greases in the tanks may be more common among some ethnic groups than others and people with higher and lower incomes. Damage to the biological processes of the septic systems may be particularly prevalent among the elderly and sick homeowners using more medications (especially antibiotics). Encouraging the use of natural foods and household soaps and cleaners may have an ancillary, positive impact on the biological functions of septic systems.

The people we interviewed expressed some concern about practices within their industry that may undermine the public's confidence in them and government officials. Common mistakes they report by providers of septic system services include under-fulfilled operations and maintenance (O&M) contracts, incomplete or improper installations, inadequate pumping, selling homeowners things and services they do not need and inappropriate (but legal) designs. These problems may be exacerbated by industry practices, particularly in the form of pumper compensation, that invite abuse. These professionals also identified electricians, landscapers, developers and real estate agents as key sources of problems and/or possible solutions to the challenges they face.

Our interviewees spoke very highly of Snohomish Health District and its current sanitarians. They were particularly appreciative of the website from which they can download an as-built, inclusion in this research project and the pamphlets and VHS tapes provided by the district. Common mistakes by regulators they identified included lack of or excessive enforcement, some inexperienced personnel and the inability of inspectors to reject designs and installations that may be legal on the books but not be the best for the particular situation. They expressed concern about the variability of county rules and regulations driven by the same state law and a desire for more uniformity across county boundaries. In particular, many professionals felt that Snohomish Health District's standards for certification are too weak and contribute to a business climate that invites abuse. Most spoke highly of higher standards in King County but complained about their staff's tardiness and lack of response. Practices they found of value in other counties include homeowner education programs in Pierce, Kitsap and Island counties. While some praised Skagit County's mandated inspections others expressed concern that Skagit's and Island's strategies have not effectively informed homeowners of the requirements for inspections.

The most consistency from various respondents came in their responses to questions about motivations and barriers to effective care and maintenance of septic systems. Past problems with a septic system, they report, make up the biggest motivation for quality care. Desire to avoid more costly repair is also a significant motivator. Some individuals, they report, are motivated by their knowledge of septic system needs, environmental and public health concerns and the desire to have good records at future home sales. The biggest barrier they consistently reported is cost. Closely following money was lack of knowledge. To some, the lack of knowledge on the part of homeowners was the bigger barrier. Also quite frequently mentioned was the fear that homeowners may have of government and associated mandates, a fear fueled by unscrupulous practitioners in the industry.

All the septic professionals we interviewed share some information with homeowners. Their preferred, and reportedly most successful, method of doing so was orally, either in-person or over the phone. A thorough walk-through of a system with a septic professional is a highly successful way to inspire better care by homeowners. Analogies that compared the maintenance needs of a septic system to those of an automobile are particularly prevalent and effective. Other analogies used include comparisons with bodily functions (cholesterol and arteries), smoke alarms, fireplaces and roofs. A reminder that what leaves your septic system enters drinking water sources can also catch attention. The interviews brought out a large number of short and clever phrases that could become part of a social marketing campaign.

Literature from local governments, septic manufacturers and self-produced manuals are the most common items given to homeowners. A review of these materials found the messages about homeowner care to be somewhat buried and inaccessible in most documents. A need is obviously present for a clearer and more concise message about septic system care and maintenance. Our interviewees are all willing to be carriers of government-sponsored messages and recommend delivery in-person or via a classroom setting, a website, television or radio, newspaper, mailings or handouts for customers. In particular they would like messages that educate homeowners about the needs of their systems, recommend maintenance schedules, and present the county and health district in a positive light.

Current strategies for responding to the expiration of mandated operations and maintenance agreements vary considerably from one company to another. Some do virtually nothing at all while others send reminder cards and actively solicit contract extensions and special agreements with homeowners.

The sections below describe rapid ethnographic assessment, provide additional detail about our methodology, outline our research questions and include bulleted lists of responses and helpful suggestions.

Rapid Ethnographic Assessment:

A rapid ethnographic assessment brings the research skills of an anthropologist to enhance the understanding of a particular group of people. The anthropologists may employ site inventories, key informant interviews, participant observation, group discussions and structured exercises to answer specific research questions. Researchers have employed rapid appraisal techniques for a variety of purposes including the investigation of relationships of local cultural groups and public parks in Philadelphia and the District of Columbia (Taplin, Scheld & Low 2002; Williams and Brown 1997); Zapotec childrens' precocious learning of local botanical knowledge (Hunn 2008: 226–36); the avenues of HIV transmission in Messina, South Africa (Wilson 2001: 45–46); and rather extensively in public health programs in the United States (Trotter, et al. 2001). The research results of rapid assessments are most frequently employed to

enhance the implementation of a public program but have also found applications in the corporate world. Xerox, for example, regularly employs ethnographic research methods to study customer needs and inspire innovation (Vandebroek nd: 3).

Research Objectives:

Our objective with this rapid ethnographic assessment is to assist Snohomish County Surface Water Management with the preparation of a social marketing campaign designed to encourage homeowners to adopt more responsible care and maintenance of their septic systems in order to reduce fecal contamination from failed septic systems in surface waters. We adopted the following research questions in collaboration with staff from Snohomish County Surface Water Management and Snohomish Health District.¹

- 1. What do septic system service providers think homeowners can do to better care for and prevent failure of their septic systems?**
- 2. What are the common mistakes that homeowners, maintenance providers & regulators make?**
- 3. What are the common motivations and barriers that service providers encounter in their interactions with homeowners?**
- 4. What information are service providers distributing and/or sharing with homeowners?**
- 5. What messages from the county or health district would service providers be willing or unwilling to share with homeowners?**
- 6. What messages would the service providers like see the county and/or health district sharing with homeowners? How?**
- 7. What happens when a required two-year Operations & Maintenance (O&M) service agreement expires for an alternative system (septic system other than gravity or low pressure distribution)?**

Methods:

This research project consisted of twenty semi-structured interviews of key informants in the septic industry of Snohomish County, Washington. The interviewees included septic designers, installers and pumpers. We selected installer and pumper interviewees from the Snohomish Health District's lists of 2008 Certified Sewage Disposal Installers and 2008 Certified Sewage Disposal Pumpers. We selected designers from a list of state-approved "Designers, Professional Engineers" provided to us by Snohomish Health District. We sought input from Snohomish Health District on which individuals would be best to contact to initiate the project. Beginning with the first interview we employed a "snowball" approach (Bernard 2000: 179), requesting each

¹ Snohomish Health District is a separate municipal corporation organized independently of the county government and responsible for public health within Snohomish County.

interviewee to recommend other designers, installers or pumpers with whom we might speak.

By the end of the project we had called most of the businesses or individuals on the lists noted above. We had contacted several of them multiple times. We were able to interview all willing participants who were available during the time frame of our research. One potential interviewee was interested but was out-of-town and thus unable to participate within the time frame required by our contract.

Interviews took place between January 6 and March 12, 2009. To facilitate observation and enhance their comfort level, we interviewed the septic professionals, whenever possible, at their places of employment. In the case of home businesses, the interview location was also at or near the informants' residences. Only two interviews did not occur at the business and/or home office. We interviewed one person at a local coffee shop and another at a grocery store deli.² We interviewed sixteen of the septic professionals individually. Two sets of business partners preferred collective interviews, a preference that we honored.

We scheduled interviews in advance via telephone or email (in one case). Office staff frequently mediated, facilitated and/or obstructed our direct access to designers, installers and pumpers. We found it easier to gain access to business owners and management and more difficult to contact technicians directly. In some cases interviewees shared tips, including personal cell phone numbers, for contacting other professionals that they had recommended. A few managers recommended specific technicians within their company and facilitated the scheduling of interviews with these individuals.

The primary investigator and one assistant were present for each interview. We began by introducing ourselves and the primary goal of the project: to assist Snohomish County with a social marketing campaign designed to encourage homeowners to take better care of their septic systems. We expressed the desire of Snohomish County to seek their input, as professionals in the septic industry, into the program. We offered confidentiality to each interviewee who desired it and asked them to sign a consent form describing the project (Appendix A).³ We also offered each interviewee a \$100 honorarium for their time and completed an associated invoice voucher.

We began the interview with a simple question asking them to describe their job and its primary responsibilities. After the first question we paused to test our recording

² Background noise in each case made transcription somewhat challenging—but not sufficiently to undermine the quality of the data.

³ We found it much easier to manage our data if we treated all interviewees as if they had requested confidentiality.

equipment: two digital audio recorders.⁴ The semi-structured interview then proceeded with follow-up or subsequent questions as needed.

The format of a semi-structured interview provides the interviewer with some latitude in gathering information to answer the general research questions. We employed a set of interview questions, designed in collaboration with staff from Snohomish County Surface Water Management and Snohomish Health District, as a flexible guide to the interview. The interviewer adapts, skips, elaborates upon or adds new questions in response to information, verbal and/or visual cues coming from the interviewee. The primary goal is to solicit information that will assist with answering the research question, rather than to focus precisely on exact wording of particular interview questions.

This methodology facilitates the gathering of qualitative information, more so than quantitative. The information gathered is not necessarily representative of all of the professionals in the local septic industry. While we make a number of quantitative comparisons within this group of interviewees, the associated percentages may not be equivalent to those of the larger group of professionals, some of who declined the opportunity to participate (or were never reached directly). This approach may over represent the views of those who see the County and Health District in a positive light and were thereby willing to talk with us. The next section summarizes, in a general manner, the characteristics of our interviewees. The data presented here is reflective of this particular group rather than necessarily the full body of septic professionals in Snohomish County.

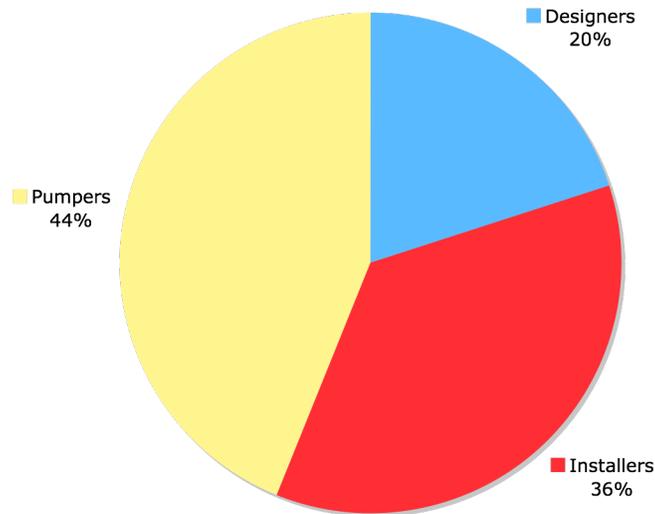
Interviewees:

Our interviewees include 5 designers, 9 installers, and 11 pumpers. These numbers exceed our total of twenty interviewees because some individuals hold licenses in multiple categories. 44% of our interviewees hold licenses as pumpers, 36% hold licenses as installers and 20% are licensed designers. Snohomish Health District's 2008 Certified Sewage Installers and Pumpers Lists include 117 individuals licensed as installers and 64 as pumpers.⁵ Our sample includes 8% of the licensed installers and 17% of the licensed pumpers in Snohomish County. There were 25 designers on the list provided by Snohomish Health District. We interviewed 20% of the people on the list.

⁴ Using two digital audio recorders proved quite valuable on a couple of occasions when batteries expired and/or the recorders ran out of memory.

⁵ To determine these numbers I counted the individuals listed in the parentheses after company names on the pumpers and installers lists. Six companies on the installers list did not include names in parentheses. I still counted these companies as one individual each.

Occupation of Interviewees



All but one of our interviewees has been working in the septic industry for more than four years. The length of employment ranged from 14 months to over 30 years. Most had a decade or more of experience in the septic industry. Our interviewees reported high turnover among those who are employed as pumpers so it is likely that our pool over represents those with longevity in the industry and under represents those who have been in their employment for shorter periods of time.

Our interviewees tended to be those who are in management or supervisory positions, are owner operators of their own businesses and/or supervised others who design, install or pump. It is likely that our sample over represents management level employees and under represents technicians.

The interviewees collectively represent at least 16 companies offering septic services in Snohomish County.⁶ We interviewed more than one person from five different companies: two people from four companies and three from a single company. This overlap was unavoidable in order to reach our goal of twenty interviews. It was also quite desirable in several cases because it facilitated our access to technicians, especially pumpers, and to individuals with differing roles within the company.

⁶ Some businesses operated under various names so some individuals might represent multiple enterprises.

At least 12 of our interviewees have licenses in and provide services in multiple counties.⁷ All but one is licensed in Snohomish County. One individual is not licensed in Snohomish County but dispatches others who are licensed locally. Other counties in which our interviewees work include King, Island, Kitsap, Skagit and Whatcom. This multi-county spectrum proved quite valuable when interviewees made comparisons and contrasts between various county processes. Despite this geographic spread all but two of the interviews themselves took place within Snohomish County.⁸

All our interviewees are male.⁹ The few women we encountered during our research tended to be secretaries, receptionists and/or bookkeepers but not licensed as designers, installers or pumpers.

Homeowners:

The interviews we conducted do not directly sample the perspectives of septic system homeowners, other than those who also happen to work in the industry. Instead we offer a summary of perspectives of septic professionals about homeowners based upon their extensive interaction with the people who own septic systems. All but one interviewee stated that he interacts with homeowners on a daily basis, via telephone or in person.¹⁰ Unlike the homeowners, for whom dealing with a septic system is an interruption of other tasks, the industry professionals deal with septic systems as a central focus of their job. Their extensive experience with the subject matter make them a valuable source of information. Through interviews we have gathered and summarized a selection of this information for application in a social marketing campaign.

Typical customers vary between companies. All companies offer some services directly to homeowners. A few companies specialize in large-scale new developments, designing and/or installing primarily for developers. Installers and designers with these companies work, at least on selected projects, more directly with developers than with the people who eventually purchase a home. Some companies offer design, installation and pumping while others have more limited services in just one or two of these areas. Some installers also offer more general excavation or other services to developers and/or homeowners. While the typical customer for designers and installers might vary, the common client for all pumpers is the homeowner, or in some cases a renter, business or government agency.

⁷ We did not specifically ask about licenses in other counties but comparisons and contrasts with other counties frequently came up in the interviews.

⁸ We conducted two interviews in Island County.

⁹ It is not clear from the lists we have if all the service providers in the county are female, but nearly all appear to have masculine names. A few names are ambiguous or only an initial is listed.

¹⁰ This particular designer works about 50% of the time with developers and in these cases rarely meets the eventual homeowner.

Results

The following sections of this report summarize the results of our interviews. They are organized as a summary response to each of the research questions. Each section includes a bulleted list, structured so that items higher on the list are those that were mentioned more frequently than those lower on the list.

What do septic system service providers think homeowners can do to better care for and prevent failure of their septic systems?

Several themes about steps that homeowners can take to better care for their septic systems emerged and re-emerged during interviews. Education, water conservation, regular maintenance, limited landscaping and care about what goes down a system received regular attention from most interviewees. In the lists below the general bullets appear in the order of the frequency with which these subjects were mentioned. The items listed in the inner bullets provide specific examples within those categories and are also ordered to reflect frequency of mention.

Homeowners can:

- **Become better informed about septic systems:**
 - **Attend classes to learn to care for septic systems.**
 - **Know the type of septic system they have.**
 - **Read and review O&M agreements and as-built.**
 - **Participate in a walk-through of their system with an installer.**
- **Conserve water.**
 - **Spread laundry chores throughout the week.**
 - **Fix leaky faucets & running toilets.**
 - **Turn off water during other tasks.**
- **Ensure regular maintenance is completed.**
 - **Pump tanks on a regular basis.**
 - **Clean filters on low-pressure distribution systems every six months.**
 - **Check UV lights.**
- **Ensure that landscaping does not damage septic system.**
 - **Share an as-built with landscapers.**
 - **Do not plant shrubs and trees above system or on drain field.**
- **Avoid dumping fats, oils and greases and other items down the drain (see list of common mistakes below).**
- **Avoid using too much soap, especially powdered and antibacterial soap.**
- **Avoid use of toilet sanitizers.**
- **Use water and air tight lids on top of tanks.**

What are the common mistakes that homeowners, maintenance providers & regulators make?

The interviews generated an extensive list of mistakes, some more common than others. The order of the items in the left-hand bullets reflects the frequency of the mention of these general categories. The right hand bullets provide additional details that flush out the general categories and are also organized in order of frequency of mention.

Homeowner mistakes:

- **Using too much water (especially for alternative systems).**
 - **Doing all the laundry on the same day of the week**
 - **Leaky faucets and toilets.**
 - **Too many residents for system.**
 - **Hosting large parties.**
- **Flushing or dumping inappropriate items down the drain:**
 - **Powdered detergents**
 - **Using garbage disposal (at all or too frequently).**
 - **Baby wipes (these accumulate and plug systems)**
 - **Feminine products such as tampons and applicators**
 - **Fats, oils and greases¹¹**
 - **Disposable diapers**
 - **Condoms**
 - **Cigarette butts**
 - **Dental floss**
 - **Q-tips**
 - **Paint**
 - **Medication/antibiotics**
 - **Cleaning agents (Pine-sol, bleach, Oxiclean, Liquid Plummer, Liquid Draino, hard wood chemicals, etc.)**
 - **Hair conditioner**
 - **Fabric softeners**
 - **Bath salts**
 - **Antibiotic soaps**
 - **Using septic additives (either commercial activators or home remedies: lettuce, cabbage, meat, chicken, etc.).**
 - **Cat litter (even that labeled “septic friendly” is not)¹²**
 - **Floor de-waxing waste water (commercial customer)**
- **Damaging the drain field with inappropriate landscaping, building or use.**
 - **Sprinkler systems that dissect drain field.**
 - **Planting large deciduous trees that seek water with roots.**

¹¹ Items noted in this bullet and above were mentioned in nearly every interview. Those following were mentioned in multiple interviews until indicated otherwise in the next footnote.

¹² Items in this bullet and below were mentioned in only one interview.

- **Building structures (i.e. decks, hot tubs, sheds, driveways, swimming pools, koi ponds, etc.)**
- **Driving**
- **Running livestock**
- **Covering up septic tank lids.**
- **Waiting too long between pumping.**
- **Lack of knowledge about their own septic system, its history and maintenance needs.**
 - **Do not get adequate information from builders, designers and/or installers.**
 - **Do not read O&M agreements or as-built at point of sale.**
- **Disrupting the system electrically.**
 - **System never turned on in a new home.**
 - **Electricians do not wire system correctly.**
 - **Unwiring septic system during repairs or installation of new electrical equipment.**
 - **Turning off the blower because of the noise.**
 - **Ignoring or turning off the alarms.**

Early in the research, interviewees began referring spontaneously to patterns of behavior by groups of homeowners. As the interviews progressed we began to explore these issues more thoroughly. It is possible that these reports reflect as much about the perceptions of septic industry professionals as they do about the people described. We found some disagreement between the interviewees but we also encountered considerable caution not to inaccurately stereotype people.

Our interviewees report that people in higher income brackets tend to use more water and have more greases, oils and solids in their septic tanks. Interestingly, high water usage is also reported for lower income families. People who are elderly, receiving cancer treatment or otherwise ill and taking medications can kill off the bacteria in their tanks just with the antibiotics passing through their body, let alone dumping it directly down the toilet. Homeowners who devote an inordinate amount of effort to cleaning and/or dump supplies down the drains may kill the bacteria in their septic system. Some interviewees report that “Vietnamese,” “Asian,” “Czechoslovakian,” “Southern European,” “Russian,” “Hispanic,” “Mexican,” “Latino,” & “African-American” families have more fats, oils and greases. Reportedly, groups such as “Mexicans” and “Hispanics” with large families tend to have more water use. A large family with multiple teenage girls may also have the same problem. It is worth noting, again, that these are *perceptions* of homeowners, as reported by our interviewees.

On a more positive note, people who eat organic and use only natural products reportedly have healthy ecosystems in their septic tanks. One interviewee states, “There’s a whole new perspective of household usage. I suppose that’s a good lifestyle one too. ... Yeah, the green ecologically, people with organic food and stuff; boy, their tanks are good!”

Maintenance Providers

Evaluations of errors by other maintenance providers identify some of the tensions within a competitive industry. Most interviewees claim that a small number of individuals and companies give others a bad name through practices such as those identified in the list below. There was, however, a strong belief expressed that poor business practices were not feasible in the long run because dissatisfied customers would not come back for repeat business (something of considerable value to most of our interviewees). Some individuals acknowledged that they had previously worked for companies more inclined than their present employers to make the types of mistakes outlined below.

Pumpers, more so than installers and designers, drew the most criticism (even from the pumpers we interviewed). The problems identified appear to be systemic. The pumping industry has a high turnover rate, in part because pumpers earn less money than others in the industry and they can earn more money elsewhere with a Commercial Driver's License (CDL). Compensation packages that seem designed to offer more income to pumpers may actually encourage deceptive practices. Pumpers are also reportedly not very well educated and have the lowest expectations for certification, particularly so in Snohomish County. Business owners and managers with apparently good intentions express frustration over their ability to attract and retain high quality pumpers as employees.

Other contractors frequently mentioned by interviewees include electricians and landscapers. Some individuals in both of these industries are reportedly not well informed about the needs of septic systems, their pumps, electrical needs and drain fields. Builders, who may be well-informed about the septic systems installed on their properties, may neglect to inform real estate agents and buyers of the information provided by designers and installers.

The bulleted items in the list below are again structured to reflect the frequency with which general categories (outer bullets) were mentioned. Inner bullets reflect specific examples, also ordered to reflect frequency.

Mistakes by maintenance providers:

- **Not fulfilling full operations and maintenance contracts.**
 - **Inadequate inspections.**
 - **Not turning in paperwork.**
 - **Incorrect information on paperwork (i.e. wrong tank size)**
 - **Not opening both inlet and outlet.**
 - **Not informing homeowners of mandated inspections ahead of time.**
- **Incomplete or improper installation.**
 - **Not putting in all the parts on a design.**
 - **Improperly installing hydraulic control box (jamming solenoids up against the wall of the box)**
 - **Erroneous electrical connections.**
 - **Tanks placed too deep in the ground.**

- **Inadequate pumping.**
 - Pump only one tank on a two-tank system.
 - Pump only half a tank.
 - Leaving all the solids behind.
 - Pumping more frequently in lieu of repairing drain field.
- **Selling the homeowners things they do not need.**
 - Breaking the baffle and telling owner it needs replaced.
 - Overpriced risers.
 - Extra filters.
 - Telling customers system has failed when it may only need pumping.
- **Designing inappropriate systems.**
 - Design for ease, not function.
 - System may be on list of approved ones but not most appropriate for the site or household needs.
- **Errors by other contractors:**
 - Landscaping damages system or drain field.
 - Clearing too much soil.
 - Incorrect electrical wiring of septic system.
 - Septic system turned off while home is awaiting sale and then never turned back on.
- **Business practices that invite abuse.**
 - Paying pumpers on commission.
 - Paying pumpers per gallon.
 - Charging per gallon for disposal.
- **Information about septic maintenance needs or O&M agreements does not get to homeowner because of miscommunication between designer, installer, builder and/or homeowner.**

Regulators

In contrast to homeowners and others in the septic industry, regulator mistakes make up the shortest list. In addition to identifying mistakes our interviewees often shared their perspectives about favorable or non-favorable practices they encountered in other counties. The list below summarizes mistakes by regulators identified by our interviewees. It is followed by a summary of comparisons and contrasts made between Snohomish and other counties in which the septic professionals work.

Regulator Mistakes:

- **Incomplete or lack of enforcement of existing regulations.**
 - Inadequate accountability for completion of operations and maintenance agreements.
 - Permits granted for “shoddy” work (i.e. floats installed with zip ties only).
 - Releasing permits prematurely (rare according to interviewee).

- **Inaccurate as-builts.**¹³
- **Incomplete follow-up with design & installation.**
- **Inconsistency between individual inspectors.**
- **No records of septic systems on some properties.**
- **No requirement for a backfill or “stub out” inspection.**¹⁴
- **New or inexperienced personnel.**
 - **Need to spend some time in the field with licensed installers as part of training.**
 - **Do not know what they are regulating.**
- **Too harsh of interpretations of regulations.**
 - **Need to use more common sense in applying standards.**
 - **Need to remember that the actual world is different than it may appear on paper.**
- **Inability to reject a design that might be “legal” but not advisable under conditions on the ground.**
- **Variable county rules to enforce the same RCW (Revised Code of Washington).**¹⁵

For the most part the interviewees spoke highly of Snohomish Health District. The ability to download an as-built off the Internet drew praise from nearly all interviewees. Several mentioned positively free VHS tapes about septic systems available for homeowners from the Health District. A couple mentioned Health District pamphlets that they hand out to homeowners. A few spoke very highly of Snohomish Health District inspectors with comments like, “they’re some of the best people I’ve had to work with as far as inspectors.” Others would say that, “Snohomish County’s not too bad” or “we got a really good crew in Snohomish County, of the inspectors, they’re good. I’ve known most of them for a long time and the ones that are there they know what they’re doing.” In particular, the existence of a septic issues committee, desire to engage professionals through these ethnographic interviews and the willingness of inspectors to use common sense, help homeowners save money and approve creative repairs work is appreciated. Responsiveness is another praiseworthy trait, “I like the way I call down here to Snohomish County or the health department and usually get someone on the phone if I need to call ‘em about something.” Favorable comments include things like:

¹³ One interviewee stated, “Snohomish County is one of the better, in my opinion, at keeping accurate records.”

¹⁴ A designer’s inspection of the plumbing stubs before installation, required in King County, helps prevent ground water intrusion into a septic system.

¹⁵ These comments refer to the state mandates for regular septic system inspections. An exemplary comment says, “And it seems also strange to me that one county has a set of rules, another county has another set of rules, and the third county has a third county has another set of rules, if I drive 55 miles an hour in all counties I don’t get ticket. If I drive 75 miles per hour in all three counties, I get the same ticket. You know why? Because it’s an RCW on the state books. If this is an RCW on state books about septic rules, on septic laws, in septic world, why isn’t it the same in all three counties? In all counties period.”

“In Snohomish County [Health District], we can count on two to three weeks [for a design review]. Snohomish County, and this is just my personal opinion, Snohomish County seems to be a lot better as far as morale goes in the health department, they seem, they treat their inspectors better. They’re better organized. They’re better managed.”

Not all comments about Snohomish Health District were favorable. Critiques of Snohomish Health District’s regulators tend to focus on inexperienced inspectors, pumper and installer certification tests that are too easy, or inadequate requirements or certifications. Examples include:

“Snohomish County [Health District], with their certifications, we’re no where near as thorough as what King County is requiring. In Snohomish County’s certification on a drain field, basically amounted to a walk-through on the site, on an older system and make sure sewage wasn’t surfacing and if it wasn’t surfacing, they would write a certification letter. Hence, why most designers got out of the certification business ‘cause there’s too much liability. If you don’t dig the system up, how are you going to tell if it’s working or not?”

“ Snohomish County [Health District] does not have a back fill inspection process. ... King County requires that after the system is back filled, the designer has to come out and verify the depth and quality of the back fill. In Snohomish County, it’s just trust. Just trusting the installer that they’ve come out and done it right. So, that’s one thing that King County does that I think is good. It’s, ‘cause it’s just one more extra layer of confidence that the system’s going to be okay.”

“So Snohomish County [Health District] doesn’t have what we call a stub out inspection requirement like King County does. Where the designer in King County, we have to come out and inspect where the plumbing stub out is, before the installer is given the green light to begin the installation. That makes for a lot of angry builders and homeowners because if the plumbing stub out’s too low, we won’t release the permit and actually force them to re-plumb the house to bring the plumbing stub out pipe higher so the that the tanks will be high enough that they won’t be subject to ground water intrusion. ‘Cause once you get a leak in ‘em, it’s just a nightmare. ‘Cause it overloads the system, timer alarms are going off and then you’re getting muddy ground water into the system and it can be a real mess. But that’s nothing that the homeowner’s done, that’s more of an installation problem. But even, the problem with that is, is that the installers from Snohomish County come out and say, “hey because the stub out was low, I had to set the tanks low.” So they point the finger at the plumber, plumber points the finger at the builder and says this is what he wanted. That kind of thing. And in Snohomish County there’s no real policy to force them to re-plumb the house, we just do the best we can.”

Many interviewees make comparisons and contrasts with King County. More stringent regulations and lack of flexibility draw both praise and critique. As noted above,

some designers wish that Snohomish Health District would adopt backfill and stub out inspections comparable to those in King County or require larger septic systems for homes with garbage disposals and renewal of O&M agreements. Some hand out pamphlets they pick up at a King County dumpsite. Others report a more favorable business climate to the south because “it’s tougher to pass the [installer’s] test.” Several mentioned the new point-of-sale inspections by King County, mostly but not always favorably. One person called the point-of-sale inspection the “greatest thing since sliced bread,” while another expresses skepticism about the practicality and possibility of gathering the information required. Concern is also expressed about the increased cost of buying older homes without adequate records.

King County draws the sharpest criticism for the slow pace of its responsiveness, design and permit review process. A designer claimed a review of a design proposal in King County will take “twelve to sixteen weeks” versus “two to three weeks” in Snohomish. A request for an as-built reportedly takes up to three weeks for a response. Several interviewees complain about the lack of responses to telephone inquiries and an inability to speak in person with inspectors.

Interviewees speak positively of Pierce County’s “super homeowner education,” “training center in Puyallup at the WSU campus,” and \$25 issuance fee for O&M agreements. One interviewee thinks Pierce County might have a surprise health inspection for homeowners, comparable to that for restaurants, that should be considered in Snohomish County.

Kitsap County draws praise for early adoption of O&M requirements and bringing risers to the surface. Interviewees appreciate the receptiveness of residents in Kitsap and Island Counties as well as Vashon Island in King County to homeowner’s education programs and proactive maintenance of septic systems. Statements like the following are common:

“I know that Kitsap County, they have really high participation rate as far as homeowners in the programs. But it might be because they started the O&M and risers to the surface, way back when. But the people there just seem a little more congenial to the information. I don’t know why. Or, like in the islands... people.... There’s a difference. They all take care of their systems there. There’s that awareness. You’re isolated, you need to take care of you know, things. Things on your own I guess.”

Interviewees have mixed reviews of Island County’s policies. Successful homeowner education classes and a hands-on inspection training facility attract attention. Even though the classes provide an avenue for homeowners to inspect their own systems, interviewees report that at least some better-informed homeowners continue to seek their business. Attempts to require inspections appear to have met with implementation challenges, resulting in less stringent requirements just for home sales. In the reports of our interviewees Island County is a “little bit” successful in its outreach to homeowners. The following is a representative comment,

“And like Island County their inspections they backed off on it, and its only actually going to be checked, they are only checking the inspection form for home sales. Skagit County...so Island County is lax, but they are more reasonable in terms of the reporting requirement. Skagit County has gone entirely the other direction and if you don't have absolutely every piece of information they ask for, they're all over your case and will make you go back and do it again. The problem is neither county is really telling anybody [homeowners] that they have to have these required inspections. That's the key.”

Like Island County, Skagit County gets mixed reviews from our interviewees. Skagit's success is noted, “Skagit County is hugely successful with their mandated service and educating homeowners. And it actually happens. Island County is a little bit.” Interviewees praise Skagit's increasing online access to information, adoption of an inspection report from Washington Onsite Septic Association (WOSSA), collaboration with escrow and real estate companies and discounted inspections for homeowners who take classes. Not all interviewees, though, agree that Skagit's mandated service actually occurs.

“You have to be realistic in the requirements that you want to see. You have to, get as many agencies working together in this as possible, so it's not like in Skagit County; in my opinion, it's just the pumpers. They came out with an extremely high requirement for the ability to do the inspection. I have to be an installer for two years before they even let me take the test. Ah, Island County started out with that, they've backed off a little bit, I don't know if that's necessarily a good idea. They have better education. But the more realistic questions like you have a low-pressure distribution system, if there are no inspection ports on the end of the laterals, Skagit County you have to dig them. Island County you can write down no inspection ports. You can do a much more reasonable job on a day-to-day basis with the talent you can get in Island County. Whereas in Skagit County the option seems to be to not do it. Or just so they are having a problem with people not doing it, because there are not enough trained people or in order to get somebody who can do the inspection, the cost is so high you have to price yourself out of the market. And the market is pretty much zero.”

Some blame for Skagit's problems is placed on deceptive practices of the industry combined with stringent requirements.

“This is Skagit. The biggest problem right now, it's within our industry. It's the competitors. Economy is kind of slow. Guys got to make their payments. They don't want to lose that phone call. So instead of charging for the mandatory inspection that's required by the RCW up there, they are taking the job and eeking into it with the customer and that's leaving them with a frown at the end. Whereas we've been trying to tell them up front and it leaves us with a dial tone. Because they go well I am not buying that story. I'll find somebody. I've found somebody for the last 50 years to pump my tank. I don't need this inspection. Well, so...you

know...it's really a tough go. The customers, and this is something that is important for Snohomish County [Health District], is they've spent tons of money up there in Skagit on newspapers, on classes that they put on they call it Septic 101 or whatever and they have, grants or a grant or two that they have been able to help people, a hundred or two toward risers so they can get their system looked at more frequently."

What are the common motivations and barriers that service providers encounter in their interactions with homeowners?

Questions about motivations and barriers for homeowners drew surprisingly consistent and concise answers from most interviewees. Almost all interviewees stated that a current or past problem with a septic system is the best motivation for good care of a septic system. People who have experienced a failure, backed up toilets, slow drains and sewage in their back yard are strongly motivated to avoid a similar problem in the future. Alarms and buzzers on the newer systems can also alert people to problems but sometimes homeowners ignore these messages at their own peril.

A family, friend or neighbor who has experienced problems can similarly be good motivation. Seeing a septic truck in the neighborhood often prompts people to call. Pumpers, in particular, report that a visit to a new neighborhood will generate additional calls from the nearby homeowners.

Financial motivations likewise merited mention by nearly all interviewees. Homeowners reportedly fear bigger bills in the future, may recognize that they will need to pay now or pay later and may want to protect heavy up-front investments in expensive septic systems.

A few other motivations received occasional mention. A few interviewees noted that homeowners who were generally well-informed, the type that would typically read fine print, take good care of their systems. An increasing awareness of health and environmental concerns also appears to motivate some homeowners. Water conservation measures of a more general environmental concern have a positive impact on septic care. One interviewee reported that he has particular success reminding homeowners that they will want to have good records of their O&M for a future sale of the home.

Motivations:

- **A problem with their septic system:**
 - **Toilets back up and won't flush**
 - **Sewage leaking in yard**
 - **Slow drains**
 - **Alarm goes off**
- **A problem with a neighbor's system**
- **Money**
 - **Big bills**

- **Desire to avoid big bills**
- **Big investment up front on newer systems**
- **Pay now or pay much more later**
- **Knowledge of system needs**
- **Environmental and health awareness**
- **Desire to have good records for future home sale**

The overwhelming response to the question about barriers was cost. Nearly all mentioned money or economics as a primary barrier. Exemplary claims include, “the cost is the number one probable reason why they just ignore” maintenance needs and “number one answer is going to be money. It’s going to cost me, I don’t want to do it.” Even with knowledge, our interviewees report that some people will put off maintenance because of the cost.

An almost equally prevalent response was lack of knowledge or education. Out of sight, out of mind. This response competed for priority among respondents. Examples include, “Generally education. Not knowing what’s needed. That’s the biggest one. They just don’t know.” “Number one is ignorance. A lot of ‘em don’t even realize they have a septic system or they don’t know that it’s supposed to be maintained.” A lack of knowledge about septic systems in general, the type of system in particular and its maintenance needs undermine appropriate care. This lack of knowledge can be exacerbated by a general complacency or a preference not to think about, let alone see, one’s own sewage.

Another somewhat frequent response was a fear of being reported to some authority for apparent violations. A desire for privacy and a resistance to government mandates reportedly can be a barrier for some homeowners. Some homeowners may respond, “I just don’t want anybody here. It’s my property. You know. I don’t want anyone. Just stay away. You know? Big brother type of thing.” People may fear the government, “a lot of time if they have a bad field, they really don’t want to approach the county [Health District] to have the county to have them come out there and look at it.”

Barriers:

- **Money**
- **Knowledge**
- **Fear of being reported for health violation**

Several interviewees suggested creative ways to overcome the financial barrier. Some spoke highly of an arrangement in the Lake Roesiger community where apparently the cost of septic pumping is included with their water bills. Others pointed to incentives offered in other counties for installing risers and/or conducting inspections. Some suggested grants and interest-free loans. Several interviewees explain to customers that septic inspections and regular pumping can be much cheaper than sewer but that it usually comes in a lump sum. A couple of interviewees suggested that a regular billing system, perhaps through a public utilities or health district, for septic O&M inspections and pumping might help ameliorate people’s financial concerns.

What information are service providers distributing and/or sharing with homeowners?

All interviewees reported sharing information with customers. The most frequent, and reportedly the most effective, way to do so was orally, in person. Many also shared advice over the telephone. Service providers preferred the one-on-one approach because it allowed them to address the customer's needs, challenges and needs of a particular system specifically. A couple of interviewees spoke rather highly of a particular installer who conducts a walk-through with all of his customers. They, and he, reported that this approach was particularly effective in reaching homeowners.

We paid special attention to the analogies of septic system maintenance needs as shared by the interviewees. The most common analogy, mentioned by nearly all the providers, was a comparison of septic system maintenance with changing the oil in your car. The list below includes various quotes from interviewees illustrating the analogies used and the language in which they are expressed.

Automobile analogies:

- **“Change your oil today so you don’t replace your engine tomorrow.”**
- **“Because there is warranties involved and they can't just go... like a car... here you go, just drive it. Don't do anything to it. We'll keep the warranty. That just doesn't happen. You got to keep the maintenance on it. Check the oil. Check the tank.”**
- **“The car analogy? Then you’ve got 10-15 thousand dollars and it’s underground. And you know, if you run it...for you know, you can’t just keep it running forever. You’ve got to check the oil and you know there’s working parts in there that you know, you need to check and look at. Because otherwise you don’t know it, it’s just buried. You’ve got to do the maintenance. So people associate the maintenance of their car. They all understand that long term wise.... I also use it as well when their high water usage and ...and/or the system is designed for 480 gallons a day and you guys are using 400 a day, and that average a day. I’m going but that’s like driving you’re car 80-90 miles an hour every day. The car can do 100 miles per hour, but if you do it all the time, it’s going to wear out a lot faster. I use it a lot that way as well.”**
- **“And it’s kind of like changing the oil in your car. Everybody knows motors have to have oil to run.”**
- **“I try to let them know it’s just like changing the oil in your car. If you don’t do it, it’s going to break down at some point and it will cost you.”**
- **“The famous one that I use is, when they tell me that they don’t need to be pumping that often, I tell them ‘do you believe you have to change the oil in your car, every three thousand miles or so?’ Yeah. ‘Well, why don’t you think you need to change the water in your tank?’”**
- **“It’s like driving a car. You’re not necessarily a mechanic. You need to know how to make the pedals go, and make the car go to where you want to go. But you don’t need to know how to change spark plugs or change the oil.**

- You have somebody else to do that. So, you know all you need to know is to have the oil change. Which is a good analogy I use a lot of times. If you never change the oil in your car you either end up with a new car or new motor. Well, if you never have your tank pumped you either end up with a new septic system and it's expensive. So that's a great analogy I use all the time. If your car breaks because you never maintained it, whose fault is that? Is it the car manufacturer, or is it the person who is supposed to maintain the car? Oh this car sucks. I have only driven it 50,000 miles and never changed the oil. Well, I mean...I mean if you don't put gas into your car, its not going to go anywhere either."**
- **"The old systems were buried very deep. So what we do is we put what we call risers on the top so you can have access to them. Especially now that we are maintaining and monitoring them, we retro fit a lot of them that's one analogy that'd...I says, you know after you are done working on them, you know you don't weld the hood of your car shut. You want to be able to get to it and keep getting to it, you know? It's an access port therefore it should be close to the surface or readily available. And that's usually a good sale on that because that helps it so it can be maintained and be monitored periodically."**

Other analogies:

- **"I try to let them know with, like your greases or soaps, it plugs up the orifices in the drain fields when they get out to the LPD's. And you know it will start choking off the pipes. Which is kind of like what cholesterol does with your arteries."**
- **"My favorite one is when your alarm goes off outside, do you go out and just silence it? And then people will say, yeah. Well did the light stay on? Yeah. Well when your smoke alarm goes off in your house, do you just go back to bed?"**
- **"Hmmm, well there have been some people that have asked why; you know why have a septic system versus an outside. And that guy right there has a well dug for his water drinking purposes, if things aren't handled properly, he is going to be drinking your sewage or you're going to be drinking his sewage. That's part of why some of this stuff is being put into place."**
- **"I tell my clients that ah, a septic system is no different than a roof or anything else. I mean it has a life. You can prolong it by taking care of it. And you can have less headaches along the way."**
- **"I mean for a fireplace to work properly, sooner or later you've got to remove the ash. Clean your flu. No different than a septic system. And you tell a homeowner that and it makes sense to them."**

Other messages mentioned or shared in the interviews that might be useful in a social marketing campaign include the following:¹⁶

¹⁶ Some of these quotes have been edited for flow and clarity. Others come from documents septic professionals share with the customers.

Potential social marketing messages:

- **“There are three things that belong in a septic system: water, waste and toilet paper. That’s it!”**
- **“In order for bacteria to work, everything that goes into the tank has to go through the human body.”**
- **“The only thing that needs to go down the toilet is what comes out of you and me.”**
- **“If it doesn’t pass through your body it doesn’t belong in the septic tank, the only exception is toilet paper.”**
- **“Don’t flush anything down your toilet that you have not eaten, the exception, of course, is toilet paper.”**
- **“Nothing but grass should grow on your drain field.”**
- **“Dry laundry detergent. That’s the worst enemy of the septic system.”**
- **“The septic system is out of sight, out of mind.”**
- **“A stitch in time saves nine.”**
- **“Pay a little now or a lot later.”**
- **“It’s a living system. Take care of it. It will last a lifetime.”**
- **“This thing isn’t bullet proof.”**
- **“A little bit of maintenance will prevent a lot of failure.”**
- **“Don’t wait for it to start coming out of the ground.”**
- **“We’re trying to work with you instead of cramming it down your throat. Here’s how we can do it.”**
- **“Let’s do our part for ecology. A cleaner septic tank means cleaner water.”**
- **“You are what you eat. This is true in all organisms, whether they be human, animal or microscopic, like the ones living in septic tanks. What goes down the drain has a major affect on how the septic system works.”**

Most interviewees acknowledged sharing some information with homeowners. A few distribute a brochure available from Snohomish Health District or something similar from neighboring counties. Some depend upon the list of limitations provided on the Health District’s As-Built paperwork.¹⁷ Nearly all who distribute materials were willing

¹⁷ Your onsite sewage disposal system has limitations! It was designed and installed to care for an average sized family. Over-loading the septic tank or disturbance of the drainfield may seriously impair satisfactory operation. Points to remember:

1. Have your tank checked periodically to see if pumping is necessary (every 2 ½ to 3 years).
2. Do not channel ground water, surface water, footing drains or downspouts into the tank or drainfield.
3. Do not excavate, fill, place a structure, driveway or patio in, on, or over the drainfield and its replacement area.
4. Limit toilet fixture disposal to sanitary wastes and toilet tissue.
5. Detergents and bleaches used in normal household quantities will not harm the action of the septic tank and disposal field.

to share it with the county and health district but several would not grant permission to include photocopies in a public report. Consequently, what follows is a summary of the materials without identifying information or details about proprietary business practices.

Several interviewees provide customers with copies of owner's manuals created by septic system manufacturers. These manuals are quite lengthy and provide considerable detail about the systems, diagrams, testimonials and explanations of how the systems operate, probably far too much for all but the most dedicated homeowners to read. One included a notice to occupants announcing that the property is not connected to a municipal sewer system and contains an on-site sewage treatment and disposal. It lists standards of good practice that remind homeowners to use disinfectants and bleaches sparingly and only in accordance with manufacturer's recommendations. It recommends low-sud, biodegradable and low phosphate detergents; only white toilet paper products; spreading wash loads throughout the week; and septic tank additives (that may do more harm than good). It discourages use of toilet bowl tablets, discharge from water softeners, animal fats, drain cleaners, liquid fabric softeners and harsh chemicals (paints, solvents, thinner, caustic cleaners, pesticides, herbicides, etc.). It lists the following items not to be put into the system: disposable diapers, bandages, rags, mud, metal objects, animal bones, home brewery waste, cat litter, cigarette butts, string, condoms, paper towels, melon rinds, egg shells, sanitary napkins, automotive fluids, sticks, plastics, corn cobs and coffee grounds. The notice indicates that violations of standards of good practices may void the warranty. It also requires a signature indicating that the customer has read the guidelines.

One interviewer shared operations and maintenance manuals for low-pressure distribution and sand filter pressure distribution systems that he authored. The first page of these four-page documents explains that the manual gives a "brief explanation of care and maintenance." After a description of the relevant system the documents recommend pumping every 2 to 3 years, cleaning a baffle screen (if present) and annual inspections. They strongly discourage the use of garbage disposals. They state that additives are not necessary and are of questionable value. They identify materials not readily decomposed as inappropriate for the septic system. These items include: sanitary napkins, coffee grounds, cooking fats, bones, wet-strength towels, facial tissues and cigarette butts. The manuals discourage livestock and vehicular traffic over the drain field and encourage water conservation with some suggestions of how to reduce water use (eliminating nonfunctional uses such as leaving water running during other tasks, repairing leaks, using low volume flush toilets and flow restriction devices on sinks).

Other documents provided by the septic professionals include recommendations similar to those indicated above. Additional recommendations include using toilet paper that does not break down easily; limiting use of anti-bacterial products; avoiding products with coconut oil; using only liquid soaps in washer and dishwasher; diverting runoff away from drain fields; avoiding driving and construction of septic system and drain

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6. Practice water conservation.
 7. Snohomish Health District strongly recommends garbage grinders **NOT** be used.

field; and discouraging cutting, excavating, compacting, or planting of shrubs and trees over gravel trenches. Some include recommendations of actions to take in case of a power outage in excess of 24 hours or when an alarm goes off. One document includes dire sounding definitions drawn from Webster's dictionary for terms such as: disinfectant, antiseptic, chlorine and antibiotic. Each definition emphasizes its negative impact on bacteria: destruction, inhibition and poison. All in all these documents reinforce the messages described above but most do so in a manner that is text-heavy, lacks pictures and diagrams and buries "do's" and "don'ts" deep in other less relevant material.

What messages from the county or health district would service providers be willing or unwilling to share with homeowners?

All interviewees expressed an interest in sharing and a willingness to distribute materials on behalf of the county or health district. They recommend messages that appear in the list below. The interviewees most frequently recommend education as the most beneficial service that the county could provide. They place emphasis on events or actions that provide direct contact between government officials and homeowners. Septics classes and a walk-through get frequent mention. Engagement with real estate agents and escrow companies is encouraged. Topics that they recommend addressing as part of an education campaign appear under the bullet for education in the list below.

Recommending maintenance schedules received frequent mention but with some trepidation. Several interviewees recognize that the needs of specific systems vary and that a single rule for everyone might not be the most sound. Others were quick to encourage the county to recommend pumping on a three-year schedule or less for newer systems.

Another frequently suggested message was to address people's fear of government. Several interviewees wanted the county and health district to repair their reputation, to let homeowners know that the government is there to help and protect them. They claim that there is a general negative perception among some homeowners about the county and health district. These homeowners fear that they will be forced to pay for repairs or replacements that they may not think they need. Several interviewees suggested that this reputation is fueled in part by unscrupulous practitioners in the septic industry who paint a dire picture of the consequences should the health district learn of the condition of their septic systems.

Recommended messages:

- **Education**
 - **Septics 101 classes**
 - **Structure, function & limitations of septic systems**
 - **Drain field needs**
 - **Maintenance needs**
 - **Letting people know the cost of not repairing pending failures**

- **Health and environmental damage that failed systems can cause**
- **A walk through of their septic system**
- **Appropriate landscaping**
- **Educating electricians about septic systems (septic endorsement on electrical licenses)**
- **Water conservation (spreading out laundry usage)**
- **Do's and don'ts for drains**
- **You can save money by taking care of septic systems**
- **Inform them of what inspection regimen should be**
- **Recommended maintenance schedules**
 - **Share requirements**
 - **Pump your tank every three years**
 - **First pumping should be within 18 -24 months**
 - **A blanket rule for the county may be difficult to enforce**
- **Government is not the enemy**
 - **Make themselves more available to the public**
 - **Let people know it is okay to come to the county**

We explored possible media for the delivery of these messages. Website was, by far, the most frequently suggested media. Also fairly frequently suggested was the use of television and possibly radio for public service announcements. Many interviewees spoke highly of the VHS tapes offered by Snohomish Health District but suggestions were for updating them or making them available as DVDs or digital downloads online. Various mailings were suggested but most interviewees were skeptical about their effectiveness. They made some creative suggestions (see inner bullets) for increasing their success rate. A few individuals reported they have had considerable success working through homeowners associations. Several individuals claimed emphatically that word-of-mouth or person-to-person were by far the most effective means of communicating with homeowners.

The first list below includes recommendations with outer bullets arranged in the order of frequency. The second list includes helpful suggestions for improving effectiveness of various media.

Recommended media:

- **Website**
 - **Announce website address on required documents.**
 - **Attach address to O&M reports.**
 - **Include on invoices**
 - **Use a simple format with lots of pictures**
 - **Digital video**
 - **Connect or integrate with as-built data base**
- **Public Service Announcements**
 - **Television**
 - **Radio**
- **General VHS or DVD**

- **Oration (word of mouth, person to person)**
- **Septics 101 classes**
- **Mailing**
 - **Inserts with bill or property tax**
 - **Brochure**
 - **Letter**
 - **Include a coupon for \$25 off from cooperative septic service companies**
- **Newspaper advertisement**
- **Homeowner's associations**
- **Real estate agents**
- **Pamphlets for handing out**
- **Operations and maintenance manual for homeowners**
- **Individualized video of the installation of their system**

Suggestions for effectiveness:

- **“Website, website ... a really good website.”**
- **“Yes, and I like the Snohomish County’s [Health District] website, where if you need a drawing, you can find it. They need to maybe fix it a little better so people can figure out how to get on there, to find an as built, ‘cause it’s not real clear on a lot of it, unless you’ve done it a few times. If I send some homeowner to their site, it’s a little confusing.”**
- **“But overwhelmingly what I found is the oration is far better and far more effective.”**
- **“Person to person is the only way. There’s gotta be a way, to come up with a policy or some way of making it so that the eventual homeowner does have to meet with somebody.”**
- **“If we can talk to them directly, you know, and educate them that way, then the systems seem to not have problems.”**
- **“It gets back to the installers. That’s your cheapest way. I mean you could send flyers out, you can send brochures out. People won’t read them. Somebody is standing there with them saying look, here’s what you have.”**
- **“I think that most people that get something in the mail toss it without looking at it.”**
- **“There’s a whole bunch of stuff that’s getting mailed that doesn’t get used, so website yeah.”**
- **“They had these VHS tapes they’d give. But they need to go one further and make it mandatory to get the tape when you purchased the home or when they title transferred.”**
- **“I used to be the manager for a printing and mailing company for 15 years and so, I kind of know the effects of literature. Unless you are offering something, they are really not going to take the time to read it.”**
- **“We have pamphlets that are put out by the Snohomish County Health District, and I usually leave one of those with every customer. Most of the time they’re like, oh, thanks!”**

We also inquired about messages that they would not be willing to share on behalf of the county or health district. Most expressed confidence that the messages these government entities provided would not be something they would resist sharing. A few, however, did not want messages to address profit margins, pricing or suggested bids for installation.

What happens when a required two-year Operations & Maintenance (O&M) service agreement expires for an alternative system (septic system other than gravity or low pressure distribution)?

Approaches to operations and maintenance agreements varied. Installers provided operations and maintenance agreements on systems that required them. Some designers reported that O&M agreements were regularly sold as part of the installation package. Some individuals expressed skepticism about whether or not all the required inspections actually took place. They report a low incentive for completing them when other paying jobs are available, O&M providers who have gone out of business without completing contracts and/or difficulties when homes go into foreclosure. They suggested a system of accountability, such as a report, perhaps an electronic one that is publicly displayed along with the as-built on the health district's website. Despite this critique pre-paid inspections are reportedly easier to conduct because the customers often refuse to have a billable inspection done, even though the requirement is stipulated in their covenant. In many cases the builder, not the homeowner, signed the original O&M contract.

Installers reported the following responses to the end of a contract. This list provides a good overview of the variability of responses and results.

Responses to contract expiration:

- **“It's totally on the homeowner to do it.”**
- **“What we generally do... here's the nice thing about O&M. When we do O&M's, we have an open channel of communication with that customer. It's myself or couple of other guys that have been with me a long time. So the names are usually recognizable to those customers. ... Do a good job. Give them the information that they are looking for. Tell them what the frequency is. Tell them...whatever they want to know, give it to them. And we keep those customers forever.”**
- **“We let them know that it is expired. That their contract has expired. Beyond that, yeah, as far as usage monitoring there is somebody who asks, what can I do? What do I do? And at that point we...we just schedule them.” This individual reports that only 50% continue service after contracts end.**
- **“We have two programs. We have an O&M contract that we highly recommend because basically it maintains your system. There's a few things you have to get up to the point it can be maintained. You have**

to have risers to the surface and you have to have a full inspection of the system before we can do that. The second program we have is called the preferred customer program which basically it's a, a trust fund. Literally, it's a trust fund for their septic system. So they can accumulate money to get the repairs they need done and we give them the 15% discount. And the whole idea is that they can get their tank pumped and money will be there for each of these repairs as money accumulates they get their repairs done and then when the repairs are done, the pumping is done, they move into the maintenance phase. So its kind of a two phase. But they can just stay as a preferred customer. ... A lot of people seem to like the preferred customer, the trust fund more, because they have more control. They can choose what needs to be done."

- "Basically, when we do our last contracted maintenance inspection, we cc the current property owner a copy of the report along with a letter that says we've satisfied our two-year contract. We do not do operations and maintenance after two years, here's the companies we recommend you contact. And technically on the title of the property is a declaration of covenant that obligates a homeowner to do the ongoing maintenance and monitoring inspections on their system. And so, they're supposed to do it forever. Some of 'em do, some of 'em don't."
- "We send 'em a [reminder], we've got a notice, it's a generic notice that says, your first two years has been paid for by like [a manufacturer] and that's now been completed. And if you want us to continue doing the maintenance, it should be done every six months. You can have somebody else do it or if you want us to do it, give us a call. You know, or send us two hundred bucks and we'll gladly schedule an appointment."
- "We track every one of our contracts. We track in our Customer Manager. It's a QuickBooks program. And we track every one of them for renewal dates. And so when it comes up time for their last inspection on the contract, we'll say you know contract is up for renewal, do you want to renew? We offer all our clients an auto renewal, which says, we will automatically renew it at the end of every two year or three year contract. So and we do have some that will just say just auto renewal. As long as we are living here, we want you taking care of it. And they'll just auto renew."
- "We don't do anything [when a contract expires]. The county takes care of that. They jump on that. Because they're not required. If it's a high-end system, I'll tell them upfront. I said, you're required for two years but I would recommend following up on it. And like I said, a lot of the high-end stuff, is. They just do that. They just set it up through monthly billing and it's just taken care of. Whereas, the lower stuff, they haven't had a problem in two years, they're not going... most of

the homeowners think of it and like nah. It's like an insurance policy. They...back off on it pretty quick."

- **"We send out renewals to them. And a lot of the times it's recorded on title with whether it be an ATU or sand filter system, that you have to have on-going maintenance, monitoring for the life of the system. And with it being recorded on title for quite a while, not as much any more, which is strange. But title companies will call us to receive our O&M reports. And because it's recorded on title, the people were supposed to be aware of it. But unfortunately people thumb through their title stuff when they are signing papers on their house and don't read any of the information and then wonder why there is somebody knocking on their door to do the O&M."**

Conclusion

All in all this rapid ethnographic assessment captured valuable information that can help guide social marketing campaigns in Snohomish County and beyond. Perhaps, tangentially, it has inspired confidence from septic professionals in the intentions of local government, provided an avenue for them to contribute to effective governance and enlisted their support in the development and implementation of a social marketing campaign. Their insights suggest that a public information campaign may best be delivered in person and online, and may need to be targeted to particular audiences. Marketing efforts may also need to be coupled with carefully designed and more uniform regulatory standards, more challenging certifications, consistent but common sense enforcement, and engagement of themselves, electricians, landscapers, builders and real estate agents in the process.

Bibliography:

Bernard, H. Russell. 2000. *Social Research Methods: Quantitative and Qualitative Approaches*. Sage Publications.

Hunn, Eugene. 2008. *A Zapotec Natural History: Trees, Herbs, and Flowers, Birds, Beasts, and Bugs in the Life of San Juan Gbëë*. Tucson: University of Arizona Press.

Taplin, Dana, Suzanne Scheld and Setha Low. 2002. Rapid ethnographic assessment in urban parks: A case study of Independence National Historical Park. *Human Organization*. http://findarticles.com/p/articles/mi_qa3800/is_200204/ai_n9060057.

Trotter, Robert, Richard Needle, Eric Goosby, Christopher Bates and Merrill Singer. 2001. A Methodological Model for Rapid Assessment, Response, and Evaluation in the RARE Program in Public Health. *Field Methods*, 13(2): 137-159.

Vandebroek, Sandy. No date. "Xerox Innovation: Creating the Future Today"
http://www.xerox.com/downloads/usa/en/innovation/innovation_xig_brochure.pdf.

Williams, Brent and Tanya Ramos. 1997. Rapid Ethnographic Assessment of Park Users and Neighbors Civil War Defenses of Washington and Anacostia Park, District of Columbia, for Park Management Plans. <http://www.nps.gov/archive/nace/reap.htm>.

Wilson, David. 2001. HIV/AIDS Rapid Assessment Guide.
<http://www.fhi.org/en/HIVAIDS/pub/guide/RapidAssessmentGuide/index.htm>.

Appendix A:

Consent Form – Rapid Ethnographic Assessment

The Learn-and-serve Environmental Anthropology Field (LEAF) School at Edmonds Community College invites you to participate in a semi-structured interview as part of a rapid ethnographic assessment of the local septic industry for Snohomish County. The general purpose of this ethnographic research is to gain a better understanding of issues related to Snohomish County septic systems and their impact on water quality.

Voluntary Participation

Your participation in this research is strictly voluntary. To be eligible for compensation, not to exceed \$100, you must complete a semi-structured interview of approximately two hours. You may decline to answer any of the specific questions in the interview.

Confidentiality

If you opt for confidentiality (see statement below), we will make every effort not to reveal personally identifiable information in reports or publications based on this research. Records of your participation, necessary for compensation, will be maintained separately from interview recordings, transcripts and reports. Your actions and things you say may be presented without specific reference to you, reference only by pseudonym, or combined anonymously with the actions and words of other participants.

Consent Statement

I have read and understand this description of the research project and understand that my participation is voluntary.

I do _____/ do not _____ wish my identity to be kept confidential (please initial one).

Signature

Date

Print Name

There are two copies of this form. Please sign both. Return one to the researcher and keep the other for your records.

Contact Information

If you have any questions, concerns, or complaints about this research project, please contact the Primary Project Investigator listed below. You may also request a copy of the final report from this research project.

Primary Project Investigator

Thomas W. Murphy, Ph.D.
Chair, Dept. of Anthropology
Edmonds Community College
20000 68th Ave. W.
Lynnwood, WA 98036
425-640-1076 tmurphy@edcc.edu

Appendix B:

Semi-Structured Interview Questions

Interviewer: share consent form and get signature for consent form and compensatory payment prior to beginning the interview.

Basic information questions:

Numbered questions are primary. Letters indicate possible secondary questions. Secondary questions may be used as a follow-up when the answer to the primary question does not fully address the question.

1. Describe your job and its primary responsibilities?
 - a. Do your responsibilities include or have they included ... pumping? ... installing? ... designing?
 - b. Do you supervise others who pump, install and/or design?
 - c. How long have you performed this work?

Interviewer: pause and then play back recording to test equipment, make volume and enunciation corrections.

2. What do you like most about your job?
 - a. Describe your best day on the job.
 - b. Describe your worst day on the job.
3. Describe your typical customer.
 - a. How often do you interact with them?
 - b. Do they typically have an operations and maintenance agreement?
 - c. How do they find you? Or, do you find them?
4. What motivates homeowners to take better care of their septic systems?
 - a. How can you recognize a well-maintained septic system when you see it?
 - b. What are the most common mistakes you encounter on the job?
 - c. What mistakes by other service providers have you encountered?
 - d. What mistakes by regulators have you encountered?
 - e. What patterns have you observed in which groups of homeowners are more likely to have problems? Ethnic? Socioeconomic?
5. What typically prevents homeowners from properly caring for their septic systems?
 - a. What do you think are the top three obstacles to good septic system maintenance?
 - b. Are there any mistakes people regularly make despite good intentions?
6. What information do you typically share with homeowners?

- a. Upon installation?
 - b. After a service call?
 - c. Where does this information come from?
 - d. Would you be willing to share an example of literature you distribute?
Can we share this example with the County and/or Health District? (*If they have opted for confidentiality ensure them that the literature would be shared independently of their answers and identifying information would be removed.*)
7. What information, if any, do you share with customers when an operations and maintenance agreement expires?
- a. Are these the required two-year agreements for alternative systems?
 - b. Do you offer other or continuing maintenance and operations agreements?
 - c. Is this information effective in generating continued operations and maintenance?
 - d. Does the required operations and maintenance agreement lead to more effective care in the future?
 - e. If you do not share information then what do you do when an O&M agreement expires?
8. Does the information you share have an impact on customer behavior?
- a. If so, how?
 - b. Under what conditions?
 - c. What aspects of the message appear to be most effective?
 - d. What aspects of the message appear to be least effective?
9. What information do you wish you shared with homeowners?
- a. Why?
 - b. Why don't you share it now?
10. What messages should the county and/or health district be sharing with homeowners?
- a. In what form or media?
 - b. Would messages be more or less effective coming from the county or health district?
 - c. How might the suggested message change homeowners' behaviors?
11. What messages or information, created by the county or health district, would you be willing to share with homeowners?
- a. Why?
 - b. What impact would you expect this information to have on homeowners' behavior?
 - c. What messages or information would you prefer not to share? Why?
 - d. What messages or information would you refuse to share? Why?
12. What value aside from increased business would you see from a mandated service schedule?
- a. On a three-year schedule?
 - b. Would this address the problems? Why? Why not?
13. We would like to conduct interviews with a broad spectrum of installers and pumpers. Who else would you recommend we speak with?

- a. Can we identify you as referring us to them?
 - b. *If business owner:* Could we speak with some of your employees?
 - c. Who would you discourage us from speaking to? Why?
14. Would you be willing to let us spend a day on the job with you?
15. What else would you like to share with us about your experiences in the septic industry?

Interviewer: thank the interviewee for their time and help. Share a business card in case they would like to follow up with more information and/or suggestions.