

# Tappan Zee Bridge

By Christina Murray

"A symbolic span over which Westchester and Rockland Counties will move virtually overnight, twenty years into the future" When Governor Thomas F. Dewey made this pronouncement in December of 1955, it does not seem as though even he knew how true his words would be. It took till 1989 and "Field of Dreams" to coin the phrase "If you build it they will come", but someone could have very well made the same observation during the 1950s in reference to Rockland County New York. Both of these statements cannot fully impress into the minds of readers that changes that came with the opening of a single roadway.

After World War II ended there was a great difference between the number of people who wanted to buy houses and the number of houses that were available. This caused an increase of house building and a change in people's way of life. Those decades marked the beginning of the baby boom and the suburbanization of society. Areas around major cities were the most influenced by such changes and Rockland County, New York, a suburb of New York City, was no different. Every spot in Rockland County lies less than fifty miles from Columbus Circle in Manhattan. This close proximity, along with the "country-like" atmosphere, attracted many people to the area. This area was not easily accessible because it was cut off from New York City by the Hudson River. The building of the Tappan Zee Bridge in 1955 became the gateway to Rockland County and its country atmosphere. Many people flocked to this area and it soon changed dramatically from a rural landscape and agricultural economy to a bustling suburb. The changes that came with this transformation including, population growth, land usage, and infrastructure forever changed the environment of Rockland County.

Up until the late 1940's Rockland County's landscape was best known for the farms that were scattered on its 110,353 acres. During the first few years of the 1950's this landscape saw the rapid disappearance of farms and agricultural lands. This major change occurred from 1950-1954, when the number of farms in the county shrank from 408 to 139. The majority of the farms lost were less than 100 acres. At the turn of the twenty first century about 25 farms still operated in the county, with a total acreage of just over 600. This is a drastic change from the 18,711 acres that were devoted to farms in 1940. This current farming culture is dominated by nurseries and greenhouses on about 24 acres. Most farms in pre-suburban Rockland County produced tomatoes, strawberries, apples, and other crops. In 1968 county officials said that "since 1960 the

urbanizing progress had continued to the point where the number of rural families and settlements is infinitesimal and number of operating farms has reached almost the vanishing point" thereby recognizing the changes that were then occurring involving land usage.

This change in land usage during the early 1950's was precipitated by plans for a bridge over the Hudson River. This bridge was to connect Rockland and Westchester counties between Tarrytown in Westchester and Nyack in Rockland. The building of this bridge would become the first step that facilitated massive changes in the area. Developers and farmers saw the opportunities that would come with this bridge, it would finally allow for easy access to the county's rural land by passenger car. Formerly the two towns had only been linked by ferries, which ran half an hour each way. The Tappan Zee Bridge would allow the thousands of people living in New York City to ride just twenty minutes to the north and find a home. "While some people viewed these changes as certain doom, the flood of newcomers saw the county as an ideal place to pursue the American dream." This American Dream included owning one's own home, good schools, opportunities for well-paying jobs, and close proximity of the city. Many of the people moving away from the city were young couples whose families remained within the five boroughs. With this bridge the people would come, and development would follow them. On December 15, 1955 the New York State Thruway, along with many others welcomed the opening of the Tappan Zee Bridge, which connected Rockland and Westchester counties for the first time . The first talks of a bridge to link the two river towns of Tarrytown and Nyack came during the 1930's when a thirty minute ferry ride was the only way to get from one bank to the other. These plans were finally abandoned after officials realized how expensive it would be to span the three-mile stretch of river. The base rock of the river floor was no less than fifty feet below the water level and it involved too much money for them to invest. Although the bridge project was abandoned for monetary reasons, the project came under fire for other reasons. "Baldwin told a war department public hearing that the proposed bridge would ruin his tranquil village." Ralph Baldwin was the Mayor of South Nyack in 1935 when the bridge was originally proposed. His comments were echoed by the majority of the town people at the time. And rightfully so when the bridge did finally come through twenty years later 74 houses in South Nyack were somehow effected by the bridge construction along with 43 other buildings including a bank and police station. Today the village of South Nyack, for all intents and purposes does not exist any more. During the early 1950's the bridge issue was raised again and this time proponents succeeded. The efforts of towns' people to block the construction went unheard, and the bridge was built. The

construction took about three years, and cost around \$80.8 million. The bridge, however, quickly paid for itself through the tolls and increased traffic over the years. When originally built the bridge carried approximately 18,000 vehicles daily, today it carries on average 132,000, soaring up to 165,000 on some days. This increase in traffic had great influence on the growing population of Rockland County. The Tappan Zee Bridge opened up rural land ripe for development at the height of the baby boom era.

In 1953 53%, 58,898 acres of land in Rockland County qualified as undeveloped. In 1994 only 28% of the county was left undeveloped . Most of the land that remains undeveloped today either lies on a mountainside or in swamp land. It is not rare to see major subdivisions or shopping centers being built on areas once considered swamps or toxic waste sites by the county's residents. Palisades Center Mall and its surrounding complex are an example of such development. This 3.5 million square foot shopping mall is built on not only on known swampland prone to flooding, but the land is also a former toxic waste site. This increase in desire for buildable land caused the property values to skyrocket, rising from \$135 million to \$700 million between 1952 and 1963. The farmers who were still interested in an agricultural lifestyle were pushed out by the rising property values. The land, however, was still within the price range of most New York City Civil Servants, who could not afford to live in other suburbs, like Westchester or Nassau counties . "Before it [the bridge] opened you could buy land here for \$100 per acre, now its \$25,000". Today according to realtor.com it costs between \$50,000 and \$1.5 million to purchase buildable land in the county. This increase in land value made it profitable for people with lots of land to sell it off at a huge profit while still retaining their own personal "country-like" homesteads. Due to this increase in value, building lots started to become less than a quarter acre and houses were selling for between \$12,000 and \$20,000 in 1956 in the various developments that sprung up on former farms. One of the first developments to push Rockland County down its suburban path was Apple Orchard Estates, which in 1953 was offering one hundred and forty homes with a median price of \$12,900. One of the selling points for this subdivision was its close proximity to the proposed thruway. It lay just one mile from the highway that would soon bisect all of Rockland County.

The houses being built at the sites of former farms were filled as quickly as they were built. Between the years of 1950 and 1957 the population of the county increased by 27.3 % from 89,276 to 113,680. The growth didn't stop there, in 1960, just three years after the special census of 1957, the population had soared to 136,803. This growth did

not slow, and by 1970 the population had ballooned to 229,903, an increase of 68.1% over the 1960 number. This meant an annual growth rate of 7% after 1960 which caused residential and non-residential construction to move along at a brisk pace. Vacant land started to disappear in the county.

This surge of growth was facilitated by the opening of the Tappan Zee Bridge, which caused a 68.1% population increase from 1960-1970. This growth did not slow until the 1980s, when total growth only amounted to about 13%. Population growth slowed further between 1980 and 1990 when growth shrunk to 2.3%. Growth picked up slightly between 1990 and 2000 when an 8.0% increase was recorded, making the current population about 288,567.

At the start of this spike in population growth, housing construction boomed to make room for these new people. In 1951 one saw only 737 new dwellings constructed in the county. The following year 832 were built. The growth continued, and by 1959 2,117 dwellings were approved for construction. Construction continued at a vigorous pace in the county in the years after the bridge opening. The steady pace continued until the late 1960's and early 1970's, when building activity finally slowed temporarily. Even at this time the new dwelling rate was over one thousand yearly. A sharp upswing occurred between 1971 and 1973. New home building rose from 1661 dwellings in 1971 to 2403 the following year and 2849 in 1973. During this time it is possible to see the increase in residential land usage. In 1960 there were 14,913 acres categorized as residential. In 1976 there were 19,540 acres qualified as low density residential, and 4,600 acres noted as medium density residential. In total 24,140 acres were categorized as residential, a change of 9,227 acres in just sixteen years. Low density residential is qualified as having between one and four dwelling units per acre. Medium density is above four dwelling units per acre.

Population density amplified during this time, matching the growth in construction and population. In 1950 the population density of the county was 507 people per square mile. It increased to 777 people per square mile in 1960 and 1,306 persons per square mile in 1970. This increase continued steadily until the most recent survey when 1,645.9 people were found per square foot.

The first people who came to these new neighborhoods came from a variety of backgrounds. Usually, they were civil servants, police officers, firemen or former soldiers seeking an affordable place to live. This process began with the conversion/building of affordable veteran housing on the former Camp Shanks site. Shanks Village, as it was known, was soon filled with four thousand former GIs and their new families. These four thousand GIs were housed in the former barracks that had

been renovated into small apartments. These apartments could be rented for \$32 a month and the addition of linens would cost \$1. Most of these residents were men taking advantage of the new GI Bill of Rights, which allowed former soldiers to attend college classes. The majority attended Columbia University as either undergraduates or graduate students. Money was a limited resource for most of these new families and Shanks Village was the perfect opportunity for them to get on their feet. Many of the villagers saw the opportunities that came with living in the Rockland area and decided to stay. One group of villagers saved up their money and bought thirty acres in Tappan and set up their own subdivision. These GIs were soon joined by policeman, fireman and prison guards who had grown up in New York City and didn't want their families to do the same.

Starting in 1956 the county surveyed new home buyers on why they chose the Rockland County area. During this initial survey 41% responded that the "country-like" atmosphere attracted them. The size of lot or house caused 18% of the respondents to settle in Rockland. 16% of those who responded said they were attracted to the area by its close proximity to their work. Other, less important reasons were business opportunity (8%), lower cost (8%), near family or friends (7%), and lower taxes (2%). The response reflects the fact that the mass settlement of Rockland County had just started to occur at this time. It was still possible to get a house that was situated in a rural or "country-like" settling.

Just four years later in 1960 when a similar survey given to new home owners in Rockland County elicited very different. Only 30% of those surveyed were attracted to the country like atmosphere. Another 20% enjoyed the counties close proximity to work. The size of lots or houses slipped to just 10%, and business opportunities also received a 10% response. Convenient travel to work, and lower cost both saw an increase in attractiveness both getting 20% of the vote. Lower taxes and nearness to family and friends saw slight changes. Lower taxes increased from 2% to 4%, and nearness to family and friends going from 7% to 6%. This change in response was precipitated by the vast changes that had occurred in just four years. Rockland was much more of a suburb then anyone could have predicted. The increase in subdivisions and continued loss of farmland started to make the area much more attractive to those seeking a home in suburbia. In 1955 the Tappan Zee Bridge had opened, and the first survey was given just a few months after this opening. By 1960 the bridge had been open five years, and it already had a vast influence on the area. The Tappan Zee Bridge had influenced people's decisions and made Rockland County much more connected to the surrounding metropolitan area.

With the population explosion that came with the Tappan Zee Bridge it became necessary and essential for the infrastructure of the county to adjust and grow. The county needed to keep the various services running efficiently and make sure they were meeting resident's standards. This meant the destruction of more natural habitat to create roads, sewers and the structures necessary for their upkeep. Roads had to be created where trees or houses once stood. Sewer expansions displaced residents who lived around the sites. At the same time limited natural resources like water were being pushed to their limits because of the increase in population. New reservoirs had to be created where streams, forests and golf courses once were private property. These issues helped to influence major changes in the landscape and quality of life for the residents of Rockland County.

Survival in the suburbs depends on the car, and these drivers demanded a system of roads, including major highways, county roads, and village streets. The county had its work cut out for it in providing adequate roads throughout the county. In 1956 the county was crisscrossed by just over five hundred and twenty miles of roadway. At this point distribution of these roads was about even. Forty five percent were being maintained by either the county or the state, and the rest of the roads were maintained by towns.

Clarkstown lead the five towns with nearly ninety eight miles of street, which was eighteen percent of the county's roads. By 1976, when the population expansion had started to pass. The total mileage of roads for the county was just over eight hundred twenty three miles. Of this five hundred and fifty six were local streets maintained by the five towns separately. This massive increase in local streets coincides with the population growth that the county was experiencing. These roads, like the developments they lead to were placed on floodplains, toxic waste sites, former farms, and areas known for flooding. This building of roads, like that of the houses, was seen as an essential part of the move towards suburbanization. Even major access roads that connected residential areas to commercial areas were not spared from the threat of floods. One of the major north-south roads, Route 59, is notorious for flooding. Route 59 connects various residential areas with major highways like the New York State Thruway and the Palisades Interstate Parkway and is apt to flooding during heavy or even light rain.

Even before Route 59 ever became a major thoroughfare in the county residents knew about its tendency to flood. One of the first major floods that proved the likelihood and danger of flooding in the Route 59 area of West Nyack was the October storm and floods that followed in 1903. Instead of the daily commute to the train station with a horse and carriage residents relied on rowboats till the waters receded. Today the

Palisades Center Mall is accessed by thousands of customers by way of this road. Even today when the road floods the traffic is rerouted through local streets, creating traffic on roads less suited to handle the volume.

With the rapid growth that came to Rockland County after the opening of the Tappan Zee Bridge, the facilities available for maintenance processes like sewer and water distribution were quickly overwhelmed. In 1958 when the growth was still beginning, there were ten sewer treatment plants in the county with a capacity of over nine million gallons per day (gpd). These plants were only processing about six million gallons per day. These figures were quickly changing and upgrades were constantly happening. In 1976 the smaller sewer districts had been combined and now nine treatment plants served the area. Daily these plants had a designed total capacity of about twenty eight million gallons. The daily flow at the time for all the districts was about twenty seven million gallons per day. At this time the plant serving Haverstraw was being renovated to allow for a daily flow rate of about eight million gallons. In 1976 two plants were being run above the design capacity. These were the Upper Nyack plant and the Rockland County plant. The Nyack plant was designed for a flow of about 165,000 gpd and was operating at about 180,000 gpd. The Rockland plant was designed for ten million gpd and was operating at fourteen and a half million gpd. It should be noted that this plant too "will eventually" be expanded to a capacity of twenty million gpd. There is no note on when this expansion is slated to occur. By 1994 the rate of sewer treatment had increased drastically by about twenty million gallons a day. At this point there were again two plants operating at or over daily capacity and two more were reaching theirs. This drastic increase in sewage treatment has had various effects on the residents. They are plagued by rancid odors that can be smelled miles away even on a good day. Another factor that plagues residents is the visual pollution that comes with exposed sewer pipes running across the county. In Blauvelt, for instance, there is a large sewer pipe that extends over the public water supply reservoir. This is visually displeasing to the residents but worse is the threat that a leak would pose to the water supply. One of the most important situations to address when dealing with the suburbanization of Rockland County is the effect that this growth has had on the water supply of the area. The area is served by a series of reservoirs, springs, and well located within the boundaries of the county. In 1958 the various water companies in the county had systems set up serving 81,100 people, and a capacity of 14.8 million gallons per day (mgd). In 1976 these same companies were supplying water to 249,200 customers with an average supply capacity of 41.60 mgd. By 1994 this number had increased to 272,000 served and a daily capacity of 45 mgd. This rapid growth has brought very few

upgrades in the water supply. The water that these companies can provide to customers is limited by what they have in their reservoirs and wells. In a recent Journal News article the water situation created some raw nerves. The Journal News article says that Rockland County has essentially the same water supply that it had 20 years ago, which is proved by the numbers above. During this time, however, the county has seen continuing growth in both residential and commercial activities. Also stated is the planned growth that is set to happen within the next few years, including the building of several facilities on the former Rockland Psychiatric Center, the proposed redevelopment of the Haverstraw water front and specified growth within the town of Ramapo. This has put an already inadequate supply under further strain. This Journal News article attempts to explain the impact of the current four year drought the county is living through. This drought has wrought major water restrictions to the residents of the county, causing disruptions of daily life and business. This past summer the restrictions were so strong that water was not able to be served to patrons in area restaurants unless requested by the customers. Lawn watering was prohibited and all pools in Orangetown were tested for possible leaks. These measures were aimed at insuring the conservation of all the precious water that was available.

Possible solutions to the water crisis were also discussed. The article cited some of the major ones, including, "widening and deepening of reservoirs in Rockland and Bergen. Joint conservation under the same rules and the same time in both counties." Bergen County is included in these possible solutions because many of the reservoirs that are located within Rockland County, in the Town Of Orangetown and Clarkstown, serve Bergen as well as Rockland customers. This means that if one county has stronger water restrictions than the other that water usage could still become a problem. The article also states the possibility of overland pipelines to pump water from other sources in the state. Rockland currently does not pump water from other areas. The problem with such a solution is its cost. Currently Rockland residents pay high water rates, so if solutions to the water crisis are to be addressed they must be the best solutions for the lowest cost to prevent continued price increases. According to the article county officials do not seem overly concerned about the restrictions and possible crisis the county faces. Due to this fact the problem does not seem to be finding a solution anytime soon and the growth will continue to rise and the reservoir levels diminish.

As the county grew in population so did the traffic that crossed daily from Rockland to Westchester and back. The registration of vehicles for Rockland County was growing at incredible rates. Between 1955 and 1960 the number of cars registered jumped 22%, in the next five years, between 1960 and 1965 the rate more then doubled. Increasing

from 54,443 cars in 1960 to 91,843 vehicles in 1965. The growth continued for the next ten years, and between 1955 and 1991 the total number had increased by 79%. Movement towards the suburbs continued it made it necessary for families to have two cars, one for the father to commute to his job, and the other for the mother for daily household duties. These duties included transportation of children, grocery shopping, and meeting at various groups. This extra car was more than essential in suburbs like Rockland County because of the lack of public transportation. Before the bridge there had been a railroad that ran along the western shore of New York. It was phased out of service when the population of the county started to grow. This growth in vehicles assisted the traffic crunch on the Tappan Zee Bridge. When originally built the bridge was designed only to carry traffic loads of about 100,000 cars, a figure which was exceeded before 1991, when the daily traffic rate was 112,100 cars daily. These conditions strained the capacity of the bridge making it seem inadequate to residents of both counties.

This feeling of inadequacy's has raised questions about the structural integrity of the bridge and also about what possible solutions exist to help ease the traffic problems that come with the daily flow of cars. The New York State Thruway has identified the Tappan Zee Bridge as a source for problems in the surrounding areas and had set up a task force to address the various issues that are being raised. "The Tappan Zee Bridge provides a vital transportation link not only for the New York City metropolitan area and the Hudson Valley, but for the entire state of New York," said Thruway Authority Chairman Louis R. Tomson. "We have a responsibility to the citizens we serve to provide them with the safest and most effective means of transportation throughout this corridor." There are several solutions being raised, one of which is to rebuild the current bridge, build a totally new bridge and/or tunnel, and construct other transit options. This option of a transit line is ironic because The West Shore Line used to run a similar route to that which authorities now propose. Though currently no final plans have been made, this information has sparked rumors and controversy. Mostly in Rockland and Westchester among both residents and officials. The residents of the area fear the destruction and loss of more land due to the possibility of a Tappan Zee II. Since traffic cannot be rerouted from the current bridge location a new bridge would have to be built along side the original, causing the loss of more valuable lands in Nyack. The Thruway association has vowed that no actions will be taken until a complete assessment of the situation is completed.

This assessment has been defined as both an environmental review and a public comment process. The process of assessing the traffic problems of the Tappan Zee

Bridge is a collaborative effort of the, New York State Thruway Association, MTA Metro North Railroad, Stakeholder committee, elected officials and general public, New York and Federal permitting agencies, inter MPO committee, and the selected project management committee. The agency claims to be as committed to public input as they are to the solution of the problem. This process began on November 28, 2000 and has no prospective completion date. Chairman Tomson, by way of the Thruway webpage invites and encourages local residents to take part in the efforts being made to select the best possible solution to the problem of congestion.

In order to best gauge public opinion of the project an outside consulting firm has been hired. Officials hope this firm can better assess the task at hand without involving the engineering or environmental aspects of the project. The process of public opinion gathering had already begun before December of 2002. The public outreach part of the assessment is meant to provide the public with up to date progress reports, and news about changes. It is also meant to help the consultants gain input on issues that could affect the progress that is taking place in other sections of the assessment, including environmental concerns and engineering issues. Public meetings are set to begin around the spring of 2003. By late spring and early fall a report on the alternative analysis should be available for study. The full Environmental Impact statement is now slated for completion until the spring of 2004. This leaves the residents of both Rockland and Westchester feeling unsure of the changes that will come. Daily thousands of people commute from Rockland to Westchester, Connecticut and New York City by way of the Tappan Zee Bridge; none of these commuters enjoy the traffic that they sit through daily, traffic which is commonly back up six miles. Any solution that will ease the traffic will be a good one in the eyes of commuters; residents of nearby villages probably will not feel the same way.

Longtime residents view the changes that the bridge brought with it differently. For some it was a long awaited connection to the city, but for many it seemed to bring nothing but problems. Aaron D. Fred, who was the County Planning Director in Rockland when the bridge turned twenty five in 1985, said that "its effects were dramatic, if you were a county leader at the time and you wanted to see the country grow, then you welcomed the bridge like it was the messiah. If you were a guy living up on South Mountain Road in rural 'exurbia' you saw it as a death knell," and that is exactly what most native people saw. For residents like Isabelle Savell and Jack Geist who lived along South Mountain Road and River Road, the bridge became a fence, enclosing the once wide open landscape and creating an environmental nuisance. Geist, who lives just three houses away from the bridge, often finds oil, rubber, and gas

debris in his yard after heavy rains. Ms. Sevell comments that she feels like she's living on a city street with the noise that comes from the bridge. She also said she notices the differences in the way the river flows and silts up because of the bridge. "The sand bars are becoming more and more numerous. At low tide you can walk out up to your knees for quite a distance" this is because the river is no longer allowed to follow its natural patterns. The construction of the bridge has interfered with them. These were the changes that fearful residents expected to see with the onset of suburbia.

According to The American Heritage Dictionary a suburb is the residential area near a city. This, however, does not fully describe the experience that is living in the suburbs. The suburbs, if you ask residents, have easy access to central cities, affordable land values, growing populations, along with retail and commercial growth and opportunities. This classification of suburbs is always changing, when the first people flocked to the suburbs starting in the 1940s and 1950s many were seeking the convenience of city living with the atmosphere of county living. But as more and more people sought this lifestyle as the ideal, it became a lost hope. Too many people were trying to live the same dream. This dream crowds the suburbs, which are supposed to be open and roomy. Instead, growth creates mini-cities; pushing the dream suburb farther and farther out, away from the city. A prospective homebuyer seeking an affordable home on more than a quarter acre, in a country setting is rarely available. Instead prospective buyers in Rockland County see the same suburban sprawl that plagues Long Island and Westchester. Because the land has become so expensive it longer is profitable to build houses for families just starting out. Instead huge houses are built on small lots to take advantage of the land. This practice has now become the norm for developments around Rockland County. Today you can no longer look at Rockland County to fulfill that dream. Instead you must now go further and further north towards Orange or Dutchess Counties to find the subur

# Let's Get Dirty - Our Future Is Compost

**By Richard Duffy**

Have you ever wondered what happens to your trash after you put it in the garbage can? Most people do not, after all, sanitation workers remove the garbage and it is never seen again. Martin V. Melosi called this "out-of-site, out-of-mind mentality... as long as someone removed wastes from the immediate range of the senses, the problem was solved."<sup>1</sup> As a result, garbage disposal is a service that many take for granted. Yet, waste does not just disappear. It must be stored, buried, or burned somewhere. This disposal process has gone on for hundreds of years since populations produced huge amounts of waste. The continued use of landfills and dumps has caused the perception that there is a garbage crisis.

Consequently, new techniques to deal with garbage have been attempted.. Recycling is but one example of a solution. Through recycling, old products like aluminum cans and glass bottles would be made into new products. While recycling has enjoyed success in the United States, many question its efficiency. Other suggestions range from shipping garbage to other areas to incineration. All these proposals to the garbage problem go under such scrutiny and examination in an effort to achieve some perfect solution to the disposal problem

One practice enjoying success today is the process of composting. Originally utilized by farmers and in backyards, composting is the natural breaking down of organic materials into soil. The popularity of composting seems reflect people's attitudes and desires to be closer to nature. Compost can occur from levels as small as backyard piles to the heights of corporate composting facilities. When done properly, composting can provide cost benefits and greatly reduce amounts of garbage. Either way, composting is a growing practice that's efficiency grows over time and may become as widespread as garbage collection today.

The Garbage Crisis

The first question you may be asking yourself is, is there really a garbage crisis? Many would argue there is, and it is easy to see why. The population of the world is always growing; this growth results in increasing consumption. Whether it is food, energy, natural resources, material goods, or property, everyone is involved. Mass consumption leads to an increase in garbage and pollution. The production of cheaper

goods that are available to most economic groups has also increased this trend. These factors lead many to believe "that we produce too much garbage."

Additionally, as population increases and spreads out, it becomes increasingly difficult to find places to get rid of garbage. This fact is prevalent in the United States where cities often pay other places to take their waste. There was a time in the United States where people owned hundreds of acres and could dump waste in their own backyards. If people lived in cities or towns, they could simply dispose of their trash in surrounding areas. However, today the United States is densely populated throughout. Cities spread and suburban areas transform into cities, rural areas become suburban, and unsettled areas become settled. The few untouched, "natural" areas left in the United States are often protected. Moreover, no one wishes to have garbage dumped near his or her home. At one time the rich could pay to have their wastes dumped in or near poorer neighborhoods. As the "Not In My Backyard" movement grows, it becomes increasingly difficult for the wealthy to take advantage of the mobilized middle and lower classes.

Not only are landfills quickly filling up, but new locations are becoming hard to find as well. New York City is a perfect example. The New York Times reported that on a daily basis, New York City produces "11, 000 tons of garbage from residents alone."<sup>3</sup> The article cynically reports, "New York City's ubiquitous trash... has traveled to Pennsylvania and Virginia, and there's even talk of sending it to a Caribbean island. It is seeing more of the world than some New Yorkers do."<sup>3</sup> Martin Melsoi presents a good example, "On March 22, 1987, the fully loaded garbage barge (the Mobro), left Islip, New York, looking for some landfill that would take its unwanted cargo," when no one else would take the waste it returned home.<sup>4</sup>

Even The Simpsons poked fun at the subject. In the show's 200th episode, Homer becomes the sanitation commissioner of Springfield, his hometown. Homer spent the town's budget and he must find more funding. His solution is to allow other cities to dump their garbage in Springfield's caves. However, this quickly becomes a problem, as the caves are quickly filled and garbage starts showing up around town. Homer's plan is exposed and the town is left with one obvious solution, move the entire town! Yet, this solution will not work in reality.

However, such disposal problems are not unique to the United States. Even Canada has experienced waste disposal problems. The Montreal Gazette reported that Montreal "sends a little less than 300,000 tons of garbage to landfill sites yearly."<sup>2</sup> This is better than Toronto, which "produces about 2 million tons of garbage a year."<sup>2</sup> Cities across the world produce huge amounts of garbage. Whether one considers it a crisis or not, it is impossible to deny that current waste production and disposal

process should be addressed. If it is not a crisis today, it will be in the future. Dealing with the issue now is the only way to prevent future disaster.

The people of Toronto had a rude awakening the summer of 2003 when municipalities went on strike. Stephanie Whittaker reported, "As stinking garbage accumulated on Toronto sidewalks... it may have occurred to some of the good burghers... that maybe we produce too much waste."<sup>2</sup> It often takes an extreme situation to make people aware of developing concerns. Indeed, Whittaker stated that this predicament opened the eyes of the public. The garbage became impossible to ignore when it was seen and smelt during everyday life. It soon became an important issue to Toronto residents.

### A Search For Solutions

Although the garbage crisis is recognized more now than ever before, some have been weary of it for quite some time. In his book, *Garbage As You Like It*, Jerome Goldstein addressed the garbage crisis in the late 1960's. He not only examines the production of too much garbage, but criticizes the landfill system as well. "A very large percentage of your tax dollar goes for disposing of the wastes we generate... For our money, we really should not have to breathe it in the air, or drink it in our water, or smell it. Yet that is what is happening all over the United States."<sup>5</sup> It is true that landfills can be irritating to those nearby. The possibility of soil, water and air contamination also exists. Yet new technology and landfill methods make contamination less likely. While it would be impossible to eradicate the use of landfills all together, it is plausible to reduce the amount of waste that goes into them. Methods to do so would help alleviate strain on landfills and help solve the garbage crisis.

One solution to reduce the amount of waste being put into landfills is incineration. Martin Melosi cites 1885 as the year the first incinerator in the United States was created.<sup>6</sup> The practice became reasonably popular, as cities burned great amounts of garbage and buried the remaining ashes and debris. Incineration greatly reduced the volume of garbage being buried in landfills. However, the great amounts of ashes and smoke that entered the air would soon become a problem. At first people believed the smoke would safely diffuse into the air. Instead smoke created smog and ruined air quality. Surround areas where garbage was burned also felt the effects of incineration since air currents and clouds could carry pollutants to other areas. Later it was discovered that this smoke also contributed to acid rain. Although incineration proved to greatly reduce the actual capacity of landfill waste, its detrimental effects outweighed its benefits. Until more efficient burning methods can be developed, incineration proves to be a promising but poor solution.

Popular today, recycling is another proposed solution. Through this process materials like glass, plastics, paper, and aluminum are collected and sorted. Later, they are taken to recycling plants where the waste can be made into new materials through melting down, processing, etc. While it may seem like a perfect solution, even recycling has its problems. The Toronto Sun reports that recycling "can be frighteningly expensive."<sup>7</sup> Others believe that their efforts to recycle simply go to waste. Such feelings are not without reason. "Yet, much recycling turned out to be canard - instead of throwing things away," the Chicago Sun-Times writes, "you put them into blue bags and the city later throws them away, wasting your time."<sup>8</sup> Still another argument states that the energy it takes to recycle prevents the process from being efficient or worthwhile. Additionally, recycling only affects specific waste products and ignores most organic materials. Whether recycling is efficient or not, it can only be part of the solution.

Other proposals range from feeding garbage to animals or sending garbage into space. At one time it was common to feed trash to hogs.<sup>9</sup> However, this practice led to diseased meat and large amounts of manure. As a result, this method is no longer practiced. Goldstein also addresses the dumping of garbage into the ocean. Similar to smoke diffusing in the air, it was believed the ocean was large enough to disperse toxic chemicals and trash. However, bays began to fill, natural habitats were ruined, and garbage began to appear on beaches. Jones Beach, New York had a scare in the early 1990's when hospital waste began to appear on its beaches. For these reasons, ocean dumping proved to be an unacceptable practice. Some people support sending garbage into space. But rocket fuel is too expensive for such a practice. Additionally, sending garbage into space would mean losing some of earth's precious resources. All garbage is made of elements and materials that could some day be used again.

One proposed solution to the garbage problem gaining popularity today is composting. While composting is not a new concept - Jerome Goldstein discussed it in the 1960's - it is slowly gaining popularity. Just a decade ago organic waste pick up was unheard of. However, today many cities are creating public composting programs, institutionalizing their own pickup and shipment of organic materials to composting plants. Yet, local governments are not the only body promoting the growth of compost. From small efforts in people's backyards to expensive ventures in corporate composting facilities, compost's popularity and practice has dramatically increased over the years. Since composting can be practiced at many different levels, is relatively cheap, produces great results which can be profitable, and has very few drawbacks there is no reason why composting should not become as popular and widespread as recycling today.

What Is Compost, How Does It Work?

Although many people have heard of compost few know many details. Simply put, compost is the process in which organic materials are allowed to decompose into soil. However, there is much more to composting than this simple definition suggests. Jerome Goldstein writes, "Composting means the controlled treatment of garbage and other common wastes so that a hygienically-safe end product is the result."<sup>9</sup> This definition sheds some light on the complexities of the composting process. It refers to the "controlled treatment" that is important to successful composting. It also alludes to the variety of wastes that can be composted and the value of the results.

On a scientific level, composting is a very sound process. When left alone, organic waste will decompose. However, when small efforts are made, this process can be sped up and yield better results. Simply making piles of the materials causes many interesting things to occur. The concentration of organic waste is the key component to the composting process.

First of all, concentrating the material creates the perfect breeding ground for bacteria. The great amount of material helps hold moisture. The Composting Council of Canada states, "Most microorganisms are very sensitive to this factor in their environment."<sup>10</sup> It also states that when moisture levels are too high or too little, they should be between 40% and 50%, bacterial activity may stop. However, if compost piles are protected from rain, they should naturally hold the proper amount of moisture.

Similarly, bacteria need oxygen to decompose efficiently and produce the best outcome. Simple turning of piles can provide enough air for successful breakdown.<sup>11</sup> This can be done with a shovel, or even specially made tumblers. Concentrating organic waste into piles provides an excellent way for the material to retain enough moisture and oxygen for the process to take place.

It is important for materials being composted to maintain a high temperature. This helps speed up decomposition while killing off harmful bacteria. Luckily, this increase occurs naturally. "The rise of temperature in a composting mass is the result of heat given off by the micro-organisms as they break down the material," the Composting Council of Canada explains.<sup>12</sup> Concentrating waste helps maintain a high temperature therefore maximizing bacterial activity.

This proves that composting is a natural process that can be sped up or maintained with little effort. However, one might be left wondering what types of materials can be composted. The Composting Council of Canada states, " Composting has the potential to manage all of the organic material in the waste stream which cannot otherwise be recycled. This includes materials ranging from kitchen scraps to sewage sludge to soiled paper goods. The Liverpool Echo reports, "The National Wildflower

Centre, near Bowling Park... Uses worn-out bank notes to create compost..." One of the organizers explained, "We're demonstrating that you can get compost out of anything."<sup>13</sup>

The results of the composting practice are very useful. Bacteria and microorganisms break down the waste to its basic components. A sanitary, carbon and nitrogen rich soil is the product. Amanda Greene explained compost turns organic waste "into a dark crumbly, sweet-smelling soil. Good Compost is rich in nitrogen and carbon, two essential ingredients in plant growth."<sup>14</sup> Runoff from compost or "compost tea," is also a useful byproduct of compost. Sandu Gerjevic writes, the result is a "potent organic soil enhancer that makes plants perk up and gardeners take notice."<sup>15</sup> Additionally, the disease free soil can be safely used anywhere.

### Levels Of Compost

One of the beauties of composting is that it can occur at many different levels. It is simple enough to be successfully practiced on a small scale in backyards. Yard and kitchen waste can be put into a bin and left to decompose. It is that easy. When vast amounts of organics, or waste like sludge or manure are being composted it is done at larger, corporate levels. The facilities used to treat such waste are made to reduce smell, run off and prevent pest problems. Between these levels one can find government participation. Usually government programs incorporate backyard or corporate composting to fit their needs. Usually this eases the cost on all parties involved.

Home gardeners have embraced composting for decades. Why purchase soil and fertilizers from stores when you can create better for free from your garbage? The Capital (Annapolis, MD) described numerous ways one could do this. "Too often, people think composting is a bothersome task... There are some very cool commercial items that have come out to make life simple."<sup>16</sup> It discusses several marketed items that make composting easier or more accessible. Some of these include, small odorless bins that can be kept under the sink, biodegradable bags, and compost bins and mulchers. All of these products encourage composting and advertise it as an easy task.

Yet composting is even easier than these products make it out to be. One of the most beautiful parts of backyard composting is that one does not have to purchase anything to do it. The Capital continues, "You can compost with trenches; simply bury vegetable and fruit peelings, then cover them up with soil."<sup>16</sup> One can simply pile yard waste into a corner of his or her yard, or build a makeshift compost container with chicken wire. There are composting techniques to fit anyone's needs. For this reason, many embrace backyard composting.

Many suburbanites hate the fall. In many cases this has nothing to do with the falling temperatures, but with the result, trees losing their leaves. Leaf litter fills covers many yards and need to be raked and put into bags or put by the curb. While many areas offer pickup for the leaves, which would then be composted, some people choose to compost the leaves on their own. Phil Mulkins reports, "You'll be surprised to see how small a leaf pile can become if it's kept contained and watered. That's all you have to do... They reduce to one-tenth their original size in just 10 days. You can rake a little and keep adding them to the pile and by spring they'll be dirt."<sup>17</sup> This simple effort takes about the same effort as bagging or curbing leaves, but results in rich-compost that the homeowner can use.

While composting spreads at individual levels, government funded programs ensure that composting will be an important part of the future. As the benefits of compost become apparent, reluctant local governments have become more open to trying their own programs. If these experimental attempts succeed, composting programs are often taken on at a larger scale. Additionally, there are many different levels that can be tried. These range from support of backyard composting to curbside pickup of organic wastes. As government funded composting grows, it many one day reach the level of recycling or even standard garbage pick up in some areas. In many instances, the programs have proven successful, or if they have not, governments try to work out the problems.

Some governments are slowly initiating goals for their composting programs. The Framers Guardian reports, "Farm-based compost sites are being sought in Dorset to meet the government's target to process 25 per cent of all green waste by 2005... Households are already taking their green waste to the county's ten reclamation centers, which now process 25,000 tonnes of waste a year."<sup>18</sup> The success of the program has prompted the government to expand its expectations. In many areas, compost plans start off small to be tested. After they prove their worth, they are usually expanded.

Similarly, some governments support backyard composting. Programs do not need to be large scale to be effective. Allowing people to separate and compost their own waste takes some pressure off locally run programs and their expenses. Newcastle, Australia delivered compost bins to its residents to promote composting by individuals. The Newcastle Herald reported "The chairman of the councils health and environment committee... recently said he was pleased the household composting program had been well supported by the community. 'It is a great success' <sup>19</sup> The paper continued, with 2400 homes participating, the program has saved around \$78,000 per year. Even with these achievements the chairman also stated that there was room for improvement.

A similar program has taken root in Gloucestershire, England. Under this program "a revolutionary community-sized compost bin" was created, Helen Morgan wrote. She continued, Gloucestershire funded "a small team of designers... to spend one year developing the prototype tumbler which each week digests organic waste collected from 70 households and four businesses."<sup>20</sup> Plans that allow people to take a large part in the composting process allow governing bodies to save money. A community compost bin is low maintenance, and provides quick results. Helen Morgan concludes, "It (the compost) will be used to fertilize produce grown locally, or bagged and sold to the people who donated the waste in the first place."<sup>20</sup> Allowing those that take part in the program to benefit from the results is a good way to encourage participation.

In Ottawa organic waste has received similar treatment as other garbage. Instead of being composted in backyards or having the people drop off their organics, they simply leave them by the curb. Sanitation workers then come and haul the organic waste to composting centers. The Ottawa Citizen informs, "Ottawa's curbside compost pilot project seems to be going well: The neighborhoods involved are meeting the city's goal of diverting 50 per cent of their waste into recycling and composting."<sup>21</sup> The program has succeeded while proving to be cheaper than creating a new landfill site in Ottawa. As long as cooperation with the people continues, the program will continue.

Even national parks are giving composting a chance. "Officials at Yellowstone National Park, in a bid to save both money and landfill space, hope to turn heaps of trash left each year by tourists into a marketable commodity," Becky Bohrer explained.<sup>22</sup> The compost could then be sold or used in the park. Either way, everyone wins; the park gets rid of its garbage and local landfills are relieved of some stress. Yellowstone officials said this plan would bring the park one step closer to self-sufficiency.

Other government institutions are also giving composting a shot. National parks have a direct connection to nature in most people's minds. As a result, it would make sense that national parks were undergoing compost programs. On the other hand, many would be surprised that NASA also has an extensive compost program. BioCycle writer Diane Shelander explained, "From composting landscape trimmings to using the end product for bioremediation of fuel-contaminated soils, things have changed a lot at one of NASA's field centers in California - enough to earn it major environmental awards."<sup>23</sup> Wastes from the NASA grounds are collected, mulched and composted on grounds. The compost is then used to fertilize the grounds, or help reclaim fuel-contaminated soils. The program was so successful that it earned the NASA site a few environmental awards.

The next level of composting occurs at corporate levels. But, private business involves both government and individual composting, since it provides services and goods to both. On an individual level, businesses produce the composting items sold in stores, like bins or biodegradable bags. At the government level, businesses provide the composting centers that handle mass amounts of organic waste. However, like all businesses, the goal of composting at this level is profit. Still other businesses that have nothing to do with compost, like restaurants and supermarkets, desire to start programs in an attempt to save money.

It is difficult to think of businesses that could use a composting program more than grocery stores. After all, foodstuff like produce often gets damaged or goes bad. Instead of simply disposing of this waste with the regular garbage, some businesses are choosing to compost them. Jim Johnson writes, "With more than 300 stores in California and southern Nevada, the Vons grocery store chain produces plenty of organic waste... some 100 tons per day."<sup>24</sup> At Vons, trucks that deliver produce are also responsible for hauling the organic waste away. Even McDonalds restaurants in Australia are beginning to compost their organic wastes, Bruce McDougall reports.<sup>31</sup>

Most compost centers are made to handle large amounts of waste. Consequently, some do not accept waste from small, public sources. This is another situation where government and corporations make successful composting possible. If the government collects waste from individuals, it can then be delivered to large-scale composters. One example of such a site is The Metro Compost Center in Des Moines, Iowa. When one first opens there website there is a bold note, "The Metro Compost Center is not open to the public and only accepts yard waste from MWA's contracted haulers."<sup>25</sup>

Conversely, there are some compost businesses that accept small amounts of organic waste. The Thurston County Compost Center website states that it "will accept yard waste... Every time you bring yard waste to the center, you may take two cubic feet of compost for personal use - FREE."<sup>26</sup> This allows people to drop off yard waste and receive compost without having to wait for the decomposition process to completely occur. In this sense they instantly reap the benefits, just by taking a trip to the center.

Still other businesses simply create or sell composting equipment. Gardening and large hardware stores often carry compost equipment. Rubbermaid makes a durable, lightweight plastic compost bin available at most Home Depot Stores. Wal-Mart also carries a pre-constructed compost bin. The Ace Hardware website not only carries compost equipment, but has a list of items one may need if they are pursuing compost for the first time. However, this list is a bit too detailed, including things from nails to safety goggles to a screwdriver.<sup>27</sup> This makes composting seem overcomplicated, and it is obvious the company wants to make as much money as possible. Yet this shows the potential of composting on the market.

Conglomerate America is not the only side of business taking notice of composting's growing popularity. Various websites specialize or at least concentrate in composting goods. These businesses give more choices and provide better information than larger corporations like Ace Hardware or Wal-Mart. Wheatgrasskits.com carries lawn care equipment. While they only have one composter available on their website, they give very detailed information on the process and product. Gardeners.com carries a large variety of equipment in varying price ranges. From a leaf shredder, to tumbler bins, to a "worm factory," it carries anything rookie to veteran composters could need. It also has information on how to determine which composter is right for you, and gives detailed information on many aspects of the process. From corporate department stores to specialized companies, composting is gaining business's attention at all levels.

### What's That Smell: Problems With Compost

While compost has the opportunity to become a widespread solution to the garbage crisis, there are a few problems preventing it from attaining even greater popularity. Odors, pests, pollution, and costs prevent many people from accepting compost programs with open arms. However, with new technologies and when proper precautions are taken, these problems can be avoided.

The biggest fear people have of composting is the smell it can cause. Nicolas Alonzo commented on a proposed compost site near San Antonio, "No matter how they say it's not going to create an odor, it's going to create an odor."<sup>28</sup> These fears are not unsubstantiated. After a composting plant in Riverside, CA was shut down, residents stated they would gladly pay more money to have waste carried further away. Ellen Braunstein reported, "Barbara Crossey said she will gladly pay more money to keep the smell of decaying greens out of her La Loma Hills neighborhood."<sup>29</sup> When composting organic wastes, especially animal waste or sludge, smell will obviously be an issue.

Another problem people associate with composting is the attraction of pests. In Forrest Illinois, a compost facility was proposed which would "compost leaves and sawdust with waste parts from cattle and hogs processed" at a local meat-processing business, Chris Anderson explained.<sup>30</sup> Among the apprehensions of local residents is the fear that the plant will attract coyotes. Dick Reavis reported on similar problems in San Antonio. Local residents fought the opening of a new compost plant citing many problems including "real bad flies" <sup>28</sup> While it is true rotting organic waste can attract pests, if done properly, this problem could be avoided.

Still, other people fear pollution that compost centers can create. Dick Reavis reported that in San Antonio, "Area activists contested Whole Earth's (the composting company) application to process grease-trap waste because, they say, the plant will

become a malodorous health hazard."<sup>28</sup> Instead of people simply disliking the smell, they fear that it will actually contaminate the air and become a health hazard. In San Antonio, many feared the contamination of the air could lead to asthma. Similarly, others fear that runoff will contaminate water supplies.

Additionally, many people do not want to take part in composting programs. Those fed up with recycling are very reluctant to separate their garbage to an even greater extent. Keep in mind separating organics is easier than separating recyclables, especially when it comes to yard waste. Even though it takes the same effort to put grass clippings into a bin or garbage can as it does a bag, they do not want to be bothered. They would rather have all their trash sent to a landfill, than expend any extra effort.

There can be many problems with composting programs. Yet, the fact of the matter is, if done properly, these setbacks can be avoided. New technologies and techniques are constantly developed to lessen or prevent complaints. For instance, many centers do their composting indoors and treat the air to prevent odors. Others use bags to prevent odors from spreading. When it comes to runoff, many centers carefully collect the contaminated water and later use it to moisten the compost. When done indoors, runoff is not an issue. Most compost sites are careful to keep their property clean. They keep pests off of their grounds and prevent them from spreading. Keeping pest attracting wastes in mixtures with greater amounts of other wastes also prevents pest problems. Again, when proper precautions are taken, unwanted guests should not be a problem.

#### Not Just Dirt: The Benefits of Compost

While many people are apprehensive when it comes to composting, it has many benefits. Even if the problems associated with composting occur to some extent, the benefits outweigh the difficulties. Many cities' pilot programs are expanded after the benefits are realized. Similarly, the popularity with individuals spreads when they realize how cheap and easy composting can be.

First of all, composting greatly reduces the amount of garbage that goes into landfills. Ellen Braunstein reports, "Riverside... collects 200 tons of green waste daily, four days a week." The city hopes "to divert 50% of its waste from landfills."<sup>29</sup> According to Bruce McDougall, Port Stevens "has cut its landfill by 80 percent" through composting programs.<sup>31</sup> Other cities report similar percentages. Hannaford Bros. Supermarkets described a reduction of "waste weight by 80 percent and volume up to 90 percent."<sup>32</sup> The Ottawa Citizen claimed that through its pilot composting program, "721 tonnes of organic waste were diverted in the first 7 months... When combined with the 25 percent (of garbage) recycled... 50 percent of waste in the nine test

neighborhoods is being diverted from the landfill."<sup>33</sup> This is an enormous amount of waste being reused as compost instead of simply filling landfills.

In most cases, composting waste saves a great deal of money. When done onsite, the savings are phenomenal. The NASA sites composting program saved it \$55,000 in compost alone. Additionally, "The center saved about \$590,000 in transportation and disposal costs by bioremediating the soil onsite," BioCycle reported.<sup>23</sup> However, money can be saved with all compost programs. The Newcastle Herald wrote, "this (the community compost program) saves... the community approximately \$78,000 per year... with room for improvement."<sup>19</sup> The biggest cost of large-scale composting is the transportation. However one must remember it also costs money to transport garbage to the landfill.

The profitability of compost is another advantage. While governments may want to enact composting plans for communities, they are very reluctant to build their own composting plants. Luckily, they usually do not have to. Since composting can be a profitable venture many centers are started as private businesses. BioCycle reported on Nancy Summers, a woman that started her own compost business. She explained, "Local wineries pay Poncia (her partner) to haul their pomace away, and they also pay him to spread finished compost in their new vineyards."<sup>35</sup> She not only gets paid to take the waste, but is then paid to return it back to the vineyard as compost. Since compost is a very useful product, it can be profitable. This is another benefit of compost.

Compost does not effect the environment in a negative way. The Ottawa Citizen states, "There's a cost to the environment in land use and toxins such as methane gas, which compost does not create but landfills do."<sup>21</sup> Garbage being stored in landfills permanently takes up space. While compost centers take up space, they are constantly composting waste and sending it elsewhere. Instead of simply existing as trash, organic waste is then made useful again. This saves land and prevents toxic pollution.

Additionally, composting can save once toxic, unusable wastes. For example, it was once normal for farmers to mix dead animal parts into animal feed. This way, animal waste could be used again and the farmer could save some money. Recently, however, this practice came under attack. "An outbreak (of mad cow disease) among cattle and sheep in Europe," Chris Anderson writes, " was traced to animal feed containing offal."<sup>30</sup> If composted, offal can be used again as fertilizer. Similarly, the NASA site uses compost to save soils contaminated with fuel.<sup>23</sup> The natural heat and bacterial break down that occurs during composting would eliminate any harmful pathogens.

A similar problem has occurred with sludge. Dennis Hoey reports, "Sludge is a byproduct produced by wastewater plants after human waste and other materials have

been treated. Farmers like it because it can be spread on fields as fertilizer. However, sludge can produce an odor that some people find offensive."<sup>34</sup> Yet, when the sludge is composted this odor disappears. Jerome Goldstein explains, "By definition, the compost process destroys the disease germs in raw wastes and yields a stabilized residue that doesn't smell, smolder, or in any way offend the eye, ear, nose or throat."<sup>36</sup> Farmers still get a great fertilizer, while other people do not have to suffer.

Compost is also a good alternative to fertilizer. Instead of purchasing potentially dangerous chemicals or artificial fertilizers, many farmers are reverting to compost as a safe substitute. Compost is environmentally sound. Runoff from composted solid will not destroy lakes or streams like nitrogen fertilizers. Naturally, compost holds its nutrients and absorbs rainwater. Since it holds no artificial chemicals, compost does not harm wildlife or humans. Jerome Goldstein comments, "the composting process is a way of returning wastes to the soil with minimum insult to nature."<sup>37</sup>

Another benefit of compost is it is relatively easy to do. Compost is the natural breakdown of organic waste. Unlike recycling, composting does not take outside energy sources. A pile of organic waste will simply compost on its own. This process could be sped up with little effort. This includes turning the compost occasionally, or making sure it is moist enough. On a large scale, some measures must be taken to prevent pests, runoff, or odors from becoming a problem, but this is not a difficult task.

#### Beautiful Dirt: Why Individuals Love Compost

On a small scale, composting has been practiced in backyards for decades now. As governments promote programs and the knowledge of composting's benefits spread, so does its practice. After all compost can save people money. Decomposed yard waste and kitchen scraps can be used for home gardening and landscaping. However, saving money is not the only reason backyard composting is popular. As a matter of fact, composting has developed sort of a cult following among home gardeners.

Practicing compost gives many people a feeling of self-satisfaction. BioCycle's Linda Peterson reports, "In a former life, Nancy Summers designed furniture systems for high tech companies but eventually decided she wanted to do something that would give her more personal satisfaction and benefit the environment." <sup>35</sup> The answer was starting a composting business. This is an extreme example because it involves someone quitting their job in order to start a compost company. Neither of these risky actions needs to be taken to gain satisfaction.

Most people gain enough satisfaction by keeping a small pile of compost in their backyard. The Canberra Times reports, Backyard gardeners love compost. Rich in organic matter and beautifully friable, it is

a tonic to both soils and plants. It may even be a tonic to the person who made it, through the satisfaction of a job well done and the knowledge that waste vegetable matter has been recycled. One has only to watch presenters of TV gardening shows to see the enthusiasm it can engender. It is hard to imagine what they would be like without it.

Yet one may wonder why composting results in a feeling of self-satisfaction. It seems that many people feel this way because composting brings them closer to nature. In a way, feelings generated by composting are similar to those of walking through the woods. People feel satisfied by what they consider being closer to nature. In this sense, composting must be very satisfying since it allows first hand participation in natural processes. Additionally, the process causes no harm to the environment. Furthermore, unlike recycling, composting in backyards permits people to oversee or monitor the whole process. One knows the process is successful because they witness it directly. Finally, when people use the soil created by the process, they can feel satisfied with the results.

Another source of satisfaction lies in composts separation from corporate America. After working in an office or business all day, many people feel stressed out. Composting helps relieve this stress. First of all, the process has very little to no costs. When done at a backyard level, composting gives a feeling of separation from the working or corporate community. Although products are made, one can compost completely through their own efforts. Simple bins can be built and not bought. The process is all natural, and allows people to independently help the environment and help themselves.

Moreover, this feeling of independence creates feelings of satisfaction that are not generated through recycling. While recycling allows one to help the environment, it cannot be done by oneself. The materials must be taken to a plant. The individual never sees the results of their personal efforts. Plus the artificial materials that are recycled, like metals and plastics, are unnatural and represent a separation from nature. Composted materials, like yard trimmings and food wastes are all natural, as is the process of decomposition.

Furthermore, organic gardeners and farmers are very pleased with the results of compost. The process provides an environmentally sound form of fertilizer. Artificial fertilizers and pesticides can be harmful too the environment and its organisms. Compost is a hygienically safe and environmentally sound alternative. It has great results and poses no threat to humans or the environment. Compost Propaganda and The Future of Compost

While the practice of composting has grown at all levels over the last decade, it has not reached its full potential. Many governments and people are still skeptical about

the process. Most are unaware of the success present compost programs are experiencing. Others think of compost and rotting material, pests, and horrible odors come to mind. Yet some of those that have discovered the benefits of composting attempt to share them with the world. Only through informing others of the benefits will compost ever become a mainstream practice.

Although articles and local governments report on the successes of composting programs, most people do not have the time or means to read them. After all, these are usually not mainstream reports. Most of the benefits are discussed in little known magazines, like BioCycle which specializes on the subject. While recycling was not always a mainstream practice, it is very popular and widely practiced today. Only through a barrage of propaganda and government actions will compost become as widely known and practiced as composting.

In some sense, this trend has already begun. For example, a television program in Pennsylvania called Greenworks will air an episode that will explain the process and benefits of compost.<sup>39</sup> Schools are also jumping on the bandwagon. Business Wire reported that the Vons Company "donated nearly five tons of compost to Centennial High School to help support a newly formed class in landscaping and horticulture, which focuses on the construction and maintenance of a school garden."<sup>40</sup>

Even videogames are getting in on the act. A game called Harvest Moon 3 allows the player to "buy a garbage disposal, which makes compost for you."<sup>41</sup> Teaching children and young adults about composting is a great way to ensure future confidence and understanding in the process. If taught about it at a young age, future adults will be more willing to accept and participate in composting programs.

The Composting Council of Canada has a great composting propaganda program. This fall, the council held a pumpkin growing contest. "The Great Pumpkin Growing contest was developed... to build awareness of the importance of using compost to improve and nourish the soil and thereby deliver great gardening results."<sup>42</sup> The plan worked, the contest winning pumpkin weighed 600 pounds! David McCallum, the grower explained, "The secret is good compost and good water... We tended it with lots of TLC --- with the C being compost."<sup>42</sup> The council also creates many attractive posters advertising compost or compost related activities. April 27 to May 3 2003 has been dubbed compost awareness week. The event will have "giveaways, contests and special events."<sup>43</sup>

While there might not be a garbage crisis yet, if we continue to send large amounts of waste to landfills there will be one. Many solutions have been proposed to solve this problem, the most successful one being recycling. Yet, recycling only works on specific materials like aluminum and certain plastics. Composting, on the other hand,

can work on all organic wastes. The process takes very little energy, results in a nutrient rich soil, and can be practiced at many levels. For these reasons, composting is a very efficient and plausible solution to the garbage problem.

However, many are still reluctant to start composting. They see the obstacles instead of the benefits: too much effort, pollution, odors, and pests. Luckily, some individuals and local governments were willing to give composting a try. The evidence from these experimental programs proves the effectiveness of composting as a less risky solution to the garbage disposal problem. Based on their success other areas are more willing to give compost programs a try. Finally, composting has also demonstrated to be a money saving process which benefits the environment and therefore society as a whole.

Still many people remain apprehensive about the process. Information and compost propaganda are needed to inform the public about the benefits and possibilities of large and small scale composting. Once the public is better informed, composting will have the opportunity to become as popular as recycling. After all, it is a more efficient and more beneficial than recycling. If coupled together, recycling and composting have the ability to greatly reduce the amount of garbage going into landfills and prevent a garbage crisis from ever occurring.

## Notes

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2. Stephanie Whittaker, "Don't Wait For Garbage Strike Before Reducing Waste," *Montreal Gazette*, 7 September 2002: LexisNexis.
3. "Trouble With Trash," *The New York Times*, 13 July 2002: LexisNexis.
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