

Posted February 2018

Washington Island Wastewater Program Summary:

This summary details the history and current status of the Washington Island Wastewater Program. Thank you for your interest in learning more. We welcome the opportunity to address any further questions you may have and will do our best to provide you with complete answers to your inquiries.

Both the Washington Island Town Board and the Wastewater Advisory Committee members share with most all people a deep sense of commitment in this matter of safe drinking water. Furthermore, this commitment is not a recent development on the Island.

Corporate concern for the safety of our Island water supply, in fact, began in the 1970's. At that time the elected leadership of the Island first sought to address formally the question of the safety of our Island groundwater. What follows will help you, perhaps, to come to appreciate what efforts have gone before and to find ways in which you may be able to participate and to contribute in the future.

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1980's: Island's initial plan for *Centralized Wastewater Treatment*

As a result of collective concern for the safety of the Island's drinking water, a consulting engineering firm, Brey, Stewe and Braun, Inc., of Sturgeon Bay, WI, was hired in the mid-1980's to look into options which might be available to the Island. After much work they presented to the State of Wisconsin their plan for a centralized treatment plant to be located near Jackson Harbor Road.

Because of the Island's shallow bedrock, the building of sewer lines throughout the Island would have been virtually impossible and/or unaffordable. A "pump and haul" delivery system was envisioned, with an estimated sizable number of pump trucks being needed to deliver septage to the central plant. (There was, of course, concern about the attendant degrading of Island roadways. It was also considered that the effect of having large numbers of septage hauling trucks traveling about might impinge negatively on the tourist industry on the Island.)

Effluent from this system would have flowed into the canal leading to Coffee Swamp, and ultimately out into Lake Michigan. Because of Coffee Swamp's status as a designated state natural area, however, the Wisconsin DNR did not approve this plan. This sensitive protected area was judged to be "not eligible" as a depository for treated wastewater effluent. (See this link to verify the current status of our Island conservation treasured sites.

dnr.wi.gov/about/nrb/2011/September/09-11-384.pdf)

The next iteration of the project would have put the treatment plant near McDonald Road, on the northwest corner of the Island. An outflow of system effluent would have entered into Green Bay through a series of pipes leading through bedrock to the waters off the Island's west shore. (This deep water off to the west of the Island is, of course, a prime fishing area for the region.)

The costs for boring down through massive limestone bedrock and of laying pipe out into the waters of Green Bay would have been excessive. When the Town Board added this to the already mentioned additional costs of numerous tank trucks for pumping and hauling septage, the likely subsequent degradation of Island roadways, and the possible economic impact a massive "pump and haul" operation would have had on Island tourism, it decided against this centralized option.

1990's: New direction is taken: *Decentralized* Municipal Wastewater Treatment

After some considerable searching for alternative options, the Washington Island Town Board undertook a brave new initiative. They hired a consulting engineer, David Venhuizen, P.E., to guide us through a different sort of planning process.

This new effort, which was subsequently endorsed and publicized nationally by the US-EPA, became Wisconsin's first "Decentralized Municipal Wastewater Management Program". Basically it meant that instead of trying to find a single location for a central treatment system, we would retain and keep in use all of our existing code compliant onsite treatment systems. We would replace those which were failing and we would subject them all to municipally based oversight and management.

Before we could actually implement this plan, however, we had first to gain the approval of two Wisconsin state agencies, the WI-DNR and the WI-DILHR (later known as the Department of Commerce and now known as DSPS).

Washington Island's project required such a hybrid arrangement between these two agencies because, while we were planning to become, technically, a DNR managed "Municipal Wastewater Treatment Program", at the same time we intended to retain all of our existing onsite treatment systems. These onsite systems fell under the supervision of what was then called the Department of Industry, Labor and Human Relations. (DILHR), and so we needed to work with both state agencies. Just as importantly, these two agencies would also need to work together on our behalf.

With support from forward thinking individuals in each of these agencies, and following the approval of an intergovernmental agreement between them, we were, in due course, able to gain state approval for our plan. *In doing so we became one of the first rural communities in the US to look to "municipal management" of*

individual wastewater treatment systems as a means of providing protection for our subsurface drinking water.

Federally funded demonstration project undertaken to test technology

As a condition for our approval and in order to satisfy understandable concerns the state agencies had about this new type of plan, we, in the early **1990's**, took part in a two year Federally Funded Wastewater Demonstration Project. *It was designed to prove that there were technologies available (in our case the high performance recirculating sand filter system designed by David Venhuizen) which were capable of treating wastewater to such a degree that the resulting effluent could safely be disposed of in shallow soils found throughout much of the Washington Island landscape.*

The good results of this demonstration paved the way for the completion of our **1995** Facility Plan, which was approved in October of that year by the state agencies, and was subsequently heralded by the US-EPA. A Washington Island Utility Board, made up of the members of the Washington Island Town Board, was established in June of **1996** to govern the operation of the new "Decentralized Municipal Wastewater Management Program".

Borrowing from powers granted by state law to Counties, but not available to any Town government, the Door County Board passed an ordinance giving the Washington Island Wastewater Management program the "weight of law". In addition, an intergovernmental agreement signed between Door County and the Town of Washington served to satisfy the legal requirements necessary for the program's ongoing operation.

Chief among the powers granted in this agreement was the County's hiring of a qualified system inspector to examine and judge whether or not any given onsite system was failing and needed to be either repaired or replaced. This individual also performed the three year septic system inspection to see if a system needed to have sludge removed. Washington Island was responsible to reimburse Door County for the expense of this employee.

This intergovernmental agreement with Door County expired in 2006. Presently, because of changes in state statutes, licensed septic system pumpers have been permitted to do these inspections and to determine the need for periodic pumping.

As part of that Facility Plan, the Town of Washington was also charged with submitting an updated Management Plan to the WI-DNR every two years after the "Decentralized Municipal Wastewater Management Program" began. The current existing "plan of record" with the DNR is dated 1998. The Town of Washington, while continuing to operate the program for these ensuing years, unfortunately has not kept tabs on its mandated responsibility to assess and upgrade the Management Plan every two years.

As a further condition of the initial approval of our Facility/Management Program, the Town of Washington was required to inspect every onsite system on the Island and to replace those which failed to meet the state's performance standards. We were given ten years in which to perform these inspections and to replace any system which was found to be noncompliant. (This inspection and replacement process was completed by the 2006 deadline.)

Inspection priority was given to systems which were located in any "potentially problematic areas". These included shoreline areas near the Island's harbors.

The 1995 approved Facility Plan called for an effort to reduce gradually the Island's dependency on "field spreading". To this end the Town encouraged property owners who could legally do so to replace voluntarily their holding tanks with a high performance treatment system. (Ensuing septic code rule changes at the state level in 2000 meant that in many such cases "mound systems" could be built on lots previously served only by holding tanks.) A significant number of holding tanks on the Island have been subsequently replaced with code compliant onsite systems.

2000's: The history of "field spreading" on the Island and the plan to diminish dependance on its use

According to the Facility Plan, DNR approved "field spreading" would be employed as a means of disposing of holding tank wastewater and of septage, which periodically must be removed from onsite septic systems. Acreage for this purpose was procured by means of a twenty year lease with Island resident, Myra Koyen.

This lease was signed in **1999** and became operational on January 1, **2001**. Subsequently Myra's land was sold to Ted and Charlotte Hansen. Later a portion of the Hansen land was sold to Tom and Michelle Jordan. "Field spreading" of

septage (that is, waste from septic systems) and holding tank wastewater has continued during the summer months on this acreage.

An option proposed, but not approved for the demonstration project, was to build a collective "effluent only" treatment system for use in the area near the Red Barn Town Park, where housing density made individual septic systems impossible. Its operation would have significantly reduced the annual gallonage of holding tank waste and would have reduced the community's dependency on field spreading as a disposal treatment for holding tanks.

Wisconsin DNR changes rules governing "field spreading" in winter

Because of subsequent changes in DNR rules, thereafter requiring that there be "NO 'field spreading' during winter months", it became necessary for the Town of Washington to address the question of what to do with holding tank wastewater in the winter months. They decided in **1999** to build the Ball Field F.A.S.T. (fixed activated sludge) system. Baudhuin Surveying & Engineering in Sturgeon Bay was our consulting engineering firm on this project.

Because this system was designed to treat under 2000 gallons of holding tank wastewater a day, and because it was considered to be a "collective system", rather than a "municipal treatment system", it originally was deemed to fall under the jurisdiction of the Wisconsin Department of Commerce, Division of Safety and Buildings, rather than the DNR. (The agency we first knew as DILHR had been renamed to be the Dept. of Commerce, Division of Safety and Buildings.)

According to the rules promulgated by the Division of Safety and Buildings, the "point of standards application" for the F.A.S.T. System's treatment effectiveness would be beneath its conventional drainfield. This drainfield had been designed to return effluent from this system to the soil.

This F.A.S.T. system went into operation in the fall of 1999. At that time its use under the rules promulgated by the Department of Commerce, Division of Safety and Buildings, were not challenged by the sister agency, the Wisconsin DNR.

Biodigestion. - A new, bold initiative is investigated

In 2005 the Town of Washington undertook a major effort to explore "biodigestion" of wastes, both liquid and solid, as a possible solution to waste treatment on the Island. This innovative biodigestion technology was envisioned

as possibly being effective in treating both wastewater from septic systems and holding tanks, along with solid waste (garbage), which was concurrently being collected at the Island Exchange.

This technology produces methane gas as well as 99.9% pathogen free by-products, namely fertilizers. While this technology has been successfully employed in other parts of Wisconsin (primarily on large dairy operations), it was demonstrated to be cost prohibitive for the Island. This was because of our marked seasonal fluctuations in both wastewater and garbage. The Town Board ultimately chose not to move forward with this project.

2010's: Changes in state agency's authority complicates efforts to find additional Island treatment solutions

In an effort to advance toward reducing the Island's dependency on "field spreading" as a means of wastewater disposal, the Washington Island Town Board in 2013 again hired Baudhuin Surveying and Engineering, Inc., to design an additional large 11,000 gpd F.A.S.T. system. It was planned that this system would be located on the land purchased from Eugene Gunnlaugsson, near the present Island Exchange, off of Gunnlaugsson Road.

This Baudhuin designed system went out for bids, after having received what were then deemed to be the only necessary approvals from the Dept. of Commerce. Bids were received and a contract was to be awarded. Before construction began on this system, however, the Wisconsin DNR came on board to declare that this system was sized such that it now constituted a "municipal system" and needed their, that is, the DNR's approval.

In addition to the size consideration, what had not been understood was that the DNR's rules for judging the quality of a system's effluent are significantly different than are those of the Department of Commerce. We learned that the DNR's rules, not those of the Dept. of Commerce, would have to be in effect for this newly proposed system.

Though bids had already been submitted for this system and a contract offer awarded, this project was then postponed. No construction ever took place.

In **2014** a Baudhuin redesigned F.A.S.T. system for the Gunnlaugsson property was approved by the DNR. It was now understood before any bidding process took place that it would be termed a "municipal system" and would, therefore, have to

comply with DNR rules pertaining to effluent quality, and more specifically, the DNR's rules for determining how and where effluent quality would be judged.

In addition, under DNR rules this new system would have to have a qualified licensed operator. The additional costs to bring the new system up to DNR "point of standards application" requirements and to hire a qualified operator made the project cost prohibitive. The Facility Plan was "approvable" by the DNR, but the Washington Island Town Board did not choose to continue with the project because of cost considerations.

Again, in **2015**, another smaller Baudhuin designed F.A.S.T., to be sited at the west side of the Ball Field, was proposed. No action was taken on this system, however.

In April of **2017**, because of the Hansen family's decision not to renew their lease with the Town of Washington for the use of their land for "field spreading", the voters of Washington Island at the Annual Town Meeting approved the purchase of additional land for "field spreading" from Lonnie Jorgenson. Lonnie Jorgenson's land had been used for "field spreading" years ago, before the Washington Island Decentralized Wastewater Management Program was initiated.

Then a little later in the spring of **2017**, May 15, 2017 to be exact, the Wisconsin DNR asserted, in a phone conference with the Washington Island Town Board, that the Ball Field F.A.S.T. system would have to be taken immediately out of service because it was not, according to the DNR, code compliant in its configuration or operation. It was now the DNR's assertion that this 2000 gpd system, which had been in use under Department of Commerce Rules since 1999, would first have to be upgraded to meet DNR rules for a "municipal treatment system" before it could be returned to service, and that we would have to hire a certified operator to oversee its function.

This change of understanding on the part of the State of Wisconsin regulatory agencies, as one can readily observe, thus caused the Town of Washington to have to reevaluate its options with regard to wastewater treatment in the future. It produced a crisis, of sorts, but one born of regulatory changes rather than of water quality considerations.

**The current situation on Washington Island:
in the midst of a procedural crisis, not a water quality crisis**

In recent months, since the May 15, 2017 announcement by the Wisconsin DNR, there has been a perception circulated by some that Washington Island is in the midst of a "groundwater quality crisis". **This perception is inaccurate!** While there is, admittedly, action we need to take with regard to our present regulatory situation, it ought **not** to be viewed as a concern for water safety.

We find ourselves, rather, in a regulatory dilemma resulting from changes made by government agencies at the state level. While we do not have a groundwater quality crisis, we do have a change in how the Wisconsin State regulatory agencies see our "Decentralized Municipal Wastewater Management Program", and in how we need to comply with their new internal understanding of authority.

For example, the agency we first knew as DILHR, (later as the Department of Commerce), is now known as the "Department of Safety and Professional Services". (DSPS) We were long accustomed to dealing with this agency, which historically was focused primarily on managing onsite wastewater treatment systems. The new agency, DSPS, however, has expanded authority covering such disparate things as prescription drug monitoring, cosmetology examinations, fire alarms, plan reviews for elevators, as well as **private onsite water treatment systems**.

How this new agency is now intending to interact with our "Decentralized Municipal Wastewater Treatment Program" is a matter for exploration. How we are, at the same time, being asked to respond to the rules and expectations of the sister agency, the WI-DNR, has also become a matter for exploration.

As part of our explanation of our current circumstances, however, we must also be honest about our own local responsibilities in this present situation. This means our acknowledging that during periods of our program's history there have lapses in the attention we gave to our wastewater management obligations. These lapses were in the area of record keeping, not in protection of water quality.

For example, as was previously mentioned, our original responsibility to update our Management Plan every two years has not been honored. The Management Plan of record was submitted and approved in **1998**, and has never again been revised or resubmitted. *Obviously we have some makeup work to do here.*

This Management Plan is the document which tells the State of Wisconsin how we intend to supervise and report our onsite system inspections, maintain our pumping schedules for septic systems, and the reports of same, etc., and how we plan to pay for these services. While is not a direct part of the Facility Plan, the Management Plan is a crucial part of how we maintain records and insure compliance with our agreed upon obligations to the State. The DNR has needed to hear from us on this subject every two years since 1996, but we have not complied with this aspect of our contract.

These two factors, then, of:

- 1. change in jurisdiction and applicable rules at the state level**
- 2. lapsing of some of our own responsibilities at the local level**

have resulted in a mini-crisis of its own peculiar sort. This means that, while we do not have a "groundwater safety crisis" on our hands, we certainly do have an unanticipated "**procedural crisis**".

A new initiative is begun

As a result of the DNR's announcement on May 15, 2017, the Washington Island Town Board immediately convened a new Wastewater Advisory Committee which met first on June 8, 2017. Any individuals who were interested in serving on the Wastewater Advisory Committee were welcomed. An effort was thus begun to plan how best to respond to the regulatory changes and to plan for the future.

June 2017

Initially, the committee developed a list of possible short term goals and additional long term goals. The Wastewater Advisory Committee initially considered the short term options of:

1. reworking the F.A.S.T. system to meet DNR standards and continuing to use it for winter treatment of holding tank waste, relying on "field spreading" in the summer for wastewater treatment.
2. finding storage capacity in existing tanks on the Island for winter generated holding tank waste, with summer "field spreading" as the ultimate means of treatment
3. hauling winter generated holding tank wastewater off the Island for treatment in Sister Bay Municipal plant,

or elsewhere in Door County, while still relying on "field spreading" for wastewater treatment during the summer months.

4. applying for a "variance" to allow the F.A.S.T. system to be operated during the 2017-2018 winter season while we address our options for long term solutions to our present winter holding tank wastewater disposal needs.

Long term options included:

1. continuing use of a refurbished F.A.S.T. system for winter holding tank waste, with "field spreading" continuing in the summer months.
2. phasing in construction of a collective system in the Jensenville area to include the Red Barn Park, the Shipyard Island Marina and the Pub Restaurant, plus various residences in the area.
3. looking for funding and other means to encourage holding tank owners who are eligible to replace their tank with an operating system to do so.
4. exploring the possibility of employing mobile clarifying units to remove sludge from septic systems.
5. constructing a large central treatment system at some suitable location in order to eliminate all "field spreading" on the Island. Sludge from such a system might need to be transported off the Island for final disposal.
6. revisiting the "biodigestion" option which was explored here in 2005.
7. considering a constructed lagoon option for all wastewater disposal
8. considering hauling ALL wastewater generated on the Island across the Door to a municipal treatment system in the County

July 2017

Throughout the summer the committee members worked to research the short term options, and some of the long term options. Steve Parent, P.E., came to the Island on July 12, 2017, at his own expense, to meet with the committee and to advise us on how to develop a facility plan. He helped us to outline our short and long term possibilities.

August 2017

By mid-August the committee realized that we did not have sufficient room in all of our Island based commercial sized holding tanks, including the F.A.S.T. system, to be able to store our winter generated holding tank waste until spring.

After thorough research we found that the cost projection was very high for hauling the wastewater off the Island to a Door County Municipal Plant (Sister Bay being the most likely). A typical \$90 normal pump out would cost over \$400 when hauled to the mainland for treatment. In addition, any significant delay in transport, such as a weather related delay of the ferry, could result in septage freezing in the transporting tank truck.

The suggestion by some that the costs for such pumping and hauling would best be shared by all taxpayers on the Island did not seem appropriate. This is because property owners with onsite wastewater treatment systems, other than holding tanks, have already spent out of their own resources an estimated \$12 million for the installation of their systems. Asking them to subsidize the additional costs of hauling other people's holding tank wastewater did not seem appropriate. This would be especially true with regard to those property owners who could, but chose not to, upgrade their holding tank to some sort of a code compliant onsite system..

In the end the committee concluded that it would be best if the Town Board were to apply to the DNR for a one year variance for winter operation of the Ball Field F.A.S.T. system. This "variance" would afford the Town time to consider options for meeting our needs into the future. On August 21, 2017, a memorandum to that effect was sent by the Town Board to the DNR.

The DNR subsequently responded that it would grant a variance for the operation of the F.A.S.T. system during the winter of 2017-2018, conditioned, however, on the Town of Washington's hiring a consulting engineer and proceeding with a new Facility Planning process to cover the next twenty years. Now we were not merely looking to reclaim the F.A.S.T. system at the Ball Field, but were being asked to do a comprehensive new Facility Plan for the entire Island. The Town Board accepted the DNR's solution to our problem.

The Wastewater Advisory Committee, in response, set about seeking to make a recommendation to the Town Board regarding who might be the best candidate for Consulting Engineer. We also had to determine what it is that we would want that engineer to do on our behalf.

On August 23, 2017, in an effort to learn more about conditions in the substrata of Northeast Wisconsin's Niagara Escarpment region, we welcomed Dr. Timothy Grundl, Dean of Freshwater Sciences, UW-Milwaukee, to make an informative public presentation. (Dr. Grundl is a personal friend of Pete and Lucia Petrie.)

He informed those in attendance about the complexity of treating septage in an area such as we encounter in Eastern Wisconsin. Dr. Grundl encouraged us to use all possible means to guarantee that our groundwater would not be contaminated.

Dr. Grundl has had extensive recent experience in helping the City of Waukesha, WI, to gain access to Lake Michigan as a source for their drinking water. Based on his experience, he was quick to caution us against believing that centralized wastewater treatment systems are capable of removing pharmaceuticals and other chemicals from wastewater. As was the compelling case in Waukesha, effluent from such "upstream" systems has been known to contaminate the drinking water of communities located "downstream" from their discharge point.

Significantly, with regard to our Island circumstances, Dr. Grundl did not dismiss "field spreading" as a viable septage treatment option. He did, however, state that its use must be properly managed.

September/October 2017

The Wastewater Advisory Committee held several meetings to consider available treatment options and to consider consulting engineer/engineering firm candidates. The Wastewater Advisory Committee recommended two engineering firms to the Town Board for their examination. These were:

1. Baudhuin Surveying & Engineering
Sturgeon Bay, WI
2. Becher Hoppe, Wausau, WI

After interviewing these two candidates, the Town of Washington hired Baudhuin Surveying & Engineering, Sturgeon Bay, to draft a new Facility Plan. This plan will be used to remedy the functional deficiencies of the Ball Field F.A.S.T. system and will outline our wastewater treatments intentions for the next twenty years. Steve Parent, P.E., Baudhuin Surveying & Engineering, met with the Washington Island Town Board on the Island on October 26, 2017, to explain what steps we will need to take in order to complete the Facility Planning process.

Steve and the Town Board also discussed what steps would be needed for getting the F.A.S.T. system up and running in its present configuration before winter closes in and "field spreading" is no longer possible. The Town Board also authorized the initiation of chemical testing of the system's effluent so as to determine what level of remediation the system will need in order to bring it up to DNR "point of standards application" requirements.

On that occasions, the Town Board, with the Wastewater Advisory Committee in agreement, determined the general scope of the proposed Facility Plan. It will encompass an incremental, multi-stage move toward the systematic reduction of "field spreading" as our primary means of treating wastewater. It will not include, however, the building of a large central treatment system.

The Town Board intends first to upgrade the Ball Field F.A.S.T. system to meet DNR standards and to use it in the future for the treatment of winter generated holding tank wastewater. These decisions will thus retain the "decentralized" character of our wastewater treatment program.

November/December 2017

After a two week start up phase for "variance" authorized use of the F.A.S.T. system for this winter, water samples were taken and sent to the lab for chemical evaluation. A report came back indicating that, without any upgrades whatsoever, the F.A.S.T. system was, in fact, capable of reducing the critical total nitrates in the wastewater by half. (While there are other indicators of treatment capacity to be considered, the DNR especially monitors the removal of nitrates.)

This was an encouraging result, but was not sufficient to meet the DNR standard of 10 ppm at the outflow pipe of the system. This indicates, of course, that in order to bring our system into compliance with DNR standards at the designated point of standards application, (that is, at the outflow pipe), there will need to be either additional treatment functions added to the F.A.S.T. system or a reworking of the system into an alternate technology, such as a recirculating media filter.

A preliminary time table for the completion of various aspects of the Facility Planning process has already been modified by negotiations between the Washington Island Town Board and the WI-DNR. Further refinement of the schedule for various phases of the planning and implementation process is likely as we move forward. At this writing, the deadline for submission of a Facility Plan draft is still March 31, 2018. Public hearings on the proposals contained in that plan would follow, most likely in April, 2018.

Response to new questions raised about "field spreading"

Meanwhile, the subject of "field spreading" has been given high priority in our local newspaper, and in discussions among citizens of the Island. The original 1995 Facility Plan envisioned a gradual reduction of "field spreading", as holding tanks were replaced with individual onsite treatment systems.

We have made steady progress over time toward that goal, and have seen "field spreading" steadily decline. There are, however, still holding tanks in place which could be upgraded to onsite treatment systems, and there are sites where only holding tanks can be used to service a residence. This means that the use of "field spreading" will continue, albeit at a significantly reduced level.

Seasonal "field spreading" of holding tank waste AND septage from septic systems has been carried on as part of the original Facility Plan since its initiation in 1996. The current location for this "field spreading" operation is at the west side of Main Road, just north of the town center, on land leased from the Ted Hansen family, and on additional adjacent land leased from by Tom and Michelle Jordan.

In accordance with WI-DNR regulations, we have maintained strict management of the amount of septage and holding tank waste applied to these areas. Records have been kept of the amount of septage which has been spread and the location. To date there have been no incidents of related contaminated wells in that area, nor has there been any other indication of there being an inappropriate risk factor related to this highly regulated practice.

As has been mentioned previously, the Hansen family announced in 2016 that they were not interested in renewing the twenty year land lease which has been in effect since January 1, 2001. It then became necessary to consider what alternatives might be available to handle "field spreading" of summer generated holding tank waste (now slightly under 1 million gallons per year) and of additional septage from the periodic pumping of septic systems.

Concurrent with this announcement from the Hansen family came the news that the Lonnie Jorgenson property off of Lake View Road was for sale. This land had previously been used as the primary site for "field spreading" on the Island before our "Decentralized Municipal Wastewater Treatment Program" was initiated.

At a Washington Island Annual Town Meeting in the spring of **2017**, the community voted to purchase the Jorgenson property. At the very least, this

purchase was intended as an "insurance policy" against our finding ourselves with insufficient suitable sites for "field spreading" when the lease on the Hansen property runs out at the end of 2020.

2018: January

The science behind field spreading....Should we be concerned?

At a recent public meeting of the Wastewater Advisory Committee (January 3, 2018), Mark Finger, guest speaker and soil scientist, helped to answer pointed questions about the safety of properly managed "field spreading" as a means of wastewater treatment. He explained in detail how effective the abundant bacteria found in the spreading field's first few inches of top soil is in disinfecting the pathogens in wastewater. He said, in essence, "We don't need fourteen feet of soil to achieve disinfection."

Mark also discussed the fact that, before it even touches the ground, septage has been disinfected in the tank truck through the application and mixing in of lime. (Lime, by state regulations, is a required pre-treatment for all septage which is to be "field spread".). He also spoke of how effective the sun rays are for destroying pathogens found in the wastewater.

What was perhaps most surprising, however, was when Mark compared the loading rates which are allowed by state regulation for "field spreading" with the loading rates that are typically involved in septic systems at a person's residence. The contrast was startling! The loading rates for the septic system drainfield were dramatically higher than those permitted on "field spreading" sites. Also, the water from the septic system would not have received the disinfection afforded by lime, by sunlight or by bacterial action from organisms located in the first several inches of top soil.

In other words, individual septic systems, which exist in large numbers on the Island and throughout Wisconsin's rural areas, do not necessarily provide a greater degree of treatment than does a properly managed "field spreading" operation. Neither, then, should "field spreading" be considered inherently less safe than are onsite treatment systems.

That said, it bears repeating that one of the major advantages of a Decentralized Wastewater Management Program is that any problems which might occur will, of necessity, be on a much smaller scale than are problems which, unfortunately, sometimes occur in municipal systems. One need only look to the large scale Lake

Michigan disposal of untreated sewage and surface water runoff by the City of Milwaukee to be alarmed by this reality.

Washington Island community's commitment to moving forward

Since the issuance of new directives by the DNR in May of 2017, there has been much discussion about possible alternatives to the measures which were approved in the 1995 Facility Plan of record. In response, all sincere opinions offered by interested parties are being taken seriously. That is why the Washington Island Town Board has hired a consulting engineer. That is why the Wastewater Advisory Committee has been meeting and hosting guest expert speakers. That is why we are carefully looking both at new alternatives and at records of past performance.

Up to this time, there has been no reason to be unduly alarmed about any imminent danger of large scale groundwater contamination on the Island.

All this evidence notwithstanding, we wish to repeat that the Washington Island Town Board is listening carefully to the concerns voiced by members of our community. It is important that we listen to all suggestions of possible alternative ways of thinking and of solving a mutually recognized matter of the utmost importance, that is, our need to **preserve the integrity of our groundwater supply.**

Who knows? Perhaps the best idea is one which has not yet been voiced..... We invite you to join us, as we work together to insure that our groundwater remains clean and beneficial to us all.

Donna L Briesemeister
Wastewater Advisory Committee Ch.

Addendum to this article: Washington Island's involvement with the US-EPA

From its inception, this Washington Island "Decentralized Municipal Wastewater Management Program" received recognition by the State of Wisconsin. It was, in fact, a primary motivation and imperative for the forward looking revision of the Wisconsin septic code from a "prescriptive" code to a "performance" code.

The US-EPA's initiative to encourage "decentralized wastewater management" in rural areas has been promoted through a series of nationally distributed videos. Some of these videos were produced by Washington Island summer residents, Wayne and Eleanor Boyer, and have featured Washington Island specifically, as well as other locations in the United States, as examples of how this strategy was being effected for the benefit of rural communities nationwide.

There are many good reasons why decentralized wastewater management makes sense for rural communities. Graham Knowles, US-EPA, who was attendant and supportive of our efforts in the 1990's, has written a sizable apologetic for this program, which is still being supported by the US-EPA. His 2015 presentation on the subject can be accessed by the following link.....

<https://nmwrri.nmsu.edu/wp-content/uploads/2015/watcon/proc55/knowles.pdf>