



We all live, breathe, raise our young, bear our losses and celebrate life in unique and fascinating diversity. The degree to which we understand and act on this fact says everything about our basic integrity, dignity, morality and sensibility, and determines in large part the core of our humanity. We are not the only species that has a right, nor do we have first right, to life, clean air, water, food and shelter. Degrading the life of one degrades the life of all others.

– Cate Cabot

*First rule for getting yourself out of a hole? Quit digging.*

Sustainability is an economic state where the demands placed upon the environment by people and commerce can be met without reducing the capacity of the environment to provide for future generations. It can also be expressed in the simple terms of an economic golden rule for the restorative economy: Leave the world better than you found it, take no more than you need, try not to harm life or the environment, make amends if you do.

– Paul Hawken

*What goes around comes around.*

We must no longer think of human progress as a matter of imposing ourselves on the natural environment. The world – the climate and all living things – is a closed system; what we do has consequences that eventually will come back to affect us.

– United Nations Environmental Programme

## Sustainability Sayings

Sustainability is a concept that has...proved difficult to define without ambiguity.

– Salah El Serafy

*An ounce of prevention is worth a pound of cure.*

You can go tell people they can't do anything about climate change, it's going to happen and it's going to cost a lot of money. Or you can say, "The cost of dealing with climate change today is about the equivalent of a couple of lattes, soy milk lattes, a week. If you wait till your children are your age, it'll probably cost you \$80 a week." That's how much difference it will make for acting today versus acting in the future.

– Dr. M. Sanjanaan

*The end justifies the means...or does it?*

Global warming is like burning your dining room furniture to heat your house.

– Larry Schweiger

*We've made a sow's ear out of a silk purse.*

Our sense of community and compassionate intelligence must be extended to all life forms, plants, animals, rocks, rivers and human beings. This is the story of our past and it will be the story of our future.

– Terry Tempest Williams

Thousands have lived without love, not one without water.

– W.H. Auden

*We're too busy mopping the floor to turn off the faucet.*

The human heart and the environment are inseparably linked together. If you think only of yourself, ultimately you will lose.

– The Dalai Lama

*Paybacks are hell.*

The integration of science into land use planning will improve both enterprises: It will make science more relevant and useful to society, and it will make land use planning more accountable, sustainable, and grounded in the real world of biophysical systems on which human society will always depend.

– Reed Noss

*Pigeons always come home to roost.*

There are no passengers on spaceship Earth, only crew.

– Marshall McLuhan

*Stop living on borrowed time.*

Let ours be a time remembered for the awakening of a new reverence for life, the firm resolve to achieve sustainability, the quickening struggle for justice and peace, and the joyful celebration of life.

– The Earth Charter

*Let's not live like there's no tomorrow.*

We have met the enemy, and he is us.

– Walt Kelly

Creating a sustainable future starts at home with the choices we make about how we live, where we work, what we buy, who we vote for and what we teach our children. But what do you consider home? The place where you were born and raised? The community where you spend most of your time? The building you and your family live in?

For that matter, what does 'family' mean to you? Is it your Mom and Dad? Brothers and sisters? Your husband, wife, children and grandchildren? Your friends and loved ones? Or does your concept of home reach out to the whole planet, and your idea of family embrace all humanity, or even beyond that – all living things?

As people realize how much our choices affect our extended family and home – Earth – we'll see that it's in everyone's best interests to make those choices responsible ones. This is our hope for a sustainable future, and here are some thoughts about how we can get there.

# Accountable to all

## Our actions will determine the future of this fragile ecosystem.

By **Nancy Taylor**  
Alliance Board Member

Sustainability means different things to different people. One commonly accepted definition is that it means meeting the needs of the present generation without compromising the ability of future generations to meet their own needs.

The clearest thinking about sustainability comes from the United Nations Earth Charter. It says: "We must join together to bring forth a sustainable global society founded on respect for nature, universal human rights, economic justice and a culture of peace. Towards this end it is imperative that we, the peoples of the earth, declare our responsibility to one another, to the greater community of life, and to future generations."

As the Conservation Alliance offers perspective on the Comprehensive Plan to its members and to the community at large, it's important to understand that we humans in Jackson Hole are but a small part of the greater global society. Our actions and decisions create a ripple effect that will not only affect the future of wildlife in this fragile ecosystem, but may change the possibility of inhabiting this region for future generations.

Sustainable development must consider the whole picture, to include all who live



Nancy Taylor

David J. Swift

and visit here: Residents, workers who commute to serve this valley, tourists, and the balance of the many species seen and unseen that inhabit this ecosystem. It is not enough to consider what is sustainable just from an economic perspective – cultural diversity, and social and environmental perspectives must also be part of the picture. In fact, particularly for places like Jackson Hole that are gateways to national parks, protecting our community's uniqueness will end up protecting our economy as well.

Thinking about what is truly sustainable for this valley and this region will require a shift in our planning and governance structures. Hard questions must be asked by all of us about how structures are built and what population they will serve, what land gets developed and what land remains in open space. What does it really mean to work toward a carbon-neutral society where we depend on renewable resources rather than fossil fuels? A sustainable future is possible only if we think more holistically than we have in the past. ■

*Nancy Taylor is the author of "Go Green: How to Build an Earth Friendly Community." She also teaches classes in yoga, meditation and green building, owns Green Living and Building Consulting, and has written the weekly "Going Green" column for Planet Jackson Hole since 2004.*

### CLEAN HOUSE: Top 10 Green Actions

1. Wake up to how our choices are tied to global warming.
2. Before you shop, travel and build, think about the least consumptive way to do it.
3. Change your lightbulbs to compact fluorescents until light-emitting diodes come on line.
4. Precycle. Buy items in bulk; don't buy what you don't need.
5. Reduce, reuse and recycle.
6. Read *Cradle to Cradle* by William McDonough and Michael Braungart, and think about how you can implement their ideas.
7. Use public transport, carpool, bike, walk and enjoy your neighbors.
8. Be sure your home or workplace is running as efficiently as possible.
9. Buy local, organic, sustainable food. Don't buy bottled water.
10. Keep the faith! Things are changing fast – become part of the movement and have some fun doing it with your kids and families and neighbors and co-workers. Together we can make a difference!

– Nancy Taylor

For information on Nancy's class, the Art of Green Living and Building, email her at [nancytaylor@wyom.net](mailto:nancytaylor@wyom.net).

# Get it in gear

## Alternative vehicles, fuels help slake our thirst for petroleum.

By **Sandy Shuptrine**

*Yellowstone-Teton Clean Energy Coalition*

The media's been buzzing about oil supply, climate change and various transportation options to consider in the face of rising prices at the fuel pump, often generating feelings of confusion and uncertainty about the best path to take. Take heart. There is more than one trail up the mountain.

The most important thing to do in getting started with displacing consumption of petroleum is taking that first step. There are many choices to get you going in a positive direction – one that leads toward a sustainable future for personal mobility and transportation.

To begin with, conservation is definitely more than just a personal virtue. A July 28 government report announced that over the past seven months, Americans have taken matters into their own hands by driving 40 billion fewer miles than normally. This has contributed to the stabilization of gas prices in the past month or so.

Amory Lovins, co-founder and chief scientist of the Rocky Mountain Institute, has long advocated that energy efficiency can, indeed, result in significant energy and financial savings. Steps to take to initiate a 15-30 percent drop in your vehicle fuel consumption include cooperating with your family and friends to plan and consolidate vehicle trips. The average household makes five round trips per day. Cutting out only one of those equates to a 20 percent fuel savings. Or cut out one weekday of driving altogether by working at home, biking, taking a car holiday or riding the START bus. Regular vehicle maintenance, proper tire inflation, limiting your driving speed to no more than 55-60 mph and avoiding idling (yes, including diesels) can each contribute a 5 to 20 percent savings, depending on your driving habits.

Fuel efficient vehicles such as the Toyota Prius and Honda Civic hybrid each get 50 mpg or more during warmer months and 40-45

mpg during the coldest months. Beginning this year, many more hybrid models will be coming to the marketplace. Turbo diesel cars get 40 to 50 mpg and the sporty new Smart Car, getting 40 mpg, can now be seen on Jackson streets. The Honda Civic natural-gas fueled car is considered the “greenest” and could be fueled right in your garage, if you are connected to the gas pipeline.

The emergence and continuing development of biofuels offer a good step away from regular gasoline and diesel. The emissions from these fuels are less harmful and more sustainable – for example,

100 percent biodiesel biodegrades in approximately 48 hours. Biodiesel is produced from plant oils, animal fat or feedstock and offers at least a 300 percent benefit in energy value, depending on the oil source, including the energy needed to produce it. In the U. S., soybeans are the most common feedstock. Eighty percent of the soybean crop is used for soy meal (animal and human food), with 20 percent used for producing biodiesel. Production utilizing algae holds great promise, with

pilot plants already in operation.

Ethanol, an alcohol-based fuel that replaces gasoline, although more controversial, still offers energy value and environmental benefits when compared to petroleum gas. Many agree that moving away from corn-based ethanol to cellulosic-based feedstocks, such as agricultural waste, is desirable.

To learn more, you're invited to register for “Alternative Fuels 101: Myths and Facts,” co-sponsored by the Teton Conservation District, on Sept. 23 in Jackson. There will be a much more thorough review and discussion of the options above, along with a panel of local users of cleaner, renewable fuels. Information and registration forms are available from the Conservation District or [www.yellowstonetetoncleanenergy.org](http://www.yellowstonetetoncleanenergy.org). ■

Visit the Clean Cities website, [www.eere.energy.gov/cleancities](http://www.eere.energy.gov/cleancities), or [www.fueleconomy.gov](http://www.fueleconomy.gov) for more tips and information about emerging technologies, vehicles and fuel efficiency advice.



Sandy Shuptrine



**LOCAL EATS:** Buying locally produced food – and growing some of your own – are two more healthy choices we can make for ourselves and the environment. As John Ikerd writes in *Intelligent Food Economics*, “Typically, 80 percent of our food dollars for industrial foods goes for processing, transportation, storage, packaging and advertising, and only 20 percent for the food itself. With care, almost anyone can find and afford good local food.” Here are some local sources:

**Jackson Hole Farmers Market on the Town Square**, Saturday mornings through mid-September  
**Jackson Hole Farmers Market**, next to Twigs in the Movieworks Plaza, Thursdays through Sundays  
**Driggs Farmers Market**, Community Center parking lot on Main St., Wednesday evenings

Interested in garden shares? Check out [www.cosmicapple.com](http://www.cosmicapple.com) and Blue Flax Farm at [www.localharvest.org](http://www.localharvest.org).

# Playing the percentages

10 x 10 program aims to reduce energy use 10 percent by 2010.

By Sandy Shuptrine

Reducing electricity and fossil fuel use 10 percent by the year 2010 in government facilities and fleets is the goal of the cooperative initiative of Teton County and the Town of Jackson known as 10 x 10.

Since the outset of the effort in Feb. 2007, an Energy Efficiency Advisory Board has overseen and made recommendations regarding actions needed to accomplish the goal. For example, energy audits on local government buildings have occurred as part of the Wyoming Conservation Improvement Program with a grant from the Wyoming Business Council. Also, Jackson has made an agreement with Lower Valley Energy to purchase 100 percent 'green' power. A community-based initiative following a parallel course has also been launched (see box at right).

The catalyst for the program was the signing of the U.S. Mayors Climate Protection Agreement by Mayor Mark Barron, the strong interest of County Commissioner Ben Ellis and Town Councilwoman Melissa Turley, and the cooperative approach of all local government leaders, along with staff enthusiasm and dedication to implementing meaningful actions. No small achievement for government business! According to Ellis, "The driving force behind 10 x 10 is to save taxpayers money over the long term and decrease energy consumption by local government in the years ahead." ■

*Sandy Shuptrine is the executive coordinator of Yellowstone-Teton Clean Energy Coalition, and a member of the Teton Area 10 x 10 Energy Efficiency Advisory Board.*



## TEN STEPS TO 10 BY 10

Here are 10 steps people and businesses can take to achieve 10 x 10:

- Commit to reduce your household's energy use by 10 percent by the end of 2010.
- Gather baseline data. Tally your annual use and the money you spend on electricity, heating fuel, vehicle travel (miles) and air travel (miles and number of trips).
- Explore calculators that measure your carbon footprint, which can help you visualize your contributions to global warming.
- Have Lower Valley Energy perform an energy audit. Follow through on the audit and take advantage of Lower Valley's incentives and rebates.

- Ask Lower Valley to perform a lighting audit. Install compact fluorescent lightbulbs.
- Assess your commuting and travel habits. Consider telecommuting one day a week (a 20 percent reduction in travel to work), and combine trips.
- Buy alternative fuels.
- Ride the START bus, bike, walk or carpool.
- Reduce, reuse and recycle.

Additional steps to consider:  
Buy Green Power.  
Buy carbon offsets.  
Reduce water use.  
Compost.

Visit [www.tetonarea10x10.org](http://www.tetonarea10x10.org) for more information.

## Conscious consumption is key to reducing, reusing, recycling

By Heather Overholser

*Jackson Community Recycling*

Over-consumption of resources and the resulting waste are of global concern. Luckily, we can do something here in Jackson Hole to lessen our burden on the planet and our community – reduce, reuse, recycle. We've all heard the RRR mantra time and time again. Most people automatically equate RRR with recycling, but in reality recycling is the last of the best options for dealing with waste.

Make reducing and reusing a way of life. Most importantly, think before you buy. Large, expensive items, such as vehicles and materials for home building, often have the greatest negative impact on our planet.

These are also items that we usually spend the most time researching prior to purchase. Shop around, not just for the best deal, but also for the most sustainable option. Ask the question, "Is this absolutely necessary?" and, if it is, then ask, "Is there a better option?"

Think about the full life cycle of a product. What natural resources went into making the product? Is it made with post-consumer recycled content? Where was the item made and under what conditions? Is the waste from the product recyclable?

This is a lot to consider, but luckily, more and more companies are making it easy to find out this information about their products. Many sustainable products cost

more; however, chances are great that savings will be realized over the life of the item. And although some earth-friendly goods cost more and don't provide you with a direct savings down the road, there is personal health and global value in purchasing sustainable items. In most cases, if it's better for the planet, it's also a better choice for your health.

Think before you toss. Always reuse what you can and recycle the rest. In the end, simplify. In most cases, less is more. ■

For more information on the RRR campaign and recycling in Jackson Hole, visit [www.howdoyouRRR.org](http://www.howdoyouRRR.org) and [www.tetonwyo.org/recycling](http://www.tetonwyo.org/recycling).

# Switching to a restorative economy

Author makes case for creating the next industrial revolution.

While individual acts can help reduce harm to Mother Earth, corporations need to pitch in to make a real dent.

In his visionary book "The Ecology of Commerce," Paul Hawkin argues that sustainability is possible only if businesses can be held accountable for the effects they have on the natural world. His suggestions for accomplishing this include:

- **Factoring real costs into the prices of goods and services:**

Citing the early 1900s economist Nicolas Pigou, Hawkin writes that competitive marketplaces only work if businesses bear the full costs of production, including whatever pollution, sickness or environmental damage they cause. One way to do this is by imposing green taxes: "The whole key to redesigning the economy is to shift incrementally most if not all of the taxes presently derived from 'goods' to 'bads,' from income and payroll taxes to taxes on pollution, environmental degradation and nonrenewable energy consumption. Because green taxes are incorporated into the price a company or customer pays for a resource, product or service, they create powerful incentives to



revise and constantly improve methods of production, distribution and consumption."

- **Eliminating waste from industrial production:** "The biosphere represents our source of wealth. It is the capital which we draw down to support our lives. Whenever we pollute or degrade that system with toxins or waste, we are destroying our natural capital and reducing our ability to sustain our civilization.... A cyclical, restorative economy thinks cradle-to-cradle, so that every product or by-product is imagined in its subsequent forms

even before it is made. Designers must factor in the future utility of a product, and the avoidance of waste, from its inception."

- **Investing in 'negawatts':** "Using conservation rebates, many utilities have discovered that it is far less expensive to invest in technologies that save energy for the consumer than it is to invest in new coal or nuclear-fired power plants.... The utility, by granting credits, by selling energy-efficient lightbulbs at cost, or by promoting efficient electrical motors and super-glazing, is essentially selling the absence of energy, turning a profit, and improving the environment all the while saving their customers money. Many resource systems in the world are presently over-exploited and could benefit from becoming a utility that is publicly regulated, privately managed, and market-based."

- **Changing from an economy based on carbon to one based on hydrogen and sunshine.** ■

"The Ecology of Commerce" and more recent "Natural Capitalism," by Paul Hawken with Amory and L. Hunter Lovins, are both available at Teton County Library.

## How the Conservation Alliance RRRs (and you can, too)

By Heather Mathews  
Alliance Office Manager

### REDUCE

- Cups and plates: Staff and visitors use non-disposable items whenever possible.
- Beverages: For meetings, we provide tap water and lemonade in pitchers instead of bottled water and canned drinks.
- Office paper and notepads: Our printer prints on both sides, and we reuse printed paper by printing on the blank back side. Unused postcards, business cards and other scrap paper become our "notepads."
- Lightbulbs: As our old halogen bulbs burn out, we replace them with energy-efficient fluorescents, which will last much longer.

- Mail: If we get a piece of junk mail, we immediately contact the company to be removed from their list.
- Other energy consumption: We turn down the heat at night and turn off or unplug most electronics. We bike or walk to do most town errands, and most of the staff bikes, walks or carpools to work.

### REUSE

- Paper products: All of our paper products (including copy paper, tissue and paper towels) are made of recycled materials.
- Bags: We use canvas bags as much as possible; any other bags get reused, such as the bad-weather newspaper bags for mutt mitts.

- Envelopes: We save large envelopes from incoming mail and use them for outgoing mail. We have an ink stamp that reads "Please Pardon My Appearance, I am Being Reused to Conserve Resources."
- Miscellaneous supplies: Most of our furniture and kitchen items came to us used.

### RECYCLE

- Paper, plastic, glass: Our recycling bins rarely get full just because we reduce and reuse so much! (We also put out only one bag of garbage per week.) We recycle everything the recycling center will take.
- Composting: We may get a compost bin. Right now, staff members take compostables home to their own bins. ■

# Too hot

Wondering about global climate change? Ask a pika.

By **Embere Hall**, *Research Director*  
Conservation Research Center of Teton Science Schools

It can be challenging to organize your daily errands around the START bus schedule, or to bike to work next to a swerving Winnebago during the height of tourist season. The next time that you craftily arrange your day or risk life and limb on your bike, pikas owe you a bit of gratitude. Your carbon-reduced commute provides a great example for others to follow and reduces local CO<sub>2</sub> emissions.

Pikas, the smallest member of the rabbit family, have a lot to say about warm temperatures and icy winters that may accompany a changing climate. Pikas are adapted to cool alpine environments and occupy a very narrow thermal niche. In other words, they are physiologically incapable of dealing with warm temperatures. Temperatures as low as 50°F in the shade can be much too hot for pikas – lethal in as little as six hours if they are unable to find cool interstitial spaces in the talus. Low-elevation pika populations are exposed to warmer temperatures than their higher-elevation counterparts. Recent studies in the Great Basin region suggest that low-elevation populations are in decline and, in some cases, have disappeared from the landscape entirely. Researchers believe that population declines are linked, at least in part, to unusually warm temperatures.

The Conservation Research Center of Teton Science Schools is launching a new study to better understand how pikas and other alpine organisms in Jackson Hole are dealing with a warmer landscape. Teton Science Schools is conducting the work in collaboration with the Wyoming Game and Fish Department, Grand Teton National Park, Yellowstone National Park and private donors. Little is known about pika distributions in the Parks and the environmental factors that may affect persistence.



Courtesy Conservation Research Center of Teton Science Schools

As Earth warms, many species will be able to shift their range or alter behaviors to cope with the change. But some, such as pikas, will have no place to go. They will have run out of forests, wetlands or polar ice caps because their habitat has been destroyed, or because it's no longer accessible. If animals end up trapped in unsuitable habitat, a quarter of our planet's species could disappear by the end of this century.

Because of their sensitivity to rising temperatures, high detectability and where they live, pikas are an excellent indicator species for evaluating biological impacts of global warming.

So, grab your bike, head to work and say “you’re welcome” the next time that you see a pika in Cascade Canyon! ■

*The Wildlife Matters Campaign is supported by Earth Friends Wildlife Foundation, Skinny Skis and Patagonia, Inc.*

## TO PLAN FOR CHANGE, ERR ON THE SIDE OF CAUTION

For conservation planning – or any land use planning that gives due attention to conserving biodiversity – the overarching question is at what level of habitat loss and fragmentation does population viability and richness of native species begin to quickly decline? A defensible land use plan would be one that maintains natural habitat in an amount, configuration and quality safely above that threshold.

Following are some rules of thumb for comprehensive science-based planning, as outlined by biologist Reed Noss and others:

- **Nature is full of surprises.** Ecosystems are dynamic, not static, and often display non-linear dynamics with unpredictable outcomes.
- **The fewer data or the more uncertainty, the more conservative a conservation plan should be.** This is a risk-averse or precautionary strategy – be willing to err on the side of protecting too much rather than too little.
- **Large conservation areas are better than small areas, all else being equal.**
- **More conservation areas, spread across the planning landscape, are better than fewer areas.**
- **Connected is better than disconnected, all else being equal.**
- **Unfragmented habitat is better than fragmented habitat.**
- **Roads generally are bad for native biodiversity.**

*– Excerpted from “The Science of Conservation Planning: Habitat Conservation under the Endangered Species Act,” by R.F. Noss, M.A. O’Connell and D.D. Murphy, Island Press, 1997*

# Make it personal

## Thoughts on keeping the 'wild' in wildness.

By Nancy Shea

On the whole, we live in Jackson Hole because we love nature's beauty – the wildlife, inspiring vistas, solitude, adventure, peace and quiet. It is logical that we do whatever we can to protect the beauty of this place – for ourselves and for future generations. And yet, if we protect the “castle” while letting its foundation deteriorate, ultimately we lose the castle, too.

Protecting wilderness and open space is the way we typically frame protection efforts. We are all about saving space rather than modifying our own behaviors. We have convinced ourselves that protecting wildlife habitat is the same as respecting wildness. What if respecting wildness ultimately equates with restraint on human numbers, human actions – not just acres saved? The subtle loss of wildness will continue as long as we lack the proper framework to identify it.

As more and more people come to Jackson Hole with outside frames of reference, it becomes harder to see the constant erosion of true wildness in our community. Our comfort with our “atmospheric wildness” – we still have beauty and wildlife here! – allows us to continually snip away at the edges without noticing the loss.

Let's not just frame our protection of wildness with numbers. Instead, let's make it personal. Our efforts must come from an unqualified recognition that it is the tendency of our culture, the tendency of each one of us, to sacrifice wildness for comfort.

The more personal we can make the loss of the wildness in this place, the more likely we are to wake up to what is taking place. The more real the oppressive nature of our presence in the valley is to each of us, the more likely we are to accept that the rest of nature is increasingly being marginalized here. We have become the ever more dominant force in a region once ruled by a wild natural ecosystem.

Let's not be fooled by the beauty, even the wildlife. Sociologists have long known that

it is common for a dominant group to adopt various elements of their society's marginalized group – wildlife in this case. In Jackson, we go birdwatching, we make efforts to see wolves and bears, we take long hikes, we push ourselves in extreme sports, we decorate our homes with animal parts, and we even share our landscape and property with the “others.” But this fraternizing with nature is often a way of serving ourselves rather than learning how to serve. Familiarity without engagement is a subtle form of oppression. We think we know nature but we are often just looking in the mirror. Crossing over from familiarity to personal engagement is an exhilarating experience and changes everything.

Right now, as we create a new comprehensive plan for the valley, we have an opportunity to resist the temptation to continue business as usual by just protecting a bit more open space, while letting our growth continue. Instead, we can make a commitment to this place – to let the land claim us, rather than the other way around.

The more privileged and comfortable we are, the more likely we are to stay silent in our status quo, to stay comfortable in our atmospheric wildness. I fear that one inevitable

day, we will find ourselves looking around to see that even the ambiance of wildness has faded, and we are, once again, living in a domesticated human landscape.

Each of us can learn to live compatibly with the wild nature that surrounds us. Every choice, every person matters. We are in this together – all of us humans, with the other animal and plant communities.

So, you ask, “what can we do?” Engage in some soul searching. Find all the ways, even tiny ones, to fully embrace sustainability. Reduce, reuse and recycle. Make our personal choices line up with our commitment to wildness. Our personal alignment will translate into collective action: A collective commitment to protecting the wild character of this valley will be built from each of our individual actions.

Our first step will be to increase our willingness to admit our blind spots and seek to transcend our mere lip-service to wildness in favor of real, personal action. ■

*Environmental philosopher Nancy Shea has worked on behalf of wild Jackson Hole for 20 years. Currently, she owns True Nature Consulting and teaches online for the University of Wyoming.*



# First priority – a first-rate plan

Current draft Comprehensive Plan won't sustain Jackson Hole.

By **Kristy Bruner**

*Alliance Community Planning Director*

Nearly a year ago, our community set out to refine its Comprehensive Plan in order to increase predictability in land use decisions in Teton County and Jackson.

The updated plan is also supposed to ensure that future development is guided in a such a way that the assets most important to residents are protected in the long term. Throughout the update process, the community has made it clear that stewardship of wildlife and other natural resources is its top priority.

To be both effective and predictable, the Comp Plan needs to clearly define what it means for us as a gateway community to be stewards of one of the last relatively intact ecosystems in North America, and of all the increasingly rare flora and fauna it holds.

The plan needs to be guided by a planning approach that is as unique and unparalleled as Jackson Hole itself. As such, it must be based on the foundation that our wildlife and natural resources are of the highest importance – not only to the integrity of the Greater Yellowstone ecosystem, but also to our culture and economy.

**WHAT'S NEXT:** On Aug. 25 at 3 p.m., 200 S. Willow, town councilors and county commissioners are set to discuss the next steps of the Comp Plan process and some of its “big picture” elements, including the possibility of shifting development potential from county to town. Since cooperation and coordination between the town and county are crucial for success of the Comp Plan update, this is a step in the right direction. Meanwhile, the planning team has committed to releasing another round of draft policies and maps later this fall for public review. Check [www.jhalliance.org/issuescompplan.htm](http://www.jhalliance.org/issuescompplan.htm) for updates.

The Comp Plan must acknowledge and define how rare and irreplaceable some of our assets are, and it must spell out all the factors that contribute to our ability to protect, or lose, these assets.

The current draft Comp Plan released this summer fails to do this. (See box.)

During the next months, the Conservation Alliance will continue to emphasize why it's critical to take a much closer look at what sustainability should mean for Jackson Hole.

A key aspect of this is recognizing capacity and thresholds. To be sustainable, we must be willing to acknowledge the very real limitations in meeting different community goals. The next stage of the Comp Plan update process must tackle this, or we'll just set ourselves up to lose what we all cherish about Jackson Hole.

Now is the time to ask and answer the tough questions. We need to figure out not only what our development pattern should look like (what the plan has mostly focused on to date), but also how much additional development our community and wildlife can bear without irreparable harm. To be effective stewards, we have to truly define our priorities and the steps we need to take to uphold them. ■

## How the draft plan fails

- It lacks a concise, clear description of the community's core priority – protecting wildlife.
- It doesn't reflect public input or strong planning approaches in fundamental areas, doesn't prioritize issues, and doesn't appear to be based on comprehensive or accurate assumptions.
- It includes some positive “themes and policies” but it fails to frame and describe them in relation to each another, and it fails to address them in terms of capacities, thresholds and conflicting priorities.
- Too many key details are missing, especially regarding the future land use maps. (See next page.)
- Much of the clear language of the 1994 Comp Plan has been dropped, without sufficient replacement.

Significant changes need to be made to the draft Comp Plan for it to have a strong, comprehensible foundation; provide predictability in decision-making; and give direction for how community priorities should be addressed in an integrated way. Without a strong, clear Comp Plan, we can't protect what we all value about Jackson Hole.

The Alliance's full comments on the draft plan, as well as a list of people you can share *your* comments with, are available via [www.jhalliance.org/issuescompplan.htm](http://www.jhalliance.org/issuescompplan.htm).

“Gateway communities seeking to develop a vital local economy must ensure that growth and economic development don't come at the expense of their unique identity, quality of life, economic diversity, and fiscal well-being.... Without well-designed and publicly supported strategies to preserve their character and surroundings, gateway communities risk undermining the very assets responsible for their economic vitality and future potential.” – *Balancing Nature and Commerce in Gateway Communities* by Jim Howe, Ed McMahon and Luther Propst

“Our generation faces the greatest challenge of all. The Greater Yellowstone region is growing at two times – and habitat loss at six times – the national rate.... At the current rate of permanent habitat loss, the extraordinary wildlife that characterizes this region will not be maintained for future generations.”

– Paul Hansen, Director of the Nature Conservancy's Greater Yellowstone Program

# Time to get down to details

Without numbers, draft plan and its consequences aren't predictable.

By Kristy Bruner

Alliance Community Planning Director

If you're one of the many people who've asked planners for more details during the current Comp Plan update process, you may have heard, "Don't worry about the details yet; the revision of our land development regulations will take care of that."

We respectfully disagree. Without an appropriate level of detail, what the draft plan proposes isn't predictable, and neither are its consequences. To make matters worse, the plan says it provides rigor and specificity, and that it addresses links between community goals, but it doesn't actually do so.

Unlike the 1994 Comp Plan under which we're now operating, the updated document will include a physical land use plan. These maps are the key elements intended to bring predictability to future land use decisions. Since future zoning maps will have to be consistent with what the Comp Plan maps

depict (in terms of development locations and densities), it's critical to understand – and evaluate the consequences of – the amount and type of development proposed.

These maps must strategically guide future land use decisions. They can't do that unless they're based on real, on-the-ground analyses of existing conditions in Teton County and Jackson.

What types of numbers do we need to do these analyses? To assess links between different land use issues (transportation, workforce housing, habitat connectivity, etc.) and evaluate potential consequences within different scenarios, the buildout ranges for a number of key variables need to be identified. The draft plan and maps lack these figures.

Among the missing pieces are:

- Residential build-out ranges (numbers of housing units) and commercial build-out ranges (total square footage) linked to map locations and densities

- Commercial build-out ranges and employee generation ranges (and what demand for workforce housing would these generate?)
- Traffic analyses based on local resident, visitor and commuter traffic demands (including an assessment in peak season)
- Fiscal impacts: How much will this plan end up costing the community for infrastructure and services?
- Direct and indirect effects of increased human populations on wildlife habitat and wildlife
- Identification of conservation priority areas by the community (surveys show that people support taxes or bonds to protect open space; how would those areas be ranked?)
- Lodging unit numbers and types

Without an understanding of details like these, and analysis of the information, the plan is fatally flawed. Our community must demand a plan that protects the qualities we value, or face a future without them. ■

## NUMBERS UP = QUALITY OF LIFE DOWN

Despite community support for controlling Jackson Hole's rate of growth and reducing our overall development potential, the draft Comp Plan doesn't adequately address either. Planners do claim that the updated plan will aim to maintain development potential allowed under the 1994 Comp Plan. However, buildout numbers provided in a myriad of planning documents and presentations have been significantly inconsistent.

The following conservative estimates were given in Comp Plan consultant Clarion Associates' "Existing Conditions Snapshot" in January:

Existing development (2005) in Jackson & Teton County:	Additional capacity at '94 plan base zoning:	Total buildout:
Approx. 11,300 housing units	9,150 housing units	20,450 housing units
9.5 million sq. ft. of commercial	1.9 million sq. ft. of commercial	11.4 million sq. ft. of commercial

Zoning options, such as Jackson's planned mixed-use development tool, could increase potential buildout way over these numbers, but just for fun, let's try this math on for size: (9,150 additional housing units) x (anywhere between 1.74 and 2.37 people per unit) (2.37 is the standard multiplier; local planners say they're using 1.74 to adjust for part-time residents) = anywhere between 15,921 and 21,686 **more** residents upon buildout.

About 20,000 people currently live in Jackson Hole, others commute here to work, and at peak times of the year, about 15,000 more tourists are visiting daily. The upshot? Future "off-season" populations and their effects will at best resemble what we now experience during the summer. And come summertime? Use your imagination.

## HELP IS ON THE WAY

The Alliance will soon bring in experts to address some of our community's most challenging land use planning issues. After the updated Comp Plan is finalized (probably in 2009), the next phase is identifying strategies to implement the plan and rewriting our land development regulations. So our speaker series is intended to offer information and solutions at a time when they are needed most. With the benefit of lessons learned elsewhere, our community can identify and adopt the best strategies to carry out its vision.

The experts will address these issues relevant to our community: Affordable housing; growth-related fiscal impacts analysis; road ecology and wildlife-friendly transportation; and cumulative impacts analysis, with particular focus on natural resource protection.

We'll post details at [www.jhalliance.org](http://www.jhalliance.org) as soon as they're available. *This speaker series has been generously funded in part by The Community Foundation of Jackson Hole.*

# Strengthen the NRO

## What happens on private lands matters to wildlife.

By **Kristy Bruner**

*Alliance Community Planning Director*

To aid the Comp Plan update, in April the Conservation Alliance shared the findings of our Natural Resource Overlay mapping project with town and county electeds and planners. A tool to help preserve Jackson Hole's wildlife, the NRO shows the location of lands with special wildlife values on zoning maps. Regulations require the developer of a property in the NRO to do an environmental analysis and provide mitigation for disturbed areas.

Our NRO project aimed to show which areas in the county are most important for wildlife. The findings provide an overview of the best available science on wildlife habitat, which was independently conducted by the Conservation Research Center of Teton Science Schools. In brief, this project reconfirmed that what happens on our private lands matters to wildlife.

Poll after poll during the current Comp Plan update also confirmed what matters most to the citizens of Teton County – environmental stewardship and the protection of wildlife. To realize this priority, our community must commit to drafting, adopting and enforcing strong policies that extend beyond lip service.

If the Comp Plan is to contribute to lessening the negative impact of human activities on wildlife, it must adequately identify and manage the sources of these impacts. To do this, our new plan must be guided by a strategic conservation-based planning approach, one that adequately

**PLAN CONSERVATIVELY:** Keeping in mind that the fewer the data, the more conservative a conservation plan should be (see box on Page 8), what would such a plan entail? According to biologist Reed Noss and others, it should:

- Include much more conservation area, as strictly protected as possible, in the landscape, either through public acquisition (fee simple or conservation easements) or through trading (transfer) of development rights. Connective corridors should also be provided.
- Keep very low housing densities and low-intensity land use in the landscape surrounding conservation areas, to provide buffer zones between those areas and higher-density development, and to

integrate conservation science into land use planning strategies (see below).

We (along with an average of more than 83 percent of residents surveyed in three recent polls) believe that new developments must meet stronger standards to protect natural resources. As our Comp Plan update process transitions into the rewriting of land-development regulations, the Alliance will make specific recommendations for more stringent standards. We'll also emphasize the need for policies to have a stronger landscape-level perspective so that direct, indirect and cumulative effects are evaluated and addressed.

While our community must use (and consistently gather) the best available scientific data, we must also be cognizant of the limitations of what science can tell us. For example, our NRO project provided some answers, but raised even more questions.

Conservation biology is not an exact science; the variables are simply too complex. Science can't tell us that a wildlife corridor needs to be exactly 102 feet to be functional, for instance. There are just too many constantly changing variables that affect that function through time. However, significant research in the field of conservation science can help provide meaningful guidelines. ■

Visit [www.jhalliance.org/maps.htm](http://www.jhalliance.org/maps.htm) for a link to our Natural Resource Overlay report. The Community Foundation of Jackson Hole, the Wyoming Community Foundation, and individual donors helped make it possible.

provide a permeable landscape that will enable many organisms to move among conservation areas. Landscapes can be kept at low density through many of the same mechanisms as above, as well as through regulations.

- Limit high-density development to lands within strictly defined development area boundaries, and provide parks and, where possible, connecting corridors throughout this landscape, both to serve the needs of native species and to make nature accessible. Clustered developments with retained open space can often serve this end.

– Excerpted from an article by Reed Noss et al in “Lasting Landscapes: Reflections on the Role of Conservation Science in Land Use Planning,” Environmental Law Institute, 2007.

A future without wildlife?



Simply unbearable.

Franz J. Comenzind

Development on private lands can cause fragmentation and loss of the habitat that native species need to survive. And even though privately owned lands make up only 3 percent of Teton County, many are located in the best areas for wildlife.

Thanks to a grant from Patagonia, Inc., we've begun an ad campaign to help people understand that our private lands are crucial to habitat connectivity in the Greater Yellowstone, and thus they're critical to our wildlife and to the health of the entire ecosystem, including us.

# Raising resilience

## Lessons and tools from ecology for sustainability in a changing world.

By Geneva Chong

“Resilience” is defined in my Merriam-Webster Collegiate Dictionary as “an ability to recover from or adjust easily to misfortune or change,” while “sustainability” is defined as “using a resource so that the resource is not depleted or permanently damaged.”

In ecology, the resilience and sustainability of an ecosystem are linked. For example, in Jackson Hole, if we leave sufficient winter habitat available for moose to maintain a viable population, then we are using moose winter habitat sustainably. This in turn increases the probability that the moose population will be resilient if, for example, we have a severe winter: Some moose might starve, but others will survive because they can find sufficient forage, and those survivors can reproduce to replenish the population.

In the Greater Yellowstone ecosystem, change is a constant, whether you're thinking on geologic time scales or on the scale of a work day. The types of changes also vary from changes in the hydrologic cycle linked to global climate change, to the changes in our day-to-day human activities that we impose on ourselves because of economics or social mores (e.g., training ourselves to not leave our cars idling).

As we revise the 1994 Comp Plan, this region and our human communities may benefit from an ecological perspective to guide

**HEALING WATERS:** If we use our water resources sustainably (i.e., if we use water so that the resource is not depleted or permanently damaged), then we're more likely to be resilient to misfortune, such as drought, because we're more likely to have reserves of water to fall back on, and we'll already be adapted to using conservative amounts of water. 💧 To achieve sustainability and resilience, we should do everything possible to retrofit existing water systems and require new systems to be as water-use efficient as possible at the time of new construction. This includes minimal use of irrigation for maintaining ornamental lawns and water features (e.g., ponds, fountains, artificial waterfalls) as well as plumbing fixtures, numbers of bathrooms, etc. 💧 We should also invest

our land use planning to support resiliency in the face of change and, thus, support the sustainability of both the environment and our socio-economic well being.

For example, composition, structure and function are interdependent components used to describe ecosystems, but they can also be used to describe human communities.



Geneva Chong

Ecosystem composition may relate to species; structure to the size and shape of the species (e.g., plants); and function describes ecosystem processes which may range from productivity (e.g., annual tree growth) to provision of clean water to streams. Human community composition may be related to types of jobs, ethnic groups or age;

structure may refer to the footprint of human modifications on the landscape (e.g., buildings, roads, commercial- vs. residential-use, etc.); and function describes socio-economic processes that might include commodity production or the ability to maintain a small-town community that supports millions of tourists annually.

Planning for sustainability of composition, structure and function increases resiliency in the face of inevitable change. ■

*Geneva Chong, Ph.D., is a U.S. Geological Survey research ecologist and a Town of Jackson planning commissioner. The opinions stated here are her own and have not been reviewed by the USGS or the Town of Jackson.*

in innovative water use, such as gray water treatment and rainwater collection for use on site. We should simultaneously maintain and/or acquire water rights and legal designations to ensure that our surface waters can continue to provide habitat for plants and animals (e.g., maintain in-stream flows that mimic natural cycles), and we should avoid over-use of groundwater. 💧 Preparedness for reduced water availability is critical in the face of climate change, which may be expected to alter the timing and amount of snowmelt, for example. Planning and preparing now will not only help our human community to be more resilient, but it will also contribute to sustainable use of our natural resources, and thus make us better stewards of the Greater Yellowstone ecosystem.

– Geneva Chong

### NRO TOOL TIME

The Natural Resource Overlay is a tool that should be employed to plan land uses that promote resiliency and sustainability of both human communities and natural ecosystems.

The NRO should be a dynamic, living geographic information system with a planner responsible for continuously updating the underlying database of scientific information – not just zoning, ownership and fixed NRO lines, but also layers that describe composition, structure and function. Ecosystem components (e.g., a vegetation map, a digital elevation model to help define flood potential, areas of known and potential wildlife use, etc.) and human community components (e.g., existing building footprints and roads) may be derived from remotely sensed data and existing maps. Unlike in the past, these components should be updated regularly.

A comprehensive NRO would give an ecosystem perspective to the public and planners, and provide the data needed to make informed decisions, so that our choices about land use and transportation enhance the resilience and sustainability of our wildlife, views and ecosystem processes in the face of change.

– Geneva Chong