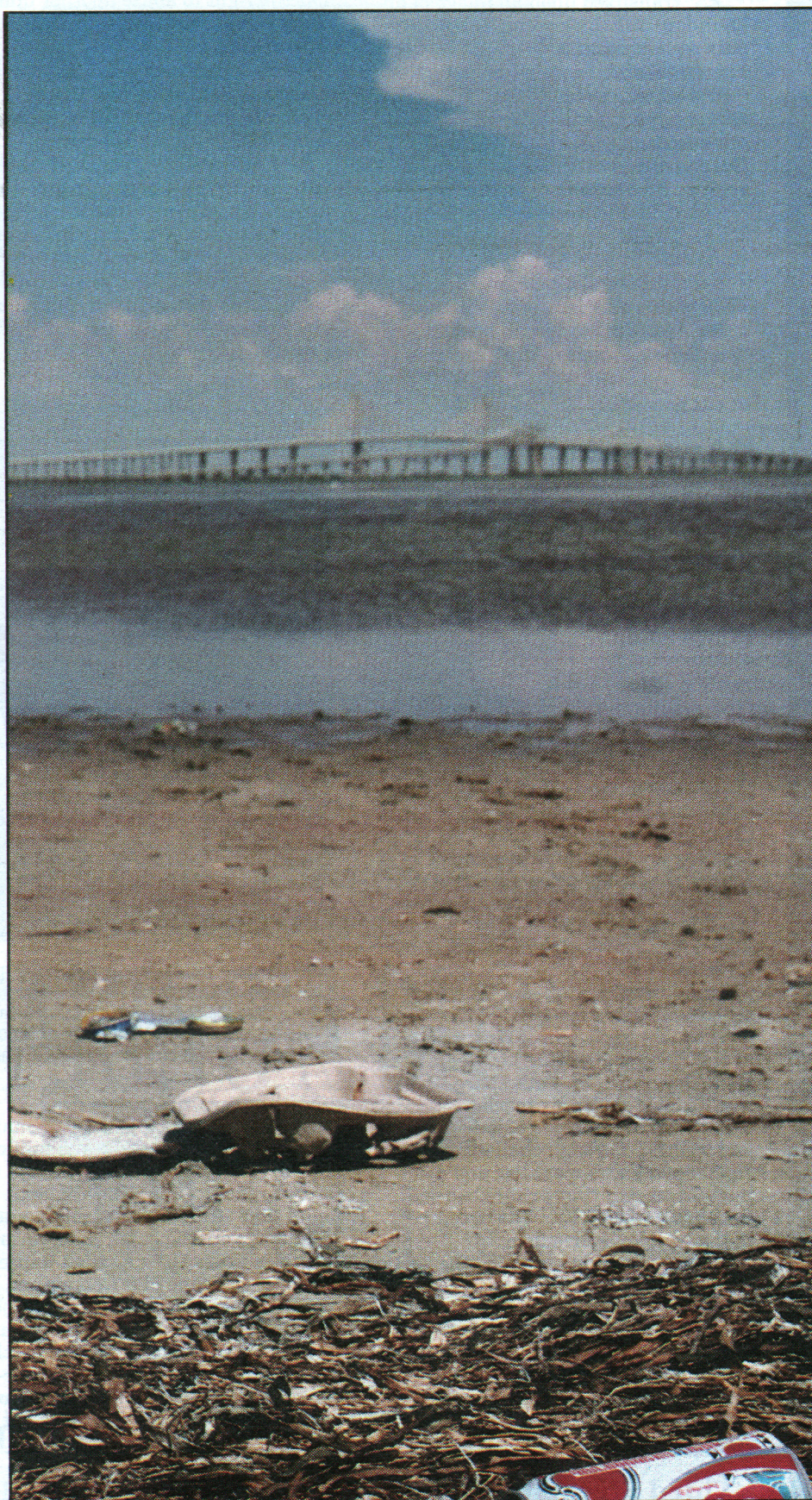


Third Street Journal

A PUBLICATION OF THE POYNTER INSTITUTE FOR MEDIA STUDIES HIGH SCHOOL WRITERS CAMP SUMMER 1990

Since its first settlers in the 1800's, Tampa Bay has expanded geometrically, cutting away the scrub forests and draining the water table with little concern for the future. In an age where our trademark wide beaches have become thin ribbons dotted with homes and hotels, we have come to an environmental crossroads. In the face of grave choices, young people are concerned for the legacy past and present generations are leaving. Will it be a...



LETHAL
LEGACY?

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LETHAL LEGACY

By Jonti Phillips
Lakewood High School

Time and mankind seem to stroll along a path of false glory, transfixed upon an image of an abundant and flourishing Earth. It is only recently that widespread environmental awareness has surfaced.

As a whole, we have been, and still are, obstinate, refusing to realize that our sustenance, Earth, is vanishing. Despite our intelligence and pleas for reform, we continue to pollute our world - with chloroflourocarbons, radioactive waste, fertilizers, and other harmful chemicals.

Environmental carelessness is not always characteristic of the human race. According to Indian belief, Earth is a "female cosmic entity", and the

People have come to realize that they are just as much a part of the environment as it is a part of them, and as the youth looks to their future on the Earth, they realize something must be done.

Earth is Mother.

Native Indians believe that only those resources that are needed for survival can be taken from Mother Earth; there is no superior being, and no one species has the right to abuse another unless there is a mutual understanding between the two.

Earth began to suffer as urbanization spread across the United States in the 18th century, driven by our ancestors uncontrollable manifest destiny.

Now, nearing the year 2000, we have maintained this hunger for growth and expansion, still encouraged by this selfish enigma. We continue to build without heed, to destroy without reason. We're killing the animals, polluting the waters, and ripping apart our atmosphere, all in the name of enterprise.

We have nonchalantly traveled down a road of insolence, ignorant, disrespectful, and unsympathetic to the wounds that we have and still do bestow on our beloved Earth.

Our stroll down this road has lasted for too long, and we now stand at an environmental crossroad - an intersection of two very different paths, and the path that we choose must be the most responsible one.

Finally, we have realized that the planet is dying, with no mercy shown to it at the sharp edges of the bulldozer. Perhaps we will now believe that the problem dealt with in the next year or next century does not lead to a solution, the problem must be solved now.

Saving our Earth begins with respect, respect for all other life, and Mother Earth is life.

A summer camp like no other, the Poynter High School Writers Camp allowed freedom of expression and a chance to hear Dr. Roy Peter Clark sing James Brown tunes.

By Diana Solis
Countryside High School

Every summer, the inevitable happens. Parents send their children off to summer camp so that they might "broaden their horizons." Most of the camps are fairly similar: hiking, songs around the campfire, and of course, the itch of poison ivy. But for 26 Pinellas County High School students, the itch they felt had nothing to do with little green leaves. Theirs was the itch to write.

For five weeks, students from high schools all over Pinellas County attended the 1990 High School Writers Camp at the Poynter Institute for Media Studies in downtown St. Petersburg. Here, they trained under six teachers with experience in the fields of journalism and writing. Through challenging assignments, guest speakers, and deadlines, these aspiring writers learned first-hand what it was like to compete in the world of journalism.

On opening night, June 26, the participants of the camp felt apprehension at the sight of new faces and unfamiliar surroundings. This was shown by self-conscious voices as each member stood up and introduced himself. As the weeks progressed, friendships formed and the unique personalities within the



Photo by Florida Foto Banc

1990 Writers' Camp: Front Row: Chris Blank, Goré Zvobgo, Alex MacKinnon, Shawn Masters, Brian Amend, Sarah Betzer. **Second Row:** Phong Luu, Tiffany Dunn, Bobby Putnam, Nicole Dandridge, Greg Hardy, Ike Adams, Thy To, Leah McRae, Diana Solis, Sheri Kraynak, Dr. Karen Brown, Cheray Ford. **Third Row:** Aaron Milton, Kerri Norris, Monique McLaughlin, Jonti Phillips, Heather Reid, Pam Hanson, Brian Patterson, Ursula Nawab, Maria Lemonias, Happi Zaiser, Ruth Harris, Susan Corson, Gabriel Horn, Rick Wilber, Mark W. Granning, Louis Zulli Jr.

group became evident.

In between writing about personal experiences and taking educational field trips to Boyd Hill Nature Trail and the St. Petersburg Times, the students found time to amuse themselves and entertain one another with their various talents, such as Greg Hardy's impression of singer Sinéad O'Connor and Ike Adam's dance moves. The group also received visits from Dr. Roy Peter Clark, Dean of Faculty at the Poynter Institute. Along with his informative lectures, Dr. Clark found time to belt out several verses of James Brown's hit

song, "I Feel Good," while the students clapped along.

Also making visits to the camp were various guest speakers, including Steve Small, photo editor from the *St. Petersburg Times*, Diane Anderson, a Consultant to Solid Waste Management, and Kim Kleman, the City Editor for the *St. Petersburg Times*.

When the five weeks were over, the students returned to their everyday routines, not with hundreds of mosquito bites, but with a new understanding of their own writing and a deeper appreciation for journalism.

Third Street Journal Staff: Phong Luu, Monique L. McLaughlin, Jonti S. Phillips, Heather L. Reid, Diana M. Solis, Goré M. Zvobgo III. **Computer Pagination:** Tom M. Ierna, David A. Loyd, Rashida M. Clendening, Jennifer L. Fentress. **Photographers:** John Firmani, Mark Smith, Neil Desai, Paul Amodeo. **Artist:** Rob Carlson. **Faculty:** Dr. Karen Brown, Ruth Harris, Mark W. Granning, Louis Zulli Jr., Gabriel Horn, Susan Corson. **Consultant:** Pegie Stark. **Production Supervisor:** Priscilla Ely.

Front Page Photos: (Left) An illustration of pollution at Ft. DeSoto Park. Photo illustration by John Firmani; (Top to bottom) 1- Diana Solis, Gabriel Horn and Gore Zvobgo examine the beach at Ft. DeSoto Park. Photo by Neil Desai; 2- Great Blue Heron at Ft. DeSoto Park. Photo by John Firmani; 3- Pinellas County Co-op Extension Services in Largo. Photo by Neil Desai; 4- Errol Chooquan in Kash-n-Karry's aisle of environmentally sound products, in Kenneth City. Photo by Neil Desai; 5- Alligator in Sawgrass Lake. Photo by John Firmani.





Photo courtesy of St. Petersburg Times



Photo courtesy of St. Petersburg Times

In the past 24 years, Sand Key, a once pristine and unpopulated area, has quickly grown into an urbanized residential area. Top left: Sand Key, 1965. Right: Sand Key, 1989.

TAKING A BITE OUT OF THE BUDGET

By Heather Reid
Tarpon Springs High School

The Bay area's growth has left a visible strain on local budgets. Planners and officials are finding it increasingly difficult to manage their resources and provide for the environment.

The planners and officials huddled over a glowing crystal orb in the center of the table in a smoky room. The head planner/psychic placed his hands on the ball and asked of the spirit world, "Tell us of the future," and they could foresee all problems and intercept them.

In reality, planning for the Tampa Bay area's future can not be done with a crystal ball, and indications of our problems and their solutions will not come from the spirit world.

Pinellas County and surrounding areas are growing at an alarming rate. In just the years between the 1980 census and 1985, Florida grew by 13.6 percent or 1.3 million people, according to census figures reported in the *Miami News*. By the

year 2000, Florida will top 16.4 million residents, and according to the Pinellas County Comprehensive Plan, Pinellas will exceed 1,032,000 residents. Population density figures reported by the Tampa Bay Regional Planning Council (TBRPC) in November of 1985 ranked Pinellas County number one in the state with 2,857 people per square mile.

788 people move into Florida each day, as reported in the 1985 *Miami News* article, enough to build another city the size of Tampa each year.

While this growth surge may be a dream come true for economists, it is a nightmare for environmentalists and planners. In a 1986 Comprehensive Regional Policy Plan for the Tampa Bay Area, goals were outlined dealing with many growth issues, including waste control, water supply, and growth management.

Statewide, the planners hoped to "properly manage...all solid waste, including hazardous waste, wastewater, and all hazardous materials." The report goes on to say that the "use of landfills shall be eventually eliminated."

Yet, as of December of 1985, the report states that there were "no permitted treatment, storage, or disposal facilities for hazardous waste in the Tampa Bay Region." The TBRPC set up a guideline that "by 2010, hazardous waste will be properly managed."

Beyond the risk of hazardous wastes, "non-hazardous" by-products are piling up as well. According to a *Tampa Bay Business Journal* article quoted in the report, the regional waste generated between 1975 and 2000 would create a landfill 17 square miles wide, at an average depth of 10 feet.

Although the council hopes to eventually eliminate the use of all landfill, they estimate that the landfill in St. Petersburg at 2800 110th Avenue North will be able to accommodate garbage until 2005.

In preparation for growth, Rebecca Franklin, Recycling Coordinator with the Pinellas County Recycling Office, said that a facility adjacent to the existing landfill on the 750 acres of county land will be constructed.

In a step toward eliminating solid waste ending up in landfills, the Florida Legislature passed an Act requiring 30 percent of garbage by 1994 to be recycled.

Gene Jordan, the County's Public Works Director, said that less than 15 percent of the county's waste is recycled now. Jordan also said that while recycling reduces landfill material, it would not eliminate the need for a new \$340 million incinerator being planned, but would reduce the need to add the new facility.

Franklin said that approximately 85,000 homes participate in recycling at 55 drop-off centers.

While cities like Largo have a \$37.50 per ton tipping fee for landfill use, she said that the cities are saving money in the long term costs of landfills and incinerators.

Businesses are prime candidates for recycling, Franklin said. "Businesses generate enormous amounts of solid waste. If just one-half recycled their cardboard boxes, we'd be light years ahead of the game."

She added that county and city offices recycle, as do the 3000 employees of Florida Power, and Bayfront Center Staff. Gordon Beasley, who works with the General Planning Administration, said, "I think the county's approach (to recycling) has been alternate methods of dealing with garbage. Resource and recovery plants have reduced landfill use plus now (the county is) proposing another landfill."

The TBRPC admitted that increased landfill use is an increased risk to the groundwater supply.

In 1985, the *Miami News* reported that to keep up with growth, the state would need to find 111,000 more gallons of water each day. 1984 figures for the region estimated a total water use of 620 million gallons per day, 90 percent of which was provided from ground water resources.

Suzanne Cooper, Principal Planner of the TBRPC, said that land in Largo has been acquired to be utilized as a well field providing water to needed areas, but she admitted that the water supply "definitely needs to be improved."

What would the crystal ball say? Planners wish they knew. Weighing costs and environmental statistics against growth projections, the toughest choices are yet to be made.



Rebirth of Concern



Art by Rob Carlson
Graphics by Tom Ierna

1970-1990

With Earth Day 1990 came an enormous increase in environmental awareness. Now, however, environmentalists are wondering whether this movement is strictly a trend that will soon fade away, or whether future generations will continue to carry the torch toward a cleaner world.

By Maria Lemonias
Countryside High School

TIME magazine named Earth the Planet of the Year. Yet, the Earth is rapidly falling apart. Mother Nature has always withstood all of her problems, but with the turning of the decade, humans themselves have realized that saving the Earth is no longer Mother Nature's responsibility. The environmental movement, which began in the early 1970s, soon after faded away. The movement, a sort of re-awakening, has come back, opening the eyes of modern environmentalists.

"People are starting to look to the environment more to raise awareness about what we can do (to save the environment) on our own personal lev-

el," said Nicole Phillips, an employee of Greenpeace.

Environmental organizations have developed along with the environmental movement itself. Organizations like Greenpeace, Earth First!, and the Sierra Club raise awareness about environmental problems in various manners. Greenpeace, a world-wide environmental organization, began in 1970. Greenpeace uses non-violent methods to raise international awareness. However, Earth First!, which began in 1980, does use violent methods to raise awareness. "No compromise in defense of Mother Earth" is the motto of Earth First!.

Twenty years ago, Denis Hayes, then a 25-year-old college drop-out, coordinated a day of teach-ins to educate people to the dangers of pesticides, garbage, and air and water pollution. That day, April 22, 1970, came to be known as

"The attention of Earth Day 1990 was good, but the real test was whether we incorporate what we learned into our everyday lives."

-Laurie MacDonald

Earth Day.

On April 22, 1990, 200 million people in 140 countries celebrated the 20th anniversary of Earth Day. Only 20 million people celebrated the original Earth Day. Using the degree of difference of people who participated in the original Earth Day and those who celebrated the 20th anniversary, it is evident that people are getting worried.

"The attention of Earth Day 1990 was good, but the real test is whether we incorporate what we learned into our everyday lives," said Laurie MacDonald, a volunteer at the Sierra Club in St. Petersburg. MacDonald served as the Sierra Club State President from 1988-1989. She currently works for the League of Conservation Voters.

After learning the effects of polystyrene and plastic products, the buying public has been demanding environmentally friendly materials from corporations.

Even grocery stores have jumped on the environmentally safe bandwagon. Grocery stores have begun to stock items which do not harm the Earth.

"I was in Publix the other day buying some ginger. The ginger was wrapped in plastic in a styrofoam container," said Craig Sinclair, Regional Tuna Campaign Director for the Florida Division of Greenpeace in Ft. Lauderdale. "I went back to the man behind the counter and asked him to wrap the ginger in something else because I didn't know how to dispose of the styrofoam and plastic properly. I didn't want the responsi-

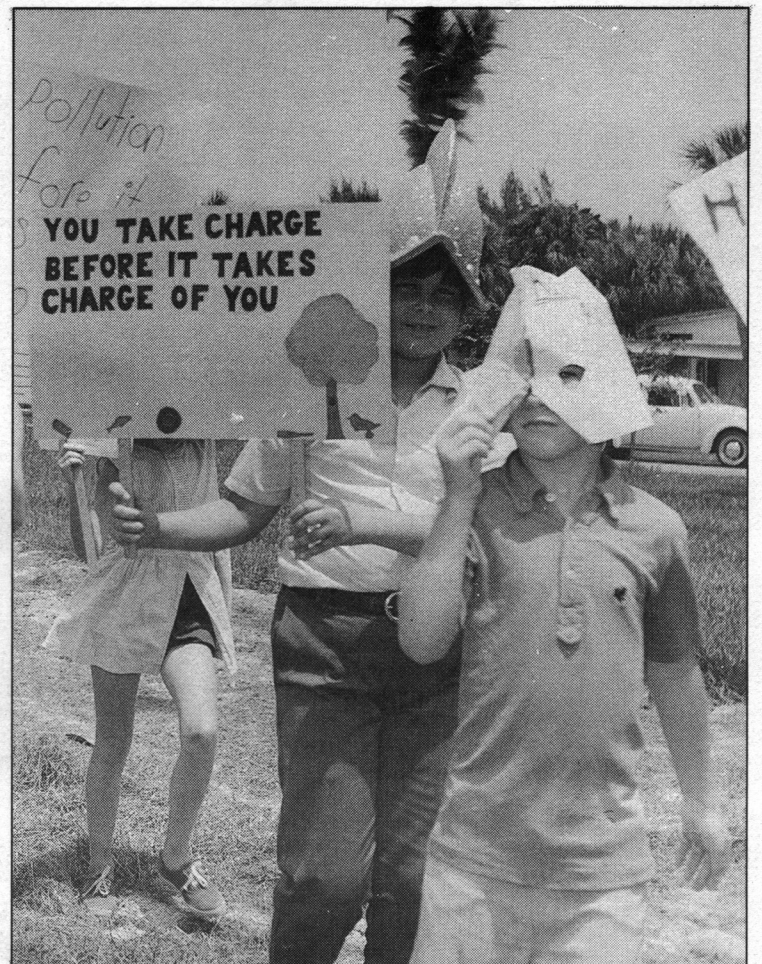


Photo courtesy of St. Petersburg Times

Fourth graders at the Anna Maria Elementary School in Sarasota Florida march in an anti-pollution demonstration on Earth Day 1990.

"People are starting to look at the environment more to raise awareness about what we can do (to save our environment) on our own personal level."

-Nicole Phillips

bility. The man said that within a few weeks they (Publix) will be using pressed paper to wrap (materials)."

After Earth Day 1970, the environmental movement was still alive, but on a small scale. Then, as 1990 approached, the modern environmental movement materialized. Issues such as the depleting ozone layer, the shrinking size of the rain forests, and the extinction of animals proved to the world that something had to be done.

"I see the 1990s as the Decade of Activism like this country has never seen before. I'm optimistic because of increased awareness and activism," Sinclair said. "You're not going to see a turning back."



MAKING THE GRADE

Environmental organizations abound in today's nature conscious society. The League of Conservation Voters is one that evaluates the environmental commitment of politicians.

By Tiffany Dunn
Boca Ciega High School

Greenpeace boats block and halt the huge tuna boats that murder dolphins. Earth First members sabotage lumber company's equipment and spike trees to rescue them. And League of Conservation Voters members wear suits and sit behind desks. All three are environmentalist groups, but the League of conservation voters works from the inside.

Environmental organizations recognized the need to work within the political system, and so ten years ago, the League was founded. The League's principal belief is that the best way to help the environment is to place people who are truly committed to environmental issues in office. According to Lori MacDonald, President of the Florida Sierra Club for the past two years and currently President of the Florida League, big business was endorsing their candidates and making elections contributions, there was no one there lobbying or working with politicians on critical environmental issues.

The league is a national organization with state chapters. "Currently," says MacDonald, "the League is working

on a booklet in which we evaluate candidates for office and then endorse those we feel are committed. It is a report card on how the politicians are doing."

According to the *St. Petersburg Times*, no politician in his right mind would speak against protecting the environment. He or she must obviously balance the interests of both industrialists and environmentalists in order to collect the winning number of votes. "Balancing all those competing interests is like walking a tightrope..." wrote the Times.

This is where the League steps in. The group decides on which candidates to endorse by interviewing them, and researching their policies toward the the environment in the past. Their "score" is formulated by examining their previously held positions, how the person chose to vote on particular environmental amendments, and whether these choices were beneficial or destructive- then the number of beneficial environmental votes is divided by the total

number of votes, and a percentage is formed.

In the 1988 senatorial elections, Senator Bob Graham was given a spectacular 100 percent rating, while Senator Connie Mack received a 30 percent.

The League then gives their endorsements to the media, so that it will reach the voters and they will be able to distinguish which candidates are environmentally committed.

The endorsement has been shown to make a difference with voter.

According to MacDonald,

In California, where the Sierra Club also endorses candidates, some polls show that up to 50 percent of voters look at the endorsement when deciding their vote.

"The most important thing we can do in our fight for the environment," says MacDonald, "is to have loyal and caring individuals representing us."

"Currently the League is working on a booklet in which we evaluate candidates for office and then endorse those we feel are committed. It is a report card on how the politicians are doing... the most important thing we can do... is to have loyal and caring individuals representing us."

-Laurie MacDonald

GREENPEACE

An international organization with regional offices. Active with many global issues, such as animal rights and protection, military testing, oil drilling, and toxic waste. For more information, call the SouthEast regional office at 1-305-768-9660 or write: Greenpeace P.O. Box 3720 Washington, D.C. 20007

MANASOTA

Local, independent organization with 2500 members. Deals with all environmental issues, such as workshops on toxins, developing plans for area growth. Sued Environmental Protection Agency over the Water Management act. Asked for the resignation of the Florida Secretary of Development Regulation. For more information: Gloria Rains 1-722-7413.

SIERRA CLUB

International organization with over 600,000 members, 1,800 local members. Currently protesting the dredging of Clearwater's barrier islands, as well as off shore drilling. Meetings are held the third Thursday of every month at 7:30 at Moccasin Lake Park. For more information, call Florida Sierra President Bob Sullivan at 823-1085.

AUDUBON SOCIETY

National, state, and local organization founded in 1909 to protect the Florida plume birds from extinction. Monthly meetings are held at 7:30 at the Science Center, 7701-22nd Avenue North. For more information, write: The St. Petersburg Audubon Society, attention: Jean Hickock 5120 47th Avenue North St. Petersburg, FL 33709.

The Politician's

Factors the league uses to formulate scores:

- the politician's previously held positions
- how he/she chose to vote on particular environmental amendments
- whether those choices were beneficial or destructive
- Once these factors have been considered, a percentage is formed when the number of beneficial votes is divided by the total number of votes.

report card

1989 Scores

Bob Graham (D)	100
Connie Mack (R)	30
Bill McCollum (R)	40
Sam Gibbons (D)	90
C.W. Bill Young (D)	40
Michael Bilirakis (R)	60
Andy Ireland (R)	50
Bill Nelson (D)	70
Dante Tascell (D)	80

Information compiled by the St. Petersburg Times

Graphic by Tom Ierna



Art by: Rob Carlson

■ Although Pinellas County is bounded by water, there is a limited freshwater supply. Currently, that supply is threatened and local agencies must search for both long and short term solutions.

By Greg Hardy
Largo High School

Since February 1989, the Southwest Florida Water Management District (SWFWMD) has declared the area under its guidance to be under a state of water restrictions for both residential and commercial areas.

"There are a variety of things we look for to determine if there is a need for restrictions," said B.J. Jarvis, the water shortage coordinator for SWFWMD. "We check rainfall predictions, we monitor the rain water levels at utility pumping stations, and we look at agricultural trends."

Once this data is organized, an 11 member governing board of SWFWMD representatives determines if there should be restrictions and when those restrictions should be modified or removed.

Supported by property taxes, SWFWMD, or Swiftmud as it is sometimes called, was licensed by the Florida legislature in 1961, and is one of the five water management districts in the state. Extending from Levy to Charlotte county, Swiftmud serves 16 counties. Within this 10,000 square mile area reside 3.3 million people, comprising one-third of Florida's total population. The district uses 1.4 billion gallons of water per day for [everything from] drinking water to sprinkler systems to both large and small agribusinesses that must water their crops.

"The mission of the agency is to protect and manage our water resource," said Terry Johnson of the American Institute of Certified Planners (AICP). "I'm the manager of the water use department, which has three functions. The first is to make an annual report with an estimate of water use. The second is to manage the water restrictions and the third is to promote water conservation."

Currently Pinellas county is one of seven counties in the district that is in a modified phase three of water restrictions, where lawns can be watered a maximum of two days a week. The other nine are in phase two of restrictions where lawns can be watered at most three times a week.

Residents under the new regulations were asked to adapt a lawn sprinkling schedule that was based on the current water restriction phase of the county, and their address. Under phase two restrictions, odd numbered houses have a choice of watering on Sunday, Wednesday or Friday, while even numbered houses are allowed to water on Saturday, Tuesday or Thursday. There is no watering at all on Monday in order to allow water levels a chance to rebuild. Now with the additional modified phase three restrictions, Fridays and Thursdays have been cancelled as possible watering days.

The restrictions even extend into commercial venues. "They follow the same phase restrictions, only their watering hours are from midnight to eight in the morning," Jarvis said. "The only exception to that would be the ultra low volume methods such as drip irrigation which are used all day by farms that

...water, water
everywhere,
but...

NOT
a
DROP
to
DRINK

grow food or strawberries or citrus."

In addition to Swiftmud, which can only make suggestions about when water restrictions are necessary, the Pinellas County Water System (PCWS) exists to insure that the water of Pinellas county is properly regulated.

"You can think of all this as an inverted pyramid," Johnson suggested. "Swiftmud is on top, with the regional suppliers underneath. Then would be local governments, and finally the consumer."

PCWS, as a regional supplier for beach communities and unincorporated

areas of Pinellas county, also helps Swiftmud in the collecting of data by monitoring surface and ground levels to determine when the water level is actually stressed. That decision is made by Swiftmud analysts who report their findings to the district governing board.

"The county board of commissioners have said that when the Swiftmud board declares restrictions, they are automatically put into effect," said Dan Christy, the assistant water director for PCWS. "Then it becomes the city's responsibility to enforce the restrictions."

The state law says that the first time

a law enforcement officer catches a water code violator, he or she will issue a warning. A second offense will result in a \$25 fine, and a third offense merits a \$500 fine or up to sixty days in jail.

According to Swiftmud statistics, the districts have been falling short of the expected historical average of monthly rainfall since September, 1989. The only exception was February 1990, when the rainfall was the same level as the historical average. "So far there is no plan to immediately remove the restrictions," said Johnson. "The period from July to September is when we get 60 percent of our rain for the year, and right now, we've got 55 percent. We would need to get 120 percent of our expected rainfall to get off of restrictions."

When the current restrictions are lifted, the Swiftmud governing board will introduce a program of long-term water conservation methods. "We will be instituting a ban for lawn watering from nine to five," said Jarvis. "But actually there's very little downside to that. During the day there is an 80 percent evaporation rate for water, so it would be more economical to do it at night when 100 percent of the water will be used. And the plants would respond much better to that type of treatment."

Tim Amburgy is the owner of Countryside Land Care. This landscaping service in the Countryside area has been in business since February of 1989 when the current water restrictions were initially put into effect.

Because the water shortage of southwest Florida appears to be far from over, many people have tried to develop ways to conserve that water.

"A lot of people waste water by over-watering their grass," said Amburgy, who then offered this piece of advice. "St. Augustine grass only needs an inch of water a week soaked into its roots to grow in. What you can do is leave a coffee can in your yard when you have the sprinkler running, and time how long it takes to collect an inch. If it takes 45 minutes, you know that you would only need to keep your sprinkler going that long a week to keep your grass green."

Swiftmud also has plans for the water needed for sprinkler systems. "We're starting to get more and more systems to use reclaimed or primary treated water for use for irrigation," said Jarvis. "The water isn't 100 percent clean or drinkable, but it doesn't exactly have to be, does it? In fact, primary treated water is Nitrogen rich, and many golf courses that have used it have found that it has cut down on the number of chemicals needed in keeping their courses green. There's also desalinated water, which is salt water with the salt removed. It's also referred to as RO water for reverse osmosis."

"There is no one answer for solving our water problems for the future. It will have to take a combination of well water, rain water, reclaimed, primary treated and desalinated [desalinated water] water to make a difference. Our main goal is always to provide water without reducing the standard of living."





Photo by Neil Desai

THE EARTHLY CAUSE

INDUSTRIES PLUNGE IN

Environmental hype has struck. Not excluded from the list of those affected by Earth Day and environmentalism, product manufacturers and advertisers have also joined the earthly cause, supplying a multitude of environmentally sound goods to meet consumer demand.

By Thy To
Dixie Hollins High School

Taking their cue from such celebrity environmental activists as Mel Gibson, Meryl Streep, Sting, and Paul McCartney, product manufacturers and advertisers are joining the earthly cause. Now the industry is rethinking packaging and trying to appeal to consumer concern for Planet Earth.

Consider this: Every man, woman, and child in the United States generates more than three and a half pounds of garbage per day. According to *American Health* April '90, one third of that garbage is derived from new packaging, which includes 2.5 million plastic bottles discarded every hour; layers of foam and cardboard that hold everything from McDonald's to Sony stereo equipment, plastic blister packs that encase CD's and tapes, and glass bottles that will not decompose for thousands of years. The EPA and environmentalists are receiving some positive responses from the manufacturers.

Proctor and Gamble Corporation is complying with consumer demand for a decrease in garbage and reducing packaging volume for several of its products. New Crisco Oil bottles now use 28% less plastic. With new Downy concentrated fabric softener, buyers can reuse the same plastic bottle again and again.

"People publicly supporting the environment is becoming very popular," said Rod Brooker of Benito Advertising Incorporated. "Kash-n-Karry is very success-



Photo by Neil Desai

Top: Keeping in the spirit of environmental awareness, Errol Chooquan selects biodegradable paper towels from Kash-n-Karry's "CARE" line.
Center: For the convenience of environmentally conscious consumers Kash-n-Karry provides reusable shopping bags.

ful."

Kash-n-Karry is raising consumer awareness beginning in their own stores, by stamping their slogan "Bag One for the Environment" in orange waterbased ink on their degradable, recyclable, reusable brown bags that contain recycled material. The recycling bins in the parking lots and just inside their front doors are just one more way for shopping customers to recycle their plastics, glass, paper, and aluminum.

Kash-n-Karry has also produced its own "Care" line, which introduces cotton balls, paper towels, and tissues that are healthy for Mother Earth. With a forest green tree as their signature emblem, the only harm

in these landfill safe, non-contaminating to ground water, non-toxic when incinerated, no dioxin producing chlorine bleaching agents, and no ink, dyes or fragrance added products, is the plastic wrap that encases them.

Along with the Care line, name brands are making their own claims toward pro-environmentalism. More and more garbage bags are lining supermarket shelves claiming to be biodegradable.

Yet, "biodegradability isn't the solution," remarks Deborah Anderson, director of environmental coordination for Proctor & Gamble, in the April issue of *American Health*. "Even if these materials are biodegradable, they won't break down without moisture, and most landfills don't have moisture. These materials will be entombed just like non-biodegradable items."

"I think it's misleading," said Kash-n-Karry shopper, Nancy Jennings. Though Jennings realizes that the labeling often doesn't expose such information, she still places a carton of the new Hefty biodegradable trash bags into her cart in hopes of a consumer effect.

"I think people (producers and marketers) are sincere," said Brooker. "It does give them an advantage in the market, but it's also partly to make the world a better place."

The restaurant business is also pitching in their efforts. McDonald's claims to be the first in the restaurant business to remove fully halogenated chloroflourocarbons from its polystyrene packaging. (See related story page 8)

With so much hype and environmental talk since Earth Day '90, consumers may want to make a cleaner world, but who can they believe? "The public is going to be discriminating as to who they are going to believe," said Brooker. "People are smart. Two hundred and forty million people will figure out if someone is scamming them. The real benefit is that business is also smart. They know they can't be hypocritical. What results is a marketing advantage that can only benefit the environment."



ON THE

Big Mac
Track

The life cycle of McDonald's polystyrene Big Mac container commences with austere order and ends in mass confusion. Created in environmentally conscious ways, it may be recycled or left to sit, depending upon the Big Mac consumer.



Photos by Neil Desai
Art by Rob Carlson

Polystyrene is one of the most environmentally controversial products of modern business. To some, polystyrene is considered environmentally sound. To others, it pollutes and help destroy the Earth.

By Brian Amend
Seminole High School

Opinions differ as to the impact of polysterene foam on the environment. Some say that it is a very good alternative to other forms of packaging. Others say that it is environmentally harmful.

Polysterene is a hard, rigid substance that is made by the application of benzoyl peroxide, a catalyst to styrene, a colorless liquid.

To some, polysterene is advantageous either recycled or incinerated. Polysterene foam may be recycled into a number of household items like videocassettes and home insulation. "We have so much demand for recycled polysterene that even at full capacity, we'll have more demand than we have product," said Tom Tomaszek, general manager of Plastics Again Recycling Center. Along with being recycled, polysterene foam may also be "burned to create energy," according to Diane Anderson, consultant to St. Petersburg's Solid Waste Management.

However, polysterene has also been labeled by the Sixth Edition of "Dangerous Properties of Industrial

Materials," by Irving N. Sax, as an "animal carcinogenic," meaning that it has been known to cause cancer in animals. The book identifies the "acrid smoke and fumes" emitted during incineration as a hazard.

Jon East, an environmental writer for the St. Petersburg Times does not think that (Polysterene foam) is one of the materials I think [environmental regulation agencies] had concerns about.

Though considered hazardous by some, polysterene is being recycled by McDonald's. "Polysterene is 100 percent recyclable. In some of our restaurants, we're asking our customers to help by separating and disposing of their paper and plastic waste in two different con-

Polystyrene may or may not be an environmentally benign substance. However, its use proliferates in the fast food restaurant industry.

tainers," stated by a McDonald's booklet.

Though considered hazardous by some, McDonald's and others favor using polysterene. "Polysterene is 100% recyclable (and may be) superior to paper packaging from an environmental standpoint," stated McDonald's in press releases and environmental booklets.

Polysterene may or may not be an environmentally benign substance. However, its use proliferates in the fast food restaurant industry.

By Brian Amend
Seminole High School

Being a polystyrene package is not all that it's cracked up to be. Oh sure. In the beginning, they start you out fine, all pressed up and ready to go. But once that Big Mac burger makes its exit, things become tumultuous.

I replaced wax coated paper in the early 1970's. Not only do I "serve a hotter, faster product," but I also "may in fact, be superior to paper packaging from an environmental standpoint," according to McDonald's.

I have an impact on the environment in many ways.

One thing I really like is that I have no 'CFC's.' That's chloro-fluorocarbons, a family of gases used in refrigeration, air conditioning, and industrial cleaning. These can cause damage to the atmosphere, by releasing chlorine, which depletes the ozone layer, thus exposing the environment to harmful, ultra-violet rays.

I am also useful in that McDonald's recycles me. This takes cooperation from the purchasing customer, though. "Our customers can now help local recycling efforts by separating their polysterene in our restaurants," said Shelby Yastrow, McDonald's senior vice president, director, environmental affairs.

All the foam packaging used by McDonalds, including Big Mac containers, is 100% recyclable. In fact, according to a newsletter printed out by the McDonald's Corporation, "Today, polystyrene is being recycled into everything from office and household products to videocassettes to McDonald's own recycled trays."

"Recycling helps eliminate items from the waste stream altogether," said Yastrow.

Recycled, I can also turn into tangibles, like home insulation, park benches, and playlands. The American Public Health Association's opinion that "reusable plates, cups, and utensils are less sanitary than disposable products" is purely objective.

Every day, more and more people are getting involved in recycling polystyrene. In October, 1989, the McDonald's Corporation launched a huge polystyrene recycling program involving over 400 New England McDonald's restaurants. The program seems very successful and, hopefully, more restaurants across the country will get involved.

As you can see, my life is a rough one that begins with order and ends in chaos.

To begin with, I'm just plain styrene. But when I'm mixed with benzoyl peroxide, a catalyst, I puff up and become larger.

Once the manufacturing process is complete, uniformed workers stack me up neatly on a shelf, where I sit until a Big Mac is placed within my bottom compartment. Then, someone with a red cap whisks me over to my assigned tray or paper bag. From there, I am divested of the only property I ever owned and left to sit, like a naked prisoner, until... the sentence.

Will my life as a Big Mac container end in the city dump, on a dirty car floor, or in a recycling bin where I may begin another life? One never knows.



Art by Rob Carlson



Second Time Around

With all the conveniences available for recycling materials, including curbside pick-up and central recycling centers, the responsibility for recycling remains with the individual.

By Cheray Ford
Dunedin High School

Overdevelopment of housing, and improper disposal of wastes are some environmental issues that we must face in this decade.

"Everything that we do has some environmental impact," said Jon East, journalist for the St. Petersburg Times. We have been pumping out more water than the soil can handle, and building faster than water can be supplied, said East.

Recycling can preserve natural resources and curtail the need for large landfills. Furthermore it can also help us greatly if we buy things that are reusable, said Diane Anderson, a consultant for Solid Waste Management.

Andrea Cox, a consultant for the Reynolds Aluminum Company said, "One of the reasons that we recycle is that we can melt the aluminum down and reuse it, and by doing that we can help the environment."

Another big problem, said Cox is chemicals. As we build we tend to put chemicals in our lands, and it changes the soil. "I've smelled the dirt and it doesn't smell like dirt. It smells like chemical," said Cox.

Jill McKillips, an accountant for the Poynter Insti-

tute for Media Studies, says she started recycling after reading articles on the environment in "Stones in Media" and "Greenpeace" news letters. She has been recycling for a little over six months.

McKillips said "If we don't start doing something with our garbage, it will destroy our lands, and recycling more will help us a great deal."

"Not many people recycle, it's a hassle," said McKillips, "but they don't realize the big problem we're going through if we don't help. We have a responsibility

"Some of the things we can do to help the environment is to collect as many cans, clothing, and nonvarishable metals that magnets won't stick to and take them to any recycling center and you'll get 35 cents a pound ..."

— Jerry Devito

to protect the environment." When she goes to the grocery store she tries to bring her own bag, and to buy only recyclable items.

Recycling is not universal. Wanda Braman, another consultant for Reynolds Aluminum Recycling Center said, "Although I work for the center I don't recycle.

I'm too lazy, and I don't have enough time to sort out my garbage in my small apartment."

Still, some people continue to feel that recycling is something that they must make time for.

"I absolutely think that recycling is going to make a difference," said McKillips. "The government is mandating it so it's not going to be a matter of if people get involved, but when people get involved. That will definitely be a plus for the environment."

Shawn Johnson, a lab technician for Mid Pinellas Laboratory in Clearwater, says she doesn't recycle, because she doesn't have enough time to help the environment. "I realize the problems that we are facing with pollution, and I just don't have enough time," said Johnson. "I'm always on the go with my son Stephan, and if I'm not with him, I'm at work." For a person who works two jobs, such as I do, you wouldn't have enough time for yourself, let alone recycling."

New alternatives need to be sought to manufacture goods that can be recycled, but Greg Gawoske, a worker for the Pinellas Recycling Center located in Clearwater, says, "The only reason we recycle is because we're in the business of making money."

The government, along with us, said Cox, is trying to clean up by getting rid of the trash by recycling more. "If we keep recycling, and make as much as possible in five years, we would have cut down a lot of wastes, and have lowered the prices on recyclable items," said Cox.

"Some of the things we can do to help the environment," said Jerry Devito of Central Recycling, is to collect as many cans, clothing, and metals that magnets won't stick to, and take them to any recycling center and you'll get 35 cents a pound between the hours of eight and five, Monday through Friday."

"We get our figures on how much to give a pound, from the London Metal Exchange Company," says Devito. "Heck, we should have started this over twenty years ago, before it got worse, now we have to work even harder to return our environment back to the way things were once before."

RECYCLING QUOTA PUTS PRESSURE ON STATE GOVERNMENTS

By Happi Zaiser
Canterbury School

The Solid Waste Act, passed in August of 1988, requires that the state, county, and city governments work to recycle 30 percent of the state's solid waste by 1994.

Compared to Florida's other counties, Pinellas recycles the highest percentage of its solid waste, over 18 percent. Diane Anderson, Consultant to Solid Waste Management noted, "Other counties across the nation look to Pinellas County."

At the moment, there are two ways to collect recyclable materials in Pinellas. The first is collection centers, where residents take their recyclable waste. Rebecca Stone-Franklin of Pinellas County Solid Waste Management stated that there were 55 collection centers in Pinellas. Curbside pick-up, where materials are picked up at the homes, is the other.

In St. Petersburg, a pilot curbside program began two months ago for the Tanglewood and Harbor Isle communities, involving more than 400 homes. Tom Leh-

mann, RecyclaMat representative for the City of St. Petersburg, reports that the residents' response was "very positive" and that 70 percent of the homes participate each week and 90 percent participate each month.

The city provides the residents with 90 gallon bins and plastic "Cyclesacs" in which to put the materials. Once a week, city trucks come to collect the recyclable refuse.

"Keep all your plastics separate and you have to keep the papers. You put them in bags (Cyclesacs). All your refuse from your yard you put in the bottom of it (the bin) and then you put your bag with the plastics (and other recyclables) in it," explained resident Marlene Jennings.

Stone-Franklin reported that about 85,000 homes in the county have the curbside pick-up service.

Commercial recycling programs for office paper, glass, aluminum, and cardboard, and school recycling programs are helping to meet the 30 percent quota.

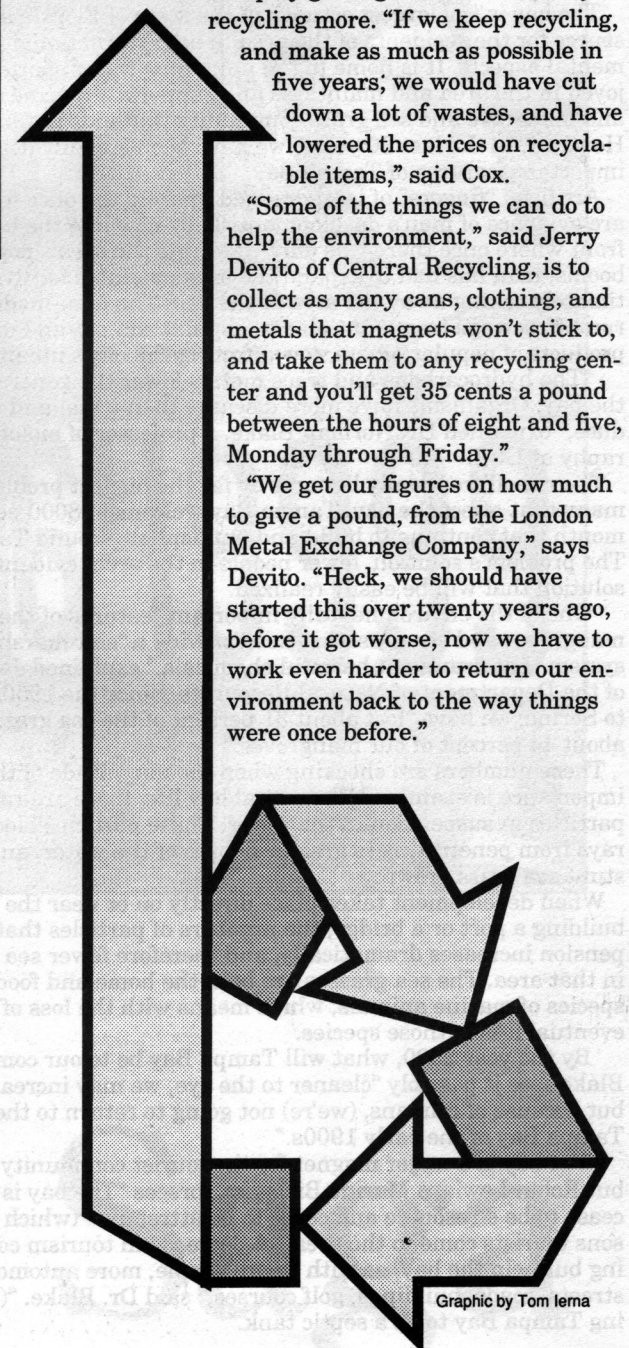
A mother of three and Maas

Brothers employee noted that she only recycled because of the children's recycling program at school. "I can't even go to the d - supermarket anymore without looking to see ... (if) it's biodegradable."

The major Pinellas municipalities, the county itself, three environmental groups, the School Board, the *St. Petersburg Times*, several civic organizations, and waste management companies have joined in a coalition named RecyclaMat to promote recycling in Pinellas County.

The RecyclaMat partnership meets to discuss the cities' recycling programs and the education and promotion of recycling around the county. "The committee ... makes no policy decisions," said Stone-Franklin.

Stone-Franklin hopes that programs like curbside pick-up will expand in order to meet the 30 percent quota or the Department of Environmental Regulation may withhold the state grant money, about one million dollars, the county is now receiving. Stone-Franklin emphasized, "Recycling cannot fund itself."



TAMPA BAY Developed TO DEATH ?

■ Once a pristine community lined with both mangroves and sea grass, Tampa Bay has steadily descended since the early 1900s to become a densely populated and developed area.

By Sarah Betzer
St. Petersburg High School

Where the Gulf of Mexico bumps against the western edges of Florida at the Skyway Bridge, Tampa Bay makes its way into the crescent between the easternmost edges of St. Petersburg and the westernmost edges of Tampa.

The bay is the largest estuary in the state of Florida and a resource for the residents of the area in both recreational and environmental aspects. It is home to the numerous water sports that are enjoyed in the area and maintains and supports a marine community and mangrove and sea grass community that aids in filtering runoff. However, in the last 30 years, we have been steadily destroying these important features of Tampa Bay.

Artificial "fingers" of land dredged up from the once fertile bottom are evidence of man's development. They now line the bay's waterfront where once there was only water. As the area's population booms, man has had to expand the area available for living space, ultimately taking away the area of the bay. The man-made streams for run-off, sewage treatment plants, asphalt run-off, and many other products of population are now affecting the bay's inhabitants.

"The hydrocarbons and trace metals lower the general health of the bay. Organisms have more diseases than usual and don't reproduce," explained Dr. Norman Blake, a professor of biological oceanography at USF.

The runoff from daily living is by far the biggest problem of the many that affect the bay. Tampa Bay welcomes "8000 people a month that continue to build and put asphalt around Tampa Bay." The problem's solution, fewer people in the area, evidently is not a solution that will be easily realized.

One of the environmentally important features of the bay is the mangroves and sea grasses. These provide a "salt marsh filtration system that draws out harmful chemicals," explained Jamie Serino, of the Department of Natural Resources. Since the 1950s, according to Serino, we have "lost about 81 percent of the sea grasses and about 44 percent of our mangroves."

These numbers are shocking when the magnitude of these plants' importance is examined. In normal bay life, there are relatively few particles in suspension in the water. These particles block out sun rays from penetrating to greater depths of the water, and therefore stunt sea grass growth.

When development takes place directly on or near the water, like building a port or a bridge, the numbers of particles that are in suspension increases dramatically, and therefore fewer sea grasses grow in that area. The sea grasses are both the home and food of many species of marine animals, which means with the loss of grasses, the eventual loss of those species.

By the year 2000, what will Tampa Bay be to our community? Dr. Blake sees it possibly "cleaner to the eye, we may increase visibility, but because of humans, (we're) not going to return to the pristine Tampa Bay of the early 1900s."

The bay is a major magnet for the tourist community currently, but Robin Lewis, a Marine Biologist, foresees "The bay is going to cease to be a resource and cease to be attractive- (which are) the reasons tourists come to the area." A decrease in tourism could do nothing but help the bay, as with "more people, more automobiles, more streets, roads, buildings, golf courses," said Dr. Blake. "(We're) asking Tampa Bay to be a septic tank."



Photo by Mark Smith

The Skyway Bridge looming in the distance across the waters of Tampa Bay serves as a constant reminder to all of man's dominance over the environment.



Photo By Neil Desai

Buildings, such as the Stouffer Vinoy Hotel in St. Petersburg, which line the edges of Tampa Bay, contribute to the constant water and beach pollution that is slowly destroying the area.



The pungent smell of salt and the faint aroma of fish fill the air at the Tarpon Springs Docks. A storm brews overhead and, all around, ships carrying shrimp and other fish anchor. The day is over for these shrimpers, but the controversy over their livelihood continues...

By Diana Solis
Countryside High School

Heated debates over the shrimping industry have emerged recently as concerns for the environment have risen. Conservationists state that the nets used to trap shrimp are killing off much of the marine habitat by scraping over the sensitive grassbeds and other vegetation on the ocean floor, while the shrimpers themselves argue that the deaths are a result of constant water pollution.

"We're not the ones that are hurting the plants and animals. You know what's killing the habitat? It's that junk that they dump into the water that kills 'em," said Alan, a commercial fishing captain for 17 years who refused to give his last name.

Despite the large amount of sewage dumped into the Gulf each year, environmental officials feel that the main problem, especially in large commercial and recreational shrimping areas, is caused by the nets.

"Right now, I'm in favor of closing all of Tampa Bay to all shrimping," said Captain Mel Berman, an actively involved environmentalist and host of

his own talk show on WFLA Radio. "We can't afford to let it happen anymore. Too many plants and animals are becoming endangered."

The Kemp's Ridley turtle is one of those endangered. In fact, according to the January 1990 issue of *Boating* magazine, the shrimping industry kills more than 11,000 sea turtles each year.

Former shrimper Jody McBride disagrees.

"They've made the shrimpers the scapegoat. In my nine years of shrimping, I've caught many turtles in my nets, but only ten or twenty of them ever died. The others lived because I set them free," said McBride. "That's how it is with most shrimpers out there. It's just that people don't realize it."

Unfortunately, the turtles are only part of the problem. Other concerns focus on the nets that stir up the bottom of the ocean, releasing pollutants and sediments which damage marine life.

Alternative methods to the nets have been suggested, such as shrimp cages and roller rigs, but, according to Berman, most are still in the testing process.

"The bait shrimping boats have roller rigs which go over the beds, but they only work some of

the time," said McBride. "As for the TED's (turtle extruder devices), in some places they work, but here, (at the docks) they don't because of the sponges."

TED's are trap door-like mechanisms which fit onto the nets and allow turtles and some of the larger fish to escape. However, many shrimpers feel that using these now-mandatory devices prevents them from getting as many shrimp as they normally would.

Seventy-two year old Tango Bob, a retired commercial fisherman and captain of his boat, the "Flight 82", expresses his feelings, "Well, they're (the Federal Government) trying to ban everything. We're just trying to make a living. I'm retired and I have \$60,000 invested in my boat," said Tango Bob. "They're gonna put me out of business, and I wonder if they're gonna pay me not to fish."

Peter Clark, staff director at the Agency on Bay Management, feels that the shrimping ban will not cause shrimpers to lose their jobs, but instead will simply move them to another place to continue shrimping.

"I have yet to see a loss in the shrimping industry," said Clark.

Considering that the total shrimp landings (number of shrimp caught) for last year in Florida was over 54 million, this may be true. Even so, many shrimpers feel that the loss will be theirs.

"The Federal Government is getting ready to take everything away from me. But that's okay, I'll manage somehow," said Tango Bob. "I fought in two wars to become a free man, but that s--- don't mean nothing to nobody anymore. Let me tell you one thing: Don't ever become a fisherman. It ain't worth the hassle."



Local fishermen, like Tango Bob, are finding themselves in perilous seas as environmentalists claim their livelihoods threaten marine habitats. Photo by Neil Desai

The Shrimpers' Saga



With construction at an all time high, animals feel the squeeze. As man builds new homes, the wildlife becomes Florida



By Sheri Kraynak
Lakewood High School

Vegetation gives way to concrete and asphalt, and trails traveled by animals native to Florida disappear. The overdevelopment of Florida consumes the once abundant native wildlife, leaving many animals on the brink of extinction.

The city of St. Petersburg, once noted for its pine trees and the Saw Palmetto plant, is now home to 246,769 residents. The population has increased rapidly with the influx of big business. Approximately 90.9 percent of St. Petersburg's 27,215 acre land mass is developed, leaving minimal land for animal habitation.

Less than six percent of city property is protected under Florida law.

"The state is purchasing a lot of land," said Julie Weston of Planner II, Urban Forester Planning Department. "Land is very scarce, in time the only vacant land that will be left is the land the state has acquired for protection." In 1977 the idea of land preservation was brought into effect as awareness of diminishing habitats grew within the environment.

Progress also hinders animal existence as its natural habitat is slowly devoured by construction. "If development is handled properly, everything should fit in well with the environment," said Ken Yancey, supervisor of Boyd Hill Nature Park.

Opinions differ, although much undeveloped land is utilized for the public through the creation of landfills and County Resource Recovery plants, many feel the consumption of land for these purposes does not fit in well with the environment.

"It is not progress if you're building something without thought to the environment, it is progress if you build something with consideration to the environment," said Yancey.

Destruction of animal habitats through development is thought to be the main reason for animal extinction. "If development continues at the rate it's going, it will cause extinction," said Vernon Yates, director of Wildlife Rescue & Rehab.

At one time, man regarded the Florida panther as its enemy. Today, as technology advances, garbage incinerators and skyscrapers swallow more and more of the panther's "territory".

Hope for its survival diminishes. "It's disgusting,"

commented Debbie Parker, assistant director of Wildlife Rescue & Rehabilitation. "People don't want to live in peace and inch, they don't want to live in peace with creatures."

Development of St. Petersburg ranges from roads, to malls, to subdivisions. These developments detract from an animals refuge and way of life. "We're a very selfish society," said Penelope Fleck, director of St. Petersburg's Wildlife Rescue & Rehabilitation. "We only think of ourselves and our convenience."

As the development of St. Petersburg continues, the survival of native species is unknown, and conclusions drawn. "They will become extinct because of the large amount of land that creatures need and will become less and less," Yates said.

A panther requires approximately 100 acres of traveling territory according to the Game and Fish Commission. As territorial animals, the paths of panthers tend to criss-cross and interbreed. "That in itself will destroy the population," Yates said.

Projections for the year 2000 are grim, nearing extinction. "I'm kind of a pessimist," Yancey. "I see a gradual extinction. The animal, the more it will become a thing

New HOMELESS

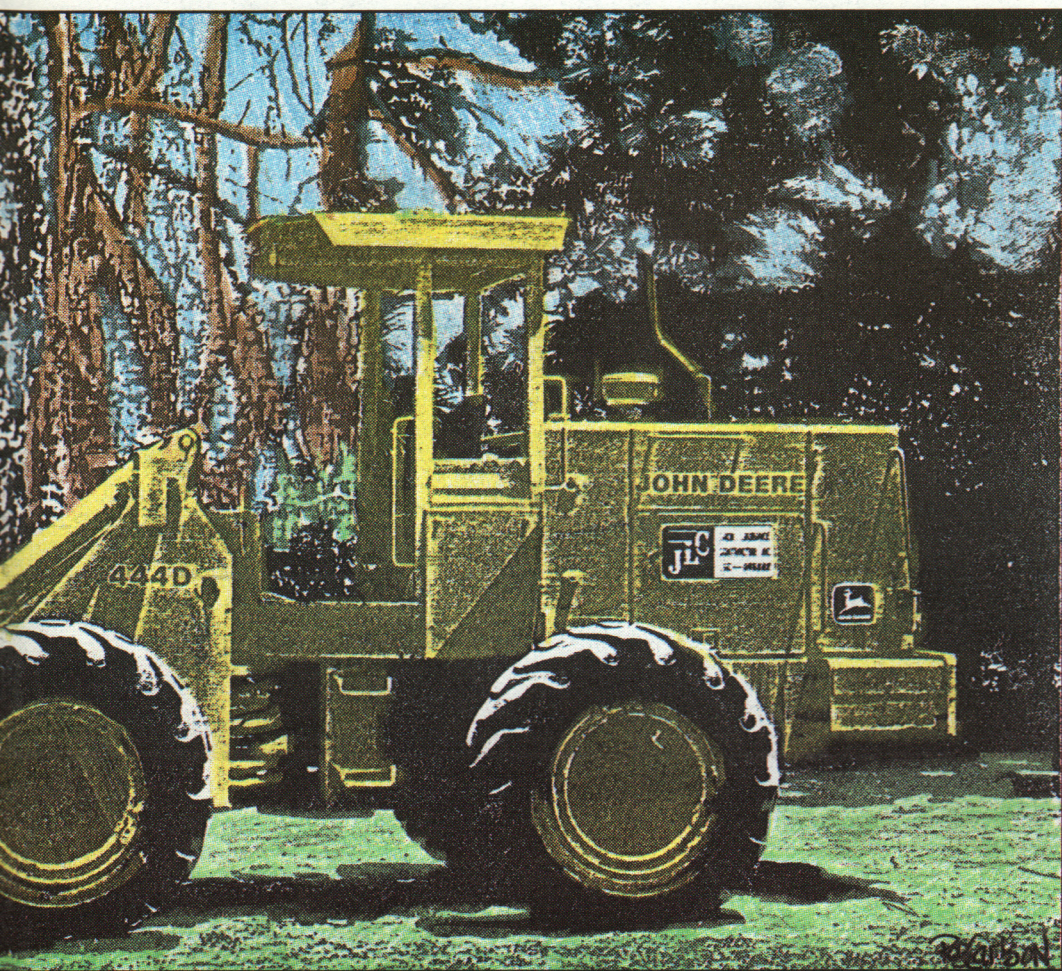


Photo art mixed by Rob Carlson

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The overdevelopment of St. Petersburg contributes to the extermination of lush vegetation and wildlife. Vacant land is dwindling. Within this decade less than 5 percent of Florida's natural habitat is expected to exist according to Weston. A *St. Petersburg Times* projection estimates Pinellas County's population to reach 983,400 by the year 2000.

In the future, endangered species may survive only in captivity. Many wildlife activists are not pleased with the possibility of viewing wildlife through glass and steel bars. Captivity as an alternative to extinction will help make young and old aware of native wildlife on the brink of extinction.

"Putting them (animals) on public view, said Lowry Park, will kill them," said Yates. "It puts a lot of stress on animals when they're in captivity."

Metal cages cannot compare to that of an animals native territory, and a wildlife habitat can rarely be duplicated. Ten years from now, many feel that the Florida panther will no longer be seen running free along Florida's highway, but most likely will be viewed, most likely in zoos and parks - if they survive.

Once they were thought to be mermaids, now to survive Manatees have to SEARCH

By Ike Adams
Osceola High School

A boat roared through Crystal River toward what looked like a huge log. While it looked like timber, it was actually a manatee. When the boat struck the manatee, it sank to the bottom of the river with blood streaking from its back.

The manatee is a huge half ton of flesh. It looks like a giant seal, and are being killed at incredible rates.

"In just 18 months over 300 manatees were killed," said professor and author of *The Ecology and Behavior of The Manatee*, Dr. John Reynolds.

The manatees live in rivers, canals, estuaries, salt-water bays and coastal areas especially where there are plenty of sea grass beds. The manatee, just as human visitors, come to Florida from Louisiana and Virginia to get away from the cold waters. If they did not migrate, the cold waters would kill them.

Since the manatee eats sea grass, it has been said that they could be used as weed control for Florida's waterways, but there are not enough manatees to be effective against the growth of exotic aquatic plants that choke the waterways.

"We need them because their waste helps make stuff grow," Reynolds said.

During the day a manatee can eat 100 pounds of sea grass. They eat for six to eight hours each day, and rest from 10 to 12 hours.

One of the manatees' main problems is that they have one calf every two to three years and having twin calves is very unlikely. The male of the species is not able to reproduce until it is one year old, and they are being killed at a much faster rate.

Most of this information was obtained from "Voice for the Silent Sirenian: Guardian of the Florida Manatee"

GOING GOING ONE

■ Despite efforts made to preserve the barrier island, Egmont Key is threatened by beach erosion.

By Jonti Phillips
Lakewood High School

The dawn of each Florida day dawns upon a smaller and smaller Egmont Key.

Egmont Key's pale white sands are slipping through our fingers. A survey sketch of the island from 1877 shows a hunk of land with little resemblance to the elongated sliver of island that we see today; the culprit of this destruction is increasing beach erosion.

The island is located in a high energy zone, meaning that it is subject to strong fetch from the Gulf of Mexico. According to Eric Lesnett, an Environmental Scientist for the Environmental Protection Commission, fetch is "windblown energy" - strong energy that has been blown across a large body of water.

Lesnett believes that the bombarding fetch may be the cause of the island's erosion. A usual beach system that is protected from heavy fetch is witness to a seasonal pattern; winter currents carry the beach sand out, and the summer currents wash the sand ashore once more. However, Egmont Key is a barrier island that prevents harsh fetch from hitting the mainland; consequently, the island is the first land battered by winds and storms that blow rampantly across the water. The island has no protection, and strong currents pull its sand far from the shore - sometimes too far for the summer currents to retrieve them.

"The thing is, there's such high energy here, the sand that's taken would go so far," said Lesnett.

Egmont Key is one of a string of barrier islands along Florida's west coast that provide a buffer zone

for the mainland from direct attacks by severe storms and winds. For years this island has been taken for granted, but the recent increase in sand erosion of Egmont has kindled efforts to save the island from further erosion.

"Egmont has stayed relatively the same until about 15 to 20 years ago, and then it began experiencing greater erosion," said park manager of Egmont Key, Robert Baker.

The erosion of the island is severely damaging its historical landmarks. In 1861, the island was captured by Union forces and used as a gunboat base for the remainder of the Civil War. Temporary gun batteries were erected in 1898 for Fort Dade, and permanent erection of the buildings began the following year. Some of these buildings are still standing. Littered by graffiti and baked by the sunlight, the buildings attempt to hold majestic poses even in their decrepit state.

Two of the five batteries that once stood on the island have become victims of the erosion. These batteries, located on the southern tip of the island, were once one hundred yards up on the beach. Today they lay crumbling in the water, fifty yards from shore.

Determining the most suitable and beneficial course of action to improve the island can only come after the primary source of erosion has been identified; yet there are disagreements as to a specific cause of the erosion.

According to Dennis Knight, an employee of the Tampa Bay Pilots Association, nature's "tides, winds over the years, and hurricanes" are the primary causes of the island's erosion. Environmental scientist Richard Pugh is supportive of this theory; "erosion of the sea, wind, and everything causes these islands to move," Pugh said.

"There's structures that may be around it that are causing the erosion," said Jamie Serino, Coordinator of Special Programs at the Department of Natural Resources.

Baker believes that natural factors are a significant cause of the erosion that are exploited by human reactions. According to Baker, the volume of water that runs past the island is responsible for the changing shape of the island. When large amounts of sand are dredged up from the sea bottom around the island, the volume of

water running past the island would increase, and the reshaping and erosion of the sands would happen faster.

The erosion is obvious, but a solution is not.

One plan to save the island includes the establishment of Egmont Key State Park. In what officials hope will be a speedy agreement, three of the four agencies with land on the island - the Coast Guard, U.S. Wildlife Refuge, and the federal government - plan to turn Egmont Key into a state park and combine their lands; excluding the acreage leased by the Tampa Pilots Association.

"We're entering into a co-management agreement with each of these agencies for the preservation and restoration of the island," said Baker.

At this point, specific changes that will be made to the island when it becomes a state park are hard to pinpoint. Baker expects that the agencies, after combination, will work to restore the historical landmarks and increase visitor population.

"There are about 80,000 to 100,000 people that come to the island on an annual basis right now, and under current conditions, that's probably more than the island can take," said Baker, "Once we get a plan and some improvements in, then it may be possible that more people could come out. We have to evaluate what we have and then determine the best course of action."

Baker believes that the solution to the island's erosion starts with the knowledge of the island and its deterioration; what action that should be taken to alleviate the erosion can be discovered by increasing knowledge of the situation.

"We're in the process of trying to gather that data and see what information we have, and then maybe do some additional studies so that we can project just what we're seeking," said Baker.

"Everything you're going to do is going to be temporary in nature. You can go out there and attempt to put up jetties and build sea walls, but it's just going to last until the next hurricane comes along," said Pugh, "no matter what you do, it's going to be temporary in nature."

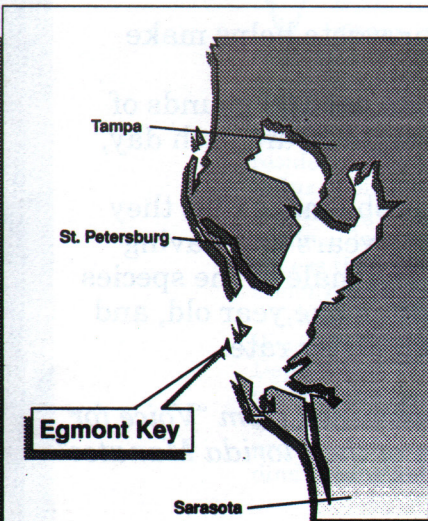
The next generation of children may not get to see Egmont Key as we know it today. They may never have the chance to watch hundreds of seagulls fly from the south end of the island. They may never be able to run their fingers along the seemingly ancient walls of a Civil War jail. Instead, maybe these children will be wading knee-deep in the water, shuffling along that old brick road that leads us into the ruins of old batteries. They may not ever know that we could have tried to save the island. But maybe that's the way it's supposed to be; says Eric Lesnett:

"Our lives are so minute in the clock of time of the whole Earth; what we're trying to do is just spinning our wheels. We should just let nature take its course. If nothing else, it turns into a tidal sandbar...the birds will sure enjoy us not being there."



At the south point of Egmont Key, sea birds fly over the island's receding shore line.

Photo by Jonti Phillips



Graphic by Tom Iema

■ Egmont key is divided into four properties with the Federal government owning the majority of the land. The Tampa Pilots Association, the U.S. Wildlife Refuge, and the U.S. Coast Guard own property on the island.

■ Egmont Key is a barrier island, which means it helps to decrease the severity of storms and wind before they hit the mainland.



we're losing the SAND BETWEEN OUR TOE

Pinellas County is being torn away at the edge by erosion - at an alarming rate

By Alex MacKinnon
Largo High School

Twenty-nine million, that's the cost to replace the one-million cubic feet of sand that has eroded away from Pinellas County's beaches. "Hurricanes, storms, and, well, just not enough sand" - those are the reasons Jon Haines, a researcher for the Department of the Interior's Coastal Geology Survey Center, cites as predominant causes of Florida's beach erosion.

The erosion of Florida's tourist-luring beaches is at an all-time high. About ten years ago approximately three linear feet of beach sand was lost each year. Now, a decade later, between nine and ten feet of sandy beach is carried away by the ravaging waters of both the Gulf of Mexico and the Atlantic Ocean. 250 miles of Florida coastline are now on the 'threatened beach list'. Pinellas is home to nineteen miles of this threatened coastal area.

Quality sand for Pinellas County's beaches is becoming an environmental commodity. The Tampa Port Authority owns an underwater shoal containing 360 million cubic feet of needed sand to renourish Pinellas County's disappearing beaches. The asking price for this sand is 2.5 million dollars.

Sand can also be taken from inland quarries. Juan Colon, a spokesperson for the Army Corps of Engineers, said, "As long as the sand is compatible, it doesn't matter where it comes from, either from an inlet or a quarry."

The removal of inlet sand to renourish the beaches could be a contributing factor to the erosion. A proposal is currently being presented to the Florida Shore and Beach Preservation Association that suggests this. Without the inlets, flowing sand that would once be caught by the inlets is now returning back to sea.

Construction of jetties and breakwaters is another cause of eroding beaches. Building jetties causes sand to collect on only one side of the breakwater, while sand is stripped away on the opposite side of the jetty, leaving the rest of the coast open to the forces of erosion.

As one-third of Florida's precious beaches are being swept away, beach management is just beginning to take shape. The Department of Natural Resources is finally following through on a law passed in 1987. This Beach Management Act calls for state money to help purchase, preserve, and renourish Florida's coastline; however, the DNR has issued over 800 coastal construction permits since the law was passed in 1987.

"We need to get away from the endless circle the government has put us into. The restoring of beaches, only to be washed away by thunderstorms, is not the way to be using the funds the state has at its disposal. Beach erosion should have been managed, not become the no-win situation it is turning out to be," said Deborah Cruise, a local expert on beach erosion.

When Florida reaches the turn of the century, its beaches may be no more. Our beaches may be



A SOLUTION to erosion?

A solution to the erosion of our beaches is not obvious, and dredge and fill, one of the most popular prevention methods, is not completely successful.

By Aaron Milton
St. Petersburg High School

Florida beaches' white sand glistens while tourists enjoy fun in the sun. The beaches provide an escape from fast paced everyday life - they offer a chance to get away and enjoy nature's beauty. Our beaches attract tourists and provide economic support to Florida's growing economy. And our beaches are slowly sifting away.

Fine grains of sand roll away as each wave crushes into the shoreline. Dredge and fill provides a temporary remedy to the destructive erosion.

There are two major problems

come with dredge and fill - contamination of the water and harmful effects to sea life.

"The problem with drawing fine sand up from the ocean is that the fine sediments in the sand are stirred up and mixed into the water," said Tim Nelder, a Senior Ecologist at Biological Research Associates Incorporated. "The other problem is the sea life that may be on the bottom where you're drawing the sand from. The benthic (seafloor bottom) life may be disturbed. In addition to life in the sea, the organisms which live on the shore where you're going to put the sand could be buried, destroying their habitat."

"In Tampa Harbor we improved water quality," said Ron Rutger, employee of the Jacksonville Corp. of Engineers, "By sucking the

muck off of the bottom and putting it into retention places, boats don't stir it up in the water."

The stability of nearby coral reefs is also at risk of dredge-and-fill. Clouds of silt stirred up by the dredging pipes block out the sun; this harms the plant and animal life in the coral reefs.

"Any time you've got a reef less than about 100 yards offshore, you're going to have problems with silting," says Richard Spadoni, an engineer and marine biologist with Arthur V. Strock and Associates Incorporated.

There is great concern for the future of our beaches. If the beaches are destroyed in the process of re-filling them, the tourism industry will drop



Although the fight to preserve Weedon Island's Indian heritage has run into political snags, local supporters pledge to continue the struggle.

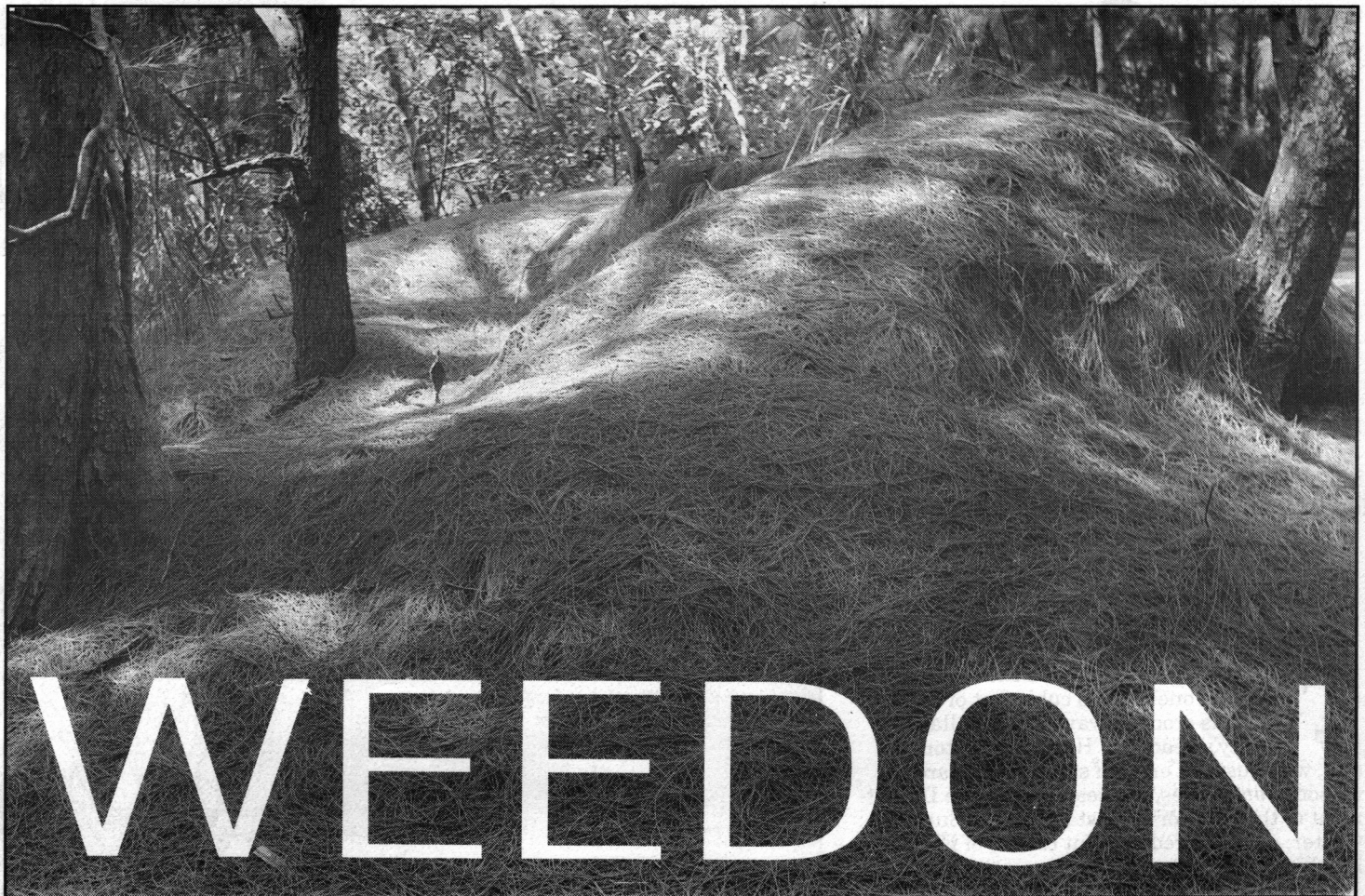


Photo by John Firmani

By Jonti Phillips
Lakewood High School

It's easy to forget that modern civilization exists when you're standing in the balmy depths of Weedon Island. There are no buildings here, no noisy tourists, no picnic tables scarred with visitors' initials.

Unfortunately, civilization hasn't forgotten Weedon Island. In fact, unsympathetic polluters, pot hunters, careless boaters, and developers seem to remember the island far too often. Piles of bulky trash - old tires, decrepit boats, and matted carpets - invade the peaceful scenery. What were once sloping Indian mounds are now chunky deformations of sand, punctured and brutalized by the pot hunters' searches for valuable artifacts. The lush seagrass beds that fringe Weedon Island have been scarred by powerboat motors. And, until recently, Bankers Insurance Company had tentative plans to build an office building on their acreage of Weedon Island.

Weedon Island may well be one of the last reminders of a Florida past - a Florida that knew no skyscrapers, no highways, and was open and flourishing with natural habitation.

It is this recollection of an earlier Florida that has fueled a fire that burns to preserve Weedon Island and its American Indian heritage.

According to the findings of Dr. W. Fewkes, Dr. M.W. Stirling, and Dr. W. Sears, the habitation of Weedon Island began as early as 400 A.D. by mound builders, also called shell men. The mounds were utilized by these shell men and Timicuan-related Muskogean until the arrival of the Spanish in the sixteenth century. The only remainders of what archaeologists term the Weedon Island Cultures exist in their burial mounds and kitchen middens - mounds where they threw their shells, broken pottery, and old tools.

In 1974, Weedon Island became the Weedon Island State Preserve after it was purchased by the state under the Environmentally Endangered Lands Act.

According to Blue Sky, a local Mohawk Indian and activist in the preservation of Weedon Island, although the island was a state preserve,

it was not protected.

"The state bought the island and called it a preserve and did nothing out here," said Blue Sky. "They just bought it and left it as it was."

Ellison Hardee, Chief of Preserve Management at the Department of Natural Resources, says that purchasing the island and providing it with a staff were the only things that could be done to protect the island.

"I don't know what you would expect to be done other than to assign a staff to look after it," said Hardee, "But making it into a state preserve was a major step towards protecting those resources."

According to Keith Thompson, manager of the preserve, the staff that was provided to oversee Weedon Island was not sufficient and could not properly manage the land.

Concern for the island and its historical landmarks intensified when the state announced plans to transform Weedon Island State Preserve into a recreational area. American Indians were outraged by the plan. Afraid that the new proposal would not offer adequate protection for the mounds, they began a crusade to restore and preserve Weedon Island's natural habitat and culture.

According to Blue Sky, it was then that concerned people came together to protect the preserve. Community leaders, politicians, environmentalists, and residents formed the Weedon

Island Advisory Committee.

"Part of what we did was analyze what the current situation was," said City Commissioner Barbara Sheen Todd, head of the committee.

"We found that the Indian mounds were being disturbed and that they were not protected adequately and that, in fact, the staff was not adequate. We found that boats were coming in there and tearing up the mudflats, that destroys the environmental basis for much of the life cycle. The community created the problem; the people were loving Weedon Island to death."

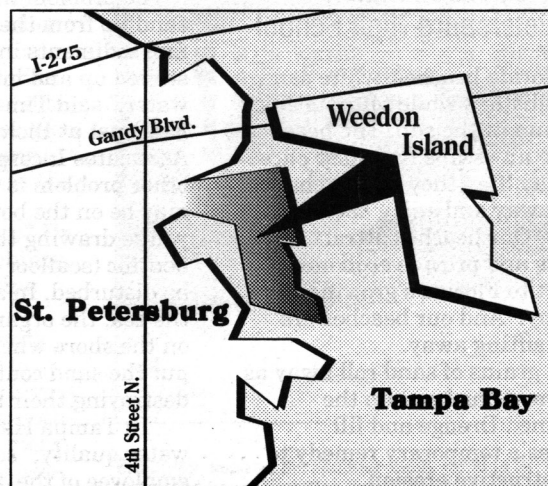
The Weedon Island Advisory Committee, headed by City Commissioner Barbara Sheen Todd, researched the island and drew up a proposal for its preservation. According to Blue Sky, the plan included: a museum housing a reconstructed burial mound and Weedon Island artifacts, a permanent parking area, no picnic areas, and controlled public access to limited areas of the island.

Copies of the Weedon Island Advisory Committee's proposal were presented to Governor Martinez and his Cabinet, and both parties approved the plans. \$75,000 was allotted to fulfill the committee's plans, although they had previously been promised 1.3 million dollars. Another \$75,000 was given by the county, and an additional 445,000 was allowed for the construction of restroom facilities at the preserve.

Despite the committee's unsuccessful attempt to raise enough money to make any significant changes to the preserve, they did succeed in rallying strong public support. However, public support must be complemented with increased political support in order to attain their goals.

Getting more environmentally concerned politicians involved is what the Weedon Island Committee plans to do. According to Sheen Todd, legislators from around the state will hopefully be brought to Weedon Island in September to see the island's significance firsthand. They will hopefully be able to relate to the Indians' struggle to preserve their heritage as they stare in horror at the partially destroyed sacred mounds.

"There are very few places left of pristine, natural Florida in Pinellas County," said Thompson, "Weedon Island is just one more block in the wall we've got to build to protect the environment."



Graphic by Jennifer Fentress



finding the

The prediction seems to be that the country will soon be run by nuclear, hydro-electric, solar, and wind energy. Alternative sources like these are now sought to produce energy as the nation's supply of fossil fuels decreases.

By Kerri K. Norris
Keswick Christian School

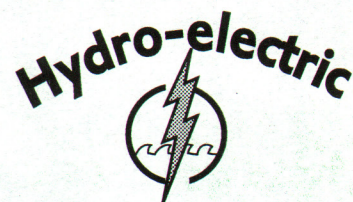
In one year, the amount of fossil fuel that takes nature one million years to produce, is expended. Fossil fuel is the basic element of industry for Earth. While coal will remain abundant, the supply of oil and natural gas will only last for forty more years, according to industry experts. Thus, scientists seek to unlock new supplies of energy that produce electric power. Future prospects of energy include nuclear, hydro-electric, solar, and wind energy.

Nuclear energy is made from the fission of uranium. Scott Peters, Media Service Manager of the U.S. Council of Energy Awareness, explains, "Allow billiard balls to represent an atom and the cue ball represents a neutron. Now pretend there are millions of balls all running into each other and bouncing around - that is the basic idea of uranium fission."

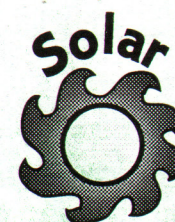
According to Debby Willie, approximately 10.9% of the electricity that Florida Power supplies is produced by nuclear energy. A pamphlet published by Florida Power explains that nuclear energy is one of the cleanest types of electrical generation known because it does not release any pollutants into the air or water.

However, nuclear waste is produced from nuclear energy, and this waste must be dumped somewhere. Although the core of a nuclear reactor is surrounded with concrete and metal shielding there is still a slight chance of this waste escaping into the soil. While the cost of using nuclear energy may be more expensive than that of coal, Dave Perkey, manager of Compliance Information Systems, says, "As it becomes more readily available the cost will significantly diminish."

Another cost effective alternate source of energy is hydro-electricity. Florida does not have such a plant. However, Peters says, "There is a place near Jacksonville that could have the potential of housing a hydro power plant if the need should arise."



According to the Tennessee Valley Authority, .27 cents per kilowatt is needed to produce hydro-electric energy. Florida does not presently have such a plant.



8.0 cents per kilowatt is needed to produce solar energy. "Although sunlight is free of charge, the expense of large solar plants is extensive," says Bob Shabes, manager of Cody Enterprises.

Hydro-electricity is created by placing a dam in flowing rivers. The constant rate of water that is released through the dam turns the turbines, which in turn, rotates the generators. "Initially there is a large investment to build the plant yet in the long run it is actually cheaper," states Sandy Nettles, a certified professional geologist.

Another main alternative source of power is derived from solar energy. However, according to Peters, less than 1% of the electricity generated by Florida Power is produced by solar.

Bob Shabes, manager of the Clearwater branch of Cody Enterprises, offers an explanation as to why the use of solar power is limited. "Although sunlight is free of charge, the expense of large solar plants is extensive," says Shabes. "Solar electricity is very remote in its uses. It is not quite effective enough because only 11 to 15% of the sun's energy is actually

absorbed." Although solar plants take up large masses of land for their panels and huge back up batteries must be developed, Shabes says "Solar is an abundant energy source that has no pollutants."

An offshoot of solar energy is wind energy. As stated by a pamphlet produced by the Thomas Alva Edison Foundation, "Many scientists feel that Windmills designed to generate electricity can help meet future energy needs, and that homes will eventually have their own windmill generators."

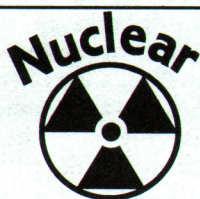
Florida lies near many waterways, thus ocean thermal and tidal energy could also be alternative energy sources. Ocean thermal energy is not in current use, however it is undergoing extensive studies. This energy takes advantage of the water's temperature changes. Because the top layers are warm and the bottom are cold, the difference in the temperature changes can be used to drive a turbine-generator power plant.

Tidal energy, like ocean thermal, requires the use of water yet in a different way. According to the Edison pamphlet, "The idea is simple: First, build a dam across a bay. Then use the water that piles up against the dam to power the electric generators." Each time the tides change, the direction of the water flowing through the turbines reverse, allowing energy to be produced constantly.

According to Florida Power, the demand for electricity doubles every ten years. In the future, as society becomes more environmentally aware, alternative energy sources such as that of nuclear, hydro-electric, solar, and wind which contain little or no pollutants will be used.

"People are not only concerned with energy's economical standings, but also with it's environmental effects. Many people are willing to pay more to protect the environment"

- Bob Shabes



2.5 cents per kilowatt is needed to produce nuclear energy. Nuclear energy is one of the cleanest types of electrical generation known because it releases small amounts of pollutants into the air and water.



1.4 cents per kilowatt is needed to produce wind energy. Eventually homes will have their own windmills that are specifically designed to generate electricity.

Graphics by Tom Ierna

POWER



**Flooding
or
channelization?
The experts say
it's best if we**

DON'T MESS

With Mother Nature

By Pam Hanson
Largo High School

The rotting odor of dried out algae in Taylor Lake is the first sign that something is wrong. That something can be traced to McKay Creek.

Drained to take advantage of its maximum capacity to retain water, Taylor can absorb more water after a heavy rainfall if the lake is drained, but floods still occur during a storm surge despite attempts to control the rising water.

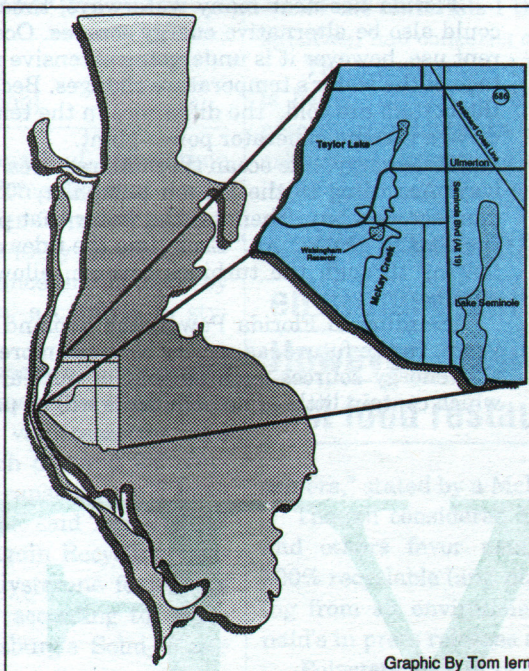
McKay Creek resident James King who has never been flooded said he is lucky to have a sea wall to prevent flooding of his home.

According to Largo City Engineer and Chief of Design and Construction Bob Nowak, two floods were recorded along the creek in 1988, but none last year.

Alice and Dick Klimpel, who have lived on the Creek for 12 years, have never experienced a flood. During September of 1988, "the water came this close," (to entering the house) said Klimpel,

gesturing to show about one foot.

To improve drainage and prevent flooding, "structural improvement" is needed, said Pinellas County Director of Engineering, Thomas McGrew.



Graphic By Tom Ierna

To lessen flooding, planners hoped to cement the McKay creek bed, but environmentalists feel this would harm the surrounding ecology of Taylor Lake.



Photo By John Firmani

During the rainy season, Taylor Lake gives off a stench so strong even the ducks avoid the water, yet it is continually drained.

To do this, four alternatives were laid out by the engineers and consultants working on the McKay Creek project.

The four plans are complete channelization, partial channelization, widening the creek while keeping a natural basin, and buying up to all of the 58 homes in the flood area to let the creek take its natural course.

Resident of the creek area, Tom Tamanini, who works for the Environmental Protection Commission in Hillsborough County, said the fourth plan is "ludicrous."

He added that complete channelization, or paving the sides and bottom of the creek, "is the most environmentally insensitive thing you could do."

According to the *St. Petersburg Times*, engineers of the McKay Creek project said "leaning toward partial channelization," but McGrew said that he personally prefers not altering any of the creek.

With the partial channelization proposal, the creek's sides would be lined with concrete,

and the bottom would be covered with a gabion or net filled with rocks.

According to an informal survey conducted by residents, 68 of 90 creek residents who responded said their preference for stopping flooding was "minimal structural improvements while still preserving the creek in its natural state."

Whether for machinery, the actual construction, or the widening of the creek itself, these four plans would all require the purchase of easements.

Because of the county's "Right of Way" laws, residents have no way to refuse if the city asks to buy their land.

"They say the easement could run right through my back bedroom," said Tamanini.

McGrew said that if all goes well, the approximately \$12 million construction project can begin as early as May 1991 and last about three years.

Meanwhile, proposals are being finalized and construction is being planned, and the threat of a flood lingers in the minds of creek residents.

The threat of losing their homes and property to the remedy weighs heavily on the residents' minds.

The Intercoastal Waterway may be affected for centuries by whatever decision is reached.



What they think is SEWAGE

■ Storm water run-off, similar in appearance to sewage, starts as rain water, picks up pollutants from lawns and streets, and ends up floating through pipes into our beach water.

By Monique McLaughlin
Seminole High School

Paul McMullen stands by his motel on Redington Beach and watches the brown muck stream from three cement pipes.

The beach is now one of the biggest dumping areas for storm water run-off and according to McMullen, "A person could be standing next to one of the 'out pipes' and not even know what is being released in the water. The only time the pipes can be seen is during low tide.

The three pipes on the Gulf Coast beaches allow 10 billion gallons of "what people think is sewage to flow," said Steve Toth, an engineering specialist. "But isn't."

As a result of storm water run-off, a mixture of the three big water pollutants: fertilizers, animal excrement, and used car fuels and oils, Tam-

pa beaches are being forced to shut down temporarily due to a high coliform (a bacteria that indicates the presence of fecal matter) count.

Unlike sewage, which is treated 99 percent pure of pollutants, this water is not, according to Toth.

Sewage contains such items as feminine hygiene products (which are the hardest thing to dispose of according to Waste Management), various bacteria, human wastes, and other untreated garbage.

The collection systems pump the wastes to get treated for the removal of organic bacteria, which is then irrigated over fields and injected into the ground.

"Everybody thinks what is going out in the beaches is sewage just because it looks like it, but basically that is what storm water run-off is, untreated sewage," said Samuel Beecham, consultant for the Sewer Department.

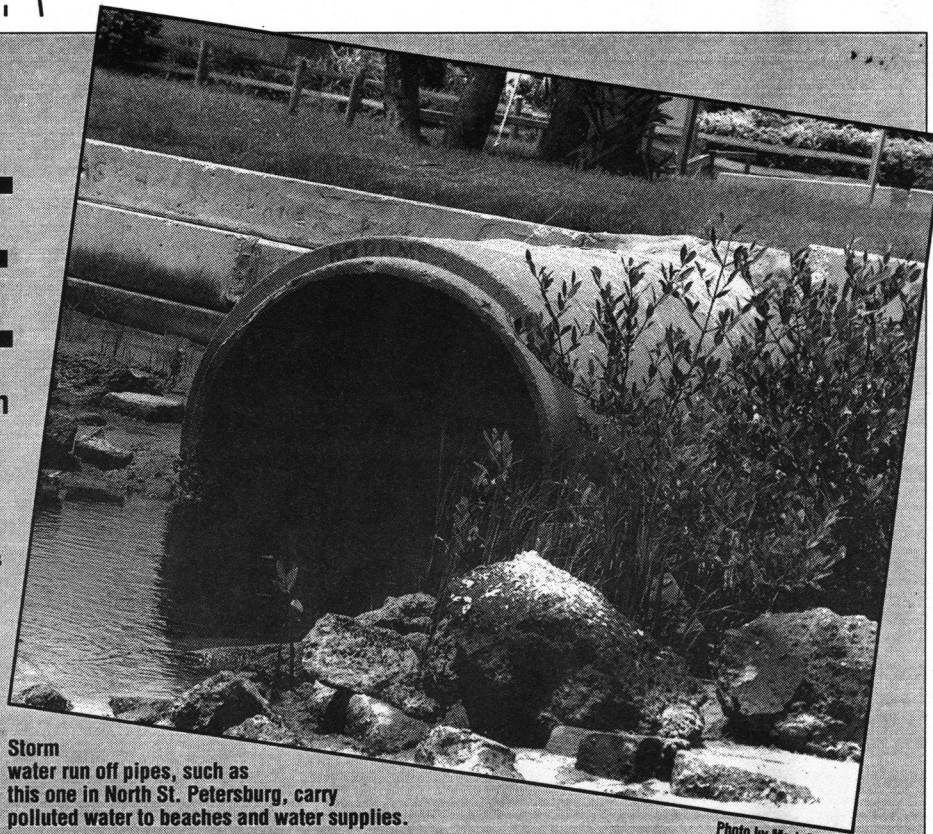
When it rains, the abundant

amount of waters pick up lawn wastes as well as oils and used fuel from cars. Combined, the mixture causes a dark, khaki color which indicates a high coliform count.

"Storm water run-off should eventually pollute the beaches to the point where our waters will never clear up," said Beecham.

This year two beaches (St. Petersburg and Sunset) have shut down due to the problems associated with storm water run-off pollution.

"Regulations are becoming more and more strict," said Diane Anderson, a consultant for Solid Waste Management. Agencies such as the Department of Regulations and the Environmental Protection Agency have set for the standards on coliform and what the safe level is.



Storm water run off pipes, such as this one in North St. Petersburg, carry polluted water to beaches and water supplies.

Photo by Mark Smith

According to Toth, disposal sights are depleting and that is why the waters are becoming more and more polluted: there is no place to let this sewage-like water to be put.

"Our environment is really suffering from how we dispose," said Anderson.

The reason, according to J.J. Hickey of the Sewer Department, "The ultimate fate of liquid wastes is uncertain."

Another contributor to the already murky waters is the day cruise ships that leave off of John's Pass Village. They dump their wastes, which includes oils and fuels as well

as human wastes, after every voyage, according to McMullen, whose motel stands a block away from the boarding area.

No one was able to comment on exactly how much is being dumped. Situations like these and shutdowns of beaches will continue to occur if the run-off problem is not solved because Tampa's beaches will no longer be a tourist attraction, but an environmental hazard.

Waste Management Officials seem to think the problem will eventually go away, but Hickey states, "A solution doesn't seem likely."

Concerns grow over Lake Maggiore



Photo by John Firmani

Many lakes, such as this in South St Petersburg, are being choked off by pollution and storm water run off.

Brian Patterson
Northeast High School

Lake Maggiore received its name when a lady who stayed on the north side of the lake went to Switzerland for vacation. She came back and named Little Salt Lake, Lake

Maggiore. Originally named for the beautiful lake on the Italian Swiss border, Lake Maggiore is now a big retention center in South St. Petersburg.

At the beginning of the century, Lake Maggiore was called Little Salt Lake. The tides controlled the level and flow of its water through the Salt Creek Ca-

nal that leads to Tampa Bay. In the 1950's a dam was constructed to prevent the flow of the lake's water to the bay.

There were fresh Artesian Wells in several locations around the lake. Pinellas County was one of the first counties in Florida to experience salt water intrusion. "It didn't take the county long to lose the freshwater" said one county specialist.

Toward the end of this century the artesian wells changed. Recently, Pinellas County has suffered a severe drought causing Lake Maggiore's water level to drop. When we receive this, the lake dries out, dead fish lie ashore causing the lake to stink. People began to complain about the odor. Heavy rains cause the oils, gasses and fertilizers to drain into the lake. These pollutants are discharged by cars, gas station pumps, homeowners, golf courses, and many industries. Each year Pinellas County's three major lakes, Lake Maggiore, Lake Seminole, and Lake Tarpon go through a process called Eutrophication. This oc-

curs when water turns to land. Cold weather in the north slows this process, but in the warmer southern climates the process is speeded up.

Boyd Hill hired environmental consultants to observe Lake Maggiore for one year and report on their findings. Hundreds of thousands of dollars have been spent to prevent further destruction of the lake. The state is in the process to help fight this situation at Lake Maggiore.

Lake Tarpon and Lake Seminole are in similar conditions. Floating vegetation, oils, gasses and toxic wastes drain into the lakes. Toxins such as lead from the gasoline, that can cause brain damage to humans. Mercury is yet another toxic solvent that is found in fertilizers and is dangerous for water life as well as humans.

In the future the lake's dam will be removed. The lake will be deepened, and everyone will have to be more careful about what they do to the environment. The lives of our beautiful and vital lakes may be gone by the turn of the century.



The DOT decides the WAY TO GO

By Ursula Nawab
Canterbury School

T

“Twenty years ago there was more interest in getting a road of highway built and working than an awareness and concern for the air or noise [environment].”

Naheed Arsteh
DOT environmental engineer

he air is thick and smoggy. Toxic wastes pollute the water. Vegetation is disappearing. This is partly a result of a lack of concern for the environment many years ago when progress to the Florida Department of Transportation [DOT] meant more roads. Now, the protection of the environment is a major concern for the developers and planners at the DOT.

“Twenty years ago there was more interest in getting a road or highway built and working than an awareness and concern for the air or noise [environment],” said Naheed Arsteh, an environmental engineer at the DOT District Seven in Tampa.

“The Federal Highway Administration [FHWA] looks at each road’s projected air emission, noise, and the effects on everything around it,” Arsteh explained.

Ramanathan Iyer, a senior environmental engineer, added, “If they [air, noise, water...] meet the Environmental Protection Agency [EPA] and the Department of Environmental Regulations [DER] then and only then will the FHWA give money for a project.”

Doing its part to control rapid, harmful changes, the DOT tries to reduce the adverse affects as much as possible.

“Hillsborough and Pinellas Counties do not meet the Ambient Air Quality Standards [AAQS] set by the EPA for ozone, particulate matter [dust and other floating particles], and carbon monoxide,” explained Iyer. The current EPA standards for carbon monoxide is 9 parts per million [ppm] (One part per million is like comparing one dollar to one million dollars.), for ozone 0.12 ppm, and sulfur dioxide 365 ppm.

Carbon monoxide levels increase when a car is travelling at low speeds, is idling, or is poorly maintained. As the number of cars in Florida increase so do the carbon monoxide levels.

When a road is widened it not only allows more cars to pass through an intersection quickly, but it also aids in reducing the current carbon monoxide and ozone levels. Engineers have projected by the year 2010 that improvements made at the intersection of 49th street and State Road 686 will reduce the carbon monoxide levels by half.

Wetlands are another environmental concern

especially in Florida where they are considered a “national source of wealth” according to Iyer. “The DOT avoids going through them [wetlands] if we can but if it is the only way of getting from point A to point B, then there are strict rules to be followed.”

If the DOT does take up wetland area to build a road, then it is necessary to create an equal amount of such land elsewhere: sometimes they must make two or three times that amount of land depending on the abundance of life it supports. The DOT not only has to consider the cause of the developer but that of the environmentalist. In order to provide the best possible route from one place to another, environmentalists and developers compromise. Iyer commented, “People won’t like it if they have to go 100 miles around an area or go through Georgia just to avoid wetlands.”

Besides air and wetlands, the DOT must also be concerned with the noise. “The noise decibel levels we try to attain [at an intersection] is that of a busy office,” Iyer pointed out. This level of a “busy office” is 67 decibels, fairly quiet compared to a heavy truck (92 decibels) or a rock group (110 decibels). Noise is of special concern if there are churches, schools, or residential areas nearby.

If projected decibel levels are higher than 67 decibels then steps are taken to reduce it. According to Arsteh this can be achieved by lowering the speed, rerouting traffic, or erecting noise walls which reflect sounds in order to prevent bothersome dins.

Building regulations are constantly being updated to meet the needs of the community and the environment. For example, the Clean Air Act passed by congress in April 1990 calls for a reduction in carbon monoxide levels and the attainment of AAQS for ozone in all areas. Iyer said that upcoming regulations will reflect such changes by the federal and state governments.

Though many of the environmental impact studies are applicable to late 1990 and to the year 2010, environmental engineers see a continuing effort on the part of the government to protect the earth’s environment. Iyer concluded, “In the future the rules and regulations will be more stringent out of necessity. The final point is we have to limit ourselves and what we do because this situation can not be reversed.”



UP IN SMOKE

AIR QUALITY

Is something as seemingly harmless as starting a car significantly contributing to the level of air pollution? The experts say yes and efforts are being made to clean up.

By Bob Putnam
Dixie Hollins High School

Each person who steps into a car and turns the ignition key, whether it be for pleasure or necessity, becomes a contributor to air pollution in the Tampa Bay area. "Every time someone drives a car they pollute the atmosphere more than any business would," said Roger Rodgefki, air monitoring technician for the Division of Air Quality.

The Environmental Protection Agency (EPA), measures air quality and categorizes it in numbers, with zero to fifty being a good day and over one-hundred bringing an air alert. A bad day in Florida would be between a 106 and a 108. This however is considered a good day in California since it has the worst air quality in the nation.

The EPA also measures the percentage of harmful materials that are in the area by parts per billion. The highest level is carbon monoxide with 365. Rush hour traffic creates a two part problem in Florida since there are more cars on the road and they are often in idle during traffic jams. "When cars are in neutral, the percentage of carbon monoxide is the greatest and when they are at a high speed they are lowest," said Ramaron Iyer of the Department of Transportation.

While automotive pollution is significant, it is just one element in Tampa Bay's ongoing problem.

Businesses are regulated on certain materials such as VOCS (Volontal Organic Compounds). "When a company uses acid tones or paint thinners they need to have a permit by the State of Florida unless it's less than 2,000 pounds," said Rodgefki. "Body shops however are not regulated and they paint sometimes between twenty to thirty cars a day."

Although there are no regulations on everyday households, they contribute to air pollution by sending out refrigerants with fluorocarbons in them. The more industrial nations are now starting to use refrigerants without fluorocarbons and are now paying third world countries to do the same.

Phosphate mounds produce harmful materials that go in the air such as particulates and radon. The EPA says that approximately 5,000 to 20,000 lung cancer deaths nation wide each year are from radon; this is second only to cigarette smoking.

While the significance of air pollution becomes a part of our everyday lives, the issues of global warming and the ozone also become a factor. There are some people however who are skeptical of this.

The alternatives or precautions that the government and everyday households are taking show the concern for the environment. "In order to reduce the carbon monoxide levels in the air we need to widen the road and put in overpasses in order for cars to go at a higher speed and not stay idle," said Iyer.

There are some however who disagree with this solution. "We need to have everyone walk in order to reduce air pollution," said Rodgefki.



Photo by John Firmani
Because vehicles such as this bus spew large amounts of noxious fumes into the air, the environmentalists are opting for a monorail system.

MASS TRANSIT

Shawn Masters
Northeast High School

Ambitious plans for the future of mass transit in Tampa Bay, including monorails and a magnetic levitation system, have been put on hold due to the enormous expense.

"It (the plans) have been shelved because of the cost," said Bill Mischler, vice chairman for Pinellas Metropolitan Planning Organizations (MPO), the county's planning agency.

As of 1989, more than 70 percent of the state roads in Pinellas County carry more traffic than their design allows.

According to Sarah Ward, Transportation Planner of the MPO, if nothing is done, "we'd be in a gridlock situation, which would mean longer trips."

"The roads are going to be widened over the next 10 years, but they can only be widened so much," said Ward. "We will have to come up with a transit system."

In 1987, the MPO completed the second phase of a four part Guideway Transit Study. As a result, a 55-mile 33-station system was developed to serve Pinellas. The monorail was chosen as the preferred technology over the at-grade light rail system, a busway or magnetic levitation system.

"A monorail is a relatively lightweight transit vehicle which operates on a specially designed guidebeam," according to the MPO Guideway Transit Project Report. "Electric power is received from lines within guidebeam structure."

In Hillsborough County, a similar study took place, and a system proposal completed in 1988.

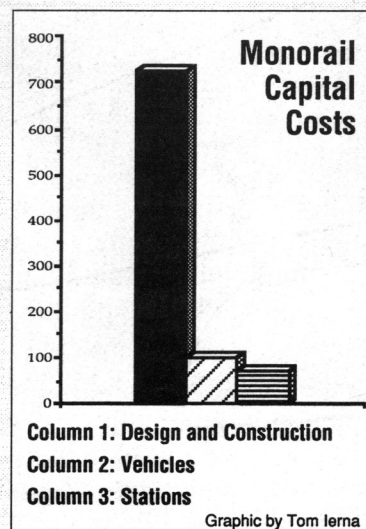
Pinellas County's system would cost \$899 million.

A Regional Transit Task Force has been formed to study a regional rail system for Hillsborough, Pinellas, Hernando, and Pasco counties. It meets monthly and includes officials from the Hillsborough Area Regional Transit Authority (HART) and the Pinellas Suncoast Transit Authority (PSTA).

As the air of cooperation among the counties improves, some have suggested merging PSTA and HART. Union contracts, taxing powers board make up would complicate such a move, and both transit authorities have faced money and management problems recently.

For now, until money is found, area transportation experts say Tampa Bay residents either will have to drive their cars or take the bus.

The proposed monorail system would travel at approximately 55 mph, connecting St. Pete, Clearwater, Belleair, Largo, Seminole, and Pinellas Park.



EATING
LUSKYBy Chris Blank
Gibbs High School

His horse went bald and his chickens went blind. Howard Vroom began having respiratory problems and his family mysteriously got hives and infectious skin irritations. Finally, Vroom called the Department of Environmental Regulations (DER). John Labie, an Environmental Specialist, visited the rural Polk County home. After testing and analysis, Labie concluded that the ground water Vroom had been drinking for months was contaminated. That was ten years ago.

While still working as a DER field liaison, Labie was sent to inspect a landfill which had been the site for numerous toxic waste dumpings.

"The dirt covering the landfill had been dug away so I could inspect," said Labie. "The moment I got out of the truck, I could smell all those chemicals in the ground and I started feeling dizzy. Then it started to burn my lungs and that's when I decided to get out of there. On the way home I had headaches, my lungs burned, and I felt queasy. It was a three hour drive home from the site, but the drive took all day because I felt so bad."

After returning from the landfill, continuing health problems prompted Labie to seek medical attention. In addition to losing his voice, he also experienced a lack of appetite, hallucinations, and disorientation. The doctor diagnosed him as having laryngitis, upper respiratory inflammation, and trachitis. Labie transferred from his field job to an office position after that incident.

Toxic chemicals are everywhere. They linger in the air and they flow through the aquifers. The problem with chemical pollution is that it is usually odorless, colorless, tasteless, and is hazardous to people's health.

Because chemical pollution often goes undetected, millions of pounds of hazardous wastes are released into our environment every year. For instance reports filed by forty Central Florida plants stated that almost five million pounds of toxic fumes were released into the atmosphere in 1987.

Eric Fehrman, an Air Toxic Specialist for the City of St. Petersburg, said that pollution in the air is not only an outdoor problem.

"Air pollution can be up to 15 times more hazardous indoors because there are different types of toxins," said Fehrman. "Most of the time people don't even know the air is bad. The symptoms vary from headaches, nasal congestion, or trouble concentrating, to severe respiratory problems."

While Fehrman has primarily monitored indoor air quality for the past four and a half years, he does agree with other experts that

the two major contributors to air pollution are mass transit and industry. Carbon monoxide gas comes from automobiles, and other dangerous gases are released from factories.

Labie agreed with Fehrman and added that cars and factories are also a big polluter of ground water. Vehicles leave gasoline, motor oil, anti-freeze, tire rubber, and other pollutants on roads and driveways. When the rain falls, the toxins are washed down into the soil eventually seep into the aquifers. Often storm water runoff flows into nearby lakes, streams, and ponds where the fish and other animals have a greater risk of becoming sick and dying.

Other major polluters are companies that produce toxic chemicals. Occasionally, toxic substances are disposed of illegally. Industry managers hire trucking companies to spray or dump the chemicals along the side of the road, rather than pay the high price of storage. Labie calls the task, usually done under the cover of darkness, 'midnight dumping'.

Paul May, an Office Manager at the Department of Environmental Regulation said that another problem with ground water pollution is leaking septic tanks and other deteriorated chemical containers. Gas station storage tanks are included.

"One gallon of gasoline can contaminate one million gallons of water," said May. "The biggest pollutant we find in ground water is organic like gas, benzene, and oil. And the biggest problem is the effect on people's health."

Chemicals such as benzene and other organic ground water pollutants have been linked to leukemia, one form of cancer. Fertilizers, pesticides, and toxic waste have caused birth defects and cancer. Other less threatening health effects include hair loss, rashes and other health problems.

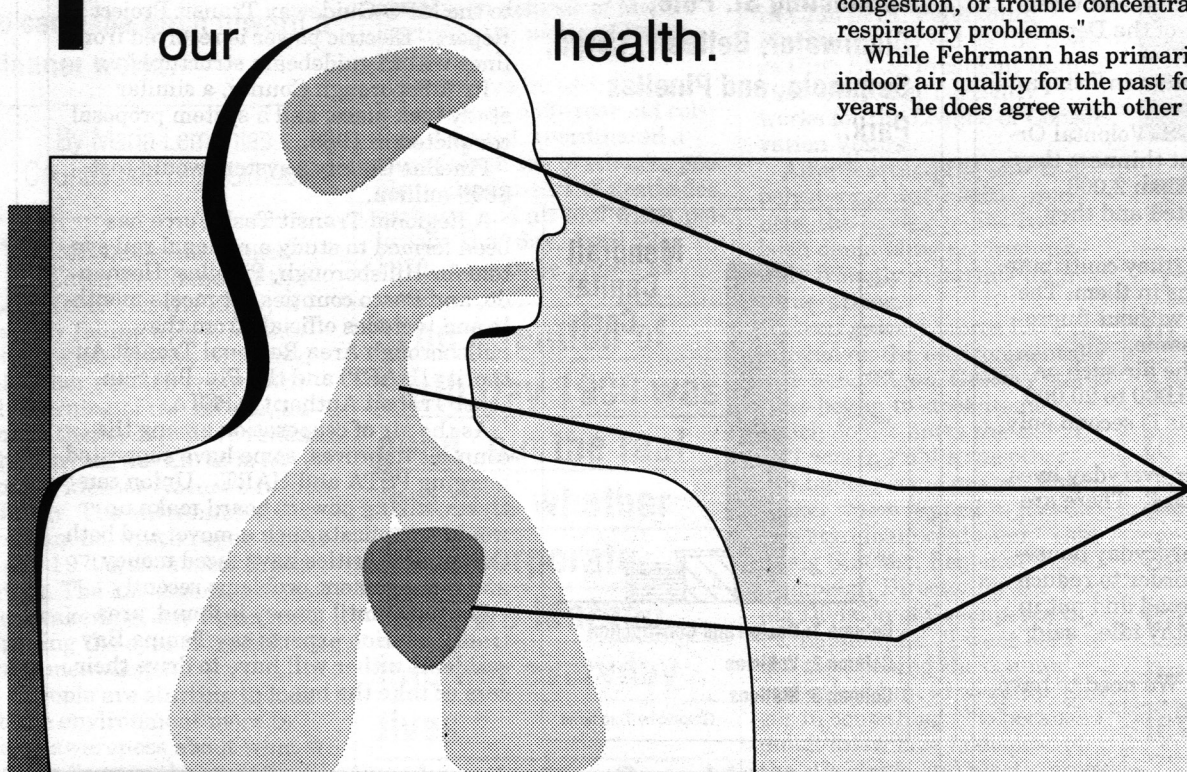
Air pollution may cause problems such as headaches and other minor symptoms. Toxic chemicals in the air may also cause more serious problems. Besides birth defects, neurological disorders have also been associated with air pollution. Serious illnesses include respiratory problems, heart disease, and cancer, among others.

The Environmental Protection Agency estimates that toxic chemicals have caused as many as 1700 cancer cases nationwide.

May said that to protect the environment one must simply deal with common sense type things such as not wasting water and not over fertilizing. "I think the main polluters are the individuals," said May. "The only people who can make a difference are the individuals."

"If we make changes," said Labie, "things will get better. But if we stay the way we are, you'll see a higher death rate, more illnesses, and eventually... The point is that we have to act against pollution now."

The chemical waste corroding through the barrels buried within our neighborhoods are threatening to corrode our health.



Air and water pollution have been linked as the causative factors for many chronic health problems such as headaches, asthmatic symptoms, and irritation of the tracheal or esophageal linings. In some cases, these chemical pollutants have been found to cause health problems as serious as cancer, heart disease, and neurological damage.



Xeriscape

New trend in horticulture utilizes Florida's indigenous plants to offer an effective alternative to excessive watering.

By Gore Zvobgo
Dixie Hollins High School

The average homeowner in southwest Florida uses about 50 percent of his water on yard landscaping, and with the recent water shortage and conservation efforts being made a relatively new landscaping method, Xeriscape, is increasing in popularity.

"A few months ago it was unheard of but now we get several calls asking about Xeriscape," said Mike Throlley, of Bayfront Lawn and Gardens. "It (Xeriscape) is a nice idea and it's environmentally safe. People are starting to ask themselves, 'What can I do to protect the environment?', and this is one idea."

Xeriscaping, created in the dry southwestern U.S., is a water conserving landscape method that uses plants and grasses that are indigenous to a particular area; therefore, these plants usually require less maintenance and are more resistant to drought.

"Not only can Xeriscaping decrease water use by 40 percent, it also reduces lawn bugs, maintenance time, and money," said Mary Becker, of Southwest Florida Water Management District (Swiftmud), "and it doesn't look like a jungle."

According to a Swiftmud brochure, there are seven steps to a successful Xeriscape; the first being design. In designing a Xeriscape, existing land conditions such as slopes, drainages, and locations of permanent structures (walls, pipes, sidewalks) must be considered.

"We can design a system for as little as \$250, but a price depends on the size of the lawn and on the look that the customer is after," said Roger Wilson, of Tommy Todd Lawn and Landscape. "A good, carefully planned design is important because it's the blueprint that leads to a nice yard."

The second step involves selecting the right plants and grouping them into zones according to their water and sunlight requirements. Plants in Natural Zones require less water than those in Drought Tolerant Zones. Plants in Oasis Zones require

frequent irrigation but when placed under shade trees they become more drought resistant.

"You can select plants that look very nice and these are plants that you may already have in your yard. Although a Xeriscaped yard may look slightly different, it won't be weedy and look run down," said Wilson.

The following is an excerpt from a Xeriscape brochure: *Contrary to the image of rock and cactus gardens, Florida Xeriscapes resemble lush traditional gardens.*

The third and fourth steps involve soil improvement and the wise use of turf. Because Florida soil is loose and sandy, organic matter such as compost, peat, and manure can be added to it to improve the soil's water retention. Because grass requires more water than any other lawn plant its use and placement should be limited to areas used for recreation.

The fifth step, efficient irrigation, attempts to minimize water use while maximizing irrigation. Since the purpose of the Xeriscape system is to conserve water this step may be the most important. Swiftmud offers the following suggestions: reduce irrigation during the rainy summer and dormant winter, use a rain gauge to avoid overwatering, and irrigate during early morning hours when evaporation is minimal. The sixth step encourages the use of two to three inch layers of mulches to aid the soil in water retention.

"If the Xeriscaping is done correctly the amount of water needed should be drastically reduced," said Becker.

The seventh and last step pertains to the proper maintenance of the Xeriscape yard. "Maintenance is one of the easiest steps because the system is designed to lessen the amount of yardwork," said Phillip Gooden, of Grassworks Inc.

Overwatering and overfertilizing can cause damage and waste money, while proper maintenance not only improves appearance but also prolongs the life of the plants and grasses.

"Overall, I think Xeriscaping is a good idea because it protects our limited water supply," said Wilson, "As a means of conserving water and as an alternate to dry, dead lawns everyone should Xeriscape."

WATER CONSERVATION THROUGH CREATIVE LANDSCAPING

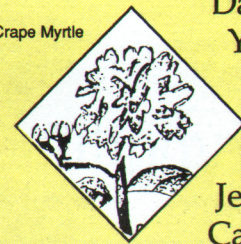
The following plants are drought tolerant that are indigenous to Florida. When used in landscaping, they can reduce the amount of water needed for irrigation.

Oaks

Yellow Carolina Jessamine
Southern Red Cedar
American Holly

Dahoon Holly
Yaupon Holly
Wax Myrtle
Crape Myrtle
Weeping Elm
Jerusalem Thorn
Cabbage Palm

Crape Myrtle



Paurotis

Saw Palmetto

Needle Palm
Coontie
Pindo Palm
Washington Palm
Pheonix Palm
Lady Palm
Bamboo Palm



Jasmine

Windmill Palm

Tar Flower
St. John's Wort
Fetter Bush
India Hawthorn

Junipers
Jasmines
Oleander
Gardenia
Cornuta
Hollies
Wedelia



Yellow Carolina
Jessamine

Blue Eyed Grass

Sword Fern
Beach Sunflower
Dwarf Junipers

Creeping Fig
Border Grass
Pines
Cast Iron Plant
Coral

Honeysuckle
Trumpet Vine
Algerian Ivy
Confederate Jasmine
Dwarf Confederate Jasmine

Pindo Palm



A Xeriscape landscape, as shown at the Pinellas County Extension Service, can be creative and lush.

Photo by Neil Desai

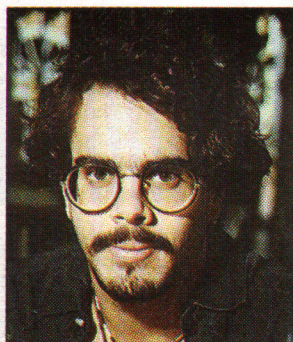
Art by Rob Carlson



printed on recycled paper



"All you have to do is throw it in a trash bin and bring it up to the recycling center."
...Nancy Snook



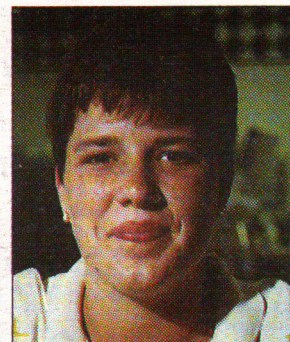
"I just hope our consciousness raises fast enough so we can pressure big corporations to act responsibly for a change."
...Chris Buehlman



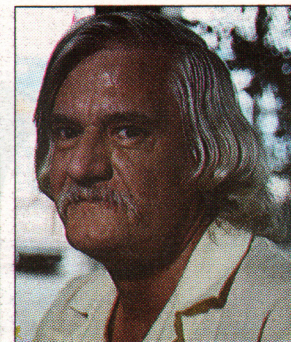
"We need to stop cutting trees and dumping things into the water."
...Daphnee Moise



"Find other solutions to the uses of these polluting and lingering elements."
...Cannie Kilmer



"It's a matter of everyone trying to pitch in. It depends on how much people want to help."
...Melissa Hartinger



"I feel the environment is somewhat OK now, but I feel for the generations to follow."
...Wm. Forrest Collins

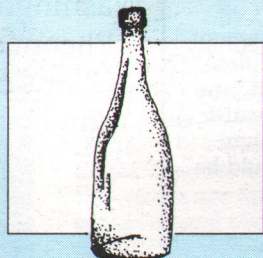
It Takes Everybody

YOU CAN MAKE A DIFFERENCE

How and what to recycle:

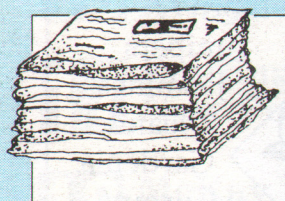
Glass

- ☞ All clear, green, and brown bottles and jars are recyclable.
- ☞ Rinse containers and remove lids and neck rings. Store in a box or bag.
- ☞ Do not include light bulbs, plate glass, auto glass, tempered glass, mirrors, or ceramics.



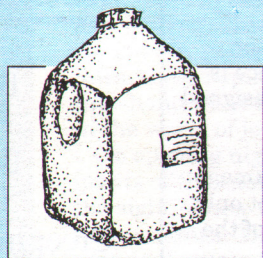
Newspaper/Office paper

- ☞ Stack newspapers in paper bags or bundle with string.
- ☞ Don't mix newspaper with magazines, phone books or other paper products.
- ☞ Call 892-7565 for information on business recycling.



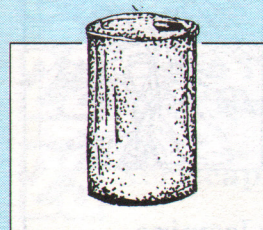
Plastics

- ☞ Soft drink bottles, milk and water bottles, cooking oil containers, and some detergent bottles are recyclable.
- ☞ Rinse and remove lids.
- ☞ Squeeze containers to conserve space and store in box or bag.



Aluminum

- ☞ Aluminum cans, foil, pie plates, and TV trays may be recycled.
- ☞ Rinse and flatten, if possible, and store in a bag or box.
- ☞ Do not mix with non-aluminum products, paint cans, window frames, or other scrap metals.



Information compiled from
Recyclamat Newspaper Advertising Supplement

Sworn environmentalists are not the only people that can save Planet Earth; everyone needs to take part in their own way.

By Phong Luu
Dixie Hollins High School

"I'm forever raising hell about something," said 17-year-old Leanne Greco, a Clearwater resident. "Like the other day I was at the grocery store, and the lady behind me had a box of disposable diapers. So I turned around and politely asked her, 'are those biodegradable?' She went off on me saying, 'why does everyone make such a big deal out of the environment?'"

Others express concern for the environment with newfound, environmentally-sensitive personal habits. Once environmentalism has reached everyone, the changes will occur. "One person can't do it. One group can't do it," said 18-year-old St. Petersburg resident, Robert Nungester. "It takes everybody to do what is necessary to save the environment."

People rethinking the way they live are living proof that the environment will be saved by daily contributions of each and every individual. "If everybody would just change one thing about their lives that is destroying the environment, it would work," said Jane O'Neal who operates the Wildbird Rehabilitation Center. "We wouldn't be buried under tons of garbage."

Whether for glory or for global concern, environmentalists have become important members of society. Along with hot-selling t-shirts inked with slogans of "Save Our Planet" and "Protect Endangered Species," sincere environmentalism has sprouted from the movement. The wave of environmental awareness now inspires and influences the lives of many everyday individuals, going beyond organized environmental groups like Greenpeace and famed student radical, Hollywood activist, and affluent politician stereotypical environmentalists.

One of the best-selling books of 1990 was *50 Simple Things You Can Do to Save the Earth*. As more and more of these simple things are done, the Earth's chances of survival increase. Some simple but effective household changes include recycling, reusing, avoiding environmentally dangerous products like styrofoam and disposable diapers, and conservation. "I now do things I've never even thought about," said David White, press secretary for Florida Congressman

Mike Bilirakis. "I try to remember to bring along a string bag for my groceries. I no longer top off when I get gas because it runs a greater risk of over-spilling. (They) seem like small things, but everything adds up."

Household products like disposable diapers augment the solid waste problem, never break down, and contaminate the water system when flushed. Styrofoam, in addition to doing the previous, depletes the ozone layer, and can cause bloated stomachs in animals that mistake it for food. Another popular habit, over-filling or topping off gas tanks, releases carbon emissions that build up to produce the greenhouse effect and global warming.

Not only do these practices harm nature, they also hazard the lives of their human possessors. Using styrofoam could lead to cataracts, cancer, and loss of the immune system. Topping off contributes to allergies, asthma, and other chronic respiratory diseases.

"We're responsible for our actions and our planet."

According to Candance Trappman, Boyd Hill's Park and Environmental Specialist, conveniences like these have their consequences. "I think people need to think more about the future, to start doing things now that will benefit the future," said 14-year-old Kirsten Bottoms, a St. Petersburg resident. "Instead of going to outer space, we should concentrate on the world, our world."

Environmental thinking on the part of all individuals may be what is needed to suffice the needs of a declining environment. Environmentalists like Greco ignore criticism. "My friends are always saying, 'Leanne, what good is it going to do if just you don't use (something like McDonald's styrofoam) and everyone else uses it?' I guess I'm just the average person who cares, and if there were more people who cared, the environment wouldn't be in the state that it is." Surpassing the level of effectiveness of environmental regulations are the attitudes and values of every individual. " (Saving the Earth) depends on whether people are committed or not," said 15-year-old Jennifer Maniscalco, "It depends on how much people are willing."

Sincere environmentalism has begun to mold itself into the personal routines of many everyday individuals, whether the inspiration comes from a newspaper article, the influence of an environmentally devoted friend, or simply preparation for the future. "I hope (the planet will be saved)," said 8-year-old Parish Camp, "If it doesn't happen, I will be miserable for the rest of my life. It's a wonderful world."

