

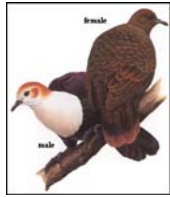
Recover Guam's native birds by circling their Chamorro names



Ko'ko'



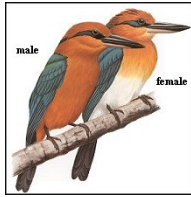
Såli



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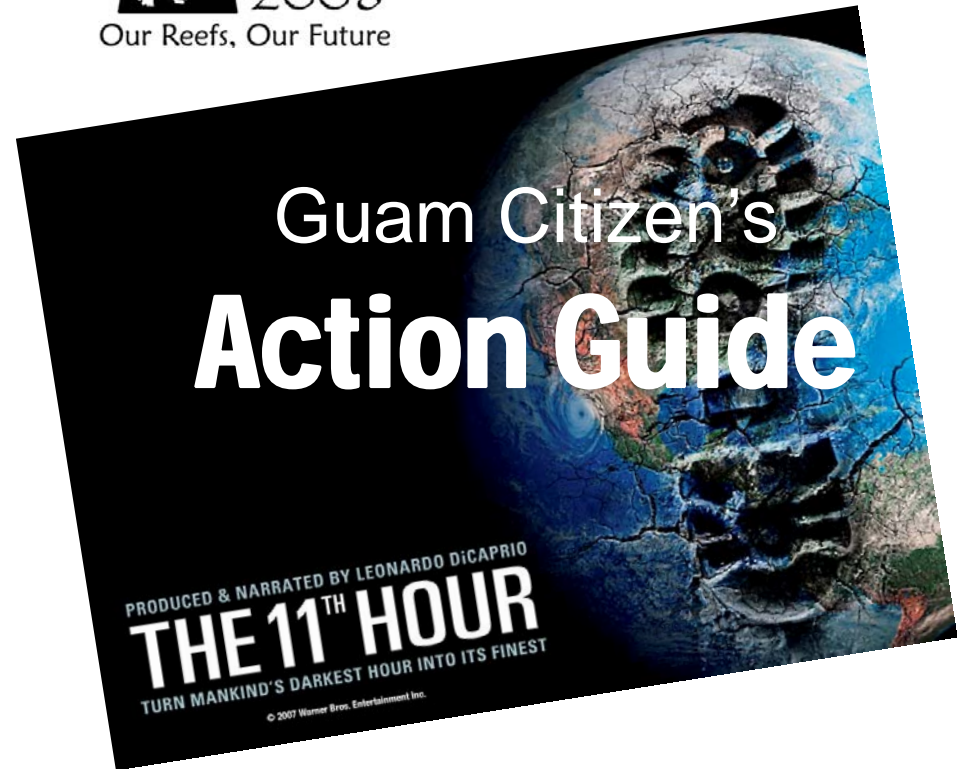


Egigi



Chichirika

C S I H E K L P U P  
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 A O A G A A E E O A



This Event is Brought to You by:



"Our Coasts, Our Future"



## Movie Synopsis:

The expression “the eleventh hour” means the last moment when change can happen to avert possible disaster. In the film *The 11th Hour* a variety of world experts explore how humanity has arrived at the current convergence of environmental crises while exploring steps that people can take to avert global disaster. In summary, the earth is nearing meltdown, beyond climate change. The process began with the Industrial Revolution, when people started mistakenly looking on nature as external to themselves and exploitable without limits. Forests have undergone major destruction. The ocean is becoming stagnant. Almost everywhere, the soil itself is largely damaged. In addition, 50,000 species a year are becoming extinct; no ecosystem can be identified as improving.

Humans suffer from increasing numbers of diseases caused by pollution. At fault is the overproduction of non-sustainable manufactures, immense waste and destruction, and an unsupportable population. The primary cause for much of the crisis is the fuels we use, petroleum being the primary one.

Through nature itself, the technology exists to solve some of these crises, and part of the solution is for people to live more consciously in harmony with nature as opposed to dominating it. According to the film, in a few years we will have reached the point of no return. We are not only at the eleventh hour, but at the last few seconds of that hour. Within this century, if nothing effective is achieved, planetary damage will be dramatic and total in every area. Although impossible to predict, extreme disaster could be quick once the balance is decisively tipped in the wrong direction, and it will happen everywhere.

*The 11th Hour* features leading experts from around the world, including former Soviet Prime Minister Mikhail Gorbachev, scientist Stephen Hawking, former head of the CIA James Woolsey, and sustainable design experts William McDonough and Bruce Mau, along with over 50 other scientists and world leaders who discuss the most important environmental issues facing the earth while presenting strategies to avert the crisis.

Disclaimer: The opinions stated in this movie and in this guide are not endorsed by all of the agencies and organizations sponsoring this event. The movie and guide are intended to stimulate discussion in the community and provide basic information about local community action on Guam. For information or clarification of any facts pertaining to Guam, please contact the relevant agency directly or contact the GYOR Co-coordinators at: [guamiyor08@gmail.com](mailto:guamiyor08@gmail.com)

## Useful Links for More Information:

Bureau of Statistics and Plans  
<http://bsp.guam.gov/>

Guam Division of Aquatics and Wildlife Resources  
<http://www.guamdawr.org>

Guam Forestry and Soil Resources Division  
<http://www.guamforestry.org/>

Guam Environmental Protection Agency  
<http://node.guamepa.net/index.html>

Guam Energy Office  
<http://www.guamenergy.com/main/index.php?pg=main>

Solid Waste Management Division of DPW  
<http://www.guamsolidwastereceiver.org/gswm-contact.shtml>

War in the Pacific National Historical Park  
<http://www.nps.gov/wapa/>

Underwater World Guam  
<http://www.aquariumteam.com/>

Energy Star  
<http://www.energystar.gov/>

Ecological Footprint  
[www.myfootprint.org/](http://www.myfootprint.org/)

Intergovernmental Panel on Climate Change (IPCC)  
<http://www.ipcc.ch/>

Natural Resources Defense Council  
<http://www.nrdc.org/globalwarming>

Sierra Club  
<http://www.sierraclub.org/globalwarming/>

Union of Concerned Scientists  
[http://www.ucsusa.org/global\\_environment/global\\_wa...](http://www.ucsusa.org/global_environment/global_wa...)

World Wildlife Foundation  
<http://www.worldwildlife.org/climate/>

Bioneers  
<http://www.bioneers.org>

The Association of University Leaders for a Sustainable Future (ULSF)  
<http://www.ulsf.org/resources.html>

Global Green USA  
[www.globalgreen.org](http://www.globalgreen.org)

## Local community action

Okay, so by now you should realize that the most important thing you can do is take action – even if it's just a tiny thing like changing a light bulb to a compact fluorescent bulb, or recycling your aluminum cans, - you can make a difference. Hopefully, you've done your part to encourage "Green" Decision Making, but, if all of that wasn't enough for you, here are some additional ways that you can get involved:

### i recycle Adopt A School

Your business can take part in our "Adopt a School" program by implementing aluminum recycling in your offices and selecting a school to be the beneficiary. The program administrator, is available to coordinate with your adopted school. The aluminum cans you collect will be credited to the school you have selected. Please help us help Guam's schools, our island, and our planet by recycling your aluminum cans through the *i recycle* program. For more information, contact Peggy Denney at 483-9415.



### Let's Do Science!



The "Let's Do Science" Enrichment Program brings science into the classroom. We visit 3rd-5th grade classes and perform science experiments (for free!). Teach during school hours or get involved in our after school DEED

enrichment program! Paid and volunteer positions available. Contact Dr. Laura Biggs: email: [biggs.laura@gmail.com](mailto:biggs.laura@gmail.com) Ph: 777-6609

### Plant Trees

The Guam Department of Agriculture Forestry and Soil Resources Division is always looking for volunteers to help with reforestation efforts. You, your family or organization can help reestablish Guam's forests! Call Bel Soliva at 735-3951 for more information.

### MDA Marine Debris Team

Are you a diver who is looking for something to do with your bottom time? Check out MDA's Marine Debris Team. This group will be meeting to work on marine debris scouting, mapping, and removal activities to help keep Guam's underwater world clean. For more information contact Matt Ladmiraault at [ladmirault@gmail.com](mailto:ladmirault@gmail.com) or 472-6321.

### International Coastal Cleanup

Every September people from countries around the world spend a day cleaning marine debris from their beaches and waterways. Join us in this worldwide effort to protect our coastal habitats and marine resources. If you'd like to be more involved, why not coordinate a new site? To help out contact the Guam Coastal Management Program at 472-4701 or learn more about the global initiative at <http://www.oceanconservancy.org/>

## Introduction to the Guam Citizen's Action Guide:

This Guide will discuss how the subjects in **The 11<sup>th</sup> Hour** relate to **Guam** and what **YOU** can do to get involved and make a difference for our island. Start by taking the Quiz on the next page and see how your Guam Green IQ rates. Then read on to see how you can take simple steps to make our Island a greener, healthier, more sustainable place to live.

### Topics Covered by The 11<sup>th</sup> Hour that Affect Guam:



Climate change/global warming

*Excessive Consumption*

**RAPID POPULATION GROWTH**

*Speed of Devastation*

**BIODIVERSITY LOSS**

**"Green" decision making**

**Local community action**

**Habitats, Resources, and Species on Guam that are Threatened by Human Activities:**

- Coral Reefs
- Limestone Forest
- Ravine Forest
- Wetlands
- River Habitat
- Beach Strand
- Aquifer (drinking water)
- Native Birds
- Fanihi
- Haggan
- Native River Animals
- Native Snails
- Medicinal Plants
- Humans

Many of the problems shown in the movie are magnified on Guam, because our island has limited resources – we only have one island, one aquifer, one chance to do things right.

**Are you ready to take ACTION?**

## Quiz: How Green is Your Guam?

Are you a canvas bag toting, recycling, koko loving, reef hugger... or not? Take this quiz and test your Guam Green IQ to find out:

1. You're at the beach with your che'lus for a barbecue and you notice that the family next to you left their trash sitting on the beach when they left. Do you:
  - A. Go on with your barbecue, those ribs are AWESOME!
  - B. Hope that Parks and Rec picks it up before it blows into the water.
  - C. Take a break from the barbecue action for a few minutes to pick up the trash and set a good example for the kids in your family.
2. When we say "Global Warming". You say:
  - A. "Oh, man my power bill is already too high from all the air con!"
  - B. "Too bad I can't do anything about it."
  - C. "We really need to stand up and take action!"
3. A friend forwards you an email asking you to contact your Senators about some proposed legislation that might seriously impact Guam's native limestone forest. Do you:
  - A. Delete the email immediately – who cares about politics?
  - B. Read the email and put it the side, but then forget about it.
  - C. Forward the email to all your friends and write to all of your Senators to share your concerns about the legislation.
4. You've been out running errands and have to stop for a drink at the gas station – it's hot out! What sort of drink and packaging do you choose:
  - A. Soft drink in a plastic container and plastic bag – you love the selection at this place.
  - B. Soft drink in an aluminum can that you can recycle at your school, no plastic bag please – it's just one can.
  - C. Fountain drink in your own reusable cup.
5. Your friend thinks that he might have spotted a Coconut Rhinoceros Beetle in your backyard and asks you if you think you should do something about it. What are you going to do?
  - A. Nothing. What's a little bug going to do to you?
  - B. You'll think about it tomorrow, it's too late to do anything about it today.
  - C. You capture the beetle and call the Department of Agriculture. Invasive species can have a devastating impact on our native plants and animals and you don't want to take any chances.
6. How do you handle your family's waste?
  - A. It all goes to the curb or a dumpster.
  - B. Most of your waste goes to the curb or dumpster, but you do recycle cans.
  - C. You compost all of your food and green wastes, take aluminum to your school's recycle bin, take plastics to pyramid, and other recyclables wherever you can.

## "Green" decision making

One of the best parts of living in a democratic society is that we have the right to voice our opinions and take part in the workings of government. As a citizen, use that right! Encourage your decision makers to make "green" decisions. This can include talking to or emailing your senators about legislation, attending public hearings and scoping sessions on topics such as how our utilities are handled, the military build up, and land use planning, and campaigning / voting for candidates that take a firm stance on environmental issues. Your involvement can be as simple as writing a letter or as involved as running a campaign, but as a citizen it is your right to get involved – use it!

Here are some relevant links to sites that can help you. Some of these are more informative than others – hey we didn't say this would all be easy:

**Guam Legislature:** The Legislature is Guam's lawmaking body made up of 15 Senators elected every two years. Legislation can have a broad impact on the sustainability of our island. When these bills come before the legislature it is important that you let the Senators hear your voice – attend the public hearing or submit written testimony. You can find information and contact information at the following links.

<http://www.guamlegislature.com/>

<http://www.guamlegislature.com/directory.htm>

**Joint Guam Program Office:** The relocation of 8,000 marines from Okinawa to Guam is a big undertaking and is likely to have major impacts on all aspects of Guam's ecosystems. Stay abreast of what is happening by attending the public meetings and reading the public documents related to the buildup. To find out more visit the official website for the Environmental Impact Statement. <http://www.guambuildupeis.us/>

**Consolidated Commission on Utilities:** The decisions made by this commission affect us all. Let them know that you want them to make sustainable choices for Guam. <http://www.ccugam.com/>

**Department of Land Management:** Commissions under DLM make important decisions about how our island's land can be used – whether for development, quarries, agriculture, etc. Some of these decisions can have serious impacts to native species, forests, and even our drinking water aquifer.

<http://www.dlm.guam.gov/>

### Other Links:

How to Write an Effective Letter to Your Policy Maker:

<http://www.ucsusa.org/action/writing-letters.html>

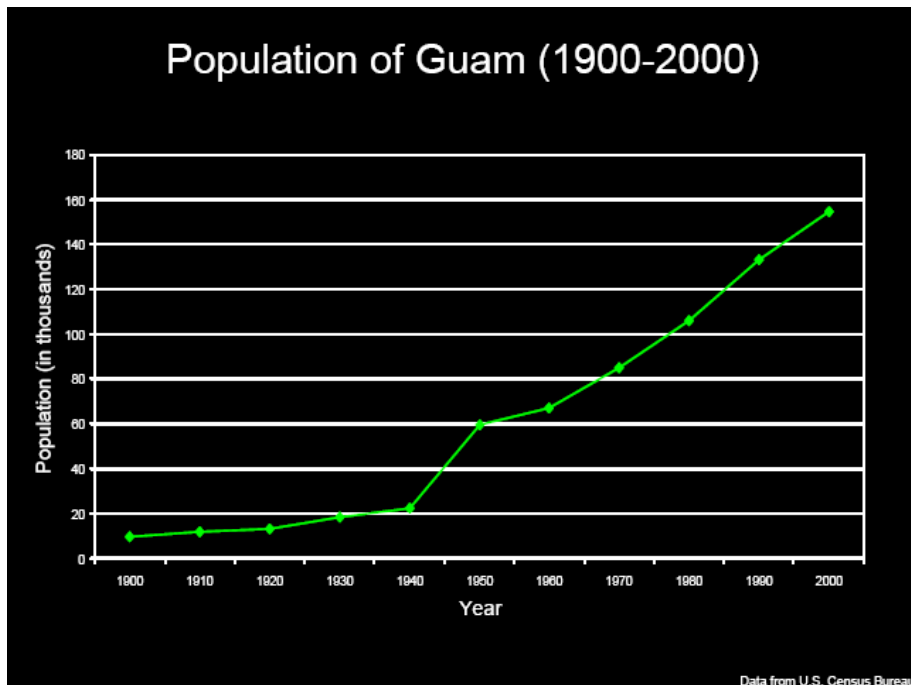
Writing an Effective Letter to the Editor:

<http://www.ucsusa.org/action/writing-an-lte.html>

## RAPID POPULATION GROWTH

From less than 20,000 to 160,000 in just 60 years from 1940 to 2000, Guam's population has increased dramatically is a perfect example of the situation shown in the film.

But even more troubling, is what we must expect in the next ten years, with up to another 40,000 – 60,000 expected due to the military relocation, normal population growth, and immigration associated with the military relocation. That will result in approximately 1.6 people for every acre of land on Guam. This could potentially put us in the top 25 countries / islands in the world for population density according to a Wikipedia search on population density.



### Take Action!

That's why it's so important to start taking steps now to make Guam a more sustainable place to live. If we don't act now to get sustainable infrastructure in place, plan our land use, protect our drinking water source, properly manage our remaining natural resources, start using sustainable practices, and train ourselves to reduce, reuse, and recycle, we'll never be able to successfully meet the needs of such a large population and still keep our island beautiful and healthy. But you need to act and you need to make your voice be heard. Check out the next section to see how.

7. You're on your way home from a party and notice some men setting fires along cross island road. These fires are destroying habitat and causing erosion that is smothering our reefs - what do you do?

- A. Go on home. Someone else will take care of it.
- B. Call the fire department and leave an anonymous tip.
- C. Call the Department of Agriculture's Law Enforcement and Forestry Sections, and/or Fire Department and Police, write down the license plate of the vehicle and snap a couple of photos on your camera phone just for good measure. You make a complete report with the Conservation Officers the next day.

8. How many of your households lights use compact fluorescent light bulbs?

- A. What are compact fluorescent bulbs?
- B. I have one or two.
- C. All of our light fixtures use compact fluorescent bulbs.

9. How often do you use alternate forms of transportation (walking, bicycle, mass transit, car pool)?

- A. Never. I drive even to go to the market across the street.
- B. For very short trips, short distances in the village, but nothing farther than a couple of minutes.
- C. Regularly.

10. When you shop for produce do you check for local and organic offerings?

- A. Nah, that stuff is just a reason to charge more.
- B. I try to buy local, but the selection is limited.
- C. Absolutely, I try to plan my menu around the local foods available to help limit the impact my food choices have on our planet.

**How Did You Do?** Add Up your score to see how you rate on our Green Scale. Scoring: A's= 0 points B's= 1 point C's= 2 points

### 0 – 5 points: Not Quite Green

You're starting to get the green feeling, but you still have a ways to go. Read through this guide and ask questions after the movie.

### 5-10 points: Almost Green

You're almost there, you know about the basic concepts, just need to take steps to act on it.

### 10-15: Going Green

Congratulations! You're well on your way to helping Guam become a greener, healthier place to live. Keep up the good work and hopefully this guide will help you take a few more steps to become Super Green!

### 15-20: Super Green

WOW!! You are SUPER GREEN! Keep up the great work! For more opportunities to get involved contact the agencies listed in this guide.

# Climate change/global warming

We've heard a lot about this topic in the movie and in the media, but what does it mean for us here on Guam? Well, it is hard to say, Guam is tiny dot of land in the middle of the most unknown part of the complex climate models, the deep ocean. However, even if we are not gravely afflicted by climate change directly, it is becoming clear that the countries that we depend on for our food and other products most likely will be, as will many of our neighbors on low lying atolls. With this in mind, doesn't it make sense to take simple, economical steps to reduce our carbon footprint?

Here are some things to think about:

Every person has what is referred to as a carbon footprint (go online and check out this cool climate change carbon footprint website: <http://www.nature.org/initiatives/climatechange/calculator/>). It takes into account how much carbon dioxide you generate through your actions. We have heard some people say, "I live on an island, so climate change isn't my fault"...but we need to really think about that. People living on Guam automatically have a pretty high carbon footprint, because so much of what we consume is shipped to us from across the ocean. Think about it, even Guam's electricity comes entirely from fuel oil shipped from overseas. So not only are we generating carbon dioxide from creating power or through the manufacture of our video games and televisions, we also accumulate the extra carbon dioxide generated in shipping it here. Uh oh!

So maybe we are part of this big climate problem after all..... so let's talk about what we can do about it.

## *Avoid Excessive Consumption*

One of the topics covered in The 11<sup>th</sup> Hour was Excessive Consumption. Well this is especially relevant for Guam. With Ordot Dump overflowing, our population rapidly increasing, and our island, possibly shrinking if sea level rises, well...where are we going to put all of our stuff when we're done with it?

### **Be a SMART consumer:**

Shop for quality items that will last a lifetime in your home not in the dump  
Make a list and stick to it, don't buy just for the sake of buying  
Arrive at stores with your own re-usable bags.  
Reduce your reliance on disposable convenience items (cups, water bottles, dinnerware – keep a set in a container or bag – no more leaky paper plates!)  
Try to buy local produce or products created locally before looking off island

### **Reduce your Energy Consumption**

Switch to compact fluorescent bulbs – they last longer and use just a fraction of the energy that regular incandescent bulbs use. \*\* WARNING: these bulbs do contain a small amount of mercury and should NOT be disposed of in the landfill. Contact Guam EPA for proper disposal locations.

## **Take Action to Protect Our Native Species!**

One of the major factors preventing the re-introduction of the Koko, or Guam Rail, to its native habitats are feral cats and dogs. You can help. Make sure that your animals are spayed or neutered to prevent unwanted animals.



## **Too Many Puppies or Kittens?**

Stop unwanted litters



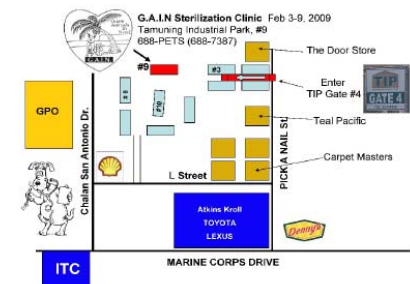
Bring your pets to G.A.I.N.'s **animal sterilization** clinic.

If you receive public assistance, you pay nothing. Others donate \$25 for the first animal and \$10 per additional animal.

## **Tamuning Industrial Park # 9 Pick-a-Nail Road February 3-9, 2009**

- \* No appointment necessary: first-come, first-served
- \* Dogs and cats 8 weeks and older and weighing at least 2 pounds accepted
- \* Pregnant, nursing and in-heat pets accepted
- \* Do not feed adult animal(s) after midnight the night before surgery
- \* Bring your pet(s) between 7:00 and 9:00 in the morning
- \* Please have dogs on a leash and cats in a carrier or pillowcase

Main Sponsors: Continental Airlines DGX, Inc.  
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Pacific Daily News  
Anna's Ark Island Equipment  
Bank Pacific MCV Broadband  
Budget Car Rental Shell Guam  
Cost-U-Less SPCC (Circle K / 76)  
Guahan Waste Control  
GuamCell / Docomo Pacific  
HSC-25 Officers Spouses' Club I  
Andersen Officers' Spouses' Club  
Guam Naval Officers Spouses' Connection  
U.S. Naval Hospital Religious Offering Fund



**They also need a range of volunteers February 1-11 for this effort, if you are interested please contact Crystal Calvo at: [gainsnapclinic@gmail.com](mailto:gainsnapclinic@gmail.com)**

## BIODIVERSITY LOSS

Have you ever walked into Guam's forests and noticed how quiet it is? There's something missing there. It's the forest birds that once graced the boughs of our native trees. Since World War II ravaged our island, biodiversity loss has been a major problem for Guam. The Brown Tree Snake, feral cats and dogs, and all of the development since then have drastically changed the island. Now, our forests are disappearing and many of our coral reefs are sick. To make matters worse new species continue to invade.

To stop further loss the people of Guam must reduce pollution and habitat loss, prevent invasive species from entering Guam, spay and neuter pets, and support efforts to restore native species. To take action on this effort see the sections on: Pollution, Speed of Devastation, Green Decision Making, and Local Community Action.

For more information on the threats facing Guam's Biodiversity and what you can do to stop them, check out the resources below:

### Guam Division of Aquatic and Wildlife Resources

<http://www.guamdawr.org>

### The State of Coral Reef Ecosystems of Guam

<http://ccmaserver.nos.noaa.gov/ecosystems/coralreef/coral2008/pdf/Guam.pdf>

### Guam Year of the Reef

<http://www.guamiyor08.com>



Look for Energy Star appliances. These appliances use less energy than other similar appliances. Visit their great website: <http://www.energystar.gov/>

Unplug appliances when not in use. Many appliances are known as "vampires" because they actually continue to suck power even after you turn them off. This is especially true of anything with a remote control or a clock. Power strips with on/off switches can help.

Install a solar water heater, solar panels, or wind turbine system on your home.

### REDUCE!

- Buy products with little packaging or buy in bulk so there is less overall.
- Buy only what you need.
- Reduce paper waste by cancelling unwanted mail.
- Use cloth bags at the grocery store so that you don't have to take new bags.

### REUSE!

- Find creative ways to reuse materials so that you get the most out of them:
- Use both sides of the paper.
- Give used paper to farmers for dry litter for livestock and/or composting.
- Paper bags can be reused for wrapping paper or trash can liners.
- Stick labels over used envelopes to reuse them again.
- Wash and reuse glass jars as a vase, for storing odds and ends or leftovers.
- Donate unused clothes, books, and household items rather than throwing them away.
- Buy products designed to be reused – like rechargeable batteries.

### RECYCLE!

- Aluminum cans can be donated to your favorite school to benefit school programs through the i recycle program. Bins are located at 40 schools throughout the island. The first two containers generated over \$38,000 for the schools. So far, approximately 2.25 million cans have been recycled through i recycle to date. For more information contact Peggy Denney at 483-9415.
- Plastic bottles can be recycled Pyramid Recycling, Harmon, 646-8130
- Glass and cardboard can be dropped at Ordot or the Agat and Dededo transfer stations.
- Tires can be recycled at Tomson LLC/Pacific Waste Systems, Yigo, 482-5500
- White goods can be recycled at Balli Steel Guam, Apra Harbor, 635-1123/0

## Pollution



**Wildland Arson and Poor Land Management Practices** are causing serious erosion problems in our southern watersheds. We are losing tons of valuable soil every year! Look at this photo! What's worse is that the nurturing soil we need to grow food and plants to keep our island healthy takes hundreds if not thousands of years to develop, but can be lost in just one rainstorm. Even worse, out in the ocean, that soil smothers the reef and starves the fish.

*Do your part.* Report Wildland Arson to the Department of Agriculture at 735-3991 or 735-3951. And if you own land, check out the programs available through Guam EPA, Department of Agriculture, NRCS, and UOG Cooperative Extension that will help you save your soil, and protect our streams and reefs at the same time.

**Solid Waste Issues** are always a hot topic on Guam. The Ordot Dump is overflowing, the new landfill is going to cost a lot, and all of this recycling business is a little confusing. But it doesn't have to be. A few phone calls, can get you back on track. Please don't ever dump along the road like in this photo. This leaves trash sitting open to the elements and when the next typhoon comes it will be spread all over the island – through the forest, onto the beach, across the reef. Love your Island, Show your Love. Don't Trash It!



*Do your part.* For information about what to do with your solid waste contact the Department of Public Works, Solid Waste Management Division at 646-3311 or visit the website: <http://www.quamsolidwastereceiver.org/gswm-services.shtml> For additional recycling information contact Guam EPA at 475-1658.



**Water Pollution** is another concern in Guam as our wastewater plants currently provide only very basic treatment – that's right, you really don't want to be the diver in the photo! More importantly, it is up to all of us to keep toxic chemicals and pollutants out of our coastal waters.

*Do your part.* Use non-toxic cleaners. Take chemicals, oils, paints, and drugs to proper disposal facilities. Contact Guam EPA at 475-1658 for more information.

## *Speed of Devastation*

Scientists believe that at one time, all of Guam was covered in forest. Now we are left with just a small part of what once existed. The map below shows the remaining Native Limestone Forest observed during a 2005 study. Much of this is only poor quality forest. This type of forest is home to Guam's only existing native mammal, the fanihi, or Mariana Fruit Bat. Unfortunately, their numbers are rapidly decreasing on Guam, just like their habitat. While other things have hurt the fanihi population, such as poaching, and the tree snake, this decrease in habitat is a likely culprit in their decline. Will we see the end of the fanihi on Guam in our lifetime? Something our Manamko once ate at fiestas? It's hard to think that things could change so fast, isn't it?



### Take Action!

Tell your community that it's time for a different type of change. Our island has been developing at full throttle for the last fifty years. Maybe now we need to take a break and think about what we really want our island to look like in the next fifty. Do we want everything to be concrete or do we want to preserve our native limestone forests, protect our coral reefs, keep safe the very essence of our island home? Speak to your legislators, to government agencies, to land commissions, to community groups, organize your own groups, you have a voice – what do you want Guam to look like?