



WILDLIFE CONSERVATION ASSOCIATION

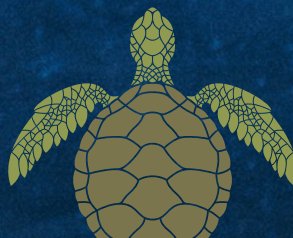
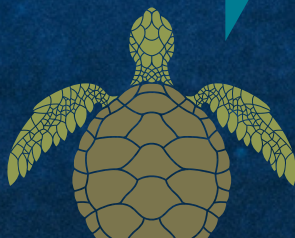
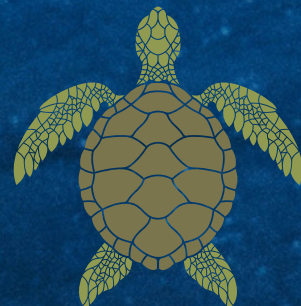
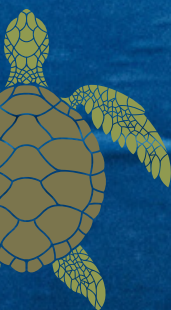
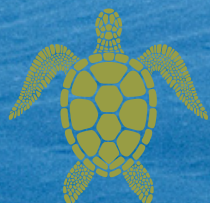
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WASTEWATER GUIDE



A guide to understanding your water use and
treating it with environmental-friendly methods

Do your part to help ensure Nosara has clean water,
rivers, and ocean by following this guide!



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Do your part to help ensure Nosara has clean drinkable water, rivers, and ocean by following this guide!

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1



Basics & Quick Tips

Types of wastewater and how to reduce your impact

2



Wastewater System

Components and how they are supposed to work

3



Take Action

Steps you can follow to improve your wastewater system



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WASTEWATER BASICS



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These are the types of wastewater you generate



1



Grey water

Water from sinks and showers

2



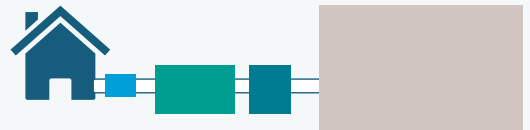
Black water

Water from toilets



QUICK TIPS

- ✓ Get to know your system - find the access to your grease trap, septic tank, aerobic filter and drainage field.
- ✓ Keep chemicals and oils out of your water and use natural, biodegradable products.
- ✓ Keep track of your maintenance schedule:
 - Clean your septic tank every 3 years
(always leave a bit as to not destroy the important bacteria)
 - Clean your grease trap every 3 months
- ✓ Keep the area around your septic tank clear of large trees and impermeable surfaces.
- ✓ Don't flush anything that won't disintegrate if you shake it in a bottle full of water. In some cases (especially older constructions) you can't flush toilet paper at all and you should upgrade your system.
- ✓ Conserve water! Install water efficient fixtures such as dual flush toilets and water saving showers. Switch to drip irrigation, check for and fix leaks.



DID YOU KNOW?

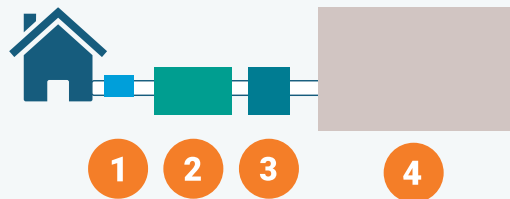
Only 15% of wastewater is treated in Costa Rica and it's up to you to treat yours!



What does a functioning wastewater system look like?

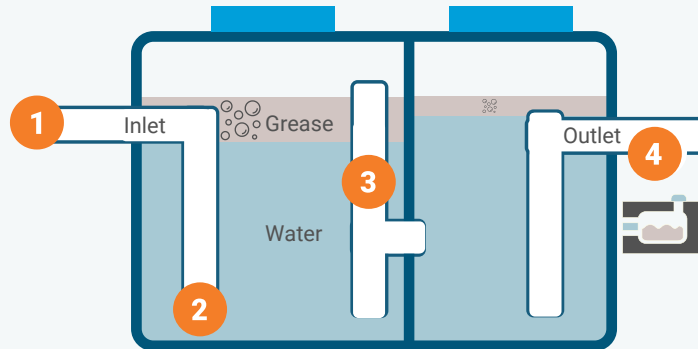
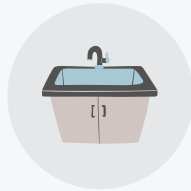
Locate and identify each of the following components in your home

- 1 Grease trap
- 2 Septic tank
- 3 Anaerobic filter
- 4 Drain field

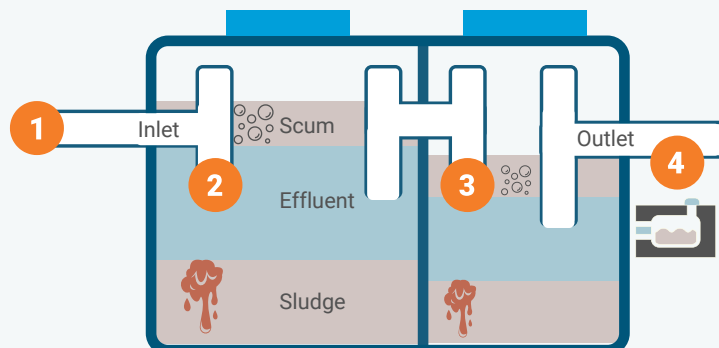


Each of these are important steps in the treatment process!

1 Grease trap



2 Septic tank





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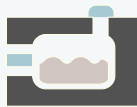


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What does a functioning wastewater system look like?

3 Anaerobic Filter



4 Drain field



The size of your drain field depends on the amount of water used and permeability of the ground on your property.

A significant area is required for proper drainage if the ground does not absorb water quickly in the rainy season.



INDICATIONS YOU HAVE A PROBLEM

- Showers and sinks not draining well
- Toilets not flushing well
- Area around septic tank floods and stays damp
- Bad odor coming from the septic tank
- Dirty water pools in the yard after heavy rain



How big should your septic tank be?

Your septic tank should be sized according to the estimated volume of wastewater generated daily. Below are guidelines to help you go above and beyond local requirements to ensure you aren't polluting.

| Number of Bedrooms | Number of People | Septic Tank Capacity (Gallons) |
|--------------------|------------------|--------------------------------|
| 1 - 2 | 1 - 4 | 1,000 |
| 3 | 6 | 1,250 |
| 4 | 8 | 1,500 |
| 5 | 10 | 1,750 |
| 6 | 12 | 2,000 |

Each additional bedroom, 2 people, laundry, outdoor kitchen, or other features that generate wastewater +250

Septic tank dimensions vary according to size and shape. Water from your kitchen sink should go through a grease trap before entering the septic tank.



DID YOU KNOW?

Most septic tanks in Costa Rica are undersized because local requirements are based on the average water consumption of Costa Rican families.



How big should your drainfield be?

Your drainfield should be sized according to the percolation rate of the soil on your property and the estimated volume of wastewater generated daily. The outlet from your septic tank should lead to a perforated tube that goes through a trench filled with gravel. This area must be clear of trees and cannot be used as a driveway.

Below are guidelines to help you ensure you aren't polluting.

| Percolation Rate (min/cm) | Sq. m of drainfield per person |
|------------------------------|-----------------------------------|
| 3 | 7 |
| 4 | 4 |
| 6 | 9 |
| 8 | 10 |
| 12 | 12 |

If you do not have enough area for a proper drainfield, you will require a contained wastewater treatment plant (such as BioNest) followed by a holding tank that is connected to an irrigation system that redistributes treated water on your property.



DID YOU KNOW?

If your soil percolation rate is less than 2 or more than 25 cm per minute, the use of a traditional septic system is not permitted and you will require a contained wastewater treatment plant or holding tank.



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Concerned? Take Action!

- Contact a local engineer with no conflict of interest to evaluate your system. Download an inspection guide and checklist here: [EN](#) / [ESP](#)
- Increase permeable area and improve landscaping to facilitate drainage on your property
- Add an anaerobic filter or other filtration steps to your system
- Install a vetiver grass biogarden in your drain field
- Replace your septic tank with a wastewater treatment plant (see an example at bionest-tech.com)



We're here to help. Contact us today!

1

BOOK A CONSULTATION

If you are concerned about the environmental impact of your home or construction, book a consultation with us to identify trouble areas and find solutions that are right for you.

2

GET A REPORT

You'll receive recommendations for companies and products to start making improvements for a healthier and more environmentally-friendly property

3

ASSISTANCE & FOLLOW UP

We are available every step of the way to provide any other additional assistance to make sure you can achieve your goal!

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Curious about how you are doing with your wastewater?
Take the [quiz!](#)



Concerned about the environmental impact of your home?
Check out our [Nosara Ocean-Friendly Guide!](#)



Interested in learning more about our water quality program?
Visit our [story map!](#)



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