

An Introduction to Assessing the Environmental Safety of Your Home

About this program

Home•A•Syst is a confidential self-assessment program you can use to evaluate your home and property for pollution and health risks. In every home — large or small, new or old, city or country — there are potential pollution sources that can affect the health of your family, your community, or the environment.

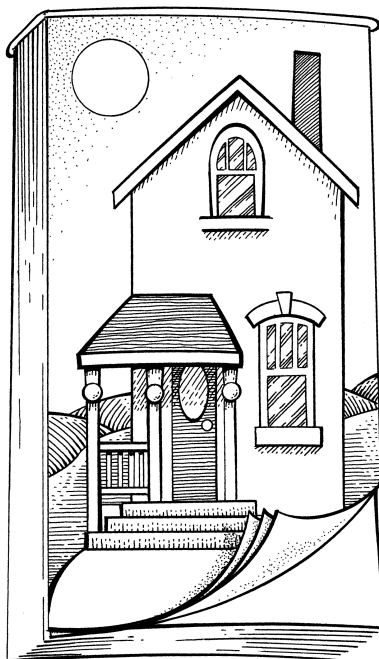
Your drinking water, for example, can be affected by many potential contaminant sources: poorly maintained septic or sewage systems, leaky fuel tanks, lead pipes, fertilizers, pesticides and hazardous household products.

Hazards such as lead-based paint exist in older homes, while indoor air pollution is often a problem in newer, more tightly sealed homes. Even simple changes in household practices can prevent pollution and help reduce consumption of water, energy and other resources.

The Missouri *Home•A•Syst* is based on the highly successful national *Farm•A•Syst/Home•A•Syst* program and has been adapted for use by Missourians.

Who should use this program?

This easy-to-use assessment program is a valuable reference whether you live in the city, country or suburbs. It is for those who care about their health and the



environment and who are willing to take steps — no matter how small — to improve how they manage their homes. Whether you rent a room or own a house, this series of guides can show you how to reduce your impact on natural systems and cut back your use of the earth's resources.

These guides can also help you protect your investment by identifying pollution risks on your property before expensive problems occur.

What's inside?

This program is divided into five topic areas that cover essential subjects that everyone should understand. Each topic area contains two guides: a fact sheet with

general information and a work sheet to help you determine which risks may apply to your situation and what actions you could take.

For some topics, these guides offer all the information you need to minimize or eliminate a pollution risk. For others, the guides provide a starting point and help you locate further information and assistance.

Keep in mind that laws and regulations can vary by county or city. Check with local officials to make sure that your home practices or changes you plan to make comply with the current laws.

Getting started

You can do the work sheets one at a time or all together — it's up to you. The main idea is to take the time to identify any risks to your family's health or your local environment and then, where feasible, to take voluntary actions to reduce those risks and prevent problems.

The *Home•A•Syst* program helps you accomplish three important objectives:

- ▶ Identify environmental risks, concerns or problems in and around your home.

- ▶ Learn about better home and property management and find further information.

- ▶ Take preventive actions to safeguard your health and the environment.

Sample from Work Sheet 3: Well location (from EQM103: *Drinking Water Well Management*)

| | LOW RISK | MEDIUM RISK | HIGH RISK | YOUR RISK |
|---|--|---|---|--|
| Position of well in relation to pollution sources. | Well is uphill from all pollution sources. Surface water doesn't reach well or is diverted. Casing extends above ground surface. | Well is level with or uphill from most pollution sources. Some surface water runoff may reach well. | Well is downhill from pollution sources or in a pit or depression. Surface water runoff reaches well. Top of well casing is level with or below ground surface. | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High |
| Separation distances between well and pollution sources. | Distances from potential pollution sources meet or exceed all state minimum requirements. | Some but not all distances from potential pollution sources meet state requirements. | Distances from most or all potential pollution sources do not meet state minimum requirements. | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High |

Sample action checklist (from EQM103: *Drinking Water Well Management*)

| Write all high and medium risks below. | What can you do to reduce the risk? | Set a target date for action. |
|--|---|-------------------------------|
| Sample: Water hasn't been tested for 10 years. Smells different than it used to. | Have sample tested at county or state health department or a private testing lab. | One week from today: April 8. |

These objectives are further explained below and illustrated using excerpts from Topic 3, *Drinking Water Well Management*. This will help you become familiar with how this program works before starting the assessments.

► Objective 1
Identify environmental risks.

Do you have pollution or health risks at home? Each section explains what risks to look for and why you should be concerned about certain conditions around your home.

Here is an example from Fact Sheet 3 on well management:

What pollution sources might reach your well?

Whether groundwater in your area is just below the surface or hundreds of feet down, the location of your well on the land surface is very important. Installing a well in a safe place takes careful planning and consideration.

Where the well is located in relation to potential pollution sources is a critical factor.

For each topic, work sheets help you determine your potential level of risk. The table above is an example from Fact Sheet 3 on well management.

For each question in the table, indicate your risk level in the right-hand column. Although some choices may not correspond exactly to your situation, choose the response that best fits.

► Objective 2
Learn about managing your home and property.

Each Fact Sheet describes safe practices and gives recommendations for reducing or eliminating risks. Here is what Fact Sheet 3 says about siting a well:

When possible, locate a well where surface water (storm water runoff, for example) drains away from it.

If a well is downhill from a leaking fuel storage tank, septic system, or over-fertilized farm field, it runs a greater risk of becoming contaminated than a well on the uphill side of these pollution sources.

To help you find further information on a topic, each guide also recommends books, publications, telephone hotlines and other resources.

► Objective 3
Take preventive actions.

With this program, nobody is looking over your shoulder to make sure you take preventive or corrective action. It is always your choice.

At the end of each worksheet is an action checklist where you can write the risks you identified and the actions you plan to take.

See the sample action checklist (from Topic 3, *Drinking Water Well Management*) above.



Why should you take action?

Simply identifying risks will not prevent problems. Consider the following reasons for making voluntary improvements, particularly for responding to medium and high risks identified at your home.

To safeguard your health

If you are like most people, you spend a great deal of time in your home. If there are dangers in the air you breathe, in the water you drink, or from hazardous chemicals in your home, they need to be managed quickly and effectively. Unfortunately, many people don't know about their potential risks until it is too late and problems have occurred.

To prevent contamination of our water supply

Protecting groundwater and surface water quality is essential to you, your neighbors and others

“downstream.” This is important whether your drinking water comes from a private well or from a public system. Because everything is connected, what you do and what others do will affect someone else. If we are not good stewards of our water, land and natural resources, who will be?

To protect your financial investment

Your home is often your most valuable investment. Many states have property disclosure laws that require environmental assessments before owners can sell or transfer their property.

Knowing about risks or problems today may help prevent costly cleanups, repairs and legal troubles in the future.

And it pays not only to take care of your own property but also to make sure others around you are aware of good management practices.

Property values and tax burdens can be affected by pollution problems on your property as well as in your neighborhood or city. In addition, taking steps to cut your use of energy, water or other resources can save you money in the long run.

Now it's up to you

These work sheets are not difficult to complete, and doing them can result in important benefits. For example, if you have children at home, working together on the assessments can be a worthwhile educational experience for everyone. Actions you take to eliminate risks may also improve your property's resale value. If you value a clean environment and healthy surroundings, then using this program and making changes will be a real investment in your family's and your community's future.

Checklist for pollution risks in and around the home

Purpose

This checklist is a way to quickly scan for potential problem areas in your home. It will help you identify possible risks and introduce you to many of the topics discussed in this program. The other guides in this series cover many other assessment questions about situations and practices not included in the checklist. If you identify potential concerns using this checklist, or even think there may be risks or areas needing improvement, please refer to the Home•A•Syst fact sheet on the appropriate topic.

Instructions

Read through the following questions and answer yes or no. If you don't know the answer, try to find out by looking at the corresponding fact sheet. You may need to locate your home maintenance records, ask family members, past owners or neighbors, or seek assistance and further information. The answers you give on this checklist — and on the assessment tables in the work sheets — are confidential. They are for your eyes only and are meant to help you take action.

Fact Sheet 1.

| Site assessment: Protecting water quality around your home | Yes | No |
|--|--------------------------|--------------------------|
| Is your soil sandy or gravelly, allowing water to drain quickly? | <input type="checkbox"/> | <input type="checkbox"/> |
| Is there a potential source of contamination — such as manure, pesticide or fertilizer storage, a fuel tank, septic system drainfield, or eroding soils — on your property located within 100 feet of a well, lake, stream or wetland? | <input type="checkbox"/> | <input type="checkbox"/> |
| Is the water table less than 10 feet below the soil surface? | <input type="checkbox"/> | <input type="checkbox"/> |

Fact Sheet 2.

| Storm water management | Yes | No |
|---|--------------------------|--------------------------|
| Do the downspouts from your roof gutters empty onto paved surfaces instead of grass, mulch or gravel, and thus prevent rain from soaking into the soil? | <input type="checkbox"/> | <input type="checkbox"/> |
| Are fertilizers, pesticides or salts stored where floodwaters might reach them? | <input type="checkbox"/> | <input type="checkbox"/> |
| Are some parts of your property, particularly slopes, sparsely planted and without mulch, exposing the soil to erosion? | <input type="checkbox"/> | <input type="checkbox"/> |

Fact Sheet 3.

| Drinking water well management | Yes | No |
|--|--------------------------|--------------------------|
| Has it been more than two years since your water was tested for bacteria and nitrates? | <input type="checkbox"/> | <input type="checkbox"/> |
| Do you have a dug or driven well instead of a drilled well? | <input type="checkbox"/> | <input type="checkbox"/> |
| Was your well constructed before 1987? | <input type="checkbox"/> | <input type="checkbox"/> |
| Does your well casing extend less than 12 inches above the ground, or is there a low area where surface runoff can collect around the well casing? | <input type="checkbox"/> | <input type="checkbox"/> |
| Do you have abandoned wells on your property that are not properly filled and capped? | <input type="checkbox"/> | <input type="checkbox"/> |

Fact Sheet 4.

Household wastewater: Septic systems and other treatment methods

Yes No

Has it been more than 3 years since your septic tank was last pumped or inspected?

Have you noticed any signs of a failing septic system, such as slow drains, odors, lush vegetation or soggy ground over the drainfield?

Do you have standard toilets and faucets and no water-conserving fixtures?

Fact Sheet 5.

Yard and garden care

Yes No

If you use fertilizer, has it been longer than 3 years since you had your soil tested for nutrients?

Do you ever use pesticides without reading the label or following the recommended doses or application instructions?

Do you have bare areas of soil on your property that are susceptible to erosion?

Where do you go from here?

If you answered “yes” to any of the questions, there may be pollution risks or special health concerns you will want to investigate. Consult the appropriate fact sheet to find out how to reduce these risks in and around your home. We recommend that you begin with Work Sheet and Fact Sheet #1: *Site Assessment: Protecting Water Quality Around Your Home* (EQM101), because it gives basic information that will be useful as you work on other topics. Creating a site map, which is explained in this publication, can help you understand important relationships between your land, buildings, nearby water resources and other features.

Ordering information for all of the publications in the *Home•A•Syst* series is on page 6.

In addition, you may want to consult your local University Outreach and Extension center for more information.

How to order the *Home•A•Syst*

Environmental Risk Assessment Guides

EQM101 through EQM105 include a fact sheet and a work sheet.

| | |
|--|--------|
| An Introduction to Assessing the Environmental Safety of Your Home (\$0.75) | EQM100 |
| Site Assessment: Protecting Water Quality Around Your Home (\$1.25) | EQM101 |
| How to Manage and Control Storm Water Runoff (\$1.25) | EQM102 |
| Drinking Water Well Management (\$1.50) | EQM103 |
| Household Wastewater: Septic Systems and Other Treatment Methods (\$2.00) | EQM104 |
| Yard and Garden Care: How it Affects Your Health and Environment (\$1.00) | EQM105 |
| Home•A•Syst Risk Assessment Guide (\$4.00) | EQM106 |
| <i>(Includes the introduction and all five fact sheets and work sheets)</i> | |

Publications are available by mail from Extension Publications, University of Missouri, 2800 Maguire Blvd., Columbia, MO 65211. Please refer to the appropriate EQM number for each publication.

Enclose your check made payable to University of Missouri for the cost of publications plus handling. Handling is \$1.50 for orders that total less than \$5.00, and \$2.50 for orders that total from \$5.00 to \$9.99. For larger orders, including quantity discounts, please call the number below. Missouri residents must add 7.225% sales tax.

To order by phone, call (573) 882-7216 or toll-free 1-800-292-0969.

The complete Home•A•Syst series is available on the web at:<http://muextension.missouri.edu/xplor/>

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