

Interdependence Between Community Water-&-Wastewater and Economic Stability

Improvements on the Horizon for the 1000 Islands Region

By Scott Mueller, Water Resources Specialist

Welcome to the Alexandria Bay Community where everyone loves “The River” and the peacefulness it conveys. However, just beneath the surface lies the Canadian Shield, better known as bedrock. This makes for serious difficulties in providing the community with potable water delivery and wastewater disposal.



Alexandria Bay (“A-Bay”) may at times appear glamorous and well-to-do. However, come September 1st the community seems to shut down every year for a hard winter. Along with their tourism-based economy, jobs go into hibernation.

The Town of Alexandria and the Village of Alexandria Bay want to change this. They are serious about bringing improvements to their region. Located on the banks of the St. Lawrence River, which also serves as the northern border between New York State and Canada, the two communities can be described

as a residential and business center (the Village of Alexandria Bay) inside a “doughnut” (the Town of Alexandria). The primary industry in this region is tourism, with the majority of employment opportunities seasonal. Summertime business revolves around the river: boating, other water recreation and fishing.



Director's Notes . . .



John McCarthy

State and Federal Government: Partners in Rural Development

Greetings and kind regards. This Fall 2001 issue of **From Watershed To Well** contains a selection of articles covering a wide range of Rural Community Assistance Program (RCAP) services.

- Community Needs Assessments, written by Christian Nill of New York. Needs Assessments are a useful means to find out what community members truly want while at the same time, informing them about projects that may be on the horizon.
- Income Surveys to establish funding eligibility, written by Donald Schwartz of Pennsylvania. Income surveys conducted by RCAP staff often help provide better information to state and federal funding agencies about the capability of smaller communities to pay for infrastructure improvements.
- Comprehensive planning and cooperation among agencies and governments, written by Art Astarita of Maine. Comprehensive planning and inter-governmental cooperation may be the only effective means of solving the most difficult environmental infrastructure problems.
- Interdependence of rural economies and their Water & Waste Infrastructure, written by Scott Mueller of New York. The link between sound water infrastructure and a healthy local economy is basic for many rural communities. It should also be basic to the motivation of government agencies and TA Providers who assist rural communities in improving their water and waste infrastructure.
- A creative educational approach to promoting changes in Solid Waste management, written by Patrick Pinkson-Burke of New Hampshire. Educating citizens about changes that affect them and require their

collaboration is essential. But how do community leaders “educate” a widely dispersed population of all different ages?

I think that the articles in this issue help to provide some valuable insights into these issues and provide a few useful examples. I hope you enjoy them.

State and Federal Government: Partners in Rural Development—The various federal and state agencies charged with helping rural communities meet their environmental infrastructure needs each have different though related missions. For example, the mission of USDA’s Rural Development, one of the largest funders of small community water and waste projects, is to help rural Americans develop their communities, build strong local economies and improve their quality of life. Similarly, the primary objective of HUD’s Community Development Block Grant program, another important funder of small community water infrastructure, is to develop viable communities through improved housing and expansion of economic opportunity. On the other hand, the mission of the state agencies that administer the Clean Water and Safe Drinking Water Revolving Funds is generally to help communities pay the costs of complying with federal water quality laws.

As the articles in this newsletter demonstrate, there is clearly a link between community development, good water & waste infrastructure and the cost of paying for it. But on the other hand, rural community priorities include more than just water and waste. Local leaders also have to consider needs such as education, economic development, controlling community indebtedness and planning for future growth.

Director's Notes (cont'd from pg. 2)

So how do these different state and federal funding agencies reconcile their various mission differences and find ways to collaborate on behalf of rural communities? The answer varies from state to state and agency to agency. Each must work within their own statutes and internal agency culture. Each of the federal and state agencies have somewhat different eligibility requirements and offer different types and amounts of assistance. The laws and priorities of each state are also different and may affect interest rates and the length of loan terms that can be offered. Each case presents its own unique challenge to the state and federal agency

officials who strive to collaborate with other agencies for the benefit of communities. To date, not all agencies nor all states have been equally successful in tuning their programs to facilitate collaboration. Fortunately, there are some good examples of agencies working together to serve the best interests of the communities. RCAP is here to help in this endeavor.



John McCarthy
Program Director

Interdependence Between Community Water-&-Wastewater and Economic Stability (cont'd from pg. 1)

Both Communities are challenged with bringing new year-round employment opportunities while strengthening their existing business base. All this has to be done in a manner which does not jeopardize the existing water quality and their North Country way of life.

Cooperation leads to solutions

With the assistance of the Northeast Rural Community Assistance Program's technical assistance provider Scott Mueller, in January of 2001 both communities embarked upon developing an over-arching plan to address both Town and Village concerns. Spearheading the process were Fairman "Sampie" Sutton, Town Supervisor for the Town of Alexandria, and Patrick Simpson, the Mayor of the Village of Alexandria. As a result of close cooperation between the Village and the Town, the plan addresses both communities' concerns. It is a plan that the communities understand and a plan based upon what the communities envision for their future. This



"Sampie" Sutton, Supervisor, Town of Alexandria

Strategic Community Action Plan is geared towards setting "do-able" goals and intermunicipal cooperation.

An important aspect of the Town and Village's efforts was their use of Technical Assistance (TA) providers such as RCAP, New York State Rural Water Association, Jefferson County Planning, and the Tug Hill Commission. With help from these organizations, Alexandria/A-Bay

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Pat Simpson,
Mayor, The Village
of Alexandria Bay

were able to truly begin marketing their community and specific project efforts. The communities found rather quickly that to gain funding support for their projects they had to have some sort of cohesive plan for both the Town and the Village. They found that it is really difficult to explain your project to someone without a plan. They also found that there isn't really any one source of funding for projects out there and projects these days have to be co-funded.



The Village of Alexandria Bay water intake is designed to resemble a boathouse...integrating needed community facilities into the surrounding residential area.

A Generic Strategic Action Planning Process:

1. Develop a preliminary strategy on how to initiate the planning process and see funding for the activity.
2. Develop a Strategic Action Plan
3. Develop engineering/architectural reports and cost estimates for each project.
4. Procure funding support for the design and construction of each project.
5. Construct and maintain project

Identifying needs:

In the Initial Outreach Meeting, RCAP asked both the Supervisor and the Mayor what they thought of their communities. The reply:

"This is a great place! But it's hard to make a living here, especially in the wintertime."

"We should start thinking about our short term and long term goals and develop a means to begin upgrading our infrastructure in order to sustain our local businesses while promoting new positive growth."

Creating Solutions

Out of this identification of need evolved the solution: a Strategic Action Plan. A Strategic Action Plan is a general framework describing what you as a community are doing and how you are going to accomplish goals you have set for yourselves. Another way to think about it is: "Over the next five years, what you are going to do—and how you are going to accomplish what you intend?" The goals structure embraced by the Town of Alexandria and the Village of Alexandria Bay was three-fold:

- Improve the local economy and provide increased year-round job opportunities;
- Sustain the existing businesses; and

- Make physical aesthetic improvements to capitalize on the waterfront along the St. Lawrence River.

The Village of Alexandria Bay seeks to make necessary improvements to the existing water and sewer treatment facilities that will increase capacity for positive future growth and allow for Main Street revitalization and infrastructure improvements, which hopefully will stimulate a healthy downtown economy. The Village may also consider a downtown Business Improvement District (BID) concept.

By the end of summer, 2001, the Village also plans on submitting their Local Waterfront Revitalization Plan (LWRP) application to New York State, which features a river walk along the St. Lawrence River. Here the Village intends to develop a continuous pedestrian-oriented circulation pattern linking waterfront attractions with downtown businesses.

The Town of Alexandria seeks to improve the existing infrastructure along Route 12 in order to promote environmentally sound economic development. By improving the existing water, sewer, power, telecommunication, and transportation infrastructure along NYS

Interdependence Between Community Water-&-Wastewater and Economic Stability (cont'd from pg. 3)

Route 12, the linked communities feel they will be in better shape to promote environmentally sound economic development.

Planning pays:

If you ask either the Town of Alexandria or the Village of Alexandria Bay, they will tell you: "If you don't have a [straightforward, specific, realistic, and attainable] plan....you won't get funding." They will also say that communities that do have a plan typically get funding and they certainly will have their projects completed ahead of you. Both the Town and the Village are now reaping the rewards of their Strategic Action Planning efforts. It takes persistence; however, through hard work, attentiveness to their alignment and relationships with local, regional, state and federal representatives, they were able to make great strides in achieving their community goals.



The Town/Village Strategic Action Plan (pictured here) is constantly being updated and improved so as to address their three-pronged overarching goal structure. Because the Town and the Village together focused on specific "doable" projects and on avoiding an attempt to "FIX" the whole town at the same time, Alexandria/A-Bay are making headway on their top priorities.

Both communities were honored by a visit from the New York's Lieutenant Governor, Mary O'Donahue in the Spring of 2001 to converse about the local economy and share ideas that may assist in improving business opportunities in the area. The Town of Alexandria has received funding commitments for the majority of their economic development project. The Town hopes to go out to bid in the Fall, 2001, for their sewer work.

The Village of Alexandria Bay has completed a community-based Design Charrette that describes in detail what the community wants to see happen in the waterfront/downtown business district. They have also completed engineering reports for the upgrades at the water and sewer plants and are currently seeking funding support for their projects. 💧

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But it's hard to make a living here,
especially in the wintertime."*

*"We should start thinking
about our short term and long term
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upgrading our infrastructure
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new positive growth."*



Consultation along the proposed waterfront site.

Getting It Right: The Community Needs Assessment Survey

By Christian A. Nill, Water Resources Specialist

Many rural communities are grappling with some pretty basic issues concerning water supply and wastewater management. Many local leaders are asking, “Do we have a problem?” “How serious is it?” “How many people are affected?” “What is the current state of our citizens’ knowledge, attitudes, and practices vis-à-vis their drinking water?” “Do we perhaps need to take a hard look at whether to undertake a major public infrastructure project?” And then there is the all-important, “If we do, would there be wide public support for it?”

All of these questions can be answered—often with a high degree of statistical confidence—by undertaking a **community needs assessment survey**. A systematic assessment of community needs is generally recognized as indispensable to sound decision making for infrastructure

development. But there are various sources of needs assessment data for any given community. These sources include, among other things:

- a) the knowledge possessed by local leaders and their advisors;
- b) data and reports held by county and state agency officials;
- c) *in situ* testing of household water supplies and septic leachfields;
- d) public meetings; and
- e) local knowledge and experience as expressed through surveys among local residents. This

local residents that is expressed in their responses to a *well-designed, systematically administered* needs assessment survey.

The needs assessment survey can yield a great deal of valuable information on current conditions with respect to water supply and wastewater management among the residential dwellings and businesses that make up a predetermined subject area. While some preliminary conclusions and recommendations may be developed on the basis of this information, it will be imperative that survey data be coordinated and cross-checked with data and information from the other main sources mentioned earlier. In this way local leaders can assemble not only a comprehensive diagnosis of current conditions, but also a well-documented justification for state and federal assistance to undertake a public facility project, should it be called for.

Community needs assessment is only the initial step in the process of developing a potential public infrastructure project. A summary of the key phases and tasks comprising the project development process is presented in Figure 1. This summary is not an exhaustive listing of project development tasks, but is intended to provide local leaders with a general idea as to the nature and scope (as well as the general sequential ordering) of the endeavor that awaits them, should they elect to undertake a public facility project. Many of the details, as well as the sequence of certain subtasks, will vary from state to state.

Some Pointers on Methodology

The field specialists of the Northeast RCAP are fully prepared to help rural communities in undertaking a needs assessment survey, and local leaders would be well advised to contact this organization for guidance and as-

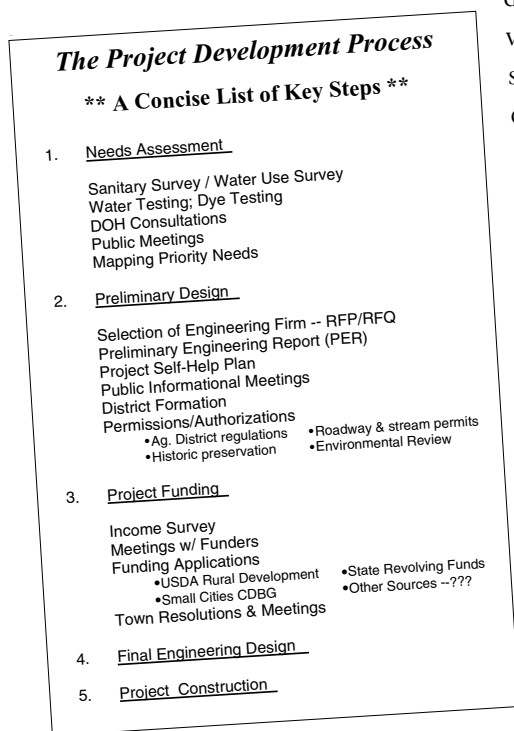


Figure 1

article focuses on the last of these sources—specifically, the knowledge and experience of

Getting It Right (cont'd)

sistance. Several aspects of the survey methodology need to be carefully thought out before any questionnaires are sent out. First of all, what will be the target area for the survey effort? In selecting a target area, local leaders may take into account suspected problem areas based on anecdotal information, as well as the broader community development objectives contemplated in, say, a comprehensive plan. It may be advisable to identify certain *subareas* where appropriate. The target area for the survey may

or may not comprise the entire community; but at all events the criteria used in defining this area must be logical and defensible.

to local conditions. Will it be a water supply survey, or a sanitary survey (or both)? Will it be completely anonymous, or will it require or request identification of the respondents? Will it include a question relating to the respondent's willingness to pay for infrastructure improvements? These and many other questions need to be addressed at some length, and will probably merit a lively session or two sitting around the table with pencil and paper. A field specialist from the Northeast RCAP can help guide you through this important first step, and in most cases can provide sample questionnaires that were used successfully in other communities.

Though each survey questionnaire should be tailored to local circumstances, nevertheless some general principles do apply. First and foremost, *keep it as brief as possible* without sacrificing clarity or essential information needs. Most people will not have the patience to deal with a survey that goes into multiple pages. As a rule, I always strive to limit the questions to one double-sided sheet. (See sample in Figure 2.) You should use multiple-choice format for most questions, and ask for discrete numeric responses where appropriate. Always add a little space at the end of the questionnaire for narrative comments.

With a clearly defined target area and a survey questionnaire that's ready to roll, the next step is to *get the word out*. In order to maximize the survey response rate, people in the community must have a clear idea as to *why* the survey is being done, *when* it is going to be done, and *what* will be done with the data that's collected. This essential P.R. work can be conducted through traditional channels such as public meetings, news releases, and door-to-door mailings. I always recommend pursuing multiple channels to get the word out; redundancy in this case can be a virtue.

Figure 2. Sample survey questionnaire: You'll want to tailor this to suit local circumstances.

TOWN OF PARADISE WATER SUPPLY & SANITATION SURVEY

Please answer all questions to the best of your knowledge. You need not identify yourself, unless you wish to receive specific household assistance to diagnose your water problems.

This survey form is self-addressed. After completing your survey, please fold along the dotted lines so that the mailing address appears on the outside, and secure with tape. Your survey should be returned by January 15. If you would like to keep informed about these issues, please add your name and address at the end of this survey.

I. Your Water Supply Situation

1. What is your primary source of water supply? (Please circle one)

Drilled Well Dig Well Spring Other

(If Other, please describe: _____ feet Don't know
 _____ Gal.-min. Don't know

2. If you have a well supply, how deep is it? _____ feet Don't know
 How much does your well yield? _____ Gal.-min. Don't know

What is the distance between your well and the nearest septic leachfield? (Circle one)

Less than 50 ft. 50-100 feet 100-200 feet More than 200 feet

3. What is your source of drinking water? _____ Household tap Bottled water
 If you purchase bottled water, please estimate how much on a weekly basis (circle one):
 Less than 5 gallons 5-10 gallons More than 10 gallons

4. How would you rate your current water supply? (Check all that apply.)

_____ Hard Water _____ Taste Problems _____ Poor Overall Quality
 _____ Odor Problems _____ Makes Me/My Family Sick _____ Good Overall Quality
 _____ Staining Problems _____ Runs Out Sometimes _____ Excellent Quality

5. Have you had your water tested recently for bacterial (coliform), or other contamination? (Y/N) _____
 What were the results? _____
 The Town may be able to defray the cost of water quality tests in selected households comprising a statistical sample. If the Town can cover these costs, would you be willing to have your water tested? (Y/N) _____

6. Have you or others in your household had any recent illnesses which you believe might be caused by your household water supply? (Y/N) _____
 Please explain: _____

7. What water quality devices do you have installed in your home? (Check all that apply.)

_____ Filter for entire household supply _____ Water softener
 _____ Filter on kitchen tap only _____ Other device (Please specify: _____)
 _____ Filter on bathroom tap(s) only

8. Please feel free to add any additional remarks concerning your water supply situation: _____

OVER

Town of Paradise
 Box 100
 Paradise Center, NY [ZIP]

Name _____
 Address _____

Figure 2

and it must be crafted with great care and attention to detail. In terms of content, there is no one-size-fits-all solution. Rather, each community survey should be designed to meet local information needs, and should be relevant

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The survey mailing should “hit the streets” as soon as possible after getting the word out. In preparing the mailings, it’s always helpful to include a brief cover letter explaining the nature and purpose of the survey. Make sure, also, that you maintain a complete and accurate master list of all the addressees. I generally recommend “saturation sampling,” meaning you send the survey out to *everybody* in the target area. Don’t worry too much about being overloaded with incoming data, for despite your best efforts many of those surveys will never be seen again!

Working With the Results

Pretty soon, the survey returns will start filtering (or pouring?) in. In my experience, a 30-35 percent response rate is typical. I’ve seen it fall below 25 percent (once), but I’ve also seen a phenomenal response rate of close to 55 percent in one community where local leaders worked assiduously to inform the public about it. Clearly, you get out of the exercise what you put into it.

A field specialist from the Northeast RCAP can help with the tabulation of data and production of a final report. In general, the format of the data tabulation should follow the sequential order of questions in the survey questionnaire. The format and content of the final report may vary considerably from one instance to the next, but generally should follow this generic outline:

Executive Summary

1. Introduction
2. Delineation of the Subject Area
3. Survey Methodology
4. Discussion
5. Recommendations

One important note: the responsible author will take care to include some discussion concerning the *limitations of the analysis*. This will aid readers in reviewing the data and findings with the proper amount of circumspection.

Every survey, after all, is a flawed attempt to obtain a snapshot of reality, and no matter who you are or where you are, yours will be no exception.

The final report should also include informative appendices that directly support the main body of the text. In most cases the items to be placed here would include all data tabulations, a copy of the survey questionnaire, a map of the area, a summary of narrative comments, cross-tabulation results, and other supporting documentation as needed. Ideally, your technical assistance provider should submit a “*draft-final*” report that may be subject to revision after a reasonable period in which local leaders and residents can comment on it.

If properly executed, a community needs assessment survey can provide a wealth of valuable information on current conditions with respect to water supply and sanitation, as well as people’s perceptions of those conditions. In many (but certainly not all) cases, the end result may be that certain problems are identified which clearly merit priority attention. Thus the needs assessment survey may become an initial building block—a bellwether—that sets in motion a project development process that will engage the energies of local leaders for many months to come. Whether things actually play out this way will of course depend on many different factors, not the least of which are the specific findings of the survey effort. But it will also depend on larger questions beyond the scope of that survey - questions revolving around engineering feasibility, financing, and sheer *political will*. If all of these factors come together in a fruitful way, the end result could be a dramatically enhanced quality of life for the residents of your community. 💧



Synergy Between Systems, Town Government, and Primacy Agencies

Project Scheduling With An Open Door Policy

by Arthur Astarita, Water Resources Specialist

What does technical assistance mean to a small community undergoing development pressures, aging infrastructure and debt limitations? The Northeast RCAP provides a wealth of free technical assistance to rural communities regarding water, wastewater, and solid waste issues. However, it is helpful for RCAP technical assistance providers and community leaders to be aware of how water resources and solid waste management projects interrelate with the town's other tasks or issues.

It is imperative that there be collective understanding and planning of community projects. Privately owned public water systems within the town should be involved in the comprehensive planning process. Being a part of such a process will prevent adverse impacts on future growth for both the town and the system. Issues such as source protection, wastewater and solid waste disposal are fundamental building blocks for successful outcomes.

It is important for the system boards to keep their operators in the loop when town comprehensive planning is being conducted. They usually are the technical "warehouse" of system capability. Sometimes system operators are not residents of the town; they should be brought into the planning process early. The exchange of information between town planning and utilities is paramount to successful project scheduling. Population growth projections and their designated types (residential, industrial, etc.) are important variables in the equation of water consumption trends. Whether water systems collect gross or detailed

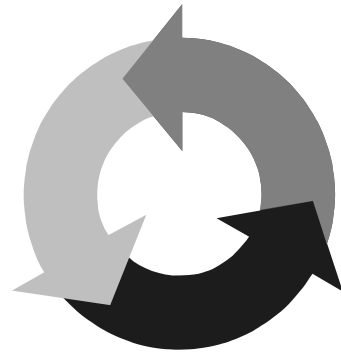
consumption data, the demand for water supply versus the source's safe yield is a critical ratio to monitor.

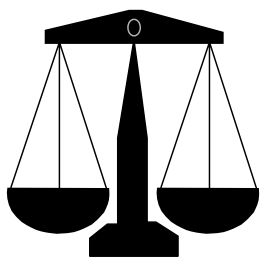
Being able to leverage system infrastructure improvements with other town, county or state improvements enables the projects to better qualify for financial assistance. Projects should be related and prioritized. This presents a "big picture" solution of the issues, within the community, to the funders. Such broad overviews are valuable, not just to score points with your funding application but also at town meetings. Voters are more willing to approve a project if they can understand why and where it fits into the overall picture of improvements.

In the Northeast, adjacent, thickly settled towns are common. Redundant resources can cause inefficiencies. Although inter-local planning agreements are a major accomplishment, space and funds are at a premium. Cooperation between towns and utilities regarding services to homes and businesses should preserve capital and open space. The creation of a fair deal for all customers should negate competition between neighboring towns and create an overall attraction to the area.

At the other end of the spectrum, state-regulating bodies should be aware of how their particular concerns relate to community projects. A forum involving town leaders, local residents and governmental agencies to review all the town's undertakings can be beneficial to set project priorities. It is helpful to everyone, when scheduling compliance-regulation projects, to be sensitive to how a town will be able to fund all their ongoing activities:

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“How does a complicated landfill closeout take precedence over a long-postponed school expansion? How does the debt for repairing leaking water and wastewater lines or the relocation of a threatened water supply relate to a pressing downtown revitalization program to stimulate jobs?”

These are difficult questions to address and solve for any size community. Public debate at meetings can extend well into the night without a clear resolution. It is not a trivial exercise to manage future town revenues and repayments of multiple, long-term loans while keeping tax and user rates affordable. (See companion article in this issue, *“Interdependence Between Community Water & Waste and Economic Stability.”*)

RCAP can facilitate dialogue between utilities, towns and primacy agencies. (**Primacy agencies** are those state and federal agencies which have formal jurisdiction over water supply and other environmental issues.) We can also assist with need assessments, funding applications, setting user rates, and establishing capital reserves related to equipment replacement schedules. (See also our companion piece in this issue, *“Getting It Right: The Community Needs Assessment Survey.”*) It is important that everyone be aware of all the facts surrounding each issue. With the facts in hand, proper scheduling of environmental and other community projects can proceed within a sound framework of documented needs and focused priorities. 🏠

Lessons From Income Surveys: Financial Impacts of a Wastewater Project on Rural, Low-Income Residents

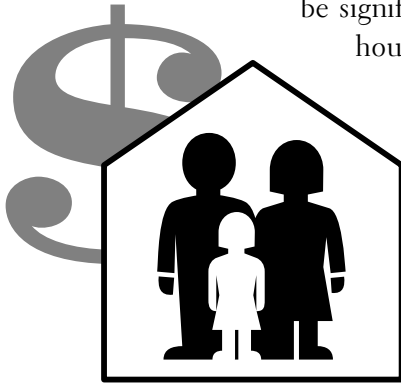
By Donald Schwartz
Pennsylvania Program Manager
RHI, the Northeast Rural Community Assistance Program

Construction of a wastewater collection and treatment system in a rural community usually results in a large financial impact on local residents. Monthly or quarterly user fees bring an unanticipated added expense to household budgets. Funding sources—typically state or federal programs for rural communities—often base financial packages (i.e. low-interest loans and/or grants) on several factors, the largest of which may be the perceived ability of the “typical” resident in the service area to pay an “acceptable” user fee. These “acceptable” fees are often linked to the income level of residents, under the assumption that the higher the income, the higher the user fee that can be supported (and the lower the amount of grant funding).

In Pennsylvania, as in other states, a statistic commonly used to estimate “typical” income levels is the median household income (MHI). To calculate a median, individual household incomes are ranked from lowest to highest, with the income of the household at the mid-point being the *median*; i.e., one-half the households have incomes above the median, and one-half below. A median has a distinct advantage over an average in calculations related to income, since even a few, high-income households in a small, rural community can skew the average to a higher level than is truly indicative of the typical household. For example, the impact of a household with an income of \$1,000,000 will

Lessons From Income Surveys

(cont'd)



be significantly greater than that of the same household at \$100,000 on the average income for a small, rural community. However, the impact on the MHI will be the same—just one more high-income household.

MHI data is available from the US Bureau of Census throughout Pennsylvania. However, the data is only collected every ten years, and the areas for which data is available often do not directly match the areas being considered for a wastewater system. As a result, RHI, the Northeast Rural Community Assistance Program (RCAP) is often called upon by funders in Pennsylvania, as an impartial third party, to conduct income surveys to assist in the funding process.

While calculation of an MHI in a community serves a valid purpose, it is only one measure of the impact of a wastewater project on the finances of local residents. This article will provide a more detailed review of the results of three income surveys conducted in rural Pennsylvania communities in 1999 and 2000, with some lessons learned for all entities involved in the planning and funding of wastewater systems.

Methodology

Each income survey was initiated by consultation between Northeast RCAP staff and local officials, after prior approval by funding agency officials. The study area was defined, with a numbered list of residents (including renters) developed by local officials, as well as a map of the area to assist with door-to-door efforts. Northeast RCAP staff urged local officials to advertise the survey in local media, and by posting information at post offices, community meeting halls, etc.

The income surveys were then started via a mailing to each residential address. The packet mailed to each household included (1) a cover letter describing the project and the income survey process; (2) a simple survey form with a single question asking for household income; and (3) a stamped envelope with a return address to the Northeast RCAP. The survey form contained a listing of all items defined by the Census Bureau as income, to assist the residents in completing the form. After allowing two to three weeks for forms to be returned, Northeast RCAP staff followed-up with door-to-door surveying. An attempt was made to contact all residents who had not responded to the mail survey.

Communities Surveyed

The first income survey, conducted in 1999, occurred in Black Creek Township, Luzerne County. The majority of residents were in the village of Weston, with a small percentage in the village of Nuremberg. Both Weston and Nuremberg include primarily older homes, with a few newer residences on the outskirts. There is a large retired population, as in much of rural Pennsylvania.

The first survey conducted in 2000 was in Wayne Township, Schuylkill County. More than half of the residents in the survey area lived in two manufactured housing communities along a busy, two-lane highway. The remainder of the households were split among older homes adjacent to the highway, and in the village of Friedensburg, as well as some newer homes at one end of the service territory.

The final survey conducted in 2000 was in West Pennsboro Township, Cumberland County. The survey encompassed the village of Plainfield, an old community with new development occurring at its periphery. The

(continued on page 12)

Lessons From Income Surveys (cont'd)

TABLE 1							
INCOME SURVEY DATA							
INCOME RANGE	WEST PENNSBORO TOWNSHIP		WAYNE TOWNSHIP		BLACK CREEK TOWNSHIP		
0 to 9999\$	4	2.9%	16	6.0%	16	11.7%	
10,000 to 19,999\$	26	18.7%	65	24.5%	31	22.6%	
20,000 to 29,999\$	29	20.9%	67	25.3%	25	18.2%	
30,000 to 39,999\$	28	20.1%	45	17.0%	21	15.3%	
40,000 to 49,999\$	20	14.4%	30	11.3%	20	14.6%	
50,000 to 59,999\$	10	7.2%	19	7.2%	11	8.0%	
60,000 to 69,999\$	10	7.2%	11	4.2%	6	4.4%	
70,000 to 79,999\$	6	4.3%	5	1.9%	4	2.9%	
80,000\$+	6	4.3%	7	2.6%	3	2.2%	
TOTAL	139	100.0%	265	100.0%	137	100.0%	
MHI	\$32,300		\$27,024		\$28,754		
1990 CENSUS							
INFLATION ADJUSTED ESTIMATE	\$43,762		\$45,634		\$32,931		
DRAFT 7/10/01							

Plainfield area is a bedroom community for the nearby capital of Harrisburg, as well as the City of Carlisle.

Survey Results

The results of the three surveys are summarized in Table 1. The MHI was lowest in Wayne Township (\$27,024), increased slightly in Black Creek Township (\$28,754), and was highest in West Pennsboro Township (\$32,300). The ranking of these results is not surprising. More than half the residents of Wayne Township live in manufactured housing communities, and the survey area in Black Creek Township includes a high proportion of retired residents. The residents of West Pennsboro Township benefit from greater economic opportunities in the Harrisburg-Carlisle area.

The response rate to the survey was similar in Black Creek Township and Wayne Township (69.9 percent and 67.6 percent, respectively), and much lower than in West Pennsboro Township (91.4 percent). The high level of response in West Pennsboro Township can be attributed

to (1) an extremely high rate of contamination of individual wells, resulting in a desire for wastewater collection and treatment; and (2) excellent advertisement and community outreach by West Pennsboro Township officials. There was active opposition to the proposed wastewater projects in both Black Creek Township and Wayne Township.

Lessons From Income Surveys

Lesson #1: Be careful about comparing apples to oranges

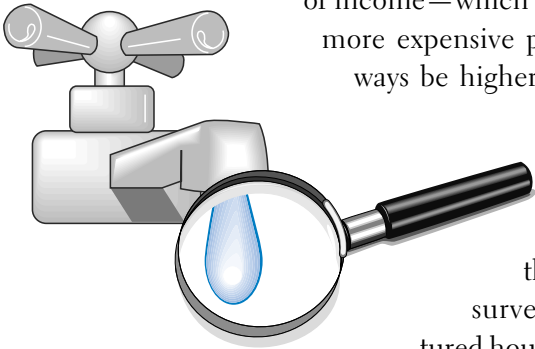
Census data is available every ten years. With each passing year after the acquisition of new data, the published information becomes more and more outdated. One way to attempt to correct this problem is to add an inflation factor to the census data. One funder in Pennsylvania used average inflation factors of 0.27 and 0.31 in 1999 and 2000, respectively. This means that township-wide estimates of income in 1999 and 2000 were calculated by adding 27 percent and 31 percent to 1990 census data. The results are shown in Table 1. *These estimates exceeded the results obtained from income surveys by about \$4000 (Black Creek Township) to \$18,000 (Wayne Township).* Why?

A typical township in rural Pennsylvania may contain one or more small, older villages, with homes 50 to 100 years old, surrounded by countryside dotted with newer homes. The villages are populated primarily with elderly residents on fixed incomes and those younger individuals who cannot afford more expensive housing. As a result, a township-wide estimate

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of income—which includes the owners of the more expensive properties—will almost always be higher than in the areas of concentrated population. This effect can be seen most clearly in Wayne Township, where more than half the residents of the survey area lived in manufactured housing communities—a stunning difference of more than \$18,000 between survey data and census-adjusted data.

So, Lesson #1 is quite clear: *When using income data as a factor in funding calculations for a wastewater project, be sure that the data applies to the population in the study area.* Comparing apples to oranges could have a significant financial impact on the residents in low-income communities.

Lesson #2: A median is just a median

As stated earlier, the MHI is a very useful statistic, and certainly gives a better overall estimate than an average of the ability of residents to pay a wastewater user charge. *But a median is just a median. The MHI is merely the mid-point of ranked household incomes, and tells you nothing about the distribution of the individual household incomes.* This is particularly important for the low-income households, which could be clustered anywhere between “\$0” and the median.

For example, in Table 1, the MHI for Black Creek Township exceeds that of Wayne Township by more than \$1700. But 34.3 percent of the residents in Black Creek Township reported incomes of less than \$20,000, versus 30.5 percent in Wayne Township, the “lower” income community. *Black Creek Township also had almost double the percentage of lowest-income residents, those with incomes of less than \$10,000*

per year. If “acceptable” wastewater user charges are at least in part based upon the MHI, the impact on the larger, low-income population in Black Creek Township could easily be missed (see also Lesson #3 below).

Lesson #3: Real people pay the bills

The process of designing, building and funding a wastewater project can become such an abstract exercise that while the impact on the average customer is considered, the impact on low-income residents can be overlooked. Real people pay the bills. Examine the results of the Black Creek Township income survey. More than one-third of the households reported gross annual incomes of less than \$20,000. The current “acceptable” annual user rate for new systems in rural Pennsylvania, as established by government funders, is about \$450 to \$600. The financial impact of such user rates on households trying to survive on a gross income of less than \$20,000 cannot be overstated.

It may thus be appropriate to delve more deeply into income statistics—either published or derived from income surveys—when using this information in the calculation of funding for wastewater projects. Perhaps it is time to use the wealth of data that will be available from the 2000 Census, as well as from income surveys, to tailor funding packages to more specifically meet the needs of rural communities. This is the final lesson to be learned from the experience of the Northeast RCAP in Pennsylvania. 💧

Promoting Your Solid Waste Program

by Patrick Pinkson-Burke, Solid Waste Specialist

The Committee held a brainstorming session where it was decided that a maze, constructed from recycled materials, would be developed.

One of the key components of any new solid waste program - whether it is expanding or changing your existing recycling program, implementing a “pay-as-you-throw” program, or just changing collections days - is education. How communities reach out to their constituents to make certain they are kept informed can make or break many solid waste programs.

Nottingham, NH (pop. 3,119) has been facing many challenges. This past January their small incinerator shut down after many years of operation. People thought this might be the time to explore changes at their drop-off site

that functioned as both a solid waste facility and a recycling collection center. While recycling has been mandatory for many years, there was evidence that much was slipping through the system. In addition, the town recycling committee wanted to explore a pay-as-you-throw disposal program. Because the implementation of pay-as-you-throw programs in neighboring towns had resulted in a marked increase in recycling in those towns, it was hoped that this would both fairly distribute the cost of disposal as well as increase the recycling in Nottingham.

The solid waste management specialists from RHI, the Northeast Rural Community Assistance Program recommended holding a series of public meetings to explore and explain the pay-as-you-throw program. Although the committee set up a visual and informative display at their annual town meeting in March, not many people stopped by to talk. A better approach was thought to be needed.

The committee decided to set-up a display at the town’s annual Nottingham Days Fair. This was not to be just another informative display. From the outset the committee decided this was going to be a fun and lively activity. They held a brainstorming session where it was decided that a maze, constructed from recycled materials, would be developed.



*Sorting Trash
In the
Nottingham
Maze*



*More than 150
participants went
through the maze and
many people signed up
to work with the
committee.*

Solid Waste Technical Assistance



*Sue Harcourt and Lauren Chase-Rowell
at Nottingham Fair Days*



While recycling has been mandatory for many years, there was evidence that much was slipping through the system.

In order to enter the maze, contestants would have to bring a piece of garbage found at the fair and determine if it can be recycled and where it should go.

This approach seemed like a tall order, but the committee worked hard on designing the maze and the messages they wanted to convey. A display was borrowed from the NH Governor's Recycling program explaining pay-as-you-throw programs and back yard composting. The solid waste specialist provided a new compost bin for display and the committee developed and built the maze as well as accompanying educational displays.

Three committee members, Sue Harcourt, Chris Hallett, and Lauren Chase-Rowell, along with their friends and children, worked hard to organize the display and keep all interested parties informed. The fair was held on June 30, 2001 and was a great success. More than 150 participants went through the maze and many people signed up to work with the committee. Attendees were treated with visual demonstrations of waste reduction and the maze contestants were challenged to sort a typical mix of recyclables.

Whoever said "education is no fun" has never met the people of Nottingham, NH! 🇺🇸

RHI/RCAP has a solid waste specialist to provide training and technical assistance to small (under 10,000) communities, rural counties, and tribal lands in New York, New Hampshire, Massachusetts, and Vermont. This assistance is provided to the communities at no cost and is funded through a grant from the Rural Utilities Services (formerly Farmer's Home Assistance).

The object of this program is to eliminate pollution of rural water sources by assisting with the planning, management, and implementation of integrated solid waste plans. This can be achieved through many different activities, including but not limited to:

- Working with small businesses and schools to develop working recycling plans.
- Developing and implementing community recycling programs that including the schools, residences and small businesses.
- Preparing strategic plans.
- Exploring and implementing Pay as you Throw programs.
- Examining the collection and marketing of recyclables.
- Assisting communities in planning and designing a local collection/transfer facility.
- Providing training and technical assistance in composting or vermiculture.
- Developing formal and informal regional approaches to increase recycling and reduce costs—including transportation, consolidation, marketing, and operations.
- Facilitating discussions and actions between other agencies, regional planning districts, the state, and the local governments to assure that they are working together.
- Assisting with the writing of RFPs, RFQs and the selection of consultants and contractors for solid waste activities.
- Providing training, as needed, to assure the proper costing, siting, design, operation, and post-closure monitoring of landfills and transfer stations.
- Assisting with the development of closure plans and financial assurance plans for landfills that are closing.
- Facilitating interactions between local communities, agencies, counties, solid waste districts, and state/federal entities.

Specific projects and activities are variable and are contingent upon the needs of the local community.

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