Part One

Close-up Examples of the Effects of Land Use Decisions

Pieces of the Community Puzzle: How it all Fits Together

Knowing how wooded properties and street trees work will show how they can offer so many benefits. Let's look at different examples that are likely to be found in your community or other communities across the state. Town and development names are fictitious in the following examples, but the situations are from real life in Maine cities and towns.

The Ames Property: Thirty Acres at the Edge of Town

The Ames are a retired couple who own thirty acres of mixed hardwoods, made up primarily of maple and white pine, on the outskirts of the town of Clamville. Their house and lawn are at the edge of the property, near the road. A stream runs through the northeast edge of the property and another section is wet from late winter until mid-summer. The back twenty acres are rolling, but not steep *(<25% slope)*. It is a typical thirty acre woodlot.

Soil is similar to the foundation of a house: essential to the stability of what is above ground and not very noticeable until something goes wrong. On the Ames property, the soil is doing a good job. It is full of hidden life, from tiny creatures invisible to the eye, to burrowing animals such as moles and earthworms. These billions of tiny excavators are at work churning old leaves and dead wood into nutrient-rich soil. All that miniature excavating also mixes the soil, allowing oxygen to penetrate and water to soak into the ground through countless tiny holes.

When it rains, some water runs off into the stream, but much of it is soaked up by tree roots and the air pockets in the soil. They act like sponges by soaking up water and releasing it slowly. Leaves intercept and slow down heavy rain so that it hits the forest floor more softly. The result: less splash, less disturbed soil, less erosion and less run-off. Both water and nutrients are sucked up through tree roots and the roots of other plants. Trees circulate some water — most of which evaporates out of leaves and needles during the growing season, creating a localized cooling effect much like when sweat dries and cools the human body.

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In addition to millions of soil critters, this property provides wildlife habitat *(homes, food, water and hiding, resting and nesting places)* for a range of wildlife from migrating songbirds to white-tailed deer. Snowshoe hare and deer eat red maple buds in winter. Ruffed grouse, commonly known as partridge, feed on the buds of poplar trees. A vernal pool, a temporary big puddle created by melting snow and rain in the spring, is located in the wet part of the woods. Vernal pools are common woodland features across the state; they provides homes for frogs, fairy shrimp and two salamanders — including the rare blue spotted salamander. These pools dry up in late summer and fall, making it difficult to detect their location late in the growing season when ferns and trees are the most obvious features.

The stream running through the property is a convenient year-round water source for wildlife. As it leaves the property, it crosses an open field. Trees and shrubs growing in a wide strip along the streambanks act as an important travel corridor for wildlife that move from the Ames woods to smaller wooded properties on the other side of the field. White-tailed deer, woodcock, snowshoe hare, chipmunks, songbirds and many other wildlife use this wooded travel corridor to cross from one property to the next.

Standing dead trees, or snags, are fairly common on the Ames property. Up to eighty species of Maine wildlife use snags during some part of their lives. Woodpeckers, chickadees and other birds pick insects off the decaying bark. Some birds and owls use the same snag as a nesting site year after year. Hawks use them for hunting viewpoints and moles burrow beneath their roots. As snags decay, they return nutrients to the soil and encourage new plants and trees to grow. Even though they are dead, they are an important piece of the ecological puzzle on the Ames property.

The Ames enjoy and use their property for recreation and wood products. They appreciate the spring woodland wildflowers and the colorful leaves in the fall. Their grandchildren build tree forts and catch frogs in the woods. Their son hunts turkey and deer on the property. For years, they've used a simple trail for walking the dog and cross country skiing. Since they heat with wood, their property also supplies a fair amount of firewood.

They're attached to their property, but they also need to be practical from an economic point of view. Increased jobs in nearby Clamville and newcomers who have moved to the area to take advantage of them, have fueled climbing real estate prices in recent years. Subdivisions and new homes in the vicinity of the Ames property resulted in an increase in the assessed value of their land. Clamville's mil rate rose to cover increased municipal costs the year after the Ames retired. Now on a retirement income, the Ames realized they could no longer afford to pay the taxes on all of their property. They discussed subdividing their property, but also explored other options that would allow them to keep their property while lowering their taxes.

Ultimately, they decided to enroll in the Tree Growth Tax Program, which values their property from a tree growing standpoint instead of for its development potential. The property was reassessed at $150 an acre, the current standard rate for an acre of mixed hardwoods. Compared with the regular assessment of $2,000 an acre, the Ames were able to reduce their property tax burden dramatically.

The Tree Growth Tax program requires a minimum of ten acres for enrollment. Those enrolled in the program must hire a licensed professional forester to develop a forest management plan for the property and be willing to cut some trees for commercial sale. At first, the Ames were reluctant to do this: they thought enrollment in the program meant they were required to clearcut their property or that a timber harvest would leave a mess. They also didn't like the idea that someone else would tell them what to do on with their property.

The Ames were able to put soil and water conservation into practice, improve wildlife habitat for some species, protect sensitive ecological areas, improve recreation opportunities, enhance the beauty of their woods, lay in a two year supply of firewood, reduce their property taxes and realize some income from their property. Is their situation unusual? Not at all.

After consulting with a licensed forester, they discovered that the overall health of many trees was declining because of the age and number of trees on their property. Many poplar were old and had broken tops. Some were safety hazards. The white pine, which they liked, was getting crowded in by the red maple. They also found they could make some income by removing some trees while improving wildlife habitat for many species at the same time and still keep the woods looking much the same. Because they were not interested in any kind of commercial activity near the house, they decided to put twenty-five of their thirty acres into Tree Growth.

Following the woodland management plan put together by their forester, they contracted with a logger to remove six cords per acre on each of the twenty-five acres in Tree Growth while leaving the vernal pool and the areas around the stream untouched. They marked two snags to leave standing for wildlife and left downed trees for drumming sites for ruffed grouse.

Working with their forester, who negotiated with the logger, they had some red maple and birch taken out for their own use as firewood, then sold the logger some white pine and other species which he sold to the sawmill to make railroad ties. The stumpage, or the amount paid to them for the standing trees, was $4,500.

The tree harvest was done when the ground was frozen to avoid creating ruts and muddying the stream. Care was also taken so remaining trees were not damaged by logging equipment. Slash collected into four foot piles serve as hiding places for some wildlife and nesting sites for wild turkey. The forester, logger and landowner also worked together to lay out skidder trails that could be used for cross country skiing trails after the logging operation was finished.

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property taxes and realize some income from their property.

Is their situation unusual? Not at all. This is a common example of a thirty acre parcel of mixed hardwoods with some softwoods found near many towns throughout the state. Depending on landowner interests, many more opportunities for recreation and income exist — from woodland wildflower gardening to growing specialty mushrooms and herbs — opportunities that are compatible with woodland management and conservation minded goals.

The actions the Ames took not only benefit them, but they also help keep a piece of land truly rural — a characteristic that is intrinsically associated with the woods and fields of Maine. Their conscientious protection of soil and water helps keep the stream from being polluted and helps regulate water levels downstream.

The decision to put two thirds of the property in Tree Growth does not cost the town money in lost tax revenue. The state reimburses the town for 90% of the difference. Furthermore, the property supports only one household, instead of a dozen or more. There is no cost to the town for providing sewage and water, mitigating increased stormwater run-off, increased road maintenance for heavy traffic, or other costs associated with increased residential development.

WildAcre: A Traditional Residential Development in the Woods

On the other side of the field from the Ames is WildAcre, a new housing development on thirty acres that is similar to many that have gone up in Clamville and surrounding towns. Clamville has a two acre minimum lot size. They decided on this with the intention of keeping the rural feel of the area and providing privacy to homeowners. The development has thirteen two-acre house lots, with four of the thirty acres either too wet or too steep for building. All thirteen houses are set back from the access road and from each other, so each house is located more or less in the middle of each lot. Each is a four bedroom house. Most houses are surrounded by some lawn, with the woods beyond. It's a typical development set-up, with a loop road allowing easy access for emergency vehicles like fire engines.

Two acres, three acre, even five acre lots are too small for timber management, too small to provide much wildlife habitat and too small to protect watersheds or rural views.

What do trees have to do with this, except that they provide privacy from the neighbors?

The soil of this property acts differently than on the Ames property. Where there are tree roots and shrubs, it continues to serve as a natural sponge by soaking up rain water and releasing it slowly. Rainwater that hits roofs, driveways and access roads acts differently: some of it runs off into the stream, taking some soil, drops of motor oil, lawn chemicals and other particles and deposits then in the stream where they become pollutants — which affects some small wildlife that are, themselves, food sources for larger forest wildlife. Lawns do not function the same way as forest or shrubby areas, either. They are not effective sponges, but act like green asphalt. Most of the water that falls on a lawn runs off. Wooded areas soak up, store and release up to fifty times more water than neatly tended lawns *(Arendt, 1999)*.

Some woodland wildlife require small territories and thrive on small properties, but many need larger areas to do their daily jobs of living and raising a family. The white-tailed deer, for example, find WildAcre development attractive and feed in backyards, but they also use the creek corridor to cross the open field on the adjacent property to return to the Ames woods. Deer, in fact, seem to fair well enough in a patchwork landscape of woodland development, as do raccoons, skunks, squirrels and some birds. Chickadees and goldfinches come to feeders at WildAcre, but scarlet tanagers and some other birds no longer find favorable nesting habitat at WildAcre.

There is no longer enough moist shade in the woods for frogs and salamanders to thrive in the vernal pool on the property. Snags and down trees understandably needed to be removed due to safety concerns, but their removal also diminished wildlife habitat.

Many of the residents of WildAcre would prefer a larger property and the other benefits that the Ames enjoy, but they can't afford it. So they enjoy the field next to the development, the rural look of the Ames property and their own backyard gardens that they tend on weekends.

In the interest of maintaining the rural character of the community, the town passed an ordinance with a two acre minimum lot size. WildAcre developers followed the rules and built it. Are 13-lot subdivisions even appropriate in a town trying to retain rural character? Unintentionally, Clamville encouraged sprawl to spread across the landscape while losing the rural character they sought to maintain. Two acres, three acre, even five acre lots are too small for timber management, too small to provide much wildlife habitat, too small to protect watersheds or rural views, too small to do much but create a checkerboard landscape of houses and house lots — each indistinguishable from the next.

A simple build-out analysis would have shown what the development would cost the town compared to how much revenue it would generate. If you do the math, the message is clear: standard style subdivisions cost the town money. Increased taxes are the typical result.

And what can you do about it, anyway? Stop building houses in the woods? That's probably not going to happen.

Drumlin Woods: A New Kind of Subdivision

Some development is inevitable, but it is possible that woods and natural resources can be conserved and used at the same time. It's worthwhile to look at the town in a more comprehensive way and to put planning and zoning into the bigger picture of community vitality. Will this cost the town in revenue, the developer in profits and lower the value of real estate? The answer is no: just the opposite. Conservation planning in development design is easy to implement, saves municipal money, invites developers since they are likely to recognize higher profits than with conventional residential development design, and often results in increased equity, and an increased sense of community.

Picture a view of a field, a pond, or the woods out your front window, with no buildings obstructing the view. Picture a private backyard with trails that lead around thirty acres of woods, taking advantage of much the same woodland features enjoyed by the Ames: wildflowers, turkeys, clean streams, cross-county skiing, hiking, bird song and chorusing frogs.

Sounds good. How does it work?

A thirty acre parcel *(twenty-five acres of woods and five acres of field)* in Blodgettville, the next town down the road, was planned by a developer with a vision that a conservation-style residential development would also look good if it was planned well, and that house lots would sell well at premium prices. The town's zoning ordinance called for a density of nine dwellings per twenty acres. Based on traditional subdivision design, a wet area unsuitable for building would be removed from potential development, resulting in thirteen house lots of approximately two acres in size on twenty six acres of land.

But the Blodgettville subdivision ordinance allowed for smaller lot sizes without a change in density. In other words, the developer could create house lots that were smaller than two acres, but he still couldn't put more than thirteen houses on the twenty-six acres. To achieve a high quality new style subdivision, the developer followed four basic steps to conservation subdivision design layout as outlined in *Growing Greener: Putting Conservation into Local Plans and Ordinances* by Randall Arendt *(See Additional Resources for more information)*. A summary of Arendt's process follows:

Steps to conservation design

▸ *Step One:*
Identify Conservation Areas

This property is fairly flat, with young poplar, cherry, white birch, gray birch, balsam fir and alders growing in the damp area. Most of the property is old pasture land that grew up into medium to large sized poplar, gray birch and white birch. Recent winter storms broke many poplar branches. A dense thicket of shade-tolerant spruce, partially shade-tolerant balsam fir and white pine are growing up beneath the sun-loving hardwoods. None of the spruce and fir are taller than 25 feet high, and most are spindly due to the crowded growing conditions.

Old stone walls that used to border field edge-rows run through woods that have grown where fields used to be. An old white pine with a dead top growing next to one of the walls was standing when this property was a farm field instead of woods. Three acres of hemlock at one back corner of the property marks the edge of a larger hemlock stand located on the neighboring property.

Identified conservation areas include the damp area and the hemlock stand, which is part of a larger deer wintering area that is also important habitat for wintering birds. Several big white pines on the property are important wildlife trees while the poplar provides wildlife food sources for many species in the winter, from cedar waxwings to ruffed grouse.

▸ *Step Two:*
Layout House Sites

Once these conservation areas are identified, the location of house sites comes next — with the intention of keeping as much wooded property as possible, while still creating a quality development. House sites are situated to maximize enjoyment and access to the conservation areas in the development, promote a neighborhood feeling, maintain privacy, and take advantage of good views.

▸ *Step Three:*
Layout Streets and Trails

Streets are drawn into the design while minimizing the impact on the conservation areas. Access for emergency vehicles such as fire engines, which require minimum road surface width of twenty feet and two routes of access in and out of the development, are also taken into account.

▸ *Step Four:*
Drawing in Lot Lines

Finally, lot boundaries are drawn. Since this development will not rely on public water and sewage, each lot must be large enough to accommodate a well and a septic system. The average size is three quarters of an acre, resulting in thirteen dwellings with a total 9.75 acres developed — leaving approximately twenty acres undeveloped.

What does Drumlin Woods look like?

Flexibility in the subdivision zoning ordinance allowed developers to situate house sites to maximize views and sunlight. Each home has an unobstructed view of the woods or the field. While Drumlin Woods house lots are smaller than on the standard subdivision lots at WildAcre *(3/4 acre lots at Drumlin Woods compared to two acre lots at WildAcre)*, the adjacent open space of woods and fields makes the property feel expansive. And it is. Twenty acres of the development remain undeveloped and are protected by a conservation easement, held by a local land trust that was brought into the process by the developer. The entry road into the development skirts the edge of the field like a country lane and exits through the woods, providing access for emergency vehicles from two points. No houses border the entry road. The field beside it is home to bluebirds, swallows and dragonflies. Designed intentionally to keep both the feeling of a rural landscape and to keep the quality of the open space intact, the entry road is an important aspect of the appeal of Drumlin Woods.

Trees and shrubs planted within one hundred feet of houses are non-evergreen — which are less likely than evergreens to ignite or spread a wildfire.

Following guidelines for reducing forest fire hazards in planning a new development, trees and shrubs planted within one hundred feet of houses are non-evergreen, thus less likely to ignite or spread a fire. Also in accordance with Maine Forest Service recommendations, houses are not located in the woods. Instead, a space or "fuel break" of open ground separates the houses from the full woods. National wildfire prevention experts often recommend a large fuel break be maintained as a mowed lawn, but the less volatile woods in Maine call for more moderate measures that balance safety, erosion control, water retention and other values. As a result, the backyards in Drumlin Woods subdivision are a mix of fruit trees, hedges, wildflowers, traditional landscaping and smaller mowed lawns, depending on the interests of individual homeowners.

During the process of turning these thirty acres into a development, the developer hired a forester to thoroughly evaluate the standing timber on the property with the aim of taking out valuable timber while keeping the aesthetic value of the woods. Skidder trails were located so they could later be used

for walking trails. The forester worked with the logger and the developer to harvest wood from the future house sites and the conservation area while increasing the overall health and beauty of the woods, increasing non-motorized access into the woods, and retaining and creating some wildlife habitat features. After the timber harvest was finished, the skidder trails were seeded with a wild plant seed mix that grew grass-like over the trails, making them attractive walking paths that also provide forage for some species of wildlife. This neighborhood trail network was part of the subdivision design and provides residents of Drumlin Woods access to a walking trail that wanders through most of the twenty acres of undeveloped land.

Drumlin Woods subdivision feels open, uncrowded and private — as if each resident had a house next to a private woodland. Essentially, they all do.

What are the advantages to the town?

Since a conservation subdivision is based on the same density as a standard subdivision, the tax revenue the town receives is the same — but the costs of municipal services go down. The conservation design requires less roads than a conventional development, resulting in less road maintenance and plowing in winter. Since less land is converted to asphalt or to lawns, less stormwater runs off. The water that does run-off is caught by specialized vegetation in the field area and is naturally filtered on site. Sewage can be handled by individual septic systems, reducing the need for town sewage.

The open space in Drumlin Woods, which is a combination of the field and woods, provides a noise and sight buffer between residents and the traditional rural pursuits on the property next door. The buffer makes for good neighbors. Residents of Drumlin Woods and the farmer next door have avoided a common conflict: the noise of early morning farming machinery and the smell of manure — typical conflicts that are often brought to the town to resolve.

The town is in the process of revising its Comprehensive Land Use Plan to map out conservation green areas town-wide. This map will be used as a guide for development. Potential connecting "greenways" from one development to the next will hook up with undeveloped town and other publicly owned properties to provide ribbons of wooded and natural areas that benefit the town by providing recreation and ecological values and by reducing municipal costs. Conservation subdivisions like Drumlin Woods also provide cost-free open space to the town, even though the woods in the subdivision are only available to the homeowners. If other subdivisions follow conservation design methods of development, the open space provided to residents will take some of the pressure off the town to be responsible for buying and maintaining parks and woods on its own.

Blodgettville benefits from the rural look and character of Drumlin Woods: visitors and residents alike find it attractive. Beyond its aesthetic appeal is the municipal savings associated with less stormwater runoff, less town sewage services, less road maintenance, more wildlife habitat and more recreation opportunities right outside the back door.

What are the advantages to the developer?

The developer is in a better situation with Drumlin Woods than if he had followed standard subdivision designs and put the same number of houses on larger lots. The number of house lots is the same as in a conventional development, but there is less land to clear, less earth to move and fewer roads to build. Less stormwater run-off means smaller and less expensive solutions to stormwater disposal, too.

Since many environmental concerns were addressed up front in the actual subdivision design, this fostered a better working relationship between the developer and the town. The developer also put the trail system, field and other open space features in before he sold house lots. In this way, he was able to use these features to market the lots. The Drumlin Woods lots, with views of open space and access to a trail network, sold faster and for more money than comparable lots in WildAcre *(conservation subdivision house lots sell for approximately $5,000 to $15,000 more than those in conventional subdivisions)*.

What are the advantages to the homeowner?

Homeowners benefit from the conservation planning done by the developer. They have views of woods and fields, not houses. They see butterflies, fireflies, wildflowers and songbirds in the field and have access to woodland trails right outside their doors. The landscape looks developed, but still feels rural. The layout of the subdivision encourages a sense of community feeling, as neighbors greet each other on the trails, but privacy is not compromised. Due to these assets, home equity increased more

in a shorter period of time than it has for comparable homes in WildAcre. People want these homes: the open space feature is a hot commodity.

What are the advantages to the environment?

Many of the benefits to the environment in Drumlin Woods are the same as on the Ames property. The development has intact wildlife habitat large enough to support a variety of species. Wildlife travel corridors and migratory habitat have been left undeveloped, thus retaining a critical link in the "greenway" system. Less stormwater runs off Drumlin Woods because it has less asphalt and less area in lawns. The result is greater water quality protection in brooks, rivers and lakes, and superior recharge of underground acquifers. If more subdivisions like Drumlin Woods are built throughout the town of Blodgettville, the result will be less fluctuations in above-ground and below-ground water levels which will result in less potential flooding and less impact from drought.

The St. Christopher Town Forest

The town of St. Christopher owns a forty acre property of mixed northern hardwoods — primarily oak, birch and red maple. Some large white pines and some poplar also grow on the property. The St. Christopher Recreation Department makes decisions about the forest, but many community groups use it, including the local snowmobile club, a bird watching group, the nearby elementary school and a horseback riding club. In the past, trails have been haphazardly maintained.

It had been many years since timber was harvested from the property. Many poplar and oak with broken limbs became a hazard to trail users after a recent winter strorm, so the Town Recreation Department decided it was probably time to cut some trees. The town consulted a logger, who offered them $2000 stumpage for the biggest trees on the property. Unsure if this was a good value, the town manager mentioned he had seen a "Call Before You Cut" bumper sticker on a pick-up truck that suggested calling the Maine Forest Service for advice before harvesting timber.

A Maine Forest Service field forester visited the town forest and suggested the town consider hiring a licensed forester to help them before hiring a logger.

After assessing the property and taking into account the objectives of the community user groups, the licensed private forester prepared a woodland management plan that outlined what the town needed to do to balance the objectives of the user groups (recreation and education) with safety, a sustainable wood supply over time, and improvement of the overall ecological conditions of the woods.

Since trees were older and grew close together, the growth rate of the trees was very slow. Many short-lived species, like gray birch and poplar, were nearing the end of their life spans. Due to broken tops and broken branches caused by winter storms, they also created safety hazards that needed to be removed. The licensed professional forester recommended an improvement cut that would take out most of the broken poplar and birch and some of the unhealthy oak and red maple. Taking into consideration the aesthetic value of the woods, the licensed professional forester suggested encouraging the stately red oak in the stand, while keeping a diversity of sizes and species of trees that would provide wildlife habitat for woodland birds, including some snags that did not pose a safety hazard. The improvement cut would amount to removing about six cords of wood per acre to be sold as pallet logs and saw logs. She suggested no timber be harvested from about three acres that were covered with a thriving population of dainty lady slippers in the spring, since the increased sunlight coming through the canopy of the woods might be too strong for the flowers. The overall result of these forest management practices would be a healthier and more diverse forest that also looks good.

In the interest of minimizing the visual impact of a timber harvest, the forester recommended a mechanized operation where trees are cut to length by the harvesting equipment and processed for transport in the woods. This required smaller skidder trails than a conventional logging operation and did not require a large open landing for loading and hauling. She also recommended the logging operation be done in winter when the ground was frozen in order to reduce the risk of erosion and sedimentation of a stream that runs through the property. Since logging equipment must cross the stream, the logger planned to build a sturdy temporary bridge to cross it. The forester advised the town to secure a permit from the Maine Department of Environmental Protection that would allow them to keep the bridge after the timber harvest was finished, and incorporate it into their trail system.

Under supervision from the licensed professional forester, the logger used existing trails for harvesting equipment and created new ones when necessary. After the harvest was completed, new trails were seeded with a conservation seed mix that grew to a grassy path that looks good, stabilizes the soil and created forage for wildlife.

Under the management plan developed by the licensed forester, users of the town forest found their recreation opportunities enhanced. The forest continued to serve its important functions of water retention, regulation and soil stability. Wildlife habitat improved for many species. The forest was healthier overall, and the town can look forward to income from another timber harvest down the road while knowing they are working to increase the use and health of the woods.

There was no economic need, either, to take the best and leave the rest. The town received a $2000 stumpage payment from the logger for the timber removed in an improvement cut — the same amount of income they would have received if other objectives, like recreation, weren't considered. They also have a much healthier woodland as a result.

The result is a town forest with filtered shade cast by stately red oak. Star flowers and hepatica bloom in the understory in the early spring and the calls of May songbirds come from the treetops and the thickets. Late spring and early summer find a magical grove carpeted with ferns and pink lady slippers. Horseback riders used to muddy the stream when they crossed it, but the bridge they now use keeps the water clear. School children took on the school project of creating a nature trail on one of the newly created and seeded woodland trails. The town approached the winter snowmobile club and the summer horseback riders to see if they would be willing to voluntarily maintain trails during the season of their heaviest use. They agreed to do so. The result of well-informed decision making about what the forest offers and how to best enhance those values, combined with an effort to involve the community user groups who had an established interest in the woodland, led the community to enhance a previously ignored natural area into a showcase woodland that is now a valuable community resource.

The Street Trees of Haskawamkeag

Like many Maine towns, the streets of Haskawamkeag used to be lined with stately elm trees that shaded and added regal beauty to the town. After the elms succumbed to Dutch Elm disease in the 1970's, the town planted red maples in their place. Unable to tolerate winter road salt, the red maples also died and were removed. The area where street trees grew was replaced with concrete and the streets of Haskawamkeag stood naked, with no protection from wind and grit in winter or from the hot summer sun.

A local member of the garden club initiated a renewed interest in town street trees. He read a short newspaper article about grants available from the Maine Forest Service to start-up local community forestry programs, clipped it, and brought it to the next garden club meeting. The garden club decided to contact the Community Forester at the Maine Forest Service to see if they could get money to plant new street trees. They discovered they could do much more; the town of Haskawamkeag could apply for a grant that would pay for professional guidance in how to choose appropriate trees for the town, how those trees fit into the overall picture of the town, how to plant and care for them, and how to assess the health and life spans of existing street trees and trees on town property. This would allow the community to look at the layout of town trees in the whole community, and approach tree care and planting from a town-wide perspective. Some money was also available to pay for tree planting, but the town would need to pay for watering and share the cost of maintenance.

Armed with a vision of the cool shaded streets they remembered from childhood summers, key members of the garden club approached town selectmen with this information. Selectmen were not particularly interested. The red maple plantings had been an expensive failure. Other towns that planted evergreens in concrete containers to avoid problems with road salt had run into vandalism problems. A less-than-model citizen had cut down one container grown spruce and used it as a Christmas tree until the theft was reported and the tree was confiscated as criminal evidence.

Members of the garden club encouraged town selectmen to look into the idea further, and they agreed to do so if garden club members were willing to do the legwork. The garden club members agreed.

Maine Forest Service Community Forestry Program
Provides information and assists communities in forming local tree care programs. 1-800-367-0223

In talking further with the Maine Forest Service community forester, the garden club discovered a long list of benefits that street trees and trees on public property could offer the town. They were surprised to find that trees could effectively reduce the cost of heating and cooling municipal buildings. The garden club also received guidelines for writing a grant proposal to start a Community Forestry program in Haskawamkeag. Selectman inquired if garden club members were willing to draft a grant to secure the start up money from the Maine Forest Service. They agreed. Selectmen reviewed the grant request once it was drafted, made a few changes and submitted it to the Community Forestry Program of the Maine Forest Service.

Haskawamkeag received an $8000 grant from the Community Forestry Program of the Maine Forest Service to do the following:

- Hire a consultant to do an inventory of existing street trees in the community, assess areas to see if they were suitable for planting new trees, and assess the town's objectives in regards to caring for street trees. The consultant compiled this in the Haskawamkeag Community Forestry Management Plan.
- Cover the initial cost of planting trees.
- Cover 50% of tree maintenance.

The community forestry management plan identified the town's primary objectives of planting street trees as *(1)* to enhance beauty of town streets *(2)* to reduce stormwater run-off and *(3)* to provide shade and reduce heat on Main Street. An inventory of existing street trees showed that many were growing old. They provided maximum shade, but they were also nearing the end of their life span. Main Street and main side streets had no street trees at all; the area where elms and maples grew was paved with wide concrete sidewalks when the trees died.

Towns shaded by street trees tend to attract shoppers for longer periods of time. While they linger, they tend to spend money.

The Haskawamkeag plan recommended planting several different tree species to minimize the risk of a disease or insect epidemic wiping out all of the street trees. Efforts initially focused on replacing trees on Main Street and the main side streets. The plan recommended that trees be planted far enough back from the curb to be out of reach of road salt and plows. On Main Street, the plan recommended that every fourth square of concrete in the middle of the 15 foot wide sidewalk be removed to create a row of street trees that would be far enough away from the curb to avoid salt and plow damage and far enough away from shop doors to keep from impeding entry. Within a year of bringing up the idea at a garden club meeting, Main Street was lined with green ash, hawthorn and maples 8-10 feet in height.

The Haskawamkeag community forestry plan also suggested the town establish a citizens tree board to review information and make tree care recommendations to the selectmen. Garden club members and other members of the community joined together to form the board. In addition to recommending a maintenance and water schedule that was adopted by the selectmen, the tree board held an informational meeting with the chamber of commerce to introduce the benefits that street trees have on local commerce. As a result, the chamber agreed to donate $2,500 for street tree maintenance.

Tree board members introduced an "Adopt-a-Tree" program to Haskawamkeag middle school teachers and students during Arbor Week in May. Pairs of students were assigned to adopt a tree and learn all they could about that species. Two enthusiastic students adopted red maple *(Acer rubrum)*. They found that it provides food for wildlife in every season of the year, wood for cabinetry and fine colonial-style furniture, and firewood for heating. While not as sweet as sugar maple, red maple can also be tapped in the spring to make maple syrup. As a result of their assignments, these and other students began to look at the trees they investigated with a friendly and protective regard.

Street and shade trees fared well from the choices made by the town to hire a consultant and establish a tree board. The consul-

tant's recommendations on which species to plant and where to locate them, combined with a maintenance and watering schedule that was drafted by the tree board and administered by the town, show results. Thriving maples, hawthorn and green ash line Main Street and side streets. Within a year, stakes and guy wires supporting the transplants were removed and this new generation of town shade trees approaches fifteen feet in height. With proper pruning, watering and other maintenance, these trees will add stately beauty and grace to the town as they grow, while offering a host of other unseen benefits — such as attracting visitors to stroll, linger and shop at a leisurely pace. The town of Haskawamkeag is well on its way towards clothing its streets with trees and reclaiming the beauty and charm of its downtown area.

Yesterday, Today and Tomorrow

We can't go back to yesterday and we aren't standing still. We have a choice what the future looks like in our towns and the time to make those decisions is right now. We can have WildAcre subdivisions laid out across the woods and hills we love, or we can work with community groups, landowners, developers and town decision makers to create vital communities while balancing our demands with those of the land. We can create comprehensive plans and ordinances that balance working forests with woodland developments, woodland preserves with recreation areas, traditional forest based occupations with high tech industry, and street trees with retail commerce. We can protect and use our woods and water and the natural resources associated with them. We all — homeowners, town officials, developers, contractors, citizens and visitors — stand to benefit from incorporating the green infrastructure of our state into long term planning.