

Coburg Drinking Water Protection Plan

Adopted by Coburg City Council

Resolution #97-7

June 17, 1997

Prepared by Lane Council of Governments

(Note: this document contains only Chapter 5 of the Coburg Drinking Water Protection Plan)

Chapter 5: Management of Potential Sources of Contamination

Introduction

This chapter is divided into the three primary land use categories in Coburg's drinking water protection area: agriculture, industrial/commercial, and residential. Within each category, potential sources of contamination are first identified and then are addressed by formulating goals and related management strategies. Goals are broad vision statements describing desired conditions or activities in the future. They provide direction for the development of management strategies. The management strategies for each goal add more specificity in describing a course of action. Each goal and related cluster of management strategies includes a background discussion that provides the rationale for the goals and management strategies identified for each land use category.

The implementation of management strategies is key to the ultimate success of the Plan. Upon the adoption of the Plan, the City Council will appoint a standing Drinking Water Protection Committee (Ongoing Committee). This committee will include, but is not limited to, representatives from the industrial, agricultural, and residential sectors. It is recommended that an additional member from the Coburg Chamber of Commerce is also appointed. This Ongoing Committee will meet at least twice a year to oversee implementation of the Plan and continue to shape and redirect implementation efforts as necessary. Implementation strategies are indicated by ▲ in this plan.

Recommended Ongoing Committee members include:

Mike Warner, Marathon Coach or Jim Anderson, Truck and Travel
(Commercial/Industrial)
David Downing (Agriculture)
Mary Beth Schmid (Resident and NRCS)
Stan Nelson (Chamber of Commerce)
Ross Penhallegon (OSU Extension Service)
Jack Harris (Coburg Public Works)

Agriculture

Farmers in Coburg have worked with the land, irrigation water, fertilization, and pesticide applications for years. Guarding the health of the land and water is important for the continued success of the farming operation because quality land and water are what the farming community depends on for its business success. Most farmers are conscientiously striving to do the best they can to protect themselves and others from problems. Through both mandated and voluntary efforts, growers are already applying many best management practices that protect both the health of the land, and the health of the community. The agriculture chapter of this management

plan motivates agricultural land users to expand voluntary efforts to provide further protection for Coburg's drinking water supply.

By taking a proactive voluntary approach, agricultural growers avoid causing drinking water safety problems that might result in potentially reactive regulatory measures. Three goals comprise the backbone of the management strategies geared towards agricultural-related land use. An education-, recognition-, and incentives-based management plan encourages rather than demands cooperation, communication, and collaboration among the farming community.

Following is an overview of the inventory as it relates to agricultural uses, and the three goals and related management strategies.

Agriculture Inventory Summary

Agricultural land use comprises about 80-85 percent of the drinking water protection area {within the ten-year TOT). The majority of agricultural activity is conducted by five large operation growers and about five to seven small farm operations within the drinking water protection area. Mint or vegetables farms comprise the majority of crops grown within the area. These crops require irrigation, which puts most of the area within the medium potential contamination risk category, according to the Guidance Manual. Irrigation increases the susceptibility of the aquifer by providing more water that can potentially leach chemicals from the soil.

Agriculture Goals and Management Strategies:

Goal 1: Educate the agriculture community about the need for groundwater protection and encourage participation of all agricultural operators in the drinking water protection area.

Related Management Strategies

1. Identify groundwater quality management objectives for farmers in the area. (What do we want them to do to help protect the resource?) (Completed)
2. Develop and administer a survey for individual farm sites to assess current irrigation, fertilization, pesticide management, and farm management practices. (Completed)
 - ▲ This survey, or a similar survey, will be redone approximately every two years to reinforce the information on groundwater protection and the need to continue it. The Ongoing Committee may be able to gather information on the effectiveness of the educational campaign by reviewing responses to the surveys over time.
3. Identify information outlets and possible information formats.
 - Prepare a summary matrix of resources available for technical and/or financial assistance and distribute it to farmers in the drinking water protection area. (Matrix Completed by Lane Extension. Appendix B)
 - Provide information at growers meetings. (Ongoing work with Lane Extension)
 - Write and distribute newsletter articles about groundwater protection practices. (Primarily Extension Service articles)
 - Provide a summary of survey results to drinking water protection area farmers to inform them of what other farmers are doing to help protect groundwater. (Being completed)

4. Consult with state agencies (DEQ, ODA) about the best available technology for farming operations, such as mint distilleries, and share information with local farmers.

Background Discussion:

The primary purpose of this goal is in having informed and participatory farmers within the groundwater protection area. Just by knowing that their farm is within the drinking water protection area, growers have a greater sense of ownership and responsibility for the continuation of their own and the community's safe drinking water supply. A first step in attaining this goal is to determine the objectives: what is it we want growers to do for agricultural related groundwater protection? The next step is to assess how well farmers within the drinking water protection area are already protecting drinking water and identify any gaps between what is desired and what is already being achieved.

Three things are recommended to protect the drinking water resource and in answer to the question what do we want growers to do?

1. Minimize irrigation leaching,
2. Minimize nitrogen leaching, and
3. Minimize pesticide water leaching.

Leaching refers to the movement of a substance (fertilizer, pesticides, etc.) down through the soil beyond the root zone, and potentially into the aquifer that is the source of drinking water. Water, either through rain or irrigation, is the primary force driving the movement of these substances through the soil. The extent of leaching varies with different substances, but in general is controlled by many factors. Some of these factors are the amount and timing of substance application, and the amount and timing of water applied after application. In addition, other best management practices, such as the use of cover crops or integrated pest management techniques also can reduce leaching.

Working with the land is the farmer's livelihood. In most cases, best management practices that protect drinking water are being applied because they help prevent problems to others and make good business sense. Farming is like any other business in that it is essentially based on consumer demand and profit margins. Consumers are increasingly demanding environmentally friendly farming practices. The use of practices that minimize leaching is preferred by growers because they reduce the amount of chemicals used, thus reducing costs and increasing profit margins. Currently, a program associated with the Oregon State University Extension Service has been conducting research on area farms to measure the amount of leaching of fertilizers and pesticides from irrigated crops. Using lysimeters, called passive capillary samplers (PCAPS), researchers can tell how much of a substance is leached after different farming practices. Results from these measurements are helping farmers adjust product applications to reduce leaching, resulting in the maximum use of products applied and protecting the groundwater. Expansion of this program onto other farm sites within the drinking water protection area and a greater sharing of results will strengthen the level of protection, especially regarding nitrate leaching.

The agriculture sub-committee administered a survey (Appendix C) to six of the main growers in the drinking water protection area. The survey was intended to assess how well current irrigation, pesticide, and fertilization management practices are helping to protect drinking water. With the help of the survey, farmers are better educated about their location within the drinking water protection area and what practices can be applied, the sub-committee is better informed about any gaps between desired and actual practices on which to base other management strategies, and the general community can be better educated about what the agricultural community is currently doing to protect the groundwater resource.

Developing objectives and administering the survey are starting points for the agricultural portion of the management plan. Other management strategies are built from this framework. For example, results of the survey are being shared with other growers in the groundwater protection area. In this way, farmers in the area become better educated about what other growers are doing and begin trying methods that work for others. Other educational efforts will include newsletter articles, and a summary matrix of technical and financial resources available to

farmers in the drinking water protection area.

Goal 2: Develop a recognition program demonstrating that the agriculture community is active in groundwater protection and encouraging further protection measures.

Related Management Strategies:

1. Develop criteria for becoming a Groundwater Guardian farmer (Completed).
 - Willing to have a passive capillary (PCAP) sampling station on property and/
 - or willingness to apply information generated from PCAPs that measures fertilization and/or irrigation of similar crops
 - One-on-one consultation with an extension agent
 - Demonstrated willingness to cooperate, which was measured by the number of positive responses to survey questions
 - Maximizing use of Best Management Practices (BMPS) identified in the drinking water protection area agricultural survey
 - In compliance with all existing regulations
 - ▲ The Ongoing Committee will enlist the assistance of a volunteer coordinator to promote the program and coach/confirm participants.
2. Provide signs or some less public form of recognition for Groundwater Guardian farmers.
 - ▲ David Downing will check in with growers to identify an appropriate form of recognition.

Background Discussion:

Farmers should be recognized for the important contributions they make in protecting Coburg's drinking water. Recognition programs acknowledge and reward growers for voluntarily applying practices that are in the best interest of the community. This develops a greater sense of understanding and cooperation with local area farmers and the rest of the general community. Public recognition also generates community awareness that everybody is working together and doing their part to protect groundwater.

An agriculture recognition program needs to take into account the sensitivity farmers might feel to having increased public attention. In recent years, the agriculture community has come under increased scrutiny by the public. The shift in public perception has resulted in the agricultural community being increasingly regulated and has also placed negative attention on farmers. Many farmers no longer want any additional attention, whether it be positive or negative. A potential concern is that even positive attention can lead to something negative. For this reason, the type of recognition received is up to individual farmers. Some may want a Groundwater Guardian sign displayed at their farm site, whereas others may prefer another form of acknowledgment such as a personalized plaque.

Like most recognition programs, criteria have been established that farmers must meet to qualify for being recognized as being groundwater friendly. Most of these criteria are not specific practices as much as general actions that demonstrate a commitment and openness to applying practices that protect groundwater. Recent surveys in the Lane County area indicate that recognition efforts have more credibility if the certification process is not completed entirely by the agricultural community. Rather, a community outreach, involving agriculture and non-agriculture

representatives would be better accepted by the public.

Goal 3: Develop an incentives program that promotes groundwater stewardship in the drinking water protection area.

Related Management Strategies:

1. Identify additional measures that might be applied that could receive funding from state or federal grants. (Identified)

- Apply for Groundwater Research and Development grant funding to install additional PCAPs in the drinking water protection area to help farmers gauge appropriate fertilizer and/or pesticide applications.
- Provide backflow devices on ground water pumps.
- Secure an Environmental Quality Incentives Program grant to provide technical and financial assistance, and education to protect and improve groundwater quality.
 - ▲ Currently, Committee members representing Lane County Extension and the Natural Resource Conservation Service (NRCS) are writing a grant to support these efforts. In the future, the Ongoing Committee will coordinate grant-writing efforts.

2. Identify and implement financial incentives that encourage conservation and protection practices.

- Develop a summary matrix of incentives available through local, state, and federal agencies and distribute to farmers in the drinking water protection area. (To be completed by the NRCS)
- Encourage the City of Coburg to work with the property owner where the wells are sited and pay for any agreed upon best management practices that provide added protection to the well.
 - ▲ This will be an activity that is overseen by the Ongoing Committee.

Background Discussion:

Stewardship of Coburg's groundwater resource is promoted through voluntary protective actions taken by property owners. Some protective measures are confronted by barriers, such as project cost, lack of technical knowledge, permit fees, and potential loss of full financial value of the property. Incentives encourage rather than demand landowners to initiate conservation and best management practices on their property. Effective incentive programs can provide assistance to property owners with project coordination, technical expertise, funding, and financial gain.

The purpose of this goal is to provide and inform landowners of financial incentives to protect groundwater. An array of incentive programs are currently available through local, state, and federal programs. Potential incentives might include: technical assistance, cost-sharing, conservation easement purchases, and tax reductions. Management strategies related to this goal primarily link property owners with existing programs. Providing growers with a summary matrix of available programs allows farmers to select incentives that best match their farming operation.

Being located in a delineated drinking water protection area in some cases allows for additional government funding to be allocated to protection efforts. Installing PCAPs has been identified as being an important measure that could help farmers in the area reduce chemical leaching primarily associated with fertilization. Coburg will link more extensively with the existing Oregon

State University research program that has already helped reduce the amount of nitrate leaching through a variety of BMPs. Securing funding for additional monitoring stations is a priority in achieving this goal. The need for backflow devices on surface water pumps has also been identified as a measure that could potentially lower risks to groundwater contamination. Grant or cost-sharing possibilities are being explored to secure funding for both lysimeters (PCAPs) and backflow devices.

The Environmental Quality Incentives Program (EQIP) was recently established under the 1996 Farm Bill. The program is designed to provide technical, financial, and educational assistance to farmers to address significant natural resource concerns and objectives in priority areas. With the delineation of the Coburg drinking water protection areas, Coburg has defined a priority area of concern for potential EQIP funding to be directed to places with critical environmental needs.

Commercial/Industrial

Three goals will lead to greater assurance of groundwater protection for businesses in the drinking water protection area. For each goal, more specific management strategies, actions, and tasks that are directed at achieving the goal have been identified. The goals and management strategies are incentives-based rather than mandatory. They focus on education, technical assistance, recognition, and potential cost-sharing with public agencies. Incentives motivate rather than demand business owners to initiate best management practices on their property. Following is a summary of the industrial/commercial inventory and the subcommittee's recommended goals and management strategies for the Coburg drinking water protection area.

Commercial/Industrial Inventory Summary:

The existing drinking water protection area contains eight businesses primarily located in the Robert's Court Industrial Park near the northeast corner of the ten-year TOT. A sand and gravel mining operation comprises a significant portion of the southwest corner of the ten-year TOT and extends into the 20-year TOT. Groundwater risk assessments of these business enterprises have been determined using the ratings in the Guidance Manual. Within the drinking water protection area there are two businesses considered to be potential high risk, five a medium risk, and one as a low risk to potential groundwater contamination.

Commercial/Industrial Goals and Management Strategies

Goal 1: Inform businesses about the need for groundwater protection and facilitate changes that reduce the risks of groundwater contamination.

Related Management Strategies

1. Sponsor an open house type of event and invite DEO to talk with business people about pollution prevention practices and available assistance.
 - Invite a DEO pollution prevention program representative to talk with business managers and owners within the entire industrial park area.
 - Send letters to businesses in the entire Coburg area about the need for groundwater protection, their relationship to the existing city wells, and resources available to identify pollution prevention techniques for individual business types. The letter should stress that this is not a mandatory program. Included in the resources available list should be:
 - An announcement of the open house, and

- A list of people on the industrial/commercial sub-committee and other large business owners that can help smaller businesses develop groundwater protection plans.
 - Provide fact sheets at the open house, tailored, if possible, to local businesses listing BMPs that can be applied to reduce the risk of groundwater contamination.
 - Provide basic groundwater information stressing the relationship between groundwater quality and land use activities.
 - Announce the availability of other workshops that will be held to deal with general awareness, hazardous waste, and stormwater.
 - Share with businesses the results of the Business-Consumer survey conducted in Coburg, Junction City, and Springfield in 1996.
 - ▲ This activity is tentatively scheduled for fall 1997. The Committee will recruit and work together with a volunteer coordinator to develop the workshop(s). -
2. Establish a mentoring program with large industries helping the smaller, less regulated businesses in the community. This action is a follow-up to the open house session.
- Assist small businesses in developing a spill response plan.
 - Share spill response resources with small businesses.
 - Sponsor joint employee training workshops to raise awareness of groundwater and potential land use impacts. Workshops should include topics of general awareness, hazardous waste, and stormwater runoff.
3. Provide sand and gravel mining businesses with educational information and link with technical assistance.
- ▲ LCOG has compiled best management practices recommended for the sand and gravel mining industry and will distribute the information to local sand and gravel mining operators.
 - ▲ During the annual inspection and permitting process, Oregon Department of Geology and Mining Industries (DOGAMI) will suggest best management practices to reduce the risks of groundwater contamination.
 - ▲ Notify DOGAMI that there is a sand and gravel mining operation within the Coburg drinking water protection area. (Completed)

Background Discussion

Many commercial/industrial activities that pose risks to groundwater are regulated through laws such as the Toxic Substances Control Act (TSCA) and the Resource Conservation and Recovery Act (RCRA). However, even facilities that are required to have permits for building, material, storage, or waste discharge cannot be assumed to pose no risks to groundwater. The majority of other regulations applicable to commercial and industrial facilities rely on responses to contamination events, rather than on preventing problems. Coburg's commercial/industrial management strategies focus on pollution prevention.

Smaller businesses tend to be less regulated compared to larger businesses because they use and or generate less hazardous materials. However, even though they use and generate less, some of these businesses still present a moderate risk to a clean drinking water supply. Although many protection measures already exist, larger businesses can take an active role in mentoring the smaller, less-regulated businesses. Establishing partnerships can also play a key role in addressing non-point pollution. With the support of local businesses, local government, and state

or federal funding assistance, area-wide solutions are possible.

As identified in the inventory process, a sand and gravel mining operation is also located within the drinking water protection area. The primary risk associated with sand and gravel mining operations is the immediate exposure of the water table due to mineral extraction. The industry is regulated by DOGAMI and an annual permit and inspection are required. Groundwater protection is one focus of the permitting and inspection process. The DOGAMI will continue to work with the industry within Coburg's drinking water protection area and provide suggestions of BMPs to reduce the risk associated with mining activities.

The purpose of this goal is to reduce the risks of groundwater contamination by businesses in the drinking water protection area by educating and assisting those businesses in developing groundwater protection strategies that supplement the regulatory structure. An emphasis of this goal and related action items is in developing partnerships with and between larger industrial complexes, smaller businesses, and state agencies. Another focus of this goal is to provide education and technical assistance to business owners by providing how-to information and in linking the property owner with technical assistance available on the local, state, or federal level. Education and technical assistance can help the business owner explore alternatives that might not otherwise be considered. Currently, the Coburg Public Works Director inspects industries within industrial park areas. This inspection offers a continuing opportunity to disseminate drinking water protection information and helps to ensure that industries within the drinking water protection area are in compliance with regulations.

A groundwater open house/symposium event will be scheduled for Coburg businesses and will be the educational catalyst for many of the other management strategies. Business owners and managers can learn about technical assistance available through the DEQ Pollution Prevention Program as well as local resources available to help them address local needs. The DEQ Pollution Prevention, Waste Reduction Program offers businesses free technical assistance regarding BMPs for handling chemicals that could be harmful to groundwater. On-site technical assistance is designed to provide businesses with alternative regulations, while at the same time protecting groundwater.

Goal 2: Establish community-wide recognition that businesses are actively engaged in groundwater protection.

Related Management Strategies:

1. Provide information to the community about what practices are already in place by industrial/commercial businesses.
 - Write newsletter articles
 - Use public postings.
 - ▲ Activity of the Ongoing Committee and other volunteers.
2. Establish a business recognition program for businesses that are applying good groundwater pollution prevention practices.
 - Inform businesses about the link between pollution prevention and consumer preferences to support green businesses.
 - Link with Oregon State Green Permit Program for qualifying to become a Groundwater Guardian business.
 - Publicly recognize businesses that are helping other businesses protect the groundwater resource.

- Provide a plaque, sign, or door sticker showing that the business is groundwater friendly.
- ▲ The Ongoing Committee has recruited and will begin working with a volunteer coordinator to implement this program. Graduate students from the University of Oregon that were involved with the business incentives survey may also be interested in assisting with this effort.

Background Discussion:

Most businesses, through both mandated and voluntary efforts are already applying BMPs that protect drinking water. The purpose of this goal is to publicly recognize these businesses for their contributions and identify additional activities that could be accomplished above and beyond just those that are currently regulated. Community residences and consumers should know that the business community is taking an active role in reducing risks to drinking water.

Recognition programs can serve as an incentive by providing favorable publicity to those involved. As with most recognition programs, standards must be established and met for a business to qualify. The certification process must be controlled at the community level, outside of businesses themselves. Technical assistance will be offered as a component of the recognition program so that the businesses can comply with the standards that are set. Recognition programs tend to have a snowball effect in the sense that as awards are given or signs displayed, others want the same recognition. For this reason, recognition programs also tend to have an educational benefit as others learn about the types of practices that are beneficial to drinking water protection.

Results from the Business Incentives Survey sponsored by the OHD indicate that recognition programs influence consumer habits. Most consumers responding to the survey indicated that they would pay more for goods and services if they were provided by a business certified as protective of groundwater. For the certification to be credible to these same consumers, however, the certification would have to be completed by individuals other than the business itself.

The business recognition program in Coburg links with programs already established or being established on the state level. Business owners will be informed of opportunities to apply for the Governor's Award for Toxic Use Reduction, an annual award given to businesses with significant reductions in their use of toxic material. Currently, the DEQ is developing a Green Permit business recognition program that businesses in Coburg will be encouraged to be involved with.

Goal 3: Investigate the feasibility of managing stormwater runoff on an area-wide basis in the Robert's Court industrial complex

Related Management Strategies:

1. Examine the possibility of using created wetlands for stormwater treatment, including funding options.
2. Explore options such as constructing grassy swales or detention ponds to treat stormwater runoff .
3. Work with an intern to develop a stormwater plan for at least the industrial corridor.
4. Provide informational sessions and fact sheets on how to treat stormwater runoff. (See Goal 2)
5. Require stormwater treatment as part of the site plan review and approval process for new businesses in the industrial areas.

▲ The Public Works Supervisor has already begun this process and will continue to work on development of a stormwater management program.

Background Discussion:

In developed areas, land has been covered by streets, parking lots, and buildings (impervious surfaces) that prevent rain from being infiltrated into the ground. As the runoff flows over these surfaces, it can pick up pollutants-chemicals, oil, grease, fertilizers, and herbicides-that have collected on the surface. Stormwater leaving these impervious surfaces can then discharge onto the ground or enter surface waters where pollutants can eventually percolate down to groundwater.

Like most industrial areas, the Robert's Court Industrial Park contains significant impervious surface area. Stormwater runoff in this area is currently addressed by collecting the water running off of the impervious surface and directing it into a drywell. A drywell is a sub-surface drainage area that allows direct recharge to the sub-surface below the soil. Contaminants carried in the stormwater discharge could eventually infiltrate into the aquifer with this type of system. Potential contamination risk of stormwater leaving the Robert's Court area could be reduced by helping to ensure that water leaving impervious surface areas and entering the ground or surface water does not contain pollutants that could contaminate ground and/or surface water.

Stormwater runoff can be managed in the Robert's Court Industrial area on both an individual business and an area-wide basis. Businesses can reduce their individual stormwater impact by applying BMPs that reduce pollutants at the source to prevent pollution of stormwater runoff discharged from the site. Practices can also be used to divert runoff away from areas of exposure to pollutants, such as raw materials, intermediate products, or finished products. On an area-wide basis, BMPs could be used to direct polluted runoff to natural or other types of treatment. Encouraging businesses to apply source reduction practices as much as practicable is a priority because these practices reduce the amount of pollution generated at the site and prevent contaminants from being exposed to stormwater in the first place. Treating contaminated stormwater to remove pollutants before the runoff leaves the individual site or industrial area is the next option, although this may transfer the pollution problem from one place or medium to another since treatment will not be completely effective. Source reduction methods are also desirable because they are often less expensive than treatment methods.

Residential

People need to know that their groundwater is a valuable and vulnerable resource. They also need to know what they can do, or *not* do, to help protect this resource. Many people are unaware that some common activities, such as housecleaning or gardening, may involve toxic chemicals that could have serious impacts on groundwater quality if overused or improperly disposed. Very small amounts of certain contaminants can corrupt an entire community's groundwater supply, as can the cumulative effect of numerous less odious sources.

To help prevent groundwater contamination, community members need to be more aware of about how their actions can affect groundwater. Education can lead to understanding, and understanding can lead to behavioral changes that help reduce the risk of groundwater contamination.

Following is an overview of residential land use within the drinking water protection . area, and management strategies that address issues related to residential land use.

Residential Inventory Summary

Within the 10-year drinking water protection area there are approximately 20 rural homesteads. Within the entire study area, which extends to the boundaries of the Rural Fire Protection .District, there are an estimated 600-800 residences.

Residential Goals and Related Management Strategies

The single goal for the residential community, which aims at raising awareness of groundwater sensitivity, will be targeted to *all* residences within the study area, regardless of their proximity to the drinking water protection area.

Goal 1: Increase awareness of groundwater vulnerability and residence-based sources of contamination among community members. Also provide information on non-toxic alternatives and safe use and storage of toxic materials.

Related Management Strategy

1. Develop a series of groundwater-related articles that can be inserted into the Coburg Newsletter on an ongoing basis. (In progress, expected to be completed by March 1997)
 - ▲ Prepared articles will be given to Coburg's newsletter coordinator. The Committee may work with the newsletter coordinator to develop additional articles.
2. Provide assistance to the Coburg Elementary School to assist with presenting lessons on groundwater basics to the school children. (Continuing assistance from OHD, DEQ, and Lane County Extension Service)
 - ▲ Continuing assistance from OHD, DEQ, and Lane County Extension Service.
3. Erect signs to inform people that they are in a groundwater sensitive area. (As a participant in the Groundwater Guardian program, Coburg has received Groundwater Guardian Community signs that will be erected at entrance ways to the city and/or at the entrance to the drinking water protection area.)
4. Pursue other means of educating the community about groundwater protection. Potential activities include:
 - Placing educational displays at various businesses in and around Coburg (e.g., growers co-op, grocery stores, bank).
 - Working with scout troops to pass out educational materials on groundwater protection to all residences.
5. Promote hazardous waste round-up events.
 - ▲ Activity of the Ongoing Committee and other volunteers.

Background Discussion:

Threats to groundwater from residential land users primarily relate to the use, storage, and disposal of hazardous materials. The density of septic systems also has a strong influence on nitrate levels with housing greater than two units per acre considered to be of moderate to high risk because of the potential for elevated nitrate levels. Hazardous substances associated with residential use can come from: household hazardous wastes, mechanical repair and maintenance products, land and garden care products, swimming pool maintenance chemicals, and stormwater runoff carrying petroleum products. To reduce risks associated with high-density housing, as of 1982, Coburg requires new housing development to have a minimum lot size of 10,000 square feet.

The purpose of this goal is to empower Coburg community members with knowledge so they can

personally take actions to protect their groundwater resource. Outreach efforts will educate the community on (1) the vulnerability of Coburg's groundwater, (2) how each citizen's actions can affect groundwater quality, (3) why it is important to reduce the cumulative effects of groundwater impacts, and (4) .what could be the consequences of groundwater contamination. In this context, the educational materials will help instruct community members on the actions they can take to reduce the risk of groundwater contamination.