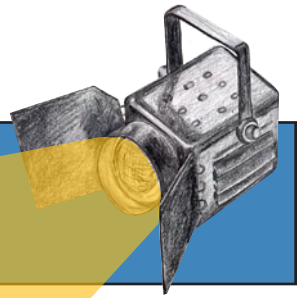
SPOTLIGHT: RIVERMEDE FARM



To highlight some of the inventive ways in which farmers are utilizing land in the Adirondacks, Adirondack Harvest, a community organization dedicated to farm advocacy, has produced *Three Farms*, a documentary that showcases three farms in the region. One of which, Rivermede Farm in Keene Valley, serves as a particularly interesting model, due to its geographical location.

Being situated in the heart of the high peaks region proves challenging for farming, as cold air from the mountains drains down into Keene Valley, keeping the area particularly cold for a longer period of time than other parts of the Park. However, Rob Hastings of Rivermede Farm has been fruitfully experimenting with season extension techniques such as greenhouses and high tunnels in order to capitalize on the area's rich lake bottom deposit soils. Rob's next ambition is to transition to using geothermal and solar-powered greenhouses to allow for year-round production.

Photos courtesy of Adirondack Harvest

Rob says that he believes in the "trickle up system," that is, starting small, making reasonable investments based on what you can afford, and then reevaluating and expanding from there. He started with just a rototiller and one acre and has now expanded his cultivation to a manageable three acres for vegetables, and twenty-seven more acres devoted to sugar maples for syrup to complement the produce sales. Rivermede sells their products through a farmstand and to local restaurants.

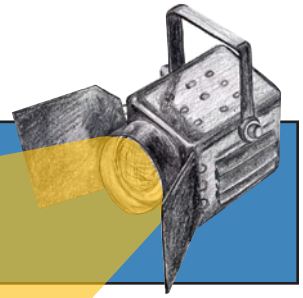
2006 marked the land's one hundredth anniversary of being in the Hastings family as a working farm. Rob is the third generation to be working the land, which has seen dairy, poultry, and vegetable production throughout the years.

"I find there's nothing better in the world and nothing more satisfying than knowing I'm supplying the food to my village and surrounding area and that they're not having to eat something that's trucked in from across the country or from way down south. I can still provide for them here. It's very satisfying and you become very proud of it, too." — Rob Hastings

Rob (second from the left) and his farm crew in front of the high tunnels in mid-summer.

AGROFORESTRY

ENCOURAGING FRUITFUL COMBINATIONS IN THE FOREST



SPOTLIGHT: UIHLEIN SUGAR MAPLE RESEARCH AND EXTENSION FIELD STATION

Working at the Uihlein Sugar Maple Research Station in Lake Placid, New York, Cornell Cooperative Extension has been experimenting with agroforestry practices for nearly fifteen years. While most of their work focuses on sugar maples, there are also twelve locations spread over the 200 acres in which maples are coupled with ginseng, an herb whose root can be harvested for medicinal purposes. The pair coexist amicably; the ginseng grows best under maple trees in their moist, rich soils, where they are well-shaded and can find nourishment in the calcium of the fallen maple leaves. The field station's primary focus is research and education, so the combination is used for demonstration purposes only and the ginseng is not harvested. However, the fruitful coexistence of the two species illustrates agroforestry at its best: the ginseng is able to grow in a niche that does not affect the sugar maples' development, and the two (if harvested) are collected at different times of the year (ginseng in September and maple syrup in March).

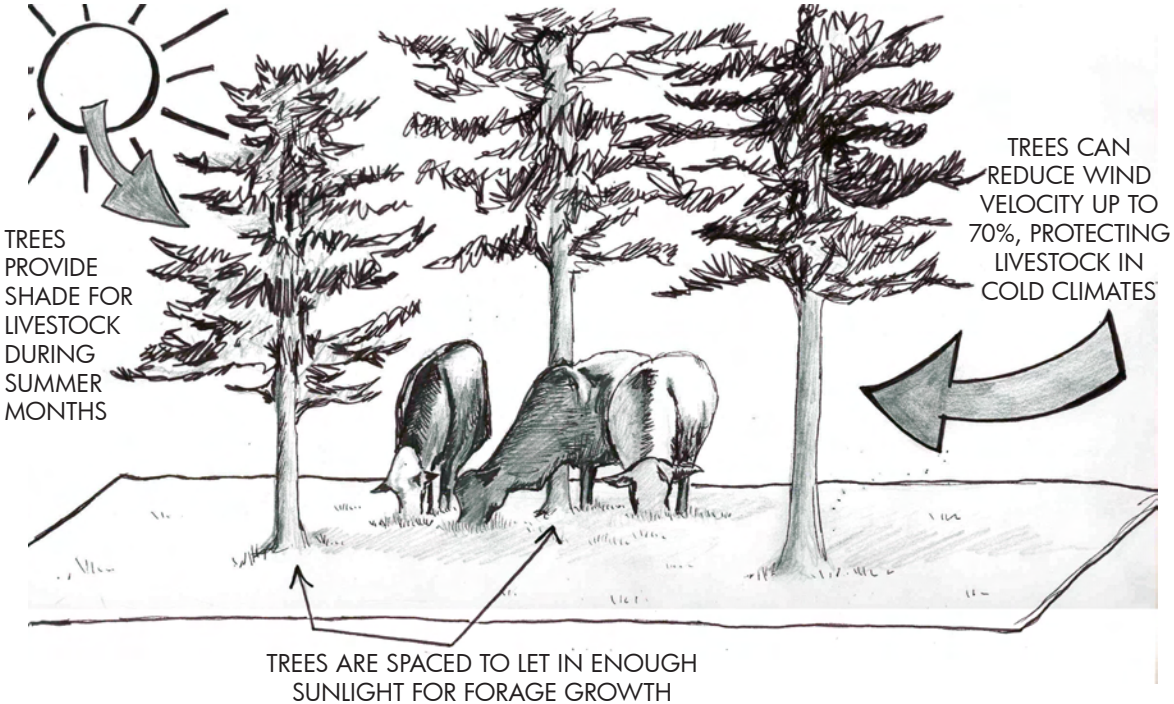
Photos courtesy of Bob Beyfuss

Close-up of ginseng growing at the base of a maple tree

Ginseng in a maple grove

Agroforestry is a land management practice that allows for multiple uses of the same acreage, producing a greater total yield from any given plot. The arrangement utilizes the forest's vertical nature, maximizing growing space by encouraging growth all the way from the top of the canopy down to the soil's surface. While there are obvious economic benefits to a multi-purpose plot, agroforestry also fosters mutually beneficial relationships amongst the land's inhabitants. Strategic placement of trees, for example, can control erosion and provide wind protection and shade for livestock, crops, and buildings. Depending on a farmer's individual goals, sustainable management of the forest can generate lumber and other wood products or produce fruit and nuts that can be made into value-added products and also supply wildlife food and habitat.

Typically, agroforestry involves a mix of woody perennials and herbaceous crops. Sometimes farmers will combine animal husbandry with forestry practices, a technique known as silvopasture. In silvopasture, trees allow for sun and wind protection and ample forage for the livestock, while the livestock can help control weeds and fertilize the soil to support the trees' development. The farmer tends to the animals and the trees and they in turn provide a wide diversity of products (from meat to dairy to nuts and fruit) year-round, making the endeavor profitable and viable. Both the land and the selected species must be thoughtfully considered in order for the arrangement to be a success. For instance, cows will disturb woodland plant species and compact the soil more than smaller animals (such as pigs or chickens) and might also eat the young saplings of trees. Also, if one were to place cows in an apple orchard, one would have to be careful to pick up fallen apples because eating too many could make the animals sick. Agroforestry thus requires a commitment to attentive management of all aspects of a given system (be that trees, animals, or understory growth) in order for the venture to work. However, given thoughtful consideration, utilizing agroforestry practices adds to the quality of life for the trees, the understory, the animals, and the farmer.



Combining crop trees with pasture land can provide an additional source of income for farmers through selective cutting for timber and pulp wood or the harvesting of fruits and nuts, while also providing benefits for livestock and wildlife.

SUSTAINABLE FORESTRY

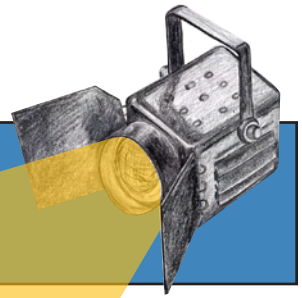
MANAGING FORESTS FOR TODAY AND TOMORROW

Sustainable forestry is practiced across the Adirondacks so that forests can meet present needs without compromising the needs of the future. Sustainable forestry maximizes quality of life for forests, their owners, foresters, and loggers. Foresters who use sustainable forestry techniques grow and harvest trees for useful products, but they also care for the forest's soil, water, air quality, and biodiversity.

In contrast to "high grading" practices, which repeatedly harvest the tallest and strongest trees, leaving behind a stunted and genetically inferior forest, sustainable forestry practices mimic the natural conditions under which trees have evolved. By manipulating the size of openings that are created when trees are harvested, foresters can mimic natural disturbances, such as wind throws or fires. Different sized openings affect the amount of light that reaches the forest floor and therefore determine what kinds of trees will regenerate. For example, very small openings will encourage shade tolerant hemlock and sugar maple, while large openings will encourage oaks or spruce which cannot tolerate as much shade.

Foresters who use sustainable management techniques are increasingly opting to have their forests certified through independent monitoring organizations. Wood certified for sustainability sometimes commands a premium price and certification is a prerequisite for trading forest regeneration credits on the two major American carbon exchanges.

SPOTLIGHT: RCPA SUSTAINABLE FORESTRY PROGRAM



The Resident's Committee to Protect the Adirondacks' (RCPA) Sustainable Forestry Program has helped certify over 11,000 acres of sustainable forests in the Adirondacks since 2002. The RCPA works in partnership with SmartWood of Richmond, Vermont, to certify forests that are owned by Adirondack residents under the largest sustainable forestry certification program in the world, the Forest Stewardship Council's certification. Twenty-eight private land owners have used the program to create forest management and timber harvesting plans that are ecologically, economically, and socially sustainable. The RCPA's focus on private land owners is significant because approximately one million acres of Adirondack forests are held by non-industrial private owners.

Kim La Duke, of Bloomingdale, recently certified his 246 acres. He described his motivations for certification this way, "Some wring their hands at adversity decrying the lack of outside intervention. I believe that each individual must do their part. For my part in this world of globalization, I harvest timber and other products for the local economy, share my opinions with any who are willing to hear, and manage my forest with maximum carbon-sequestration as a byproduct" (RCPA, 2007). La Duke uses single-tree selection harvesting techniques, manages for beech bark disease, and controls for deer browsing to help maintain a healthy forest.

The RCPA Sustainable Forestry Program also creates a market for certified wood by connecting local wood-product-using businesses to sources of locally-grown certified wood. The RCPA program helps wood products businesses obtain Chain-of-Control certificates that allow them to advertise when the products they sell are FSC certified. Consumers can then make informed purchasing decisions that consider how wood was grown and harvested.

ECOSYSTEM SERVICES

CAPITALIZING ON NATURAL PROCESSES

Ecosystem services, such as water purification and carbon sequestration, are beginning to be valued in economic markets worldwide. The best available estimates show that the services provided by Adirondack ecosystems are worth billions of dollars (Wilson, 2004). Capitalizing on them could have major implications for the Adirondack economy.

Three business models for capitalizing on ecosystem services are emerging:

1. Direct payments: resource managers are compensated for maintaining ecosystem services

What are Ecosystem Services?

An ecosystem is a community of plants and animals that interact with each other and their physical environment, which includes physical and chemical components like soil, water and bacteria. Ecosystem functions include the interactions of living organisms and the flow of non-living materials, like air and water. When ecosystem functions benefit humans they are called ecosystem services (Daly, 2004). Ecosystem services fall into four categories:

Provisioning	Regulating	Cultural
food fresh water wood and fiber fuel	climate regulation flood regulation disease regulation water purification	aesthetic spiritual educational recreational
Supporting		
nutrient cycling, soil formation, primary production		

2. Certification: labels help customers make informed choices

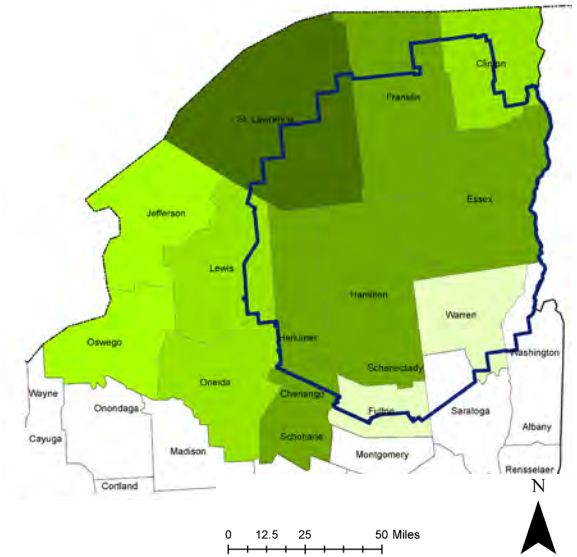
3. Tradable permits: new rights or liabilities for natural resource usage are created and the owners of the rights and liabilities are allowed to trade them (Bishop & Timberlake, 2007).

Direct payments have been put into practice in Costa Rica where the government pays private landowners for carbon sequestration, watershed protection, biodiversity conservation and provision of scenic beauty (Daily & Ellison, 2002). Direct payments have also shown up in the Adirondacks, where through conservation easements, owners of lands are paid when they sell the development rights of their land to protect its ecosystem, or other, services.

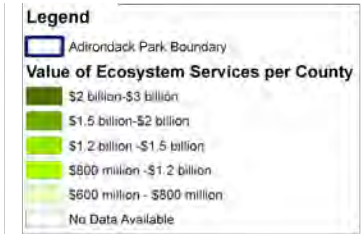
Certification is taking place in Adirondack forests, many of which are certified for sustainable forestry, and on farms, which can be certified for organic production.

Tradable permits are an emerging market with huge potential. The establishment of the Kyoto Protocol created a global carbon trading market. By 2006, the global carbon trade was already estimated at $30 billion (Bisop & Timberlake, 2007). Across the United States, wetland banking shows the potential of the tradable permits approach.

In coming years, tradable permits for carbon sequestration by forests may be a major source of revenue for the Adirondacks. Water may also be an emerging market if global climate change affects drinking water supplies.



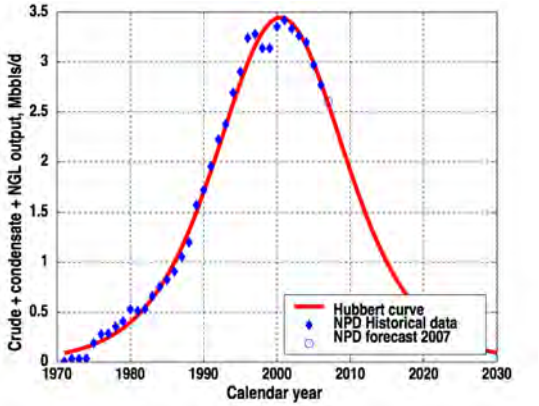
ECOSYSTEM SERVICES
Adirondack ecosystems services are worth billions of dollars.



ALTERNATIVE ENERGY

LOOKING TOWARD AN ENERGY-EFFICIENT FUTURE

It is an important moment in time. With oil reaching almost $110 per barrel, Al Gore's movie *An Inconvenient Truth* a hit, and George W. Bush announcing the "Clear Skies and Global Climate Change Initiatives," the country is beginning to comprehend what peak oil and global climate change mean to our nation, our towns, and our homes. No one knows precisely what the future ramifications of these trends will be on the Adirondacks, but already the effects are palpable. The price of gas is above $3 per gallon, making driving long distances to work and amenities less and less affordable, and those who heat their homes with oil, electricity, or propane are seeing their heating costs rise.



Hubbert Curve predicted the "peak" of oil production, after which point the price of fossil fuels will continue to increase as supply declines.

The Adirondacks, however, have assets that will help them cope with these changes. They have sunlight, wind, soil, lakes, and rivers. They have existing dams. They have the largest deciduous forest in the lower forty-eight states. These assets can all be turned into energy in the form of solar, wind, hydroelectric, geothermal, and biomass.

So what can Adirondack residents do *now*? Retrofitting and building energy efficient green homes is discussed on page fifty. Alternative transportation is discussed on page fifty-six. Nurturing local businesses that will supply residents with goods when transportation costs render importing products impossible is talked about on page seventy-six. In the following pages on alternative energy, windpower, hydroelectricity, and biomass are explored.

Many individual local residents are already embracing these principles, installing solar hot water heaters in their homes, or using geothermal energy to heat and cool their businesses. On a Park-wide level, partnerships are emerging to examine how the Adirondacks might confront peak oil and global climate change. The Energy Smart Park Initiative was created in 2005 to promote and facilitate energy conservation, efficiency, and wise use through the deployment of sustainable technologies and a diverse set of research, economic incentives, and educational programs.

In addition, the Energy Smart Park Initiative has formed partnerships in upstate New York, forming a bridge between the Center for Excellence in Syracuse to the west and the Saratoga Technology and Energy Park to the east.

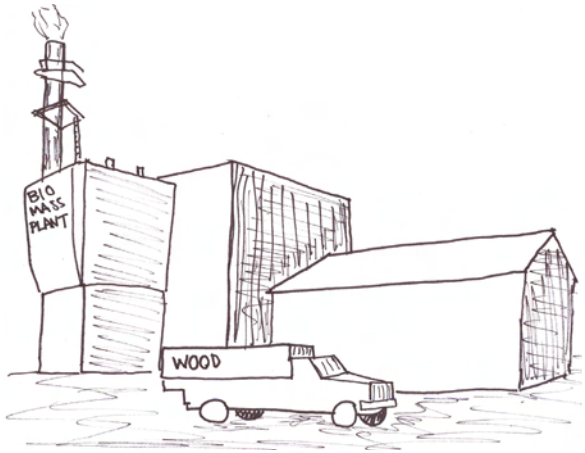
Domestic applications of wind and solar are increasing nationwide.

BIOMASS
ENERGIZING FORESTRY

The Adirondacks can take advantage of the national interest in renewable energy to build a better energy future for themselves, and the nation, by investing in biomass.

Biomass includes any biological material that can be burned to produce energy. Ethanol produced from corn has received much attention recently. For the Adirondacks, wood products like bark, sawdust and woodchips are the most promising forms of biomass for generating energy. These wood products can be burned to produce heat, electricity, or both together, which is called co-generation.

The Adirondacks have plentiful supplies of low-grade trees which are routinely removed to encourage high-value trees to grow. Historically, the low-grade wood was used in paper plants around the region. Now, after a wave of plant closings, much of the Adirondack pulpwood gets shipped out of the Park, often to Canada. Finding a use for that pulpwood closer to home would stimulate local jobs and reduce the negative effects of long distance transportation, which include fossil fuel consumption and air pollution.



Biomass could be used in local power plants. This could keep money in the Park by reducing energy bills. As Jim Mardsen, the director of buildings and grounds of a school district in Vermont that recently installed a biomass plant, says, "The cost of making one million BTUs with oil is $17. With wood, it's $5.50. That's a huge difference" (BERC, 2007).

Burning biomass also has environmental benefits over fossil fuels. Biomass is a renewable energy. It is carbon-neutral because growing trees absorb carbon dioxide, which offsets the carbon released when they are burned (Ruether, 1998). That means that biomass energy production contributes less to global warming than fossil fuel -based energy production. Also, some studies have shown that burning biomass produces fewer of the compounds that produce acid rain (Biomass Energy Home Page, 2007). By taking advantage of biomass, Adirondackers can demonstrate the feasibility of local, cheap, clean energy. If other places imitate the model, there may eventually, be a nationwide reduction in the need for the large coal burning power plants in the Midwest which have been dumping acid rain on the Adirondacks for years.

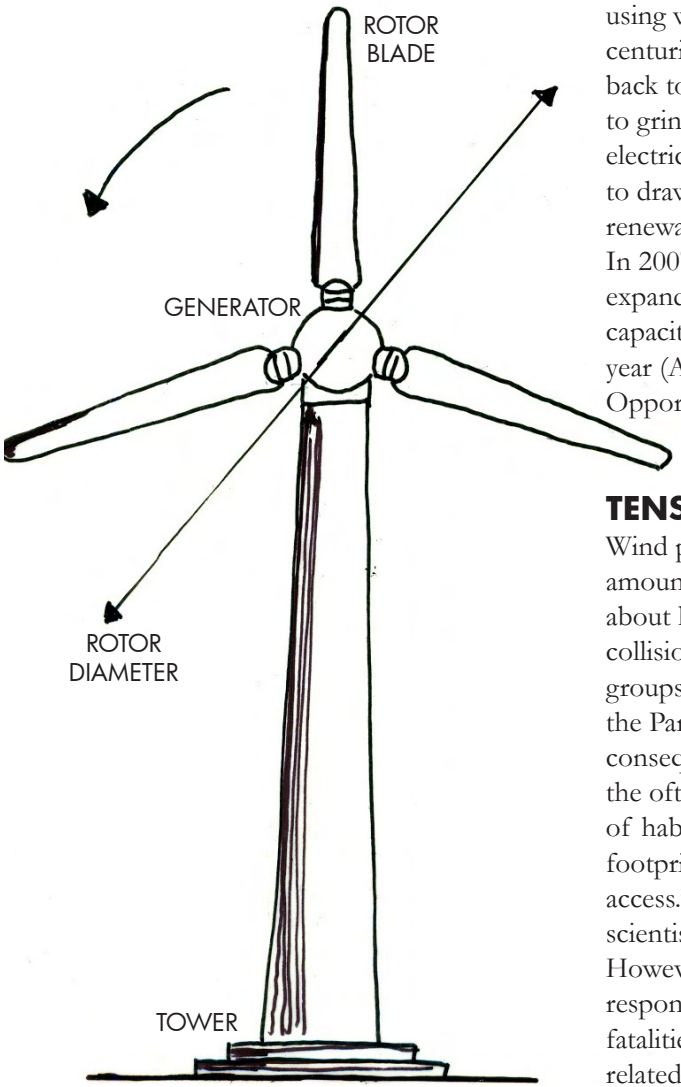
Biomass does have some potential downsides. Cutting low grade wood profitably requires large machines and big acreages (Smallidge, 2008). Over time, if biomass harvesting becomes prevalent it might change the look or composition of Adirondack forests. Although biomass pollutes less than fossil fuels, it does still pollute, and because the Adirondacks are prone to inversion that traps pollutants, Adirondack air quality might suffer if local power production grows. On the other hand, since approximately thirty percent of energy is currently lost in transmission, the efficiencies of local production might outweigh the downsides (McKibben, 2007).

CASE STUDY: FUELS FOR SCHOOLS

There is a developing niche for small-scale biomass plants that can serve institutions like schools, prisons or even small towns. Vermont has actively pursued this niche. Their *Fuels for Schools* program equips schools for biomass heat generation. Over the last fifteen years, thirty-one schools have installed wood chip heating systems. Twenty percent of all public school students in Vermont attend wood heated schools. On average, heating bills have been reduced thirty to fifty percent compared to oil systems and seventy-five to eighty percent compared to electric heating (BERC, 2007).

WIND POWER

GENERATING RENEWABLE ENERGY



Wind power is the conversion of wind into energy such as electricity. Humankind has been using wind energy in the form of windmills for centuries. Windmills in Northern Europe date back to the 12th century and have been used to grind grain, pump water, and even generate electricity. As the era of cheap fossil fuels begins to draw to an end, we are looking once again to renewable energy and in particular wind power. In 2007, the United States wind energy industry expanded the nation's total wind power generating capacity by forty-five percent in a single calendar year (American Wind Energy Association, 2008). Opportunities exist in the Adirondacks for both large and small-scale wind applications.

TENSIONS

Wind power, however, does come with a certain amount of baggage. Environmentalists worry about harm to birds and bats in the form of collisions with wind turbines. Citizen action groups worry about the scenic qualities of the Park. "There are both direct and indirect consequences of wind energy facilities, including the often overlooked impacts resulting from loss of habitat for wildlife due to construction, the footprint of the facility, and increased human access." commented Dr. Ed Arnett, conservation scientist with Bat Conservation International. However, studies show that wind turbines are responsible for very few collision-related bird fatalities. "Based on current estimates, windplant-related avian collision fatalities probably represent from 0.01% to 0.02% (i.e., 1 out of every 5,000 to

WIND POWER BEING USED TO PUMP WATER IN NORTHERN EUROPE.

10,000 avian fatalities) of the annual avian collision fatalities in the United States" (National Wind Coordinating Committee, 2001) Opportunities exist for closer collaboration between wind farm developers and scientists to promote wind energy with the least impact on wildlife. Regarding their impact on the viewsheds, one can't help but wonder if just as tourists travel to Europe to view historic windmills, will they one day visit the Adirondacks for their attractive and innovative wind farms?

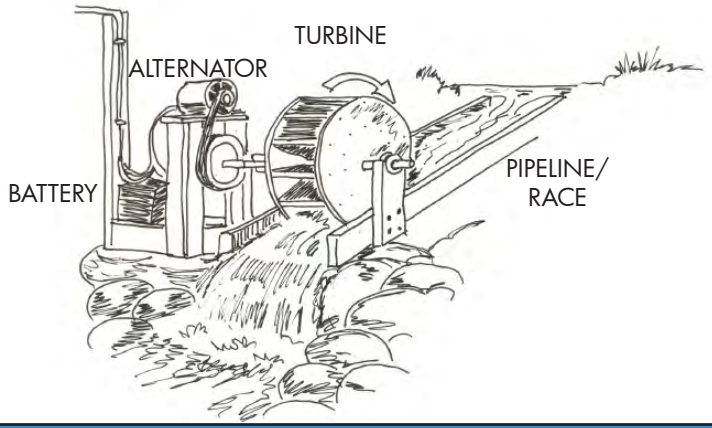
HYDROPOWER
PUTTING WATER TO WORK

In a region full of lakes, rivers, and dams, the power and potential of water has not been lost on Adirondack residents. Today water is being used to power twenty-nine hydroelectic plants, producing 260 megawatts of power (Jenkins, 2004). There is potential for increasing the amount of hydroelectricity produced in the Park. The town of Indian Lake is currently seeking a permit to construct a hydroelectricity generation facility on the Indian Lake Dam.

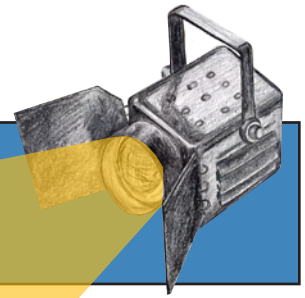
In addition to large-scale hydroelectric plants, microhydro operations can provide clean electricity to homesteads and small towns. "Hydro is the renewable energy of choice. System component costs are much lower, and watts per dollar return is much greater for hydro than for any other renewable resource" (Schaeffer, 2007).

The key element in identifying a viable site for microhydro power generation is the amount the water drops (or "head"). A small amount of water dropping a great distance produces as much energy as a great amount of water falling a small distance, but the equipment for the former is much more affordable and easier to install.

Hyropower is a function of the amount of water and vertical distance, or "head."



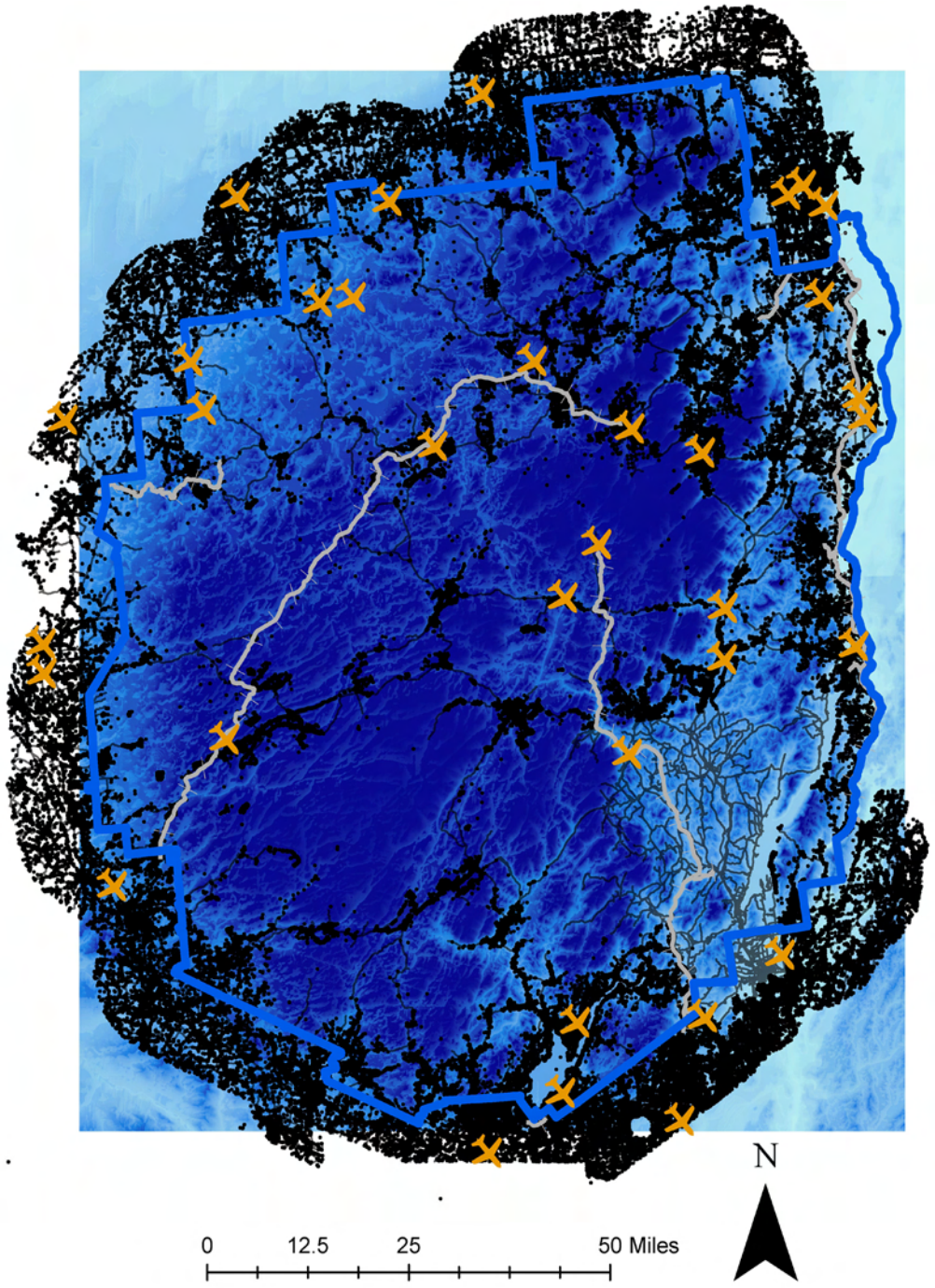
SPOTLIGHT: BEAVER RIVER PROJECT



While hydropower provides renewable energy, it can also adversely effect fish, wildlife, and other resources. To better inform consumers, the Low Impact Hydropower Institute in Portland, Maine, offers a voluntary Low Impact Hydropower Facility certification. Like "Certified Organic" labels on vegetables, this lets consumers know that the electricity they are purchasing was created without adversely affecting the environment.

The Beaver River Project northeast of Syracuse, which consists of eight hydroelectric plants both within and outside of the Blue Line, was the first hydroelectric project in the state to earn Low Impact Hydropower Facility certification. The project has an installed capacity of 44.8 megawatts, and produces an average annual generation of 197,285 megawatt-hours (Low Impact Hydropower Institute, 2008). The eight developments operate in a peaking mode, which means that water is stored and released in accordance with energy needs and subject to restrictions for environmental protection.

Beaver River Project: Moshier, New York



BUILT CAPITAL

Building development in the Park is concentrated along roads. The most dense development has ocurred where major roads intersect. Relatively dense clusters of development can be seen in the northeastern and southern portions of the Park. There is also a clear line of development running east-west through the center of the Park.

There are a striking number of airports in the Park, and there is the remnant of a once vital railroad network.

In contrast to the areas outside of the Park, which are shown here for a ten-mile extent beyond the Blue Line, the Park is quite sparsely developed and has far fewer roads.

The development patterns on this map show several micro-metropolitan areas in the Park's northeast, center, and south. These areas might serve as incubators for fostering vibrant Adirondack communities.

Legend

- Adirondack Park Boundary
- building
- roads
- railroads
- airports

BUILT CAPITAL

Built capital includes the towns, as well as the roads, railways, and airports that connect the towns. It encompasses the buildings within the towns, as well as the dishwashers and televisions within the buildings. Built capital is the grey infrastructure. It is the human-made environment.

LAND USE • INFILL • MIXED-USE • MAIN STREETS • CLUSTER • COMPLETE STREETS • COMPLETE NEIGHBORHOODS • GREEN BUILDINGS • GREEN STREETS • GREEN TOWNS • GREEN NETWORKS • ALTERNATIVE TRANSPORTATION • FORM-BASED CODES • TDRS • THE TRANSECT

LAND USE

INSURING ADIRONDACK TOWNS REMAIN "RURAL BY DESIGN"

When Randall Arendt was writing *Rural by Design* (1994), a ground-breaking text on how to build a traditional town, he went looking for traditional places. He found them in the Adirondacks. These traditional town layouts, however, are more than quaint patterns of the past. They are valuable assets, whose land-use patterns can instruct Adirondack towns today. Arendt specifically mentions the hamlet of Essex, but there are many other examples of traditional townscapes in the Adirondacks. The historical map represent the nineteenth century land-use patterns of Keeseville. Nineteenth century Adirondack towns were compact and easily crossed on foot. Consequently they preserved nearby farmland and open space.

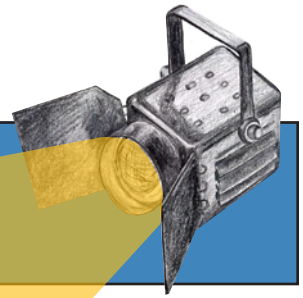
In places that have been more economically robust during the twentieth century, patterns of development associated with sprawl have crept into the Park, inefficiently using the limited lands available for development in the Park. The aerial photo is of modern day Elizabethtown, just seventeen miles from the hamlet of Essex. The patterns of excessive setbacks and excessive space between buildings, denoted by the red arrows, and extensive surface parking lots, denoted by the yellow overlays, overwhelm this landscape.

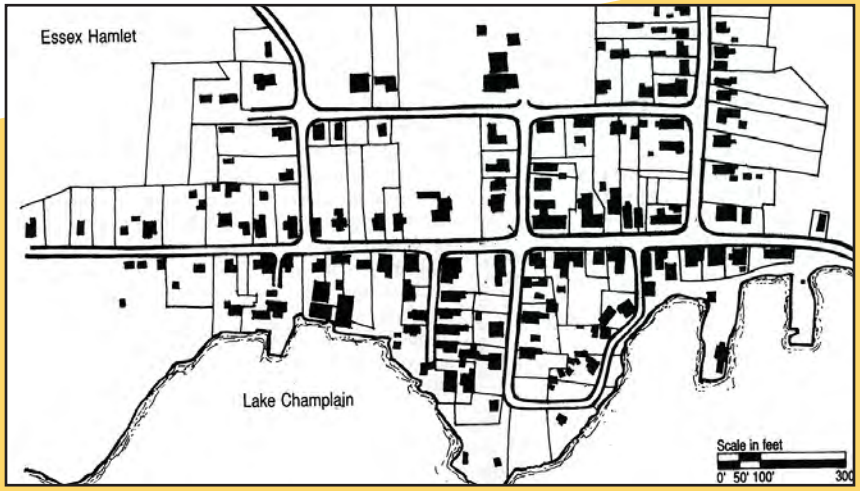
Towns and hamlets hoping to maintain their traditional land-use patterns may need a plan to keep sprawl at bay. Strategies exist at multiple scales for them to deploy.

- At the site scale, towns can employ the strategies of mixed-use development, cluster development, infill development, and main street revitalization.
- At the town scale, towns can make their neighborhoods and streets "complete."
- And to implement these development strategies, at the regulatory level, towns can adopt form-based codes and transfers of development rights.

Patterns of sprawl devour this town's rural character via excessive setbacks, distances between buildings and surface parking lots.

Spotlight: Adirondack Hamlets

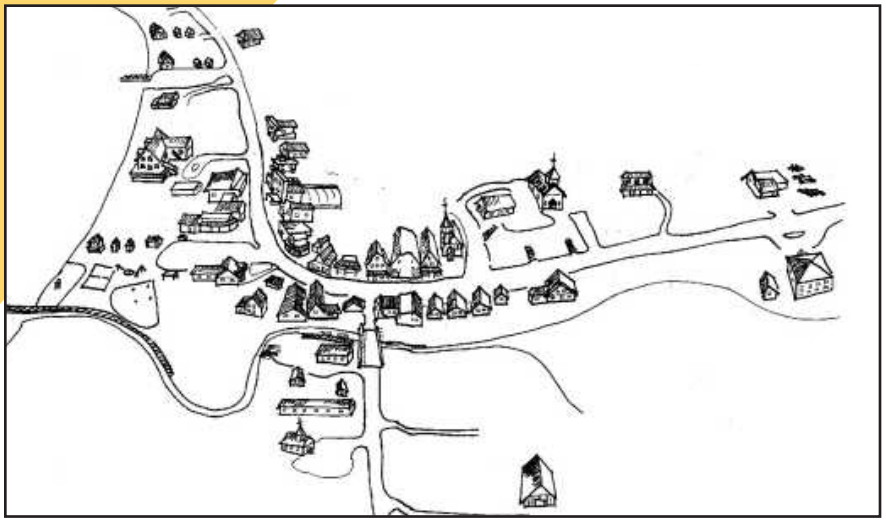




Its close-together lots and small setbacks make Essex a model for land-use patterns in the Park.

Planner and writer Randall Arendt praises Essex for "the scale and pattern of its house lots, the relation between commercial and residential uses, and the interconnectedness of the street layout." Some of these patterns are visible in the plan view drawing of Essex Hamlet on the top left. Buildings tend to front the street and there is a concentration of development along Main Street which runs parallel to the lake front. Rather than private residences dominating the lake, multiple points remain for public access to the water.

Similar land-use patterns can be found in many other Adirondack hamlets. The drawing on the bottom right, courtesy of Mitch Lee, is the hamlet of Inlet, in the heart of the Park. As with Essex, most of the development does not dominate the lake front but rather clusters along the main road. Buildings in the center of the hamlet are nestled next to each other and do not have excessive setbacks, defining the shared outdoor space and creating a sense of place.



Inlet is also a model for compact land-use patterns in the Park.

INFILL DEVELOPMENT

ENCOURAGING GROWTH WITHIN HAMLETS AND TOWN CENTERS

While the Adirondack Park Agency attempts to encourage infill in the hamlets by limiting regulation in town centers, the evidence shows that, in fact, development continues to happen outside of these areas. The current pattern of sprawl hugs roads, shorelines, and ridges, thereby fragmenting wildlife habitat, discouraging social interaction, and threatening water quality as well as the viewshed. Infill development, the practice of concentrating development in underutilized or vacant lots within town or village centers, is an alternative to sprawl. This practice saves towns money by making use of existing infrastructure, protects natural resources, and encourages social interaction and stronger community bonds.

Sprawl along roads encourages isolation and car-dependency, inhibiting interaction among residents.

Development along lakeshores contributes to non-point source pollution in the form of runoff and failing septic systems. Note the lack of vegetated buffers between homes and the lake.

MIXED-USE & MAIN STREETS

REVITALIZING TOWN CENTERS

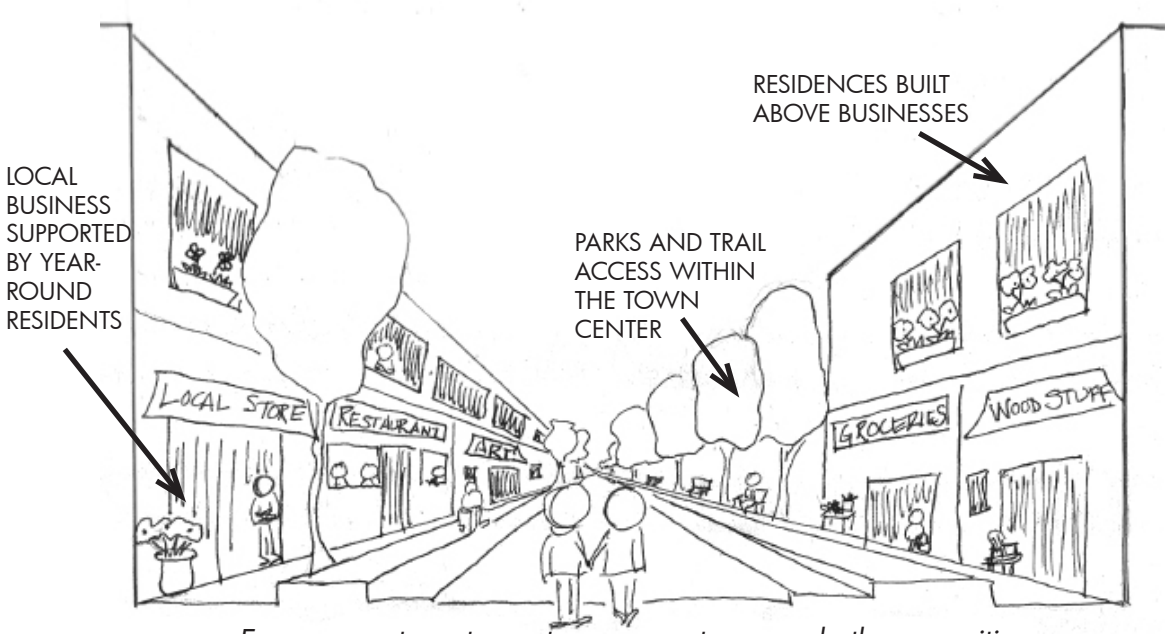
MIXED-USE DEVELOPMENT

Mixed-use development combines homes and businesses in the same building or area, either as vertically mixed-use buildings (traditional home above business scenario) or horizontally mixed-use sites. Mixed-use development allows for pedestrian access to amenities such as restaurants and grocery stores. While this may seem like a new concept, it is in fact an age-old pattern. Before the advent of cheap oil, towns and villages were organized to conserve resources and energy. Homes and businesses were concentrated in a town center, while working farms and forests sat on the periphery of the town, providing food and wood.

MAINSTREET REVITALIZATION

The main street of a small town is often thought of as the heart of the community. Pedestrian-friendly spaces that celebrate local architecture and promote local businesses, these places can both nurture and inspire pride in residents of the Park. Main street revitalization can be approached through building design, as well as streetscape and parking design. Vibrant main streets foster interaction among residents, thereby strengthening the fabric of the community.

The town of Inlet has a vibrant main street with traditional mixed-use development. Historically, store owners would have lived above their stores. Note as well the Inlet Department Store above, next to which is Kalil's Grocery Store, both examples of community fostering local business.



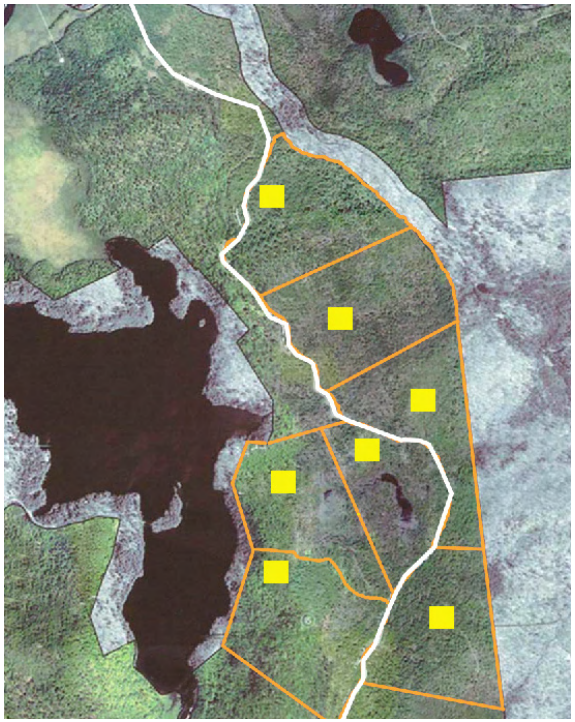
Easy access to restaurants, grocery stores, and other amenities

Photos courtesy of Town of Inlet

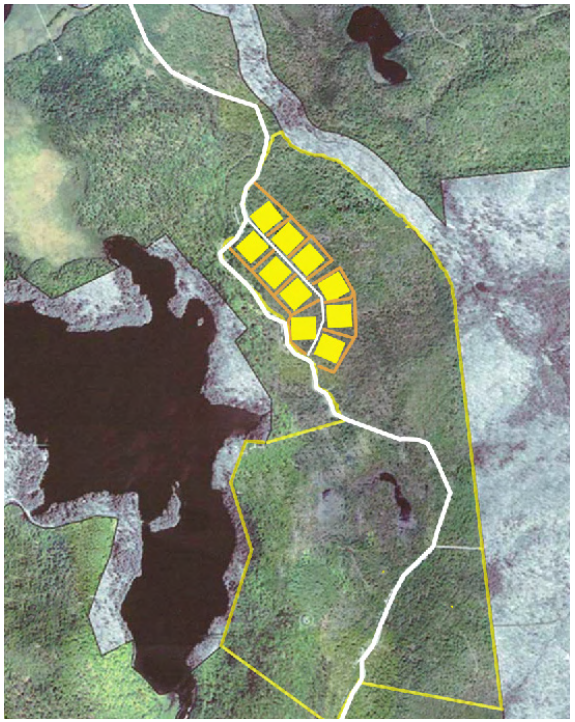
CLUSTER DEVELOPMENT

PRESERVING OPEN SPACE WHILE FOSTERING NEIGHBORHOODS

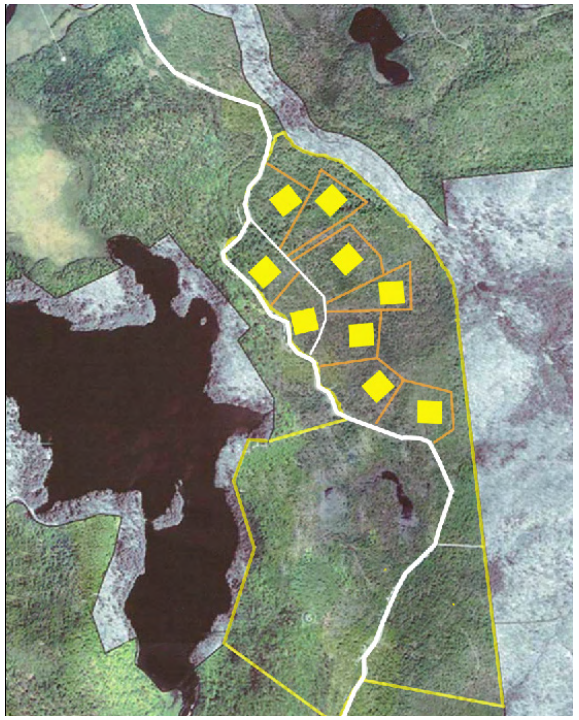
Cluster development involves arranging building lots closely on a portion of a lot, while identifying and retaining the ecologically rich portion of the parcel as open space. This practice benefits developers as it frequently allows the construction of more homes on a lot in exchange for preserving a portion of the land. It benefits the community by protecting natural resources and wildlife, and decreasing fragmentation. In addition, the higher density encourages social interaction and can foster community.



Standard Development Patterns
This development follows standard development patterns and the current zoning regulations in the Park. These homes break up the landscape and fragment wildlife habitat.



Proposed Cluster: "Eco-village"
Under this scenario, homes are clustered tightly, thereby facilitating interaction among residents and preserving the majority of the parcel. The homes are arranged linearly instead of in a typical circular cluster to preserve views of the water, and there is a trail system through the conserved land.



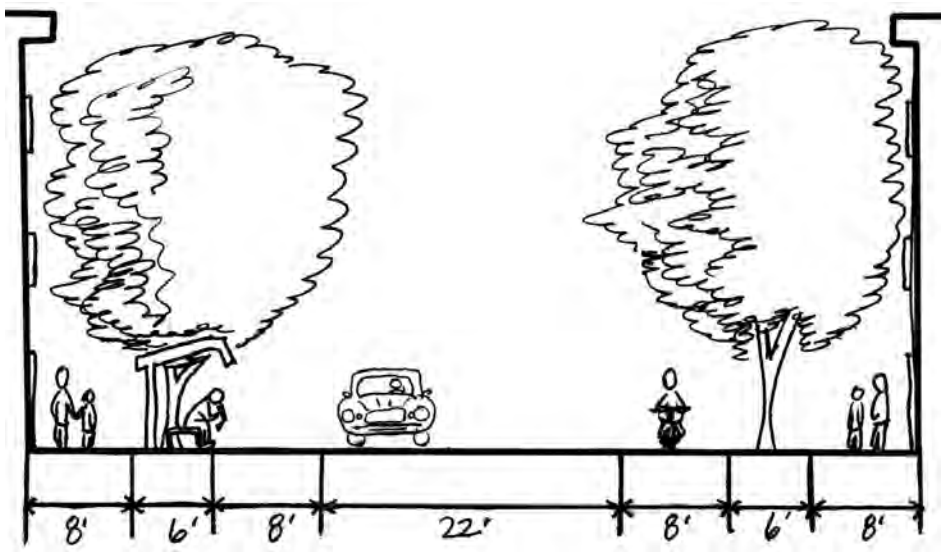
Proposed Cluster: "Adirondack Style"
In this arrangement the homes are farther apart and staggered along the hillside to provide each home with a view of the water and privacy, something that many come to the Park seeking.

COMPLETE STREETS

DESIGNING STREETS FOR PEDESTRIANS, BIKES, CARS, & BUSES

Streets are the arteries of a community. Since the 1950s American streets have been designed almost exclusively by engineers. The primary goal has been to produce fast and safe car-oriented streets. Over the years this has spawned streets that exclude other users and do not connect well with nearby land uses. Values, such as street aesthetics, lack of noise and pollution, or sufficiently slow speeds for children to play or shoppers to be enticed into stores, have often been lost.

Complete streets policies direct transportation planners and engineers to design with all users in mind. Complete street legislation has passed in Oregon, South Carolina, and Illinois and is pending at the federal level in 2008. From a social and economic perspective, complete streets create a sense of place and improve social interaction, while augmenting the value of adjacent property.



Tupper Lake main street, current

Tupper Lake main street, utilizing complete street principles

COMPLETE NEIGHBORHOODS

TAKING STOCK OF AMENITIES AND WALKABLE STREETS

Complete neighborhoods is a concept in tandem with complete streets and similar to the idea of mixed-use development. For a neighborhood to be complete it should have a full range of housing and amenities. Of particular interest to public health experts and environmental justice advocates is access to pharmacies and groceries stocking healthy food. Other destinations might include parks, schools, restaurants, banks, and libraries. The more types of destinations in a neighborhood the more complete it is considered to be.

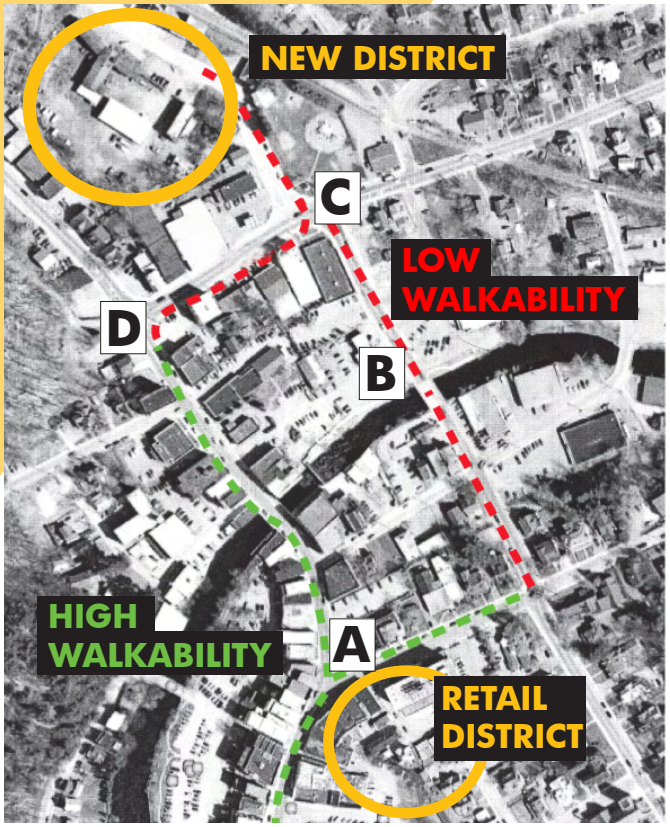
The second aspect of completeness is the concept of walkability. A neighborhood must not only have multiple destinations, it must also be easy and convenient to walk to them. Health professionals recommend at least thirty minutes of moderate exercise a day, and walking is the easiest method to meet that goal. Destinations within a quarter mile pedestrian radius of each other are considered the most walkable. However, while numerous nearby places to walk to may make a neighborhood complete, they may not be the key factors getting people on their feet. People will walk in a pleasant environment just for the fun of it. Therefore, lighting, landscaping, open spaces and other urban design considerations become just as critical to make neighborhoods complete.

The photo on the right represents Saranac Lake today. The area has many parking lots. In the retail core traditional urban fabric is not compromised by these lots, since parking is tucked behind the buildings. However, in other locations the urban fabric is somewhat compromised. Whereas adequate parking is currently critical to support downtown businesses, in a costly fossil fuel scenario, nearby residences become more critical to business survival. Whether or not the market fundamentals exist to create infill with residential developments, widening sidewalks, landscaping, and partially screening parking lots could transform Church Street into a more walkable pattern. The photograph series on the facing page was taken walking toward the emerging district from downtown Saranac Lake via the two possible pedestrian routes. The map denotes the paths. Walkability of this area is high towards the center of town (photograph A) but drops off sharply on Bloomingdale Avenue (photograph B). While the signs along Church Street (photograph C) indicate that this street is for pedestrians, the urban design and architecture do not (photograph D).

Along Main Street in Saranac Lake parking is tucked behind buildings, preserving the traditional streetscape.

If Saranac Lake hopes to maximize the number of people walking toward the emerging train station district, street improvements and infill development, especially along sections of Church Street and Bloomingdale Avenue, would aid this goal. Moreover, as car use declines, there is an opportunity for some parking lots to be converted into small plazas or open spaces. There already exist several pocket parks and pedestrian-friendly streets in Saranac Lake's retail core that can serve as models for Church Street.

SPOTLIGHT: SARANAC LAKE



In downtown Saranac Lake high walkability exists along Main Street and Broadway (in green) due to the traditional streetscape. However, low walkability exists on Church Street and Bloomingdale Avenue (in red) due to the architecture and excessive setbacks.

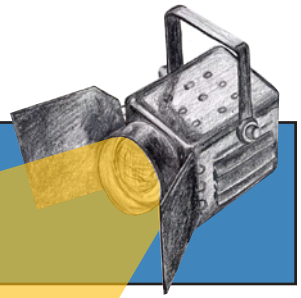
GREEN BUILDINGS

CONSTRUCTING EFFICIENCY FOR TODAY AND TOMORROW

With the threats of climate change and fossil fuel depletion on the horizon, Adirondack residents should take whatever measures they can to preserve their Park while creating new economic opportunities. Green building is a strategy that could do both. According to the United States Environmental Protection Agency, a green building uses resources efficiently from construction through demolition. "Research and experience increasingly demonstrate that when buildings are designed and operated with their life-cycle impacts in mind, they can provide great environmental, economic, and social benefits" (EPA, 2008). Traditionally, architects are the green-building experts, designing their buildings for better energy efficiency, wastewater management, waste reduction, and recyclable materials. The diagram on the following page indicates what such a building might entail.

An isolated green building, however, is of less value than a green building that is part of a green community. In a sense, green builders construct better performing structures. But for a building to perform to its highest green potential it must be working in concert with the buildings and streets around it. Thus, the efficiencies of green building could be extended to green streets, green towns and green highways that link those towns together.

SPOTLIGHT: THE WILD CENTER



When the Wild Center, a natural history museum of the Adirondacks, opened in 2006, the New York Times proclaimed " Now, … there is a chance to grasp the science behind the scenery: the complex relationships underpinning a wilderness landscape that is also a host to humans" (Kenna, 2006). The Wild Center embodies the relationship of man and nature in more than its content. Built on a recycled gravel pit and to exceptional standards, it exceeded the base LEED certification to earn a Silver distinction and is the first New York museum to achieve benchmark green building certification. The Center generates ten percent of its power from its Bio-building's photovoltaic roof array; stormwater from the roof is fed into an adjoining pond; composting toilets reduce water use; and its buildings are well insulated to reduce energy use.

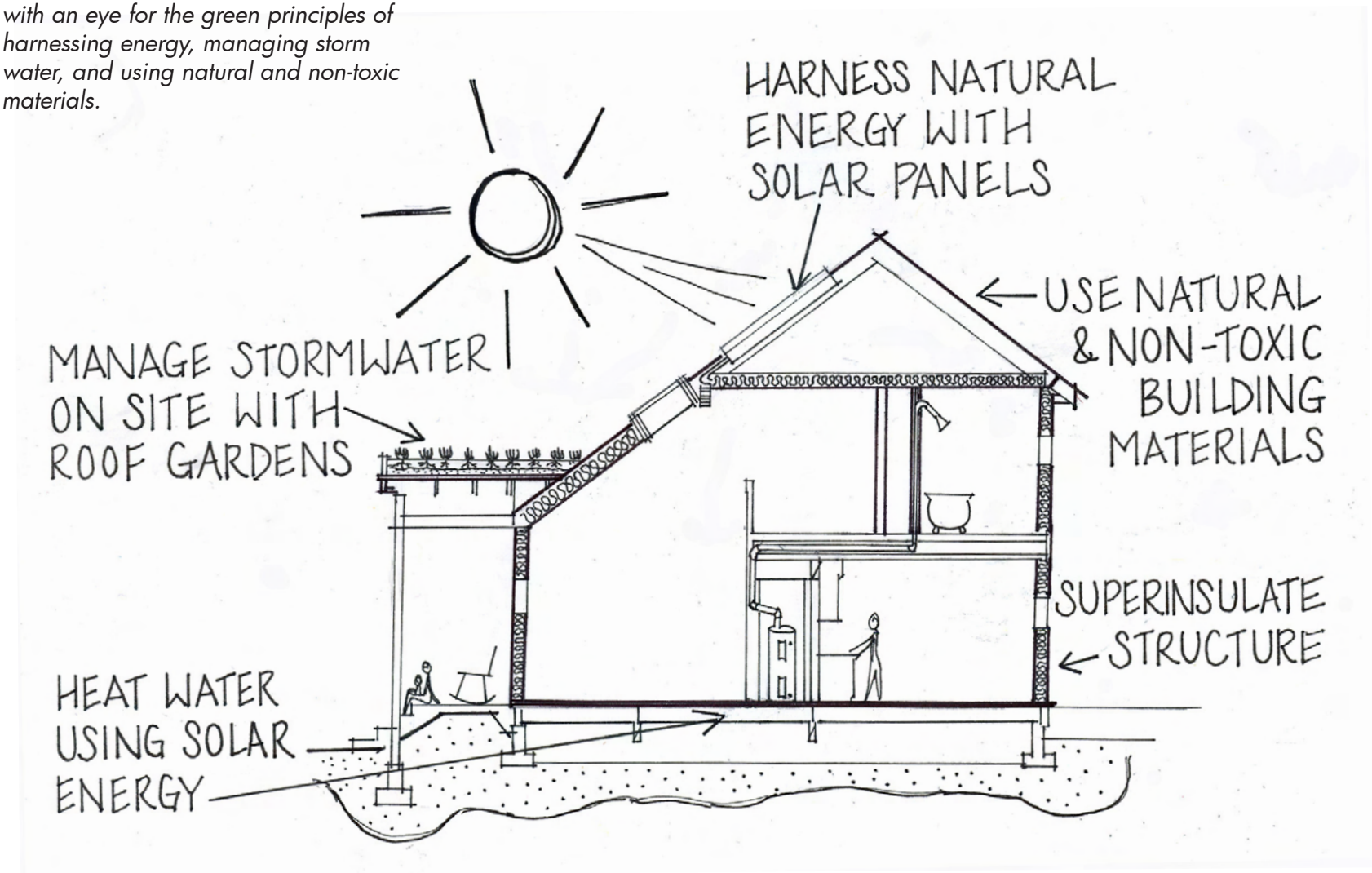
The Wild Center, Tupper Lake

Solar panels on the Center's Bio-building

The interior of The Wild Center

Photos courtesy of The Wild Center

The following graphic depicts a single family detached home, constructed with an eye for the green principles of harnessing energy, managing storm water, and using natural and non-toxic materials.



GREEN STREETS

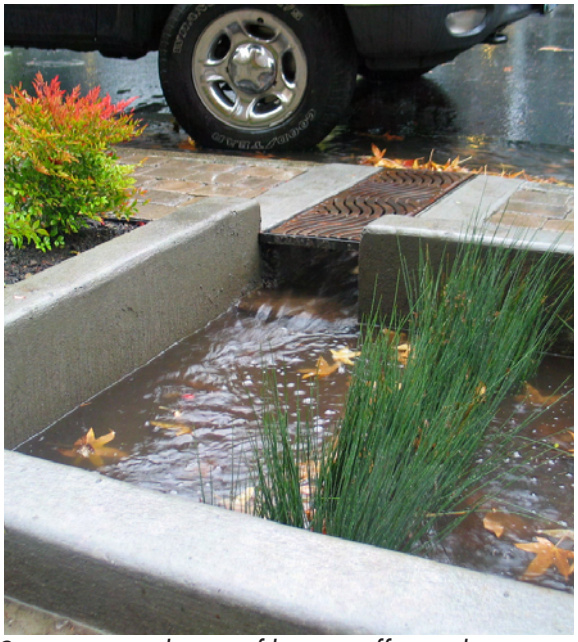
MANAGING STORMWATER RUNOFF SUSTAINABLY

Green streets call on towns to manage stormwater sustainably, keeping non-point source runoff out of water bodies. This is particularly relevant in the Adirondacks, where many towns sit on the shores of lakes. One thousand square feet of impermeable surface in Lake Placid generates almost 24,000 gallons of rainwater each year. Following the principles of green street design, this water can be captured, slowed, and filtered through the use of planters and vegetated swales. The plants in these landscaped areas filter pollutants and nutrients, and the roots, insects, and worms create spaces that can store stormwater, thereby slowing the flow of water into bodies of water.

Another way to manage stormwater is through decreasing the amount of impermeable surface in the form of roofs, roads, and parking lots. While water is not a limited resource in the northeast now, many believe that water could become scarce in the coming decades. In new construction, hamlets could utilize porous paving to allow for the infiltration of water. There are also opportunities for capturing and utilizing stormwater coming off roofs. A 2,600-square-foot house in Lake Placid generates over 60,000 gallons of rainwater each year. This water could be stored and used for irrigation. Roof gardens on public buildings and rain barrels for individual homes could harvest this water.

Finally, green streets can help create attractive, safe, and pedestrian-friendly streets.

Stormwater planters can contribute aesthetically to a street and create microhabitats for birds within town centers.



Stormwater planters filter runoff into the ground water, keeping it from being funneled into storm sewers, lakes, and streams.

Recommended plantings include low-maintenance, water tolerant natives. Planting trees is also recommended.

Photos courtesy of City of Portland Environmental Services

GREEN TOWNS
RECYCLING WASTEWATER SUSTAINABLY

"Living machine" on Interstate 89 in Sharon, Vermont. *Because this rest stop was perched atop bedrock, the state was unable to install a septic system and therefore was going to have to transport its waste elsewhere to be treated. John Todd's "Living Machine" provided an affordable alternative whereby the wastewater would be treated on site and then recycled as toilet water. This "living machine" also serves as a tourist attraction and educational tool.*

Photo courtesy Katja Patchowsky

A green town embraces the principles of a closed loop system, whereby inputs not only balance outputs but become the next round of inputs. For the purposes of this book we will focus on managing wastewater as a step towards creating a green town.

Many towns in the Adirondacks are currently struggling with aging sewer infrastructure and failing septic systems. Combined sewers, which provide partially separated channels for wastewater and stormwater runoff, are further complicated by groundwater infiltration into the sewer system. During storm events, this combination of sewage, groundwater, and stormwater overwhelms the system, causing it to discharge into the receiving lake or river, untreated. As towns look to update these systems, are there more affordable and sustainable options that also might reduce water pollution?

WASTEWATER

Greywater is wastewater that comes from sinks, washing machines, and showers. Blackwater is wastewater from toilets. Traditionally both types of wastewater are processed together in municipal sewer systems and ultimately end up, after being treated, in rivers and lakes. Greywater, which makes up fifty to eighty percent of residential wastewater, contains little to no pathogens and ninety percent less nitrogen than blackwater. This calls into question the efficiency of treating the two together. Could treating greywater separately reduce the stress on municipal sewer systems and individual septic systems, the costs to towns, and the impact on the environment? Many homeowners nationwide are installing simple greywater treatment systems in their homes. On a larger scale, companies and organizations are building greywater wetlands to manage their greywater on site.

CASE STUDY: "LIVING MACHINES"

South Burlington, Vermont has installed an innovative but increasingly popular alternative to municipal waste systems that comes in the form of a greenhouse and treats sewage from 1,600 residences. In this "living machine," solids are first filtered out, and then the sewage is fed into a series of large linked plastic tanks in which a combination of plants absorb nutrients in the sewage, bacteria and microbes on roots break down pollutants, and fish and snails cleanse the wastewater to the point that it surpasses federal EPA requirements and is fit for irrigation, toilet flushing, or car washing. Invented by John Todd of Living Technologies, these "machines" cost about half as much to install as traditional treatment plants. They don't smell, are aesthetically pleasing, and are educational.

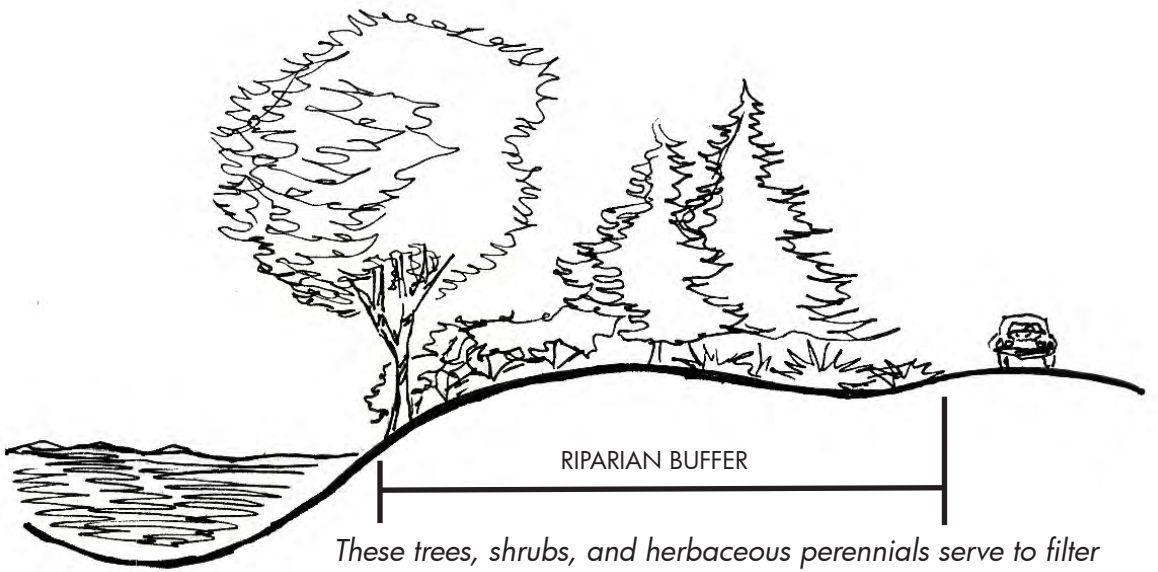
GREEN NETWORKS

INTEGRATING ROADS, WILDLIFE CORRIDORS, AND NATURAL RESOURCES

Roads bring the people in the Park into contact with each other and the landscapes. These roads bring people close to numerous waterways and wildlife habitat, and therefore can adversely effect water quality and wildlife. Green networks in this handbook refer to roads that connect people wtih nature while preserving ecological integrity in the Park.

RIPARIAN BUFFERS

Many roads in the Park hug shorelines, offering motorists the opportunity to enjoy the beauty of Adirondack lakes. However, the associated stormwater runoff threatens water quality. Protecting existing riparian buffers and planting new buffers along waterways can slow the movement of runoff, trap sediment, and filter pollutants. Riparian buffers have the capacity to remove up to fifty percent of nutrients and pesticides, sixty percent of certain pathogens, and seventy-five percent of sediment (Natural Resource Conservation Service, 2008). Strategically placed "windows" through the vegetation can be incorporated to provide views of lakes to passing motorists.



These trees, shrubs, and herbaceous perennials serve to filter and slow runoff from the street, keeping harmful pollutants out of water bodies. In addition, riparian buffers decrease streambank erosion, shade water to protect aquatic ecosystems, and provide wildlife habitat.

Left: A street in Tupper Lake with no riparian buffer to filter runoff into the lake

Right: A road, also in Tupper Lake, from which the stormwater runoff is filtered by a riparian buffer

BEET JUICE TO COMBAT SALT POLLUTION

To combat pollution caused by road salt, many towns across North America are successfully experimenting with the use of beet juice in conjunction with road salt as a de-icer. The beet juice allows the salt to better adhere to roads and work at lower temperatures, thereby allowing towns to use less salt more effectively. "In the same way the gin in your icebox has a low freezing point, so does this beet juice. Legend has it that a farmer discovered the vegetable's unique quality when a pond where he dumped his beet remains never froze" (Schlesinger, 2008).

There is potentially an emerging market for this beet juice, and the Adirondacks could step in to fill this void, enriching both their farming and manufacturing sectors.

Simulation of wildlife overpass in Adirondack Park

WILDLIFE UNDERPASSES & OVERPASSES

In addition to affecting water quality, roads in the Adirondacks impact wildlife. They can reduce the size and quality of habitat, prevent access for wildlife to resources, subdivide wildlife populations into smaller and more vulnerable subpopulations, and contribute to significant wildlife mortality in the form of car accidents. These accidents heavily impact both wildlife and humans. It is estimated that 1.5 million traffic accidents involving deer in the United States cause $1.1 billion in vehicle damage each year (Donaldson, 2005).

In the Park, wildlife overpasses and underpasses could be incorporated along major roadways. These crossings would preserve the Park's unique wildlife populations, and could furthermore serve as a tourist attraction and educational tool.

As the cost of fossil fuels rise and global climate change acts upon the landscape, what will be the effects on roads? Will roads become less used as the cost of gas rises? Will they see more car shares, hybrids, shuttle buses, maybe even bikes? And as increasing storm events act on the landscape, will roads see increased flooding? Will there be blown out bridges and culverts? What will be the cost to towns of damaged road infrastructure? Currently, the use of roads is causing much of the global climate change. "The transportation sector directly accounted for about twenty-seven percent of total U.S. greenhouse gas emissions in 2003" (EPA, 2008). This needs to be addressed by increasing fuel efficiency, exploring alternate modes of transportation, and building pedestrian-friendly townscapes that no longer rely heavily on cars for navigating life.

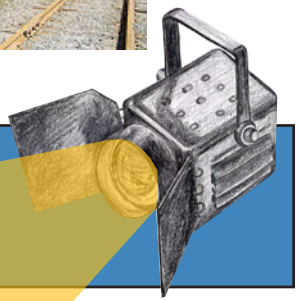
ALTERNATIVE TRANSPORTATION

EMBRACING RAIL, SHUTTLE, AND CAR SHARES

The 103 hamlets throughout the Park are isolated by miles of mountainous terrain. Someone in Long Lake might have to drive seventy-five miles to do grocery shopping. Someone in Inlet might drive over an hour to go to the doctor outside of the Park. A tourist visiting the Park from New York City would have to drive over 200 miles to reach the Park, and then another 267 miles to make a circuit of the Park that would include, at minimum, a visit to Lake Placid, Saranac Lake, Tupper Lake, Long Lake, Old Forge, and then back again to Lake George. As the cost of fossil fuels continues to rise, driving such long distances is going to be neither affordable nor sustainable.

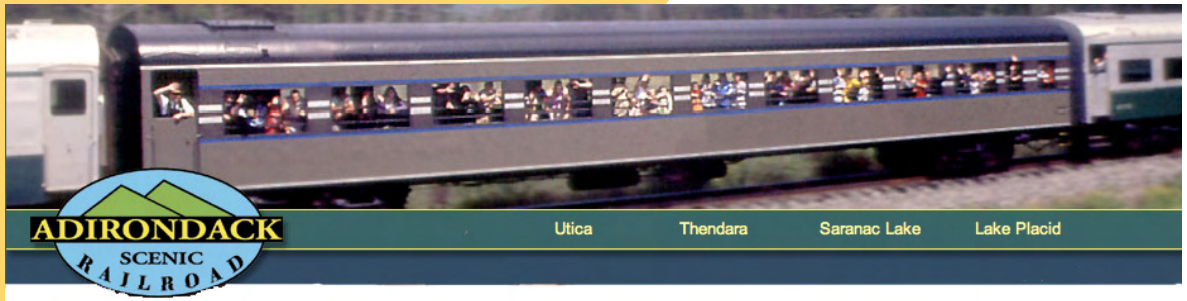
RAILWAYS

Alternate forms of transportation such as rail, once common but displaced by the advent of the automobile in the twentieth century, will once again become economical options for connecting residents with goods and services, each other, and nearby metropolitan areas outside of the Park. In addition, as oil prices continue to rise, trucking goods is becoming less economical. Railroads can haul three times more weight than trucks for the same amount of fuel. As international trade becomes less economical due to rising transportation costs, the Park will turn once again to its towns and region for goods. The development of a rail infrastructure will facilitate regional trade and the Adirondacks will be poised to supply the Park and wider region with locally produced goods.



SPOTLIGHT: ADIRONDACK SCENIC RAILROAD

In 1992 the Adirondack Railway Preservation Society was formed to revive a section of the former New York Central line from Thendara south to Minnehaha. Since then, the group has succeeded in returning nearly seventy miles of track to passenger service along the Utica-Lake Placid line. Currently, the railroad serves primarily tourists, carrying 600,000 each year. The Adirondack Railway Preservation Society aims to initiate development of rail and coordinated trail-based education and historical projects; complete the restoration of the remaining track between Saranac Lake and Carter Station, north of Old Forge; and restore service between the end points of Lake Placid and Utica.



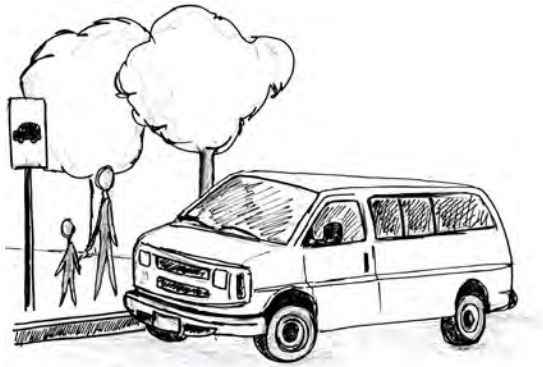
CAR SHARE

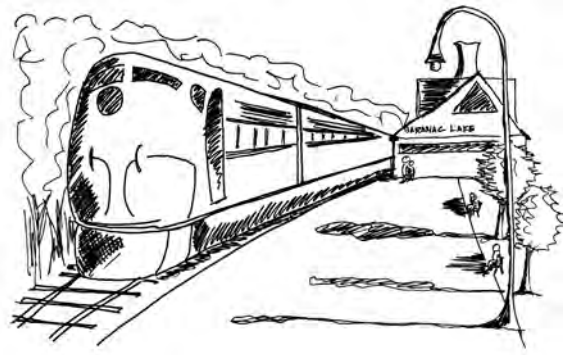
Car Sharing, launched in 1987 in Switzerland, came to North America in 1993. While car sharing has traditionally been an urban phenomena, it has begun to successfully spread into rural areas. Car shares can be tailored to fit an individual community, and can be as formal or informal as appropriate to a particular town.

So what does it take to set up a car share in a rural area? Hamlets or towns where population is centralized and people can walk or bike to the center of town. Dedicated volunteers who will help ensure that the process runs smoothly or an organization willing to sponsor the program. Someone to manage a calendar and someone to manage maintenance and repairs. Clear ground rules and respect for other members. A car.

CASE STUDY: GREEN MOUNTAIN CAR SHARE

Currently, a group in Burlington, Vermont, is in the process of launching Green Mountain Car Share with the support of the city and the University of Vermont. Unlike large cities, many residents will still want to own one car for daily commutes, but hope that car sharing might allow them to avoid owning a second car. The organization would pay for insurance, maintenance, cleaning and gasoline, while members would pay a monthly membership, an hourly fee for use of a car and mileage.





SHUTTLE SERVICE

In Yosemite National Park there is a shuttle service that connects key points within the Park to each other and to the public transportation bringing visitors into the Park. Acadia National Park in northern Maine is currently launching a program called "Car Free Acadia" which will promote alternative modes of transportation, from bike and hiking trails to a shuttle bus. The Adirondacks, while it differs in size and layout, would clearly benefit from a similar system that would preserve its viability for both residents and tourists in the years to come.

Shuttle services could be established on both a town-wide and regional basis. On the town level, a shuttle could run from the town center to trailheads and lakes, also stopping at banks and grocery stores, thereby serving both the resident population and tourists. On a regional level, a circuit through the Adirondack Park could shuttle tourists from gateway towns at the edge of the Park to a series of towns within the Park. A shuttle service on a regional level would save on gas, cut emissions, and provide for a more directed, educational, and sustainable experience for tourists.

FORM-BASED CODES

REGULATING FOR DIMENSIONAL STANDARDS RATHER THAN LAND USE

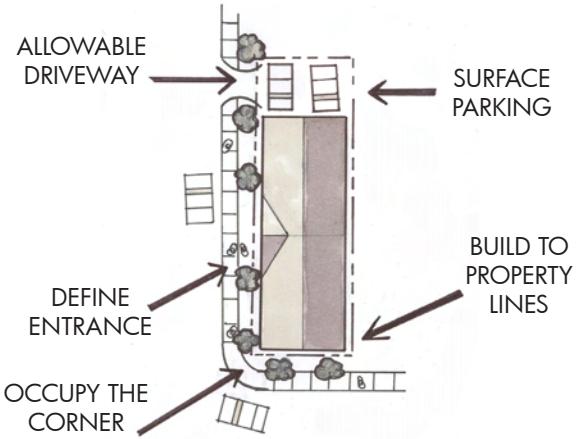
In the twentieth century, the most widely adopted land use regulatory tool has been "Euclidean" or "Building Block" zoning. The primary goal of Euclidean zoning is to keep incompatible land uses separated. Typical land-use types to be separated are single-family and multi-family residential, commercial, industrial, and in rural areas, agricultural uses. Additionally, dimensional standards often stipulate the magnitude of the development, including building density; building height; setbacks (the location of a building on the parcel); open or paved space requirements or limitations; and how much parking to provide.

Separating exceptionally noxious uses from the public may be valid policy, but the effect of strictly separating uses, as well as blanketing dimensional standards such as setbacks and parking requirements across the landscape, has created the sprawl template that has been turning every place in America into the same place. Sprawl decreases density and often creates development that does not respect the character of open space or the time-honored urban design patterns of traditional towns and hamlets.

One answer to this problem is to cease focusing on land uses almost entirely, and to start making dimensional standards, setbacks, heights, densities, and so on, that make sense for each individual place. America needs a smart code to accompany smart growth. Without a new code system, infill, clustering, and main street revitalization, are next to impossible to achieve (Duany, 2008).

These new codes are often called form-based codes since they replace the typical use categories with dimensional standards appropriate to the context of the development site. Rather than hard-to-understand codes, with abbreviations such as R-1 or C-2, form-based codes regulate via illustrations, including plan views, sections, elevations and Three-D images. Many places across the nation, from Albuquerque, New Mexico, to Arlington, Virginia, have begun replacing their standard zoning codes with form-based codes. In order to implement form-based codes the Local Government Commission, a non-partisan organization that provides information and technical assistance to local elected officials, recommends towns conduct an inventory of current form types and dimensions; conduct a public charette to gauge public opinion on community character; determine urban and architectural standards; and then illustrate the new codes (LGC, 2008).

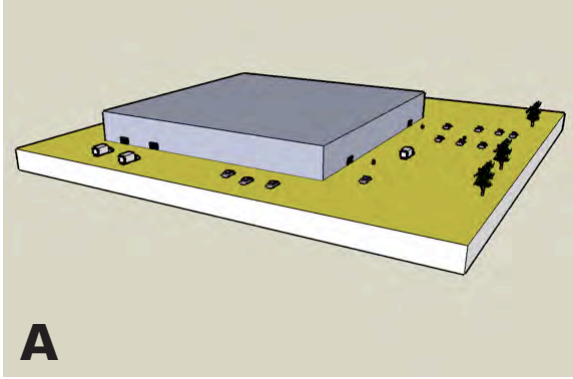
Form-based codes create a different kind of public space by fostering continuity among buildings and by defining the street and other public areas. They also prevent sprawl by increasing density. The attention to architectural detail that many form-based codes require ensures that this increased density remains desirable. The following diagrams are examples of a corner lot that one might find in a form-based code.



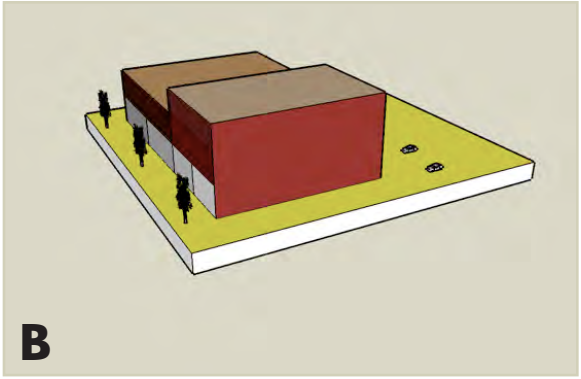
CASE STUDY: ELIZABETHTOWN

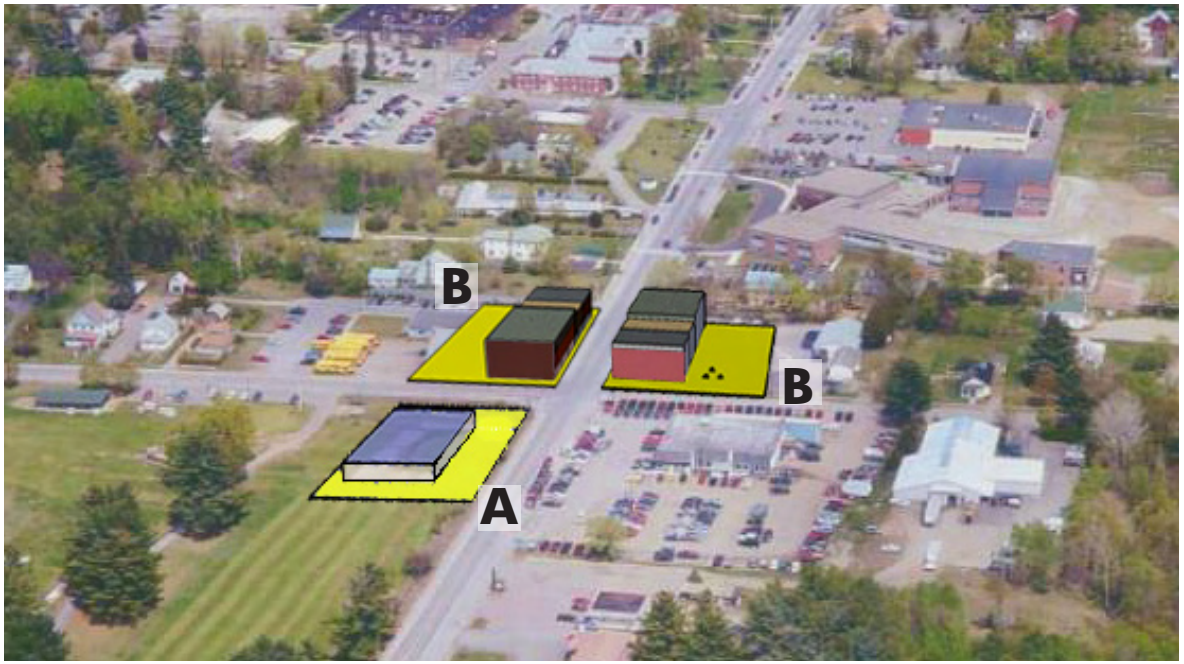
High quality "community fabric" can be found throughout the towns and hamlets of the Adirondacks. Form-based code advocates could use many Adirondack towns as templates for their codes. Places that have developed in the twentieth century with a sprawling pattern, however, such as Elizabethtown in this photo, could use form-based codes to transform their development patterns. The top set of images indicates the differences between Euclidean and form-based codes. Image A is of a roughly 100,000 square foot store on a 525 square foot block. It is set back several feet from the road. The building is also a one-story box, since Euclidian zoning often has few form requirements beyond use, parking, and set back standards. Image B is of a series of mixed-use buildings representing roughly the same commercial square footage with the addition of residential or office uses on upper floors. It fronts the road; has a height requirement of a minimum of three stories; hides its parking behind the building; requires traditional materials such as brick; and has a façade punctuated with windows on the ground floor. All these requirements regulate form without excessively confining the architect to a specific style.

COMMERCIAL PARCEL INFLUENCED BY EUCLIDIAN ZONING CODES



MIXED-USE PARCEL INFLUENCED BY FORM-BASED CODES

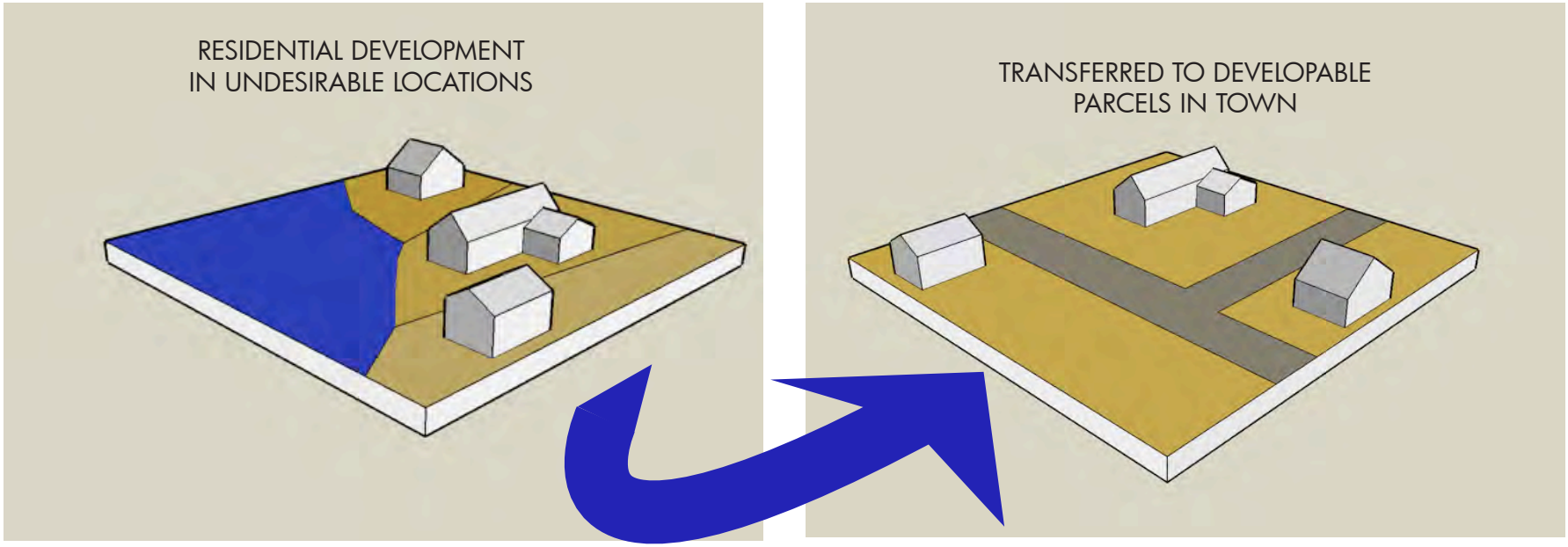




Right: Euclidian and Form-Based developments in the context of Elizabethtown

TRANSFER OF DEVELOPMENT RIGHTS

PUTTING DEVELOPMENT IN ITS BEST PLACE



Another tool for ensuring that smart growth occurs where the town or hamlet benefits most is transferring development rights (TDR). This transfer is often used to protect land and create more open space. In the Adirondacks, however, the focus could be directed toward towns and hamlets. After determining parcels within hamlets that should be more intensively developed, a community could give incentives to developers and landowners in outlying areas to sell their rights for the right to develop close in. Local governments can form a TDR bank that purchases and holds the development rights of in-town parcels for sale at a later date. Units used to determine the value of development rights are often potential dwelling units per net acre or square feet of commercial floor area.

Double TDRs go one step further by having sellers dismantle existing buildings, roads, or other infrastructure in addition to selling the parcel, for the right to redevelop in a better pattern on parcels within towns and hamlets. This is financially justified with the long-term perspective that developing in-town often produces a more rentable and higher value real estate asset. If a TDR bank is established, it could be directed specifically towards sellers willing to dismantle their real estate on a parcel the community wishes to be returned to open space. Establishing double TDR's with the Park Agency on parcels they desire to add to the Park could be another innovative means for towns and hamlets to redevelop their town centers.

CASE STUDY: LAKE TAHOE, CALIFORNIA

In the mountain resort town of Lake Tahoe, California, such a double TDR ordinance allowed the local government to remove over one hundred homes polluting the lake while fairly compensating landowners. Lake Tahoe's TDR experience is a good example for the many lake front towns of the Adirondacks. When removal of poorly developed parcels is coupled with better development in town, TDR has the benefit of not just preserving natural assets but also adding built assets that enrich landowners while building more healthy and vibrant communities.

THE TRANSECT
PLANNING FOR THE ADIRONDACK REGION

A transect is simply a drawing in section illustrating relationships between different landscape patterns. One of the first transects appeared in the bio-geographical analysis of naturalist Alexander von Humboldt in the 18th Century (SmartCode Central, 2008). By the 20th century the landscape planner Ian McHarg was also using the transect in his work to protect sensitive environments from urban development. Natural transects such as Humboldt's and McHarg's are simply cross-sections of environments, series of "eco-zones," for example, from wetland to upland or tundra to foothill. Thus, the transect's roots are in ecology (Von Holtzbrinck, 2000).

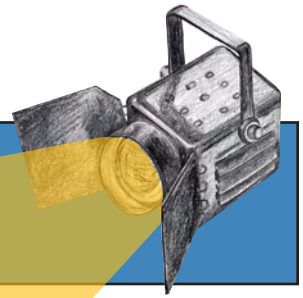
As theory about the human habitat has begun to emulate ecological theory, however, transects began appearing in discussions about the built environment. In recent years the greatest proponents of a transect of human habitat have been professional designers and planners in the New Urbanism movement. They have been creating explicit versions of transects for towns, cities, and regions around the world. What distinguishes these urban transects from natural transects is their focus. As with form-based codes, urban form is the primary means of regional organization. A typical urban transect for a region delineates where development forms are most appropriate. In other words, transects assign the dimensional standard of one size fits all Euclidian zoning to where they fit best.

Towns and regions in America have begun replacing their 20th century zoning with transect-based codes. The true beauty of this kind of approach lies in its regional orientation. Transect-based codes acknowledge that farms, towns, hamlets, and forest preserves do not exist in isolation, but blend in and out of each other's territory. This kind of regional vision, although simply a shift in planning orientation, could be very useful to the Adirondacks as the region strives to carve out a shared vision. Rather than six transect zones (T1 to T6) from New Urbanism, which focus mostly on urban core types of development, some of which are not appropriate for the Adirondacks, the illustration below is of a transect unique to the Adirondacks. It breaks the region's landscape patterns into five ideal categories: Forest Preserve, Managed Forest, Homesteads, Villages and Neighborhoods, and Town Centers.

T1: Forest Preserve *T2: Managed Forest* *T3: Homesteads* *T4: Villages & Neighborhoods* *T5: Town Centers*

THE TRANSECT

PLANNING FOR THE ADIRONDACK REGION



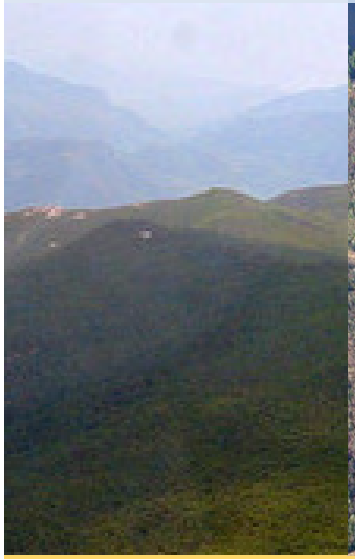
SPOTLIGHT: THE ADIRONDACKS

The Adirondack region already has models for good land use patterns that can inform the built and natural capital policies of each transect zone.

T1: FOREST PRESERVE

Form: No human structures

Use: Purely educational, spiritual and environmental



T2: MANAGED FOREST

(includes working forests)

Form: Roads pass through or access natural assets but few structures are allowed

Use: Natural asset related employment

T3: HOMESTEADS

(includes working farms)

Form: Road networks, natural landscapes and less concentrated settlement existing together

Use: Small farms, permaculture, hermits, etc.

T4: VILLAGES & NEIGHBORHOODS

Form: Smaller less densely developed than towns but more concentrated than homesteads

Use: Mostly residential developments with small service centers

T5: TOWN CENTERS

Form: Largest, most densely developed places

Use: Large service and employment centers

The following matrix indicates in which Adirondack transect zones each of the natural and built capital strategies fits best.

	T1: Forest Preserve	T2: Managed Forest	T3: Homesteads	T4: Villages & Neighborhoods	T5: Town Centers
Season Extension			●		
No-Till Agriculture			●		
Agroforestry		●	●		
Sustainable Forestry		●			
Ecosystem Services	●	●	●	●	●
Biomass		●	●	●	●
Large-Scale Wind Power		●			
Small-Scale Wind Power			●	●	●
Large-Scale Hydro Power		●			
Small-Scale Hydro Power			●	●	●
Infill Development				●	●
Mixed-Use Development				●	●
Main Street Revitalization				●	●
Cluster Development			●	●	
Complete Streets				●	●
Complete Neighborhoods				●	●
Green Building			●	●	●
Stormwater Management			●	●	●
Wastewater Management			●	●	●
Riparian Buffers		●	●	●	●
Wildlife Overpasses		●	●		
Railroads		●			●
Shuttle Services			●	●	●
Car Share			●	●	●
Form-Based Codes			●	●	●
Transfer of Dev. Rights		●	●	●	●

HUMAN CAPITAL

People are an essential component of the Adirondack Park. They build communities and care for the land; sometimes, they get paid for that work. This map shows the number of jobs in each Adirondack zip code. There is a concentration of jobs in the center of the Park, and along the northeastern and southeastern borders.

Higher densities of jobs just outside of the Park reflect higher population densities. But for Adirondack residents who live on the Park's edges the towns outside the Blue Line provide much needed job opportunities.