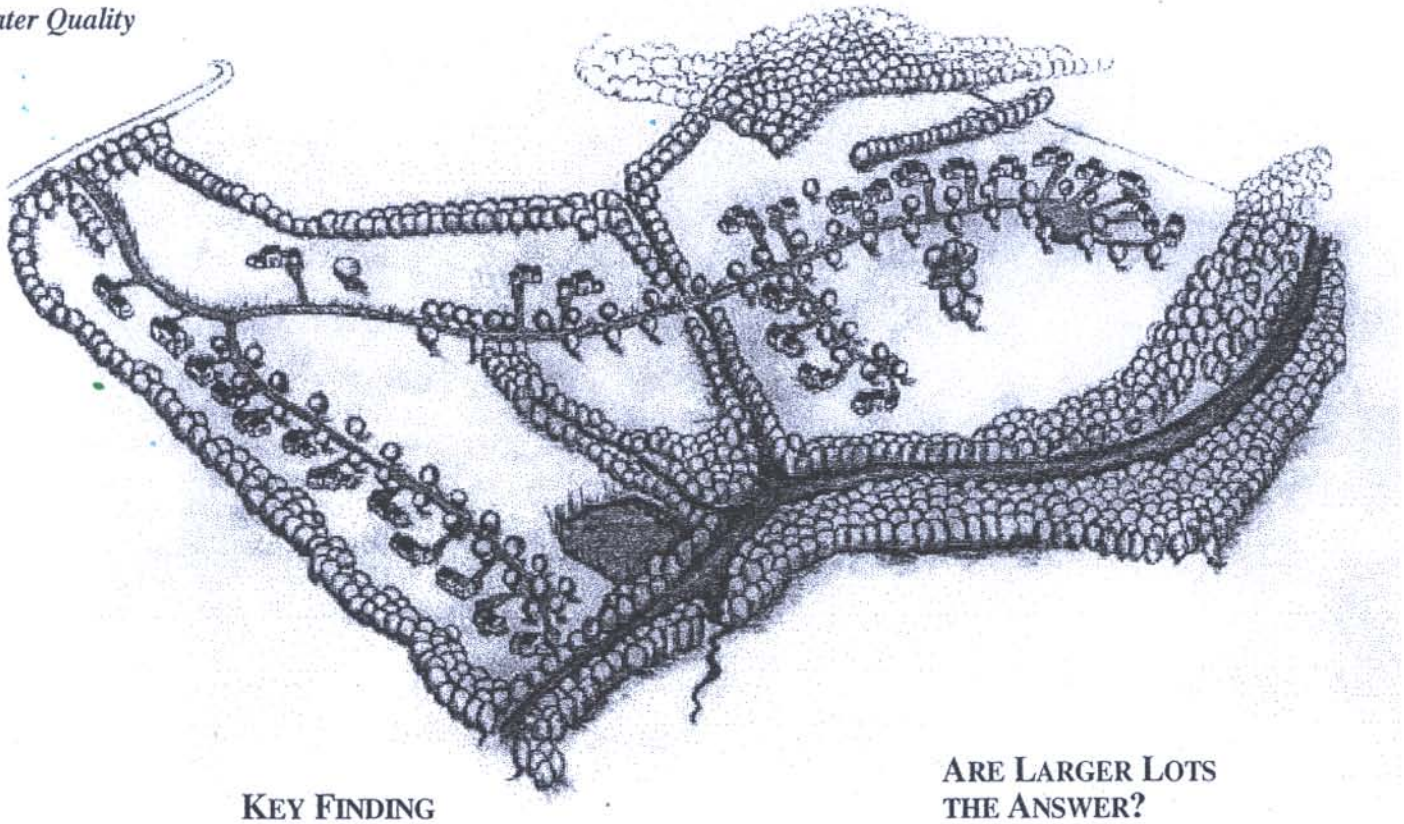
Linking Land Use to Water Quality

Conservation Subdivisions

A better way to protect water quality, retain wildlife, and preserve rural character.



A Joint Publication of UConn Cooperative Extension's NEMO Project and The Natural Lands Trust.

NEMO

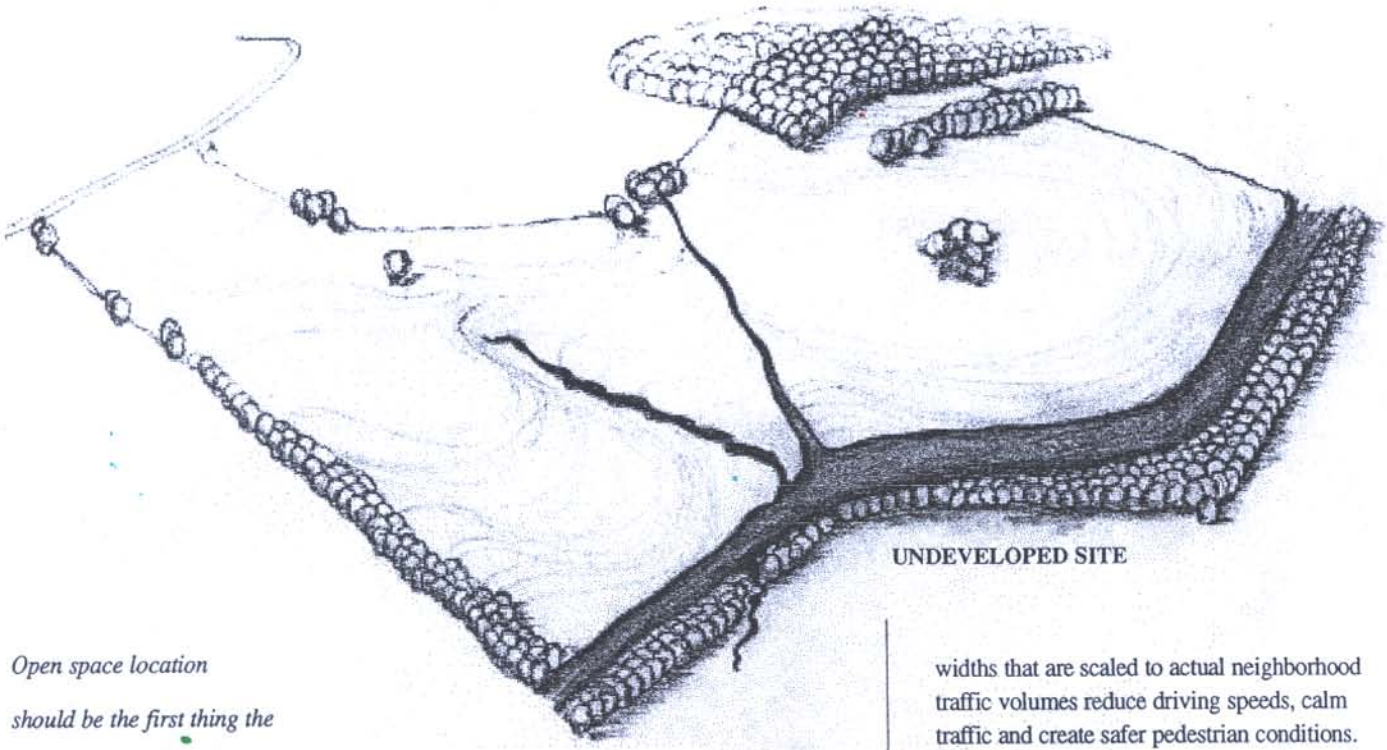
Key Finding

Attitudinal surveys show that many people value their community's rural character, but few realize this cherished character is programmed to disappear. That's right, programmed. Local zoning and subdivision ordinances serve as blueprints for converting undeveloped forest and fields into residential, commercial and industrial lots. Except for permanently protected open space, sooner or later those beloved woods and meadows are almost certain to disappear.

In other words, every acre of unpaved and buildable land is typically zoned for some type of development. Maybe it won't happen tomorrow, but in the future your town probably will look very different. Not only will rural character suffer, but wildlife habitat and water quality will diminish as well. Pollutants wash off developed areas into streams and ponds, harming fish and wildlife. While development isn't inherently bad, we must question whether current patterns of sprawl are what we really want, or whether there is a better way.

Are Larger Lots the Answer?

Typical subdivisions are often designed with cookie-cutter sameness. Development with structures evenly distributed on large lawns served by wide, straight roads is expensive to build and maintain, and does a disservice to the people living there and the wildlife that once roamed the woods and swam the streams. It is ironic that developments designed to conserve open space and protect water quality are often rejected in favor of more costly and harmful arrangements, especially since conservation designs are based on traditional, New England small town and village layouts. Large lot zoning (e.g., 2, 3, or 4 acres) is *not* the answer to retaining rural character and protecting wildlife and water quality, as it promotes leap frog development that paves land and fragments natural areas.



UNDEVELOPED SITE

Open space location should be the first thing the landowner or developer designs, not the last...

Also available:

NEMO **Fact Sheet #1:**
Project Brief

NEMO **Fact Sheet #2:**
Nonpoint Source Water Pollution

NEMO **Fact Sheet #3:**
Impacts of Development on Waterways

NEMO **Fact Sheet #4:**
Strategies for Coping with Polluted Runoff

NEMO **Fact Sheet #5:**
How to Get Started: Protecting Your Town from Polluted Runoff

NEMO **Fact Sheet #6:**
Asking the Right Questions: Raising the Issue of Polluted Runoff at a Public Meeting

NEMO **Fact Sheet #7**
Reviewing Site Plans of Stormwater Management

NEMO **Fact Sheet #8**
They Can't Do That (Can They?!!)

NEMO **Fact Sheet #10**
Carving up the Landscape

So What's the Solution?

A large part of the answer lies in "conservation subdivision" design. Using this tool, developers can design subdivisions that maximize open space protection without reducing the number of homes to be built. This is achieved by locating the structures on half (or less) of the property with the remainder permanently protected through conservation easements. It is important to note there is **no reduction** in the total number of structures - they are simply carefully situated to protect land and water resources, in direct contrast to the adverse impacts of aimlessly scattered lots that fragment the landscape and obliterate underlying resources.

How Conservation Subdivisions Help Protect Water Quality

When neighborhoods are developed with conservation in mind, roads can be shorter and narrower than in conventional developments. Less pavement reduces the amount of impervious surface and consequently the potential for polluted storm water runoff. (See also NEMO Fact Sheets 1-7). Pavement can be further reduced where development is designed to resemble traditional villages, with homes close to streets, thereby reducing driveway lengths. In addition to protecting water quality, street widths that are scaled to actual neighborhood traffic volumes reduce driving speeds, calm traffic and create safer pedestrian conditions. Where appropriate, open space may be used to treat contaminated stormwater associated with development. For example, instead of directing road runoff to the nearest stream, it might flow to common open areas containing naturalistic drainage facilities, such as swales or wet ponds that help filter pollutants and recharge local aquifers.

It Matters Where The Open Space is Located

Designated open space should be located to protect environmentally sensitive features. In most cases, it can also provide nearby residents benefits such as scenic vistas and recreation areas which add value and increase marketability. The location and functions of neighborhood conservation areas should be the *first* thing the developer designs, not the last. If the property is blessed with a good fishing stream or notable wildlife habitat, the conservation areas should be configured to protect these resources. While recreational use of the open area is often appropriate, locating a ballfield on the banks of a trout stream, where soil and fertilizer might wash to the water, should be avoided. Ultimately, to retain rural character and protect habitat, conservation areas need to viewed in a regional perspective and possibly linked to form greenways. (See NEMO Fact Sheet #10)

What Homeowners Find Valuable

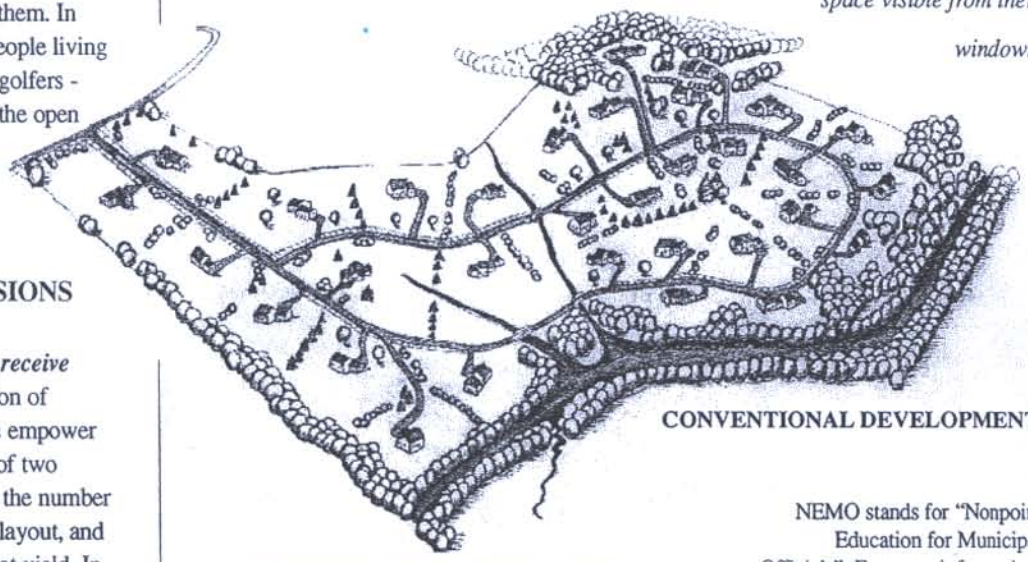
Locating homes to protect open space addresses a need that people have expressed in attitudinal surveys. Real estate market researchers have found that people want to live in small towns providing a sense of community, as opposed to cookie-cutter developments offering nothing more than house lots and streets. In addition, people value available open space and informal trails and will pay more to live near them. In fact, surveys show that 40-80% of people living in golf course developments are *not* golfers - they choose to live there because of the open space visible from their windows.

Surveys show that 40-80% of people living in golf course developments are not *golfers - they choose to live there because of open space visible from their windows.*

Frequently Asked Questions About Conservation Subdivisions

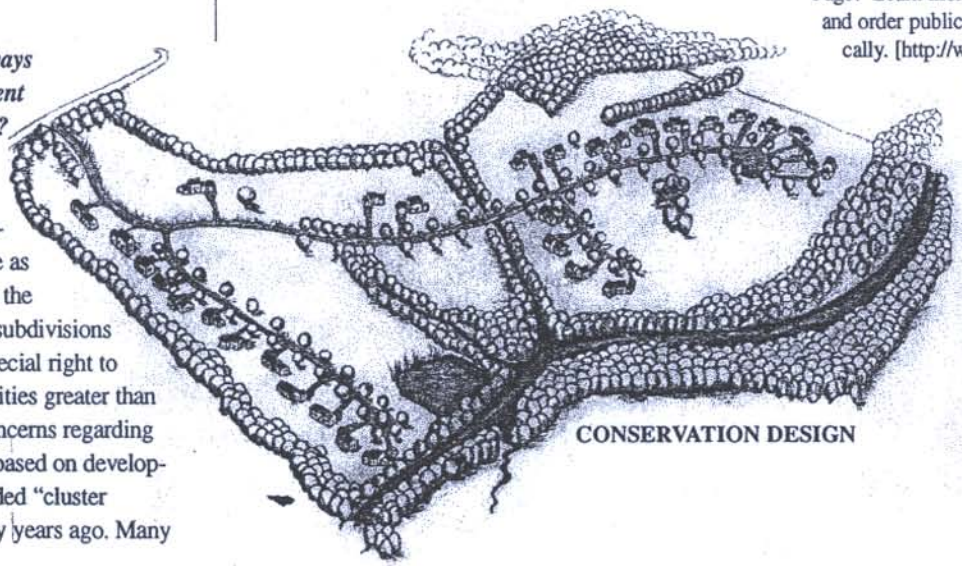
How can we be guaranteed we will receive quality open space? A new generation of conservation subdivision regulations empower commissions to require submission of two subdivision plans: a sketch showing the number of lots achievable in a conventional layout, and a conservation design for the same lot yield. In the conventional plan, a certain percentage of the land, often 10%, may be dedicated as open space. Under conservation subdivision, anywhere from 40 to 70 percent of the land, *in addition* to wet, flood prone or steep areas, is set aside as permanent conservation land. The planning commission decides which design is best for the community. The provision of quality open space should be a key consideration when deciding which design most benefits the community.

Don't these developments always result in high density apartment and condominium complexes? Zoning generally requires that the housing types and densities permitted in conservation subdivisions be the same as are normally permitted within the zoning district. Conservation subdivisions do not give developers any special right to build attached units or at densities greater than generally permitted. Many concerns regarding density and housing type are based on developments built under poorly worded "cluster zoning" adopted thirty or forty years ago. Many of these developments allowed attached units at densities greater than permitted by conventional zoning. The result was tightly packed attached units will little common open space. The modern conservation subdivision regulations are a world apart from these early provisions, in that they are designed to protect the municipality and the environment while providing developers design flexibility to produce better layouts. As such, if the community wishes to preserve 50% of land in addition to areas deemed unbuildable, or limit conservation subdivisions to single family detached dwellings, they may include these provisions in their regulations. Some communities choose to offer modest density bonuses when developers agree to conserve more than the required minimum open space.



CONVENTIONAL DEVELOPMENT

Who will own, maintain, be liable for and pay property taxes on the conservation land? Whoever owns the conservation land is responsible for all the above. Generally there are four



CONSERVATION DESIGN

NEMO stands for "Nonpoint Education for Municipal Officials". For more information, contact the NEMO Project c/o Chester Arnold, University of Connecticut CES, 1066 Saybrook Road, Haddam, CT 06438-0070. Tel: (860) 345-4511. Fax: (860) 345-3357. Internet: carnold@canr1.cag.uconn.edu.

On the World Wide Web? Check out the NEMO Home Page! Learn more about NEMO, and order publications electronically. [http://www.canr.uconn.edu/ces/nemo/]

basic ownership options: individual landowners, homeowners' associations, land trusts and the municipality. Municipalities generally prefer not to hold title to the common open space within subdivisions unless the land would help complete a town trail system or provide active recreation areas. In most instances, homeowners' associations own and manage conservation lands and have typically encountered few problems when a few basic management principles are followed.

What You Can Do

Whether you're a local land use official, resident or business owner, you can ask whether your town has an updated plan of conservation and development.

You can discuss with your neighbors the role conservation subdivision design might play in meeting neighborhood and community goals. You might review your local land use regulations to see if they encourage development protective of your town's character and valuable natural resources or whether your town has programmed itself for more sprawl, in which all lands are eventually converted to house lots and streets. You might consider serving on a local land use board to insure local plans and regulations include provisions for conservation subdivision design. In any case, do not rely on someone else to take the initiative. You can help place your town in the driver's seat regarding its future, or you can leave it to someone else with interests quite different from yours.

This fact sheet is a collaboration of the NEMO Project and The Natural Lands Trust. It was written by Rosemary Monahan, Jim Gibbons and Chester Arnold is based on the work of Randall Arendt, Vice President for Conservation Planning at the Natural Lands Trust.

For more information on open space development, contact the University of Connecticut CES or

The Natural Lands Trust
1031 Palmers Mill Road, Media, PA 19063, Phone # (618) 353-5587.

NEMO is a project of the University of Connecticut's Cooperative Extension System, collaborating with the University of Connecticut Natural Resources Management and Engineering Department and the Connecticut Sea Grant College Program. Major funding provided by The Water Quality Program, USDA Cooperative State Research, Education and Extension Service.

Advantages of Conservation Subdivisions

Compared with conventional layouts, conservation subdivisions offer the following advantages:

Economic advantages
For the municipality:
- Open space enhances the municipality's quality of life, one of its chief assets in attracting quality businesses and in encouraging economic growth.
- Municipal service provision is cheaper when homes are not widely scattered.
- Open space dedications may provide public parkland, reducing public land acquisition costs.

For the developer:
- Site plan review is smoother when development plans conform with local planning objectives.
- Development costs are reduced as utility lines, streets, driveways and sidewalks are shorter.
- Conservation subdivisions have marketing and sales advantages, as buyers prefer lots close to or facing protected open space.
- Homes in conservation subdivisions tend to appreciate faster than counterparts in conventional developments.
- Where zoning permits, a variety of housing types, ranging from single family detached to attached units, may be more easily accommodated.

Environmental Advantages
For water quality:
- Common open space can be designated as buffers to protect wetlands, streams and ponds.
- Water quality is enhanced when impervious surfaces such as streets, driveways and pipes are minimized.
- Where appropriate, stormwater and sewage treatment facilities can be located within the open space.

For wildlife:
- Common open space, if properly sited and managed can provide wildlife habitat with the three basic requirements of shelter, food and water.
- When linked to other existing open areas, the common open spaces can serve as wildlife corridors and unfragmented wildlife preserves.
- Common open space can be used to protect "unique or fragile" habitat as identified by local, regional or state natural resource surveys.

Social and Recreational Advantages
- Common open space provides attractive areas for neighbors to meet informally and socialize.
- Common open space may be designated for recreational uses such as biking, walking or ball playing all of which promote social interaction.
- Smaller yards to tend can provide residents with more leisure time.

3/99

University of Connecticut
Cooperative Extension System
COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Kirklyn M. Kerr, Director, Cooperative Extension System, University of Connecticut, Storrs. The Connecticut Cooperative Extension System is an equal opportunity employer.