RCAP HELPS COMMUNITIES SOLVE SOLID WASTE CHALLENGES ACROSS THE COUNTRY amid Hurricanes, Earthquakes and a Pandemic

Lessons for Rural Utilities from a Pandemic
Composting Solutions Found with the Shoshone-Bannock Tribes
Solid Waste Assistance in Puerto Rico Adapts Following National Disasters
Recycling in Schools Increases Student Involvement and Reduces Overall Waste
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The past few months have impacted us significantly as an organization and individuals. COVID-19 has forced us to reevaluate how we work, and what communities need both during this pandemic and, more importantly, as we emerge from it. For the smallest, rural and tribal communities across the country, the need for the assistance provided through RCAP has never been more important.

In this month’s Rural Matters, you will find information on how COVID has been impacting some of these rural and tribal water and wastewater systems, and the projected financial implications for those systems from a national survey conducted through the RCAP Network. You will also hear directly from a community on the impacts COVID-19 has had at the local level, helping to raise the voice of those we serve. The Coronavirus has impacted communities of all sizes, and the technical assistance provided to communities helps to build capacity to ensure that they can withstand economic and health impacts and come back stronger.

An often-overlooked way RCAP builds community capacity and protects water sources is projects centered around solid waste management. Programs around recycling and landfill use are vital to the health and safety of rural and tribal communities and their watersheds. These programs also can be incredibly impactful in getting young people engaged in environmental protection programs and projects.

As we look forward to the next few months, we continue to serve communities most in need, and to utilize technology wherever possible to ensure our service continues even as face-to-face interaction is not possible. With that in mind, we have moved the annual RCAP National Conference to a virtual platform this year. While we will miss the opportunity to see our colleagues and partners in person, the importance of this conference cannot be overstated. The RCAP National Conference is an opportunity for technical assistance providers (TAPs) to build skills, connect with others and hone their own training skills, and we are excited to bring everyone together virtually this year and continue the tradition of bringing TAPs from across the country together!

As always, Rural Matters is just a snapshot of the work happening across the country through the RCAP regional partners. COVID has brought an entire additional set of needs for the rural and tribal communities we collectively serve. The long-term, trusted relationships built through TAPs on the ground in every state, including Puerto Rico and USVI, ensure that we understand the needs of these communities. Our goal is to not only serve those communities, but to raise their voices to ensure that the reality of rural and tribal areas is present in conversations across the country. Thank you to each TAP across the country working every day to better serve these communities.

Nathan Ohle  
RCAP CEO
Land Stewardship through Unlikely Collaboration.

From protecting clean water to creating economic opportunities, communities across the Mountain West are partnering with the LOR Foundation to co-create solutions that meet daily needs. We listen first, then collaborate with local advocates, experts, and philanthropies using an evidence-based approach.

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RCAP and a coalition of rural utility partners are supporting Congressional legislation aimed at proving immediate and long-term relief for small and rural utilities facing major revenue shortfalls as a direct result of the COVID-19 pandemic. Several emergency relief bills have been introduced recently in the U.S. House of Representatives addressing this growing issue.

According to RCAP’s recent survey, more than 31 percent of small water systems surveyed indicated they would not be able to continue to cover all costs for more than six months under these current conditions. More than 43 percent of systems surveyed said they rely on one full-time operator or less to operate their system (many rely on part-time staff, operators or volunteers), and many respondents indicated a concern over the health of their operators in the maintenance of the system. Based on the more than 1,100 unique responses from systems in 49 states and Puerto Rico, estimated annualized revenue loss across the country for small water systems (serving populations of 10,000 residents or fewer) lies between $3.6 to $5.58 billion.

The Reinforcing Utility Restoration After Losses Act (H.R. 7680) would establish a permanent bridge loan program at USDA’s Rural Utility Service, directly supporting the operational costs for electric, telephone and water utilities that have experienced revenue losses as a direct result of the COVID-19 crisis. This loan program will also be available for future covered emergencies.

H.R. 7680 would create an affordable and permanent line of credit at one percent interest with no payments required during the designated emergency period, and includes a three-tiered forgiveness formula based on the principal balance. RCAP believes this proposal, if enacted, would enhance the Rural Utilities Service’s existing tools to deploy during this emergency and for future covered emergencies to provide the financial sustainability necessary for the impacted rural utilities to continue to offer continuity of essential services.

Another bill, the Emergency Assistance for Rural Water Systems Act would provide over $1 billion in emergency grants, zero interest loans, and loan forgiveness to small water systems to ensure that entity has the necessary resources to maintain safe and affordable water, wastewater, and waste disposal service due to the COVID-19 pandemic.

RCAP is supportive of these pieces of legislation and believes these tools and resources will help directly address many of the financial and continuity concerns that the rural utilities are currently experiencing and will face in the future as they continue to provide uninterrupted essential services during this pandemic.
Small rural water systems provide life-sustaining water to homes across the nation, and many treat wastewater from those same locations. More than 90 percent of systems nationwide serve fewer than 3,300 people, and more than 80 percent serve fewer than 500 residents. Many have only one or two employees, sometimes only part-time.

So what happens when a pandemic like COVID-19 hits? These small systems may have never seen anything like a pandemic, and large numbers of them were unprepared. It is in these times that technical assistance providers can help guide the way forward. Vulnerability and resiliency assessments can be done over the phone and emergency response plans can be developed through correspondence. The information gathered through this process can then be used to help a system develop a Continuity of Operations Plan (COOP). Many of these are currently underway with help from RCAP Network partners across the country. Some systems may have been caught off guard by COVID-19, but the systems we work with can address this now and be better prepared the next time a major outbreak or disaster hits.

When adversity strikes, and especially when it is a novel and unfamiliar enemy like COVID-19, panic can set in quickly. A technical assistance provider can help small systems find their way and plan responsibly for the future. That help often comes in the form of asking questions and visiting about specific situations. If you are one of two staff members responsible for providing clean drinking water to your customers or treating wastewater, day-to-day operations can predominate your thoughts. What if you get sick? Who will do your job? This is an excellent time for small rural systems to formulate mutual aid agreements to provide assistance to one another. Cross-training employees to know how to do each other’s job is also important. Operators often work together informally across systems and help each other out in a pinch, but what about the billing staff? Operators should be taught how the billing system works, and how to collect and post payments, so they could operate the office if needed.

Recordkeeping is of utmost importance at this time. Billing must be done to keep revenues coming in to support the operations of the system. During a pandemic, it is common practice to suspend cutoffs, which can have an impact on collections. At the same time, expenses may increase due to a need for more frequent cleaning and disinfection and additional personal protection equipment.

Items necessary for daily operations, along with cleaning and safety products, should all be inventoried, with inventory information managed over time. As seen in the recent outbreak of COVID-19, purchasing some items may become difficult. Keeping a sufficient number of these products on hand is best, which protects you from panic buying or hoarding. Again, this would be a great time to meet with other systems in your area to develop an agreement to increase your purchasing power by making orders in bulk.

Consider spending the funds needed to install sampling stations throughout the system to move collection of samples outside of homes and businesses so that testing can be done without interruption during stay-at-home orders. Purchasing laptops to be used with docking stations may also be a good investment when replacing office computer equipment to allow employees to work from home when necessary.

When the current pandemic is over, all systems should review their efforts to keep the system in operation, finalize a co-op, and then practice the use of the plan annually.
In May 2020, RCAP surveyed small, rural and tribal water and wastewater systems to understand the financial and managerial impacts of COVID-19. On average, the RCAP network serves approximately 2,000 communities each year, including more than 3.2 million rural and tribal residents last year. Overall, the survey received 1,137 unique responses from systems in 49 states and Puerto Rico. 7.5 percent of those responses represent utilities serving federal recognized Tribes. The RCAP Network works on-the-ground in small communities across the country. Technical assistance providers’ close community relationships made this wide survey sample possible.

Two common themes showed throughout responses: Many small systems are still operating with great financial uncertainty, and that the pandemic has exacerbated capacity challenges that existed before. To view the survey results, visit https://www.rcap.org/news/covid19impact

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31% cannot sustain losses for more than six months of current financial conditions of those respondents who were able to estimate impact (n = 773)
KEEPING SAFETY FIRST FOR SOLID WASTE MANAGEMENT
By Jacqueline Shirley, Rural Development Specialist, RCAC

In fiscal year 2018, the Rural Community Assistance Corporation (RCAC, the western RCAP), received a U.S. Department of Agriculture Solid Waste Management sub-grant from RCAP to provide technical assistance and capacity building for three communities. RCAC technical assistance providers worked with The Confederated Tribes of the Colville Reservation in Nespelem, Washington, Confederated Tribes of the Goshute Reservation in Ibapah, Nevada, and the Native Village of Eek in Eek, Alaska. Each Tribes targeted a different type of facility for on-site training, including a landfill, recycling center and transfer station.
Solid waste, including recycling management, is consistently named one of the most dangerous professions in the United States. According to the Occupational Safety and Health Administration (OSHA), 70 percent of workers reported repetitive injuries in 2013. The National Council for Occupational Safety said that, “By addressing this problem, local governments have an opportunity to secure the sustainability and health of their cities while ensuring that recycling jobs are good jobs.”

To address this issue, RCAC provided facility operations training to the three recipients that included critical health and safety components. RCAC’s solid waste work is varied, working with different Tribes, facilities, and challenges, but it always puts safety first!

RCAC’s training covers health and safety planning, which is essential to safely operate all solid waste systems, including recycling centers. Training goals include:

1. Identifying potential risks;
2. Designing a plan to minimize risks through training, facility/program design and communication; and
3. Developing procedures to mitigate or respond to issues, should they arise.

The plans should include the following components: potential risks to employees and visitors, measures to minimize risks, response procedures, health and safety plans typically developed for every facility or service/activity in a system, plan implementation and enforcement, employee training, active plan enforcement, periodic review with employees, consequences for plan violations, schedule to review and update plans, how to address operational or design changes, how to incorporate newly-identified risks, current procedures, contact information and reporting guidelines.

The training also targets general health and safety measures that any program can implement to ensure employee safety in waste management, which might include: engineering controls, safety systems, workplace practices, public education, vaccinations (Hepatitis B & C, Tetanus), proper personal protective equipment (PPE), correct ergonomics, using a suggestion box, and knowing what materials are coming in.

Record keeping is a major element to carry out an effective health and safety program. During the course we cover the minimum recordkeeping requirements. The employer should consider:

- Training completion dates
- Employee health and safety certifications
- Injuries and incidents, including response measures
- “Near misses” – incidents that could have been major but were narrowly avoided
- Record retention periods that may be dictated by tribal regulations, permits or government policy

The trainings discuss the need for contingency plans to provide direction in case of utility outages, operational shutdowns and weather emergencies. Operators love to share their experiences during this portion of the course, and they are great lessons learned!

RCAC also encourages weekly safety meetings. During the trainings, mock safety meetings are conducted, and each participant has a chance to lead and conduct the meeting.
During the Colville training course, a recycling facility safety inspection was conducted. As a result, participants discovered real world safety concerns; some were corrected on the spot, and some were prioritized for correction (ordering signage, for example). The crew edited the generic inspection sheet to meet specific areas for their facility.

And last, but definitely not least, in our instruction queue is PPE, which is a must! We continuously stress the importance of PPE throughout the training.

After covering safety components, RCAC’s facility operations training moves on to each community’s facility type.

The Colville Tribe’s focus was metal characterization and classification. They have a very impressive collection program, and are even considering opening a metal collection enterprise, which will pay customers for the metal they drop off, instead of just collecting donated metals.

The Goshute Tribe’s focus was trash collection and transfer station operations and how to best provide service effectively and economically while working with the neighboring local government.

The Eek Tribe’s focus was Source Water Protection from solid waste activities in the landfill and in ‘protection zones.’ RCAC worked with the landfill operator, water operator and Tribal Council.

Resources:
WaterOperator.org and PrivateWellClass.org are collaborations between the Rural Community Assistance Partnership and the University of Illinois, Advocates across the RCAP network and at the University of Illinois! All the best resources on the web for small system operators in one place.

WaterOperator.org and PrivateWellClass.org are sister programs that serve a unique role by providing training and technical assistance exclusively via the Internet, supplementing the critical work performed on the ground by RCAP network staff.

WATEROPERATOR.ORG

All the best resources on the web for small system operators in one place.

• 11,000+ events indexed annually
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PRIVATEWELLCLASS.ORG

Helping homeowners learn how to care for their private drinking water well.

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• Audio and video materials
• Extensive resource library

WaterOperator.org and PrivateWellClass.org are collaborations between the Rural Community Assistance Partnership and the University of Illinois, through the Illinois State Water Survey at the Prairie Research Institute, and funded by the U.S. Environmental Protection Agency.
INDIANA RCAP TACKLES CONTAMINATION IN RECYCLABLES

By Debbie Hackman, Solid Waste Specialist, Great Lakes Community Action Partnership (Indiana RCAP)

In 2018, China stopped importing recyclable plastics and fiber from the United States due to contaminated shipments. Though the Chinese market had become one of the most lucrative and available markets for American material recycling facilities, little by little, cardboard shipments began to arrive with a few plastic bottles or film. Plastic shipments became riddled with “mixed” plastics and fibers. These unsorted materials, or “contaminated” plastics, are expensive to recycle. Eventually, the Chinese government decided it was no longer feasible for them to sort the contamination from the product and shut off imports from the United States.

So where does this leave American recyclers today? It leaves them with loads of cardboard and plastic bottles stacking up in warehouses with nowhere to go. The number of domestic paper mills and plastic recycling facilities is not large enough to process all the recycling collected in the United States. While waiting for those domestic markets to develop and sell American scrap to other countries, recycling prices had dropped to the lowest in over a decade. The value of the recyclable has changed. Recycling companies are asking municipalities to pay significantly more for recycling, and it has become very costly for communities to maintain.

Unfortunately, some municipalities have terminated their recycling programs. Many municipalities are seriously considering discontinuing curbside recycling. With prices for collecting recycling sometimes tripling the tipping fees at landfills, it does not make financial sense to continue to recycle. It is difficult for local governments to justify recycling to those responsible for spending tax dollars wisely.

Recycling is, however, to many, still the right thing to do.

To buy a little time while waiting for American markets to develop, many communities in Indiana have joined together to do the one thing that will reduce the amount paid for recycling to be processed: reduce the contamination in the recycling stream.

Contamination that often finds its way into recycling bins includes garden hoses, toys, lawn furniture, Christmas lights, Styrofoam, plastic bags, textiles and food waste. The contamination, which is often heavier than recycling, should be moved to trash and reduce the tonnage of the recycling.

To reduce the contamination in Indiana recycling, towns and cities are making a serious statewide plea to the recycling public to clean up their recycling. Leaders have emphasized the importance of recycling only #1 and #2 plastics, paper and cardboard, steel and aluminum cans, and – in some communities – glass bottles and
jars, to avoid contamination. With the use of mailers, flyers, stickers, radio ads, local television ads, press releases and social media, Indiana recyclers began to see the contamination start to dissipate. Because the state of Indiana utilizes the ReTrac recordkeeping system, it will be January 2021 before actual volumes can be quantified, however.

To assist with the financial commitment of the advertising and programming, the Indiana Department of Environmental Management (IDEM) made a special grant available to communities and solid waste districts. This community recycling grant is intended to increase recycling through improved programming and advertising campaigns.

Solid Waste Specialist Debbie Hackman with Indiana RCAP (part of RCAP’s Great Lakes partner, Great Lakes Community Action Partnership) assisted the Brown County Solid Waste Management District to successfully apply for the IDEM grant in order to purchase a forklift that will allow them to move sorted recycling materials more easily and quickly in their facility. Hackman also helped Wayne Union Solid Waste Management District prepare and receive a grant to buy recycling containers and manage recycling education programs in two school districts in their area.

Many recipients of the grant chose to use their acquired funds to educate the public on “Recycling Right.” Through this statewide effort, communities both large and small are beginning to see the fruits of their labor: contamination has been noticeably reduced.

Just a small step, done in unison with other communities, has proven to be key in reducing contamination and recycling costs. This, in the end, helps improve solid waste system viability while contributing to positive environmental and watershed outcomes.
GLCAP in Kentucky received the below letter from Bell County Solid Waste & Recycling Center in Pineville, Kentucky, praising their solid waste assistance in the community and the attention to safety they took during the COVID-19 pandemic. Great work, Kentucky GLCAP!

July 14, 2020
Kimberly H. Padgett
RCAP State Director
101 Burch Court
Frankfort, Kentucky 40601

Dear Ms. Padgett,

We wanted to let you know how much we appreciated all the work Melissa and Adam put into our Earth Day Activity. Adam set up a contest with 4 age groups for participation. The individual who received the most likes for the item they created from recyclable won that age group. We had a good response with participates and shares and likes. The winner from each group won a $25.00 gift card. We were pleased with the exposure the contact gave for Earth Day. We hope to do the contest each year for Earth Day and hopefully to support other recycling events. In the process of setting up this contest Adam had to create a new Facebook page for our organization. The existing Facebook page had been set up as a personal page and did not allow for following. With all the work he did on the Facebook page it was a great finish that we could have the contest, to kick off the new page and let people know "hey we are out here".

Adam came to Bell County and did a gps mapping of all our recycle containers, developing a link that can be share and posted to our (soon to come website). This mapping system will be a great asset to our organization. We had attempted to do a paper mapping of the collection containers. He has added many features as he continues to develop this project. People can see where the collection containers are located and will be able to let us know if they need serviced. Also, it will work as good public education tool. After over 14 years people still say "I didn't know there was a place to do that in Bell County". We feel the effort that Adam and Melissa have put out will increase awareness greatly since most people get their information for online searches.

Melissa has worked in several different methods over the years to assist and support our organization; from door to door soliciting for curbside pick up service, to meeting with area business to inform them of our activities and abilities to handle their recyclables. To bringing, educational materials and giving them out at local schools as she presents activities to increase awareness and participation in recycling. The two (2) most recent projects that she has assisted us with is sending printed materials that could be given out as meals were delivered during the past school year for Earth Day. Due to the Covid-19 school at home program children in Bell County were delivered their daily meals by the kitchen staff and bus drivers. These school employees gave the materials Melissa had provided out with those meals, to honor Earth Day.

But the thing I would like to give a great round of applause to Melissa for; she knew as essential workers our staff would be exposed to the Covid-19 Virus and she immediately sent facial mask to protect our staff. This has inspired us to continue as we stand in the necessary jobs of not only collecting and sorting recyclables, but also in the service to the county of operating the transfer station. The mask helped us feel that we were protecting others and ourselves, as we preformed our daily duties. Each staff member from the secretary sitting in the office greeting the public to the transfer operator accepting people’s trash, to the recycle staff collecting and sorting the recyclables have benefited from these masks. And we hope and feel the public we have dealt with felt safer because of this kindness. I understand these masks came from her counter part in Indiana and our heart felt thanks goes out to that group. People like that stepping up to help keep our staff healthy and at work during these trying times, makes you proud of our country that cannot be broken only slowed briefly.

Sincerely,

Doug Hoskins,
Solid Waste Coordinator
In recent years, we have learned in Puerto Rico that apart from the routine management of waste and our plans to improve the capacity of our systems, events occur that force us to adapt our objectives to recover and then finally move forward to reach our original goals.

The odds of multiple catastrophic events affecting the proper functioning of the waste management system seems like a remote possibility but preparedness and adaptation are not enough sometimes, and we need to adapt our plans.

In the fall of 2017, Puerto Rico (PR) experienced two major hurricanes, one of which is still considered the most catastrophic in the island’s history. This caused a general blackout that lasted for months in the rural areas of the island. Communications, fuel reserves and the capacity of solid waste operations were seriously affected. It was necessary to teach local communities how to handle their waste in that type of extreme weather event to facilitate the collection and the proper segregation of materials for the hauling process. RCAP’s response extended to waste management education before, during and after a disaster. RCAP provided training to public workers, industry officials, municipal employees, and to communities to deal with their solid waste. We also did radio interviews and public education to try to prevent the tough situations following extreme weather events.
RCAP adapted local community workplans to assist in the evaluation of material collection and transfer stations, composting plants and municipal recycling facilities that were impacted by the catastrophe. RCAP guided the communities in the recovery process for the proper disposal of their waste and the prevention or reduction of vectors; established collaboration with the Federal Emergency Management Agency (FEMA), the U.S. Environmental Protection Agency (EPA) and the municipal governments for the future development of emergency plans in the management of debris (construction and demolition) and waste; and continues to look for alternatives to the diversion of materials to the landfill.

However, in the midst of recovering from these events, two years after Hurricanes Irma and Maria, seismic activity damaged southern Puerto Rico, affecting many rural communities and creating new challenges for the disposal of waste. In January 2020 there were earthquakes of a magnitude Puerto Rico had not experienced since 1918. A 6.4 magnitude earthquake woke up PR, destroying homes, residential buildings, businesses, and schools. For a time, security and safety within structures and homes was questionable. For more than a month, citizens slept on the streets, in their cars or in makeshift camps outdoors. The accumulation of waste in these improvised camps required community education and attention.

In the case of Guayanilla, RCAP had planned to help an area seriously affected by illegal dumping, assist in the process of including this community in the municipal recycling program, and improve its quality of life. However, after the earthquakes, the community’s ground level dropped a few inches in proportion to the sea, raising the water
level to their homes. The cardboard and paper recycling plants in the south closed operations permanently and their Municipal Recycling Facility (MRF) was still recovering from the hurricane damage that occurred two years prior. The urgency was to find out how to best help them in this new and evolving crisis situation. They were referred to USDA for grant assistance, but in the meantime, our technical assistance provider found that there was very little information and limited funding options for the management of construction and demolition debris. They began to search for guidelines on the management of these materials to provide communities with information to help them cope with the situation.

In that period with ongoing seismic activity, the COVID-19 pandemic reached Puerto Rico and once again the RCAP staff, responding to the immediate needs of the local rural communities, adapted their approach to assist in education on the best sanitary measures for the handling of discarded materials that may be contaminated. Through social media, webinars and interactive remote media, RCAP shared valuable information to protect the public health of workers in the solid waste management industry. Although some members of the waste management community believe that garbage is not a favorable living environment for the transmission of the virus, the evidence of the prevalence of the virus on various surfaces and the vapors generated by the compactor compressing the garbage bags that could contain virus particles forces us to take preventative measures.

RCAP instructed communities and the general public to pack possible contaminated materials safely, looked for alternatives to educate recycling facilities operators, and is trying to reestablish the original capacity building workplans outlined as soon as possible, but the ability to adapt is essential and necessary to help with any calamity. In Puerto Rico, communities are resilient and are continuing to make progress despite hurricanes, earthquakes and a global pandemic.
Recycling in Schools increases Student Involvement and Reduces Overall Waste

By Consuelo McGowan, SERCAP, Delaware TAP
Solid waste reduction projects involving four schools, three school districts, two additional communities, and one new TAP (Technical Assistance Provider) led to a very busy and productive 2018-2019 project year for the Southeast Rural Community Assistance Project (SERCAP), the southeastern RCAP. SERCAP worked diligently with multiple rural communities in southern Delaware. The SERCAP Delaware office was tasked with identifying elementary schools in Sussex County, to collaborate and build, or build upon, recycling initiatives. There are six public school districts in Sussex County with more than 20 elementary schools (K-5). SERCAP established partnerships with four different elementary schools in three of the six school districts. SERCAP worked with each school to establish a path toward reducing overall waste that goes to rural landfills.

One of the schools, North Georgetown Elementary School, decided that the students would create a recycling club as an elective subject. North Georgetown Elementary is physically located in Georgetown, Delaware, and is a part of the Indian River School District. There were approximately 770 Pre-K through fifth grade students enrolled as of September 30, 2018. Almost 70 percent of the students are English as a Second Language (ESL) learners, and nearly 40 percent are from low-income households. During the 2018-19 school year, there were more than a dozen students who participated weekly in learning more about reducing waste and recycling. The recycling club members were eager to learn and share the knowledge with the larger school body. They collected recycling containers weekly and, in small groups, created public service announcements (PSAs) to present to the rest of the school during morning announcements. And the results were huge! This group of young people was able to deter approximately 160 gallons of waste from ending up in local landfills. (This number does not include corrugated cardboard, which is collected separately.) The school increased the number of outdoor containers needed to hold the ever-increasing amount of deterred waste collected.

The North Georgetown Recycling Club Team (RCT) was nominated for a Jefferson Awards Foundation (now known as Multiplying Good), a national organization that recognizes students engaging in service activities in local communities. The Team was awarded a certificate of recognition at a local event where the Mayor of Georgetown, other nominees, and supportive community members attended to show support for these students’ (and other nominees) service and impact.

SERCAP also worked with two schools in the Milford School District – Lulu Ross and Mispillion Elementary Schools. These two schools are located in very close proximity.
and share some staff members. Mispillion Elementary has approximately 547 K-5 students. About 48 percent of the students are identified as low-income. Lulu Ross reported 656 students enrolled as of September 30, 2018. At Lulu Ross, 33 percent of the students are ESL students and approximately 42 percent of the total student population are reportedly low-income. SERCAP was able to assist these schools with obtaining recycling bins for each classroom to begin a recycling program in the schools. SERCAP partnered with the school staff to educate students and staff about the recycling initiative. This included basic information regarding what can actually go into the recycling receptacles. Each classroom in the Mispillion and Lulu Ross schools now has its own receptacle. The staff also identified specific students for additional life skills education. These students collected and diverted the recycling multiple times weekly. These schools share outdoor receptacles, which are provided by the town of Milford. The recycling collection has been so successful that SERCAP had to request additional outside recycling containers from the town!

Additionally, SERCAP collaborated with two identified at-risk communities in Sussex County and planned four separate clean-up dates. One of the communities is located in the Milford School District where SERCAP is assisting with recycling projects. The other is in a separate school district, Woodbridge School District, where school recycling efforts were already in the works. An estimated 2,000 people reside in a rural, unincorporated community just east of Bridgeville called Coverdale Crossroads. Coverdale has been mired by poverty for decades, and, unfortunately, the community has become synonymous with crime, drugs, etc. The area is known for deteriorating homes and waste-filled landscapes.

SERCAP became involved with the Coverdale community in November 2018. The community requested assistance in organizing a community clean-up. A clean-up was scheduled, and completed, in December 2018. SERCAP was able to coordinate with the county constable’s office and secured five dumpsters (at no charge for the community members) for the Coverdale clean-up day. They also provided commercial grade trash bags, gloves, shovels, and other supplies to assist the volunteers with safe waste collection. A group of 15 volunteers collected and removed approximately five tons of waste from the Coverdale community on this first clean-up day. Although five tons seems like a lot of waste, there is still much more to be collected and removed.

After the clean-up day, SERCAP continued contact with the Coverdale community members as well as the county offices, i.e., constable, Department of Natural Resources, etc. SERCAP was able to obtain the data regarding the total collected waste amount, volunteer count, and follow up. The first clean-up was a success, and another clean-up was organized to continue removing the waste. SERCAP had multiple conversations (in-person, via telephone, and email) with the county constable, the community members, and other partner organizations to organize another community clean-up. SERCAP was extremely involved and attended both local community meetings and larger county meetings to engage and assist the community with planning to ensure success. The second clean-up occurred on July 25, 2019. Thanks to one of Delaware’s State Representatives, Brian Pettyjohn, the community was able to have four huge dumpsters brought to the requested area at no fee for the community members!

Another community SERCAP assisted is affectionately known as “The Hole” to locals, but it’s formally named “New Hope Road” and is a small (with no more than 15 total occupied homes) mobile home lot located in rural Ellendale. New Hope Road is an unlit, unpaved, privately owned lane where very low-income individuals and families reside. This specific community has extreme poverty and lacks access to basic necessities such as clean, safe drinking water. “The Hole” is a very depressed landscape where individual trash collection is a rare commodity. SERCAP was contacted by a local non-profit organization that is in the heart of this rural Ellendale area to assist with a community clean-up. SERCAP was able to help the community obtain four dumpsters to be used for the clean-up day at no cost to the residents. More than 20 volunteers participated in the community clean-up event, and the dumpsters were completely full before noon. A follow-up event was scheduled for the following weekend and four additional dumpsters were provided. They were overflowing at the time of pick up the next day! And, eight months later, the community continues to have less total waste outside. This is a quick snapshot of all the exciting work that is happening in Delaware! SERCAP and rural Delaware communities have been doing a lot of great things, but there is much, much more to do.
“We’re a small rural system with limited resources, so trying to stay on top of where the water and sewer industry is going can be tough. AWWA does the leg work for us.”

Derek W. Starkety, P.E., City Engineer, City of Fernley-Public Works Department

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Composting is a natural process that breaks down many types of common food and paper waste into a high-nutrient soil for use in gardening and improving the health of the soil. Composting and compost use have numerous benefits in addition to green job creation and reducing the amount of waste destined for landfills and incinerators. As we throw away tons of food scraps and yard trimmings, our soils are eroding and losing nutrients, while damaging receiving waters. Excess fertilizers from farms and suburban lawns and sediment from construction projects wash off the land and into our waterways every time it rains.

In 2019, the Rural Community Assistance Corporation (RCAC, the Western RCAP) worked with the Shoshone-Bannock (ShoBan) Tribes in Fort Hall, Idaho, to explore solid waste diversion strategies. The Tribes were seeking an alternative to the burning of yard waste received at transfer stations from local ranchers, farmers and households. It is estimated that the Tribes burns 200 to 400 tons of yard waste during three to four burning events each year. These burn events are controlled, permitted burns at yard waste collection sites on transfer station sites. This burning method releases carbon emissions into the air, which influences air quality and can affect vegetation from the ash fall. Composting alleviates this release of smoke (i.e. carbon) into the air while providing a benefit to the community with the useful product of compost.

A waste characterization audit, conducted by RCAC in 2015 found that nearly two-thirds of the waste brought to Fort Hall transfer stations was general waste, much of which could be diverted to recycling or composting.

Composting requires fiscal and social investment. In order to compost at the volume stipulated in the audit, Tribal staff required training to properly manage compost piles for optimal results. The composting process varies by season, requiring more effort in the warm weather months and less maintenance in the cold weather months. The audit also recommended that large branches be ground or chipped prior to composting to speed up the process, create a more uniform product, and allow for easier turning of piles. Consideration also needed to be made for public outreach and education.

Proper composting operations and management require equipment for grinding or chipping long branches, aerating compost piles (either through turning or direct air injection), and proper training on the composting process. Composting may also take up a larger footprint at the transfer station. Compost piles can take months to reach optimization, especially in colder weather. This may require multiple compost piles in different phases of the composting process.

Mulching was another method considered for the Tribes. However, composting can be more far-reaching than simple mulching. Composting can divert more organic refuse, food and animal waste from the waste stream than mulching alone. The key for municipal success is sorting the food waste from the regular waste stream at the residential or business level, which can be difficult. Additionally, it is important to have properly trained staff who can provide the institutional knowledge to adjust compost piles, especially when the waste stream is inconsistent.

To address the yard waste collected at the Tribes’ transfer stations, two main alternatives emerged for Tribal solid waste officials to explore: composting and mulching. While both strategies are possible, the startup cost was a hurdle for local officials. Before making any large-scale investments, the Tribes wanted to learn more about composting and how it can be incorporated into local business practices and private
growing. This was identified during the two-day onsite compost training RCAC conducted in July 2019.

Below is the chart that Tribes RCAC included in the report on options produced for the Tribes:

<table>
<thead>
<tr>
<th></th>
<th>COMPOSTING STRENGTHS</th>
<th>COMPOSTING WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved air quality by not burning 400 tons</td>
<td>More sorting (try to maintain 30:1 ratio of Carbon:Nitrogen)</td>
<td></td>
</tr>
<tr>
<td>Re-use in community gardens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainable practice using community resources</td>
<td>Equipment costs (grinder, turner)</td>
<td></td>
</tr>
<tr>
<td>More easily uses food and animal waste</td>
<td>More land area needed for compost piles</td>
<td></td>
</tr>
<tr>
<td>Takes longer to produce final product</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>MULCHING STRENGTHS</th>
<th>MULCHING WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved air quality by not burning 400 tons</td>
<td>Equipment costs (if purchased)</td>
<td></td>
</tr>
<tr>
<td>Cost of material sold may pay for contracted grinding (if contracted out)</td>
<td>Seasonal Demand for product primarily</td>
<td></td>
</tr>
<tr>
<td>Less labor intensive</td>
<td>Must have enough to fill a semi-trailer</td>
<td></td>
</tr>
<tr>
<td>Same footprint on land as current practice</td>
<td>Less diverse waste accepted</td>
<td></td>
</tr>
<tr>
<td>More flexibility with brush piles (can grind months in advance)</td>
<td>Little or no community re-use</td>
<td></td>
</tr>
</tbody>
</table>

In addition to yard waste, the Tribes now face the emerging issue of excess food waste created by the new buffet at their casino. The solid waste program has seen a significant increase of waste (3,000 lbs. per week) being transported from their transfer station to the county landfill because of this new economic endeavor. Food composting was added into RCAC’s training and education objectives. (Note: The casino’s kitchen management was very interested in potentially composting food waste, and invited training participants on a tour of the kitchen operations.)

As a community outreach and education objective, RCAC and the Fort Hall Solid Waste Department provided compost bins to five Tribal enterprises for pilot projects in composting, which can address food waste as well, since food waste along with yard waste can and should be combined. To encourage community buy-in, the department will introduce and incorporate smaller scale composting projects. Tribal leadership will invest in a larger program that will be beneficial at multiple levels for the Tribes.

Compost Bin Project Snapshot

An effective compost pile requires both “Brown & Green” composting programs. The Tribes have enough of both for a successful program. Jeremy Peirsol of RCAC traveled to the reservations to provide on-site training and start-up of small compost bins placed at various small Tribal economic enterprises.

Warrior Appenay with the Shoshone-Bannock Tribes Solid Waste Program and Peirsol supplied composters and training to the Trading Post, Sage Hills Travel Plaza, 4-Directions Treatment Center, ShoBan Cultural Resources, and the Fort Hall Fire Department so they can start small-scale composting pilot projects on-site.

Each of the five Tribal enterprises have been given a composter to try their hand at turning some of their kitchen and yard waste into soil for gardens. “We hope that by starting small, we can have some success with composting and then maybe the program can expand,” said Warrior Appenay.

Each compost bin provided can make usable garden soil several times a year with good composting conditions. Some of the Tribal enterprises plan to use the soil on-site, while others may donate their compost soil to community gardens or other interested parties.

Story Update from March 31, 2020:

The compost bins are still in use and, after numerous recalculations, the Tribes are getting the right recipe, which is dependent on moisture, humidity, and stirring and is distinctive to each locality. What works in Fort Hall, Idaho, may not work in other areas. Composting start-up requires patience. The approximate compost amount is unknown at this time, but the compost created so far will be distributed to local households and used for the upcoming gardening season. As of March 2020, the Tribal Solid Waste Program is re-issuing outreach and educational materials on yard-waste composting since many folks were under COVID-19 stay-at-home orders, and the Solid Waste staff was advocating that it was a good time to clean up yards and compost the yard waste. This outreach was conducted via Facebook and flyers developed under the RCAC composting grant.

RCAC would like to thank RCAP and the USDA-RD Solid Waste Management Program for grant funding to provide technical assistance and training opportunities to the Shoshone-Bannock Tribes to improve their air and soil quality, reduce landfill waste and improve landfill operations, address food waste and bring the community members together to reach sustainable environmental solutions.

1Source: “Composting for Community,” Institute for Local Self-Reliance, 2019
<table>
<thead>
<tr>
<th>SPONSOR</th>
<th>EVENT</th>
<th>DATE</th>
<th>EVENT DETAILS</th>
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For more events and trainings, visit rcap.org/training and wateroperator.org.
Rural Community Assistance Partnership

A non-profit network reaching rural and small communities in all fifty states to improve quality of life.

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