



GRAND Actions

The Grand River watershed newsletter



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Cover photo

1845 painting shows stumps after land clearing. Allan's Mill, on the River Speed Guelph, 1845. David Johnston Kennedy (1816 - 1898), watercolour and graphite on paper, University of Guelph Collection at the Art Gallery of Guelph. UG1973.030



Trees 150 years ago and today

By Janet Baine

GRCA Communications Specialist

One city in the Grand River watershed was founded with the ceremonial felling of a large maple tree.

Yes, the felling of a maple tree on April 23, 1827 in Guelph.

How our view of trees has changed.

Now the maple tree is a national symbol of Canada and Earth Day is celebrated on April 22 with tree plantings. Now organizations, companies and individuals are dedicated to planting trees in their communities across the watershed. Trees are seen as one of the most precious natural resources — an invaluable asset in need of protection.

But tree removal was in full swing throughout the Grand River watershed during the arrival of European settlers. The 1845 painting by David Johnston Kennedy, of the first mill on the Speed River in Guelph, shows that only stumps remained of the forest near the river. Tree removal and damming the rivers caused severe flooding in communities and is the primary reason why the Grand River Conservation Authority was formed 83 years ago.

The forest enemy

The forest was the enemy during Canada's early days. Trees were the bane of settlers along the Grand and its tributaries, as is described in *A Watershed Forest Plan for the Grand River* (2004) that guides the GRCA's reforestation initiatives. It says:

“European settlers saw the forest as an enemy and a hindrance to livelihood. Forests were either felled or grazed. Weather and streamflow both became more extreme, as the protective mantle of forest was systematically stripped from the land.

“Forest cover was reduced to around five or six per cent during the 1800s — a virtual clearcut of the entire watershed in the short span of one century. The damaging effects of deforestation were observed here and elsewhere in Ontario, and reforestation programs were initiated to win back some of the land that should have remained in forest. Forest cover has increased to 19 per cent since 1900 by means of reforestation, natural regeneration, and the cessation of forest pasturing.”

The harsh conditions of the day required clear-cutting land and using trees as fuel, building material and a source of income.





Photo courtesy of Guelph Museums 1983_7_1

Old photos, such as this one of Guelph in 1870 (Catholic hill is in the background), reveal a surprising truth about the landscape — the trees were completely removed by settlers. The trees we now take for granted have not always been part of the landscape.



Even Silvercreek Park in Guelph in 1977 had mowed grass that went right up to the river's edge. Now there are trees and trails.

Photo courtesy Guelph Museums 1977_16_11

Increasing forest cover

An important goal throughout the GRCA's history has been to increase forest cover through tree planting. Over the years, the GRCA and its partners have planted more than 30 million trees. Community organizations, municipalities and watershed residents are dedicated tree planters, both in rural and urban areas.

Tree planting began in earnest after the Shand Dam, the first large-scale multi-purpose dam in Canada, was completed. It officially opened 75 years ago.

Where trees are part of the landscape, it feels as if they have always been there, but old photos reveal the difference that trees we now take for granted have made.

Research shows that trees in cities and

forest cover in general not only improve the natural environment, but also human physical and psychological health.

Each year, GRCA forestry staff disperse across the watershed for most of April and May as they plant trees, direct other planters and troubleshoot poor planting conditions. The GRCA grows trees at Burford Nursery and has forestry experts to help rural landowners develop planting plans. It also works with landowners and municipalities to plant trees. The GRCA manages about 8,000 hectares (22,000 acres) of forest on its own land.

The GRCA is launching its celebration of Canada 150 on Saturday, April 22 with a tree planting event at the Guelph Rotary Forest.

Help plant trees for Canada 150

- **Attend a public tree planting event** in your community — some of these are listed on the back page of this newsletter
- **Pick up some trees** at the GRCA tree sale May 12 to plant on your property
- **Plant native trees** on your own property this year
- **Donate** to the Grand River Conservation Foundation's tree planting fund — commemorate a special event with a tree planting
- **Help your trees survive** by following the helpful hints on the next page
- **Teach kids** to connect with nature so they too will value and protect it in the decades to come
- Learn more at www.grandriver.ca



Photo by Kevin Tupman

Communities across the watershed are planting trees at special public events like this one.

How to improve the survival of trees

By Joe Heeg
GRCA Forestry Specialist

With the arrival of spring, many watershed residents are preparing to dig into the freshly thawed ground to plant trees.

Every year the landowners of the Grand River watershed collectively plant tens of thousands of trees. These trees help to restore the natural environment by protecting water quality in streams and rivers, providing wildlife corridors and purifying the air we breathe.

Unpredictable weather patterns mean it is even more important to keep planting trees. A number of crucial steps before and after planting will improve survival.

Right tree, right place

Factors such as soil texture, drainage and surrounding vegetation determine which tree species will thrive or die. Fine clay soils can hold trees like white cedar and Norway spruce. On the other hand, loose sandy soils are well suited to white pine and sugar maple. Silver maple and tamarack like wet sites, while larch and red oak will thrive in drier locations.

Road salt can contaminate the soil, but trees such as white spruce, larch and poplar have a higher tolerance for salt and these

species are best for roadsides.

Site preparation

Preparing the land before planting will provide the best growth conditions for your trees. Clear areas of brush and invasives, such as European buckthorn. On larger sites, this can be done with a brush saw or a tractor and rotary mower to remove obstacles and provide growing space. Installing plastic mulch before tree planting is a great way to reduce weed competition and hold moisture in the soil. If planting into bare soil, seeding a cover crop of Dutch white clover is a great way to prevent excessive weed growth.

For the first years, control vegetation around the trees to make sure they have room to grow. This will give the trees the best chance of survival.

Get trees into the soil quickly

The roots of bare-root stock (without soil around the roots) will dry out very fast when exposed to sun and wind and need to be planted very quickly. Keep these trees in their planting bag until they are directly planted into the ground. Potted trees can be kept in a shaded area and watered until they are planted.

Mulch madness

Mulching is one of the best ways to keep your trees growing well. Organic matter applied to the base of the tree acts as a blanket to hold moisture, protect against extreme soil temperatures and reduce grass competition. Make sure to place mulch in a donut shape around the tree, so that absolutely no mulch is touching the base of the tree. This can cause decay of vital root-collar tissue. A two to four inch layer of mulch at an inch or two away from the trunk is enough.

Water, water, water

For the first few years of growth, a tree expends a lot of energy trying to establish roots in the soil. Watering can be very important during this time if rainfall is sparse. Water the tree right after planting and weekly during hot, dry weather. But be

WHAT YOU CAN DO

careful not to over water, because soggy soil inhibits the tree roots from accessing oxygen. There are many circumstances when watering is difficult due to distance from a water source or the number of trees planted.

Get help — here's how

Landowners within the Grand River watershed who have at least two hectares (five acres) are eligible for help from the GRCA. This may include a visit by a forestry specialist, developing a planting plan, planting services and grants to offset the cost of the trees.

Please check online at www.grandriver.ca/trees or contact a forestry specialist at 519-621-2763 or trees@grandriver.ca for more information. Spring tree orders closed on March 1, but site visits are offered on an ongoing basis, so call anytime.

Annual GRCA tree sale May 12

The sale takes place at the forestry barn at GRCA head office. Trees available include small bare-root seedlings, two or three foot potted trees and five to seven foot saplings of many species. In addition to trees, the sale includes native wildflower seed mixes and wildflower plugs. Cancelled orders, trees not picked up and nursery overruns are part of this sale. The sale is first come, first served and line ups start early. Once the sale starts, five or six vehicles are brought to the loading dock. As those people leave, more cars are brought in. The most popular trees sell out quickly, but there are always trees available at the end of the sale. More information on www.grandriver.ca/events.



Mulch at the base of a tree will help it survive.

Five ways to garden with climate change

By Sue Brocklebank
GRCA Conservation Specialist

Weather has always been unpredictable, but the new normal under climate change has shown increased temperatures and more extreme weather events.

Gardeners know this first-hand. In 2016, they dealt with dry weather beginning in May, followed by heavy deluges of rain in August. The best way to adapt a garden to a changing climate is to build resilience into your landscape. At the same time, gardeners can play an important role in helping the natural environment cope with changes.

Here are some tips that can be used in a garden of any size.

1. Remove invasive species

Habitat ranges are moving northward, but the change in length of the growing season is bringing invasive plants that out-compete the native plants for resources. Remove invasives, such as buckthorn and garlic mustard, from your yard. Learn more about invasive plants online at www.ontarioinvasiveplants.ca.

2. Plant native species

Native species are adapted to the local climate, and are winter and drought tolerant. They have longer root systems compared to plants such as Kentucky blue grass, and they require less watering. They also benefit the ecosystem as a whole, because native pollinators and wildlife depend on the native plants for nectar, food and shelter, which non-native plants may not provide. Enhancing your garden with native species and diversity enables it to be resilient and complements the local ecosystem.

3. Embrace diversity

Natural ecosystems contain lots of diversity and so should a garden. Not only does diversity provide a range of colour, shapes and texture, but it will improve diversity and health of the soil, which in turn is more resilient in times of drought.

4. Harvest water

Just like saving money, you can save rain for times of need. Install a rain barrel to capture the water that lands on your roof and use it to water your garden during the

dry summer. A trick to making this more effective is to install the barrel in a spot where any excess water that overflows moves away from your house. Many municipalities have rain barrel sales in the spring. Using harvested rain water will also save you money on your water bill.

5. Grow trees in your garden

Through photosynthesis, trees and other plants absorb CO₂ and convert the carbon to biomass, taking it out of the atmosphere, which helps to directly combat climate change. A shade tree can also moderate the temperature by reducing heating and cooling costs for your home.

For a list of native trees, shrubs and plants, check the landowner resources at www.grandriver.ca/ruralwater.

WATERSHED AWARDS

Do you know a watershed hero?

They're the individuals, families, groups and businesses who put their time and energy into improving the Grand River watershed.

Many do it without recognition, satisfied with the legacy they leave for future generations.

The GRCA thinks they deserve to be acknowledged and is looking for nominations for the annual watershed awards. These awards have been given out since 1976.

There are the two award categories:

- **Honour Roll Awards** are presented for a sustained record of environmental achievement over an extended period of time.
- **Watershed Awards** are for outstanding examples of environmental work.

Nominations can come from anyone in the watershed. The deadline is May 1, 2017. More information on the program, including short biographies and videos of past winners and a nomination form, can be found at www.grandriver.ca/awards.

The winners will be honoured at a special event in October.



Photo by Virginia MacDonald

Native plants such as asters bring pollinators and increase biodiversity when they are incorporated into a garden. They also don't require watering.

Beef producer John Rowe receives 2016 Watershed Award from GRCA

By Janet Baine
GRCA Communications Specialist

John Rowe has a different way of relating to his land and his cows — a way that he’s been developing since the 1960s.

He received a 2016 Watershed Award from the GRCA for his environmental practices and for his willingness to educate people about them. Rowe is the founder of Rowe Farms, which has a store in Guelph and seven more in the Toronto area.

The company also has a network of farmers producing a range of foods, while Rowe grows beef on his land north of Guelph Lake. He is a long time tree planter with shelter belts and windbreaks on his farm. He also uses farming methods that emphasize stewardship, natural cycles and limited inputs.

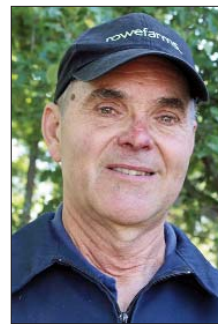
Rowe started growing hormone-free and antibiotic-free beef decades ago due to health concerns. Now he is finding new ways of farming that he believes will help slow down climate change.

He says agriculture has come to this place today for a valiant reason — to grow enough

food to feed everyone. Now the issue of the day has shifted, so it is time to investigate new ways of farming.

Farming for climate change

“I started at a time when there was still starvation in the world due to lack of food.



John Rowe

Today there is a surplus of calories. Now we need to farm to reduce the impact of climate change and to solve water management issues,” he says. “Cattle can be part of the solution.”

Rowe thinks about energy efficiency, the water cycle and

nutrients in ways that are different from traditional farming practices. He is taking old farming methods and making them new again.

“This philosophy is of great benefit to the environment,” explains Greg Meredith, the senior interpreter at Guelph Lake Nature Centre. “Above all else, John remains

committed to educating the public. Every year Rowe Farm opens up for a public tour. He shows how raising beef can be good for the environment.”

Rowe stands in a field of lush grass that is glistening with morning dew. His herd eagerly wait to be let loose in a new field where they will feast for the day. This is their routine every day. Rowe says cattle digest grass better than corn and his animals are healthier and less stressed because of the food they eat.

The cattle have been bred from a variety of species to be small, have a layer of fat and longer hair that helps them through the winter, because they are outside all the time. Walking in the fields, especially in winter, keeps them healthy and means they don’t have any problems with calving each spring.

There are no signs of water problems here. The fertilizer comes from the cows, but they are moved to a new field each day, so the manure breaks down and decomposes naturally, feeding the grass.

Resilient pasture

Looking closely at the pasture, you see it is made up of many perennial species. Each offers different nutrients to the animals. The roots of each species are at different depths, making the pasture more resilient during dry conditions. These perennials return year after year.

Rowe believes that all of this combined has the potential to regenerate the soil and hold more carbon on the land in the plants he grows. The soil is never exposed, so there is no erosion.

Rowe is always happy to have students from Guelph Lake Nature Centre tour his farm and see first-hand his methods of growing grass-fed beef that remain outside year-round.

This is farming in a different way with a different goal — “to enhance nature’s systems to feed ourselves,” Rowe says. He knows he doesn’t have all the answers, but he always welcomes others to build on what he is learning.



Each morning beef farmer John Rowe moves his herd of cattle into a fresh new pasture. The pasture is made up of many types of grass and the cattle are very keen to graze as soon as he moves the electric fence to move them into the new pasture.

GRCA OspreyCam is ready for return of the birds

By Janet Baine
GRCA Communications specialist

Everything is set for Season Three of the GRCA OspreyCam, expected to begin sometime in mid-April when the ospreys return.

Nothing, however, is guaranteed.

This live webcam has been a very popular project for the past two years, giving people as far away as New Zealand an intimate look into the lives of an osprey family at Belwood Lake Park 24/7. As we have seen over the past two years, in spite of the best efforts of the parents as they tenderly raise their chicks, the survival of the young osprey is nowhere near assured.

“It’s important to keep in mind the 80 per cent rule,” notes master bird bander David Lamble, who has been banding osprey and many other species in our watershed for decades. “Eighty percent of the eggs don’t hatch and 80 per cent of the birds that do hatch don’t come back as adults.”

In 2016, a raccoon climbed up the 75-foot pole to the nesting platform one night in

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June and the two young didn’t survive the night. In 2015, one of the two young chicks took off for its first flight and never returned — those first flights made by an inexperienced young bird are always dangerous. This means that out of six eggs laid over the first two years, four young hatched, but only one bird successfully fledged from this nest.

Predator protection

In February, predator protection was installed at the base of the osprey platform at Belwood Lake in anticipation of the return of the birds this year. The heavy gauge galvanized sheet metal guard is wrapped tightly around the pole to prevent ground based predators from climbing up.

“I expect when the osprey return in mid-April they will find things to their liking,” said GRCA terrestrial ecologist Robert Messier. “The guard is installed off the

ground so that climbing predators would be required to transition onto the slippery metal guard, limiting their ability to get a solid grip. This type of tall sheet metal guard is used by numerous organizations across North America, and the placement of the guard can vary.”

Messier noted that the webcam is a window into a small part of the natural ecosystem where one species will thrive at the expense of another due to the predator-prey relationship. This is certainly the case of ospreys, which depend on fish, but their young can also be preyed upon by eagles or raccoons.

Lamble warns that while mating pairs of osprey tend to stay together for life and return to the same nest each year, “there is such a thing as divorce among osprey.” This is often the result of an unsuccessful breeding season the year before. It could explain why there were two different nesting pairs at the Belwood Lake webcam in 2015 and 2016.

Healthy population of osprey

“It is entirely possible that osprey will not return to this nest or that it will not be the same pair,” Lamble said. He reminds us to keep in mind that these birds live more than 20 years, generally lay three eggs each year and have the potential to have 60 young during their lifetime. Even if few of the young survive, the species numbers can climb easily when fish are plentiful.

This is very different from humans, who generally have the possibility of only one family during a lifetime, so people react very strongly when disaster strikes at a nest and the young do not make it.

During his years of banding the ospreys, Lamble notes that he has seen increasing numbers in the northern part of the Grand River watershed.

Years ago there was only one breeding pair at Luther Marsh, and in 2016 there were nine active nests. There are also many active nests at Belwood Lake, and at many other locations in the watershed. Even if one nest fails, the young at other nests flourish.

Check www.grandriver.ca/osprey for information about osprey and the live streaming of the OspreyCam.



Photo by Eric Bancroft

Ospreys have captured the imagination of watershed residents who enjoy watching and photographing them. This image was taken at Guelph Lake.

Apply now for 2017 scholarships

Students who are planning a career in an Environmental field may be eligible to apply for one of three scholarships offered by the Grand River Conservation Foundation. The deadline to apply for these scholarships is in May and the details are online.

Here is some information about each scholarship:

- **The Allan Holmes Scholarship (\$2,000)** is for a graduate-level student focused on applied research in the field of resource management. (Due May 15)
- **The SC Johnson Environmental Scholarship (\$4,000)** helps a university or college student continue study in the conservation or environmental field. (Due May 31)
- **The McEwen Clean Water Prize (\$3,000)** is for an undergrad or graduate student with a strong interest in protecting, developing and restoring clean water resources. (Due May 31)

Details and applications can be downloaded from the Foundation website at www.grcf.ca or are available by contacting the Foundation in Cambridge at 1-866-900-4722 or 519-621-2763 ext. 2372. The email address is dhartley@grandriver.ca.



2016 Scholarship recipient Maricor Arlos received the Allan Holmes Scholarship from Shirley Holmes.

Apps' Mill Nature Centre renovations now complete

The happy voices of children are once again being heard on the grounds of the Apps' Mill Nature Centre near Brantford, which has reopened after renovations.

The nature centre offers curriculum-based outdoor programs for elementary and secondary school classes, as well as nature programs for families, youth and community groups. There is also a very popular day camp program during the summer and other school breaks.

"The renovations give the nature centre a fresh, clean and open look," says Duane Brown, the long-time environmental education specialist who oversees the programs at Apps'. "There are more learning spaces, and our staff are excited to have students back and involved in our hands-on programs that teach environmental concepts and foster an appreciation for the natural world."

Many donors

This major \$435,000 renovation makes it easier for the students to get in and out of the building, thanks to a small vestibule at the back for coats and outdoor equipment storage. The building is now wheelchair accessible, thanks to an elevator and other changes. A new gender-neutral, barrier-free washroom has been added on the upper level, while existing washrooms were updated. The classrooms and main entrance are also barrier-free.

"We're thrilled with the renovations, which provide an inclusive space and greater access for people of all ages to connect with nature and learn about the Grand River watershed," says Tamara Anderson, an environmental educator who will be overseeing the popular day camp program.

When spring weather arrives, students will be able to learn in the new outdoor classroom just west of the nature centre building.

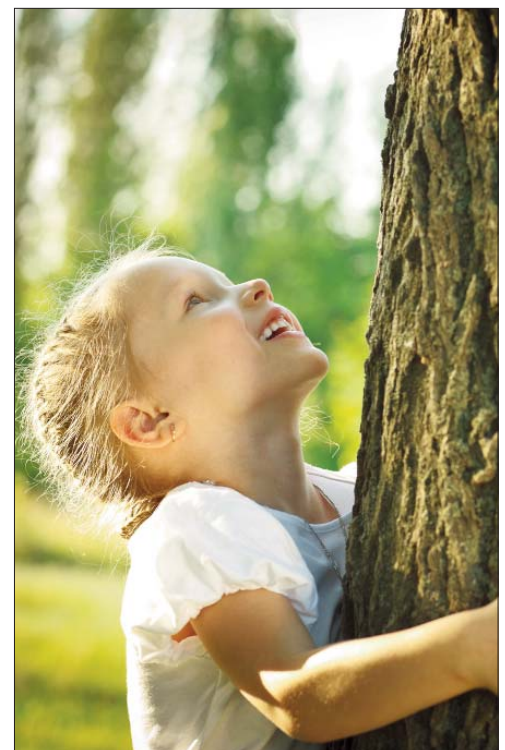
The GRCA received a grant of \$137,000 from the Canada 150 Community Infrastructure Program to help cover the

renovation and the rest of the funding has been provided by the Grand River Conservation Foundation through donors including SC Johnson, Don and Jo-Anne Wilkin, The Cowan Foundation and the estate of Mary Stedman.

"SC Johnson has been involved from the very beginning at the Centre, and we are proud to have continued our support during the renovation. Now kids of all levels of ability can feel included as they take part in these important programs," says Kelly M. Semrau, Senior Vice President – Global Corporate Affairs, Communication and Sustainability.

The Apps' Mill Nature Centre was constructed in 1981 thanks to a major donation from SC Johnson. It has been closed since early November 2016, while renovations to improve function and accessibility were undertaken.

A reopening celebration is planned for May.



Nature centres are a place where children learn to connect with nature and this will help them to grow into stewards of the natural environment.



Help plant trees this spring

THE GRAND CALENDAR

You are invited to dig in for the environment at several tree planting events across the watershed. These take place during April and May in a variety of communities within the Grand River watershed, often with partner organizations.

These events give you a chance to plant trees to benefit the natural environment and the watershed. The majority of these events take place on GRCA land or municipal property.

Dress for the weather as trees are planted rain or shine. This may include bringing a sun hat, rain coat, garden gloves and sturdy footwear. Families are always welcome and kids often enjoy visiting their trees as the years go by.

The GRCA and its partners have already planted 30 million trees.

Guelph Rotary Forest Earth Week Tree Planting, Saturday, April 22

This annual Earth Week event is creating a 40-hectare forest at Guelph Lake Park. Be sure to bring your family and friends. Shovels will be provided, although you are welcome to bring pint-sized ones for the kids. This event also includes family activities such as the BIObus, a bird display and live music. Park at nearby Lakeside Church on Conservation Road, where a free shuttle will take you to the planting site. 9 a.m. to 2 p.m.

www.rotaryguelph.ca/events/rotary-forest

Annual Brantford Community Tree Planting, Sunday, April 23

In celebration of Canada's 150th anniversary, come and plant a tree for future generations. With the help of community members, the Brant Tree Coalition has planted over 73,000 trees at events, and this year's event is at a new location. Meet at Kraemer's Way (intersection of Oak Park Road and Hardy Road), 10 a.m. to 2 p.m. The Brant Tree Coalition is made up of local volunteers, GRCA, staff from the City of Brantford, County of Brant and industry. For more information, call 519-756-1500.

Brant Community Tree Planting, Saturday, April 29

This annual tree planting event is led by students in the Community Environmental Leadership Program (CELP) at Paris District High School and will take place at Burford Lions Park, 10 a.m. to 1 p.m. The students are supported by the Brant Tree Coalition (made up of local volunteers, GRCA and staff from the City of Brantford, County of Brant and industry), Trout Unlimited and the Burford Lions Club. For more information, call 519-442-3342.

Upper Grand Trailway Tree Planting, Saturday, May 6

Come to the Grand Valley Trail on Saturday, 10 a.m. to noon, to help plant trees along the Upper Grand Trailway. Planting starts at the trail entrance along County Road 25 in Grand Valley. Bring your own shovel. The local Lion's Club will provide hot dogs and beverages after planting as a thank you.

Dumfries Conservation Area Tree Planting, Cambridge, Saturday, May 6

This family-friendly event at Dumfries Conservation Area in Cambridge offers participants the chance to directly support their community in a local reforestation project, 10 a.m. to noon. It takes place rain or shine and participants are asked to bring their own gardening gloves and a lot of energy. Forests Ontario, the City of Cambridge and the GRCA supply the rest.

Celebrate Canada's 150th Anniversary at Guelph Lake, Saturday, May 13

Help plant a new 800-tree forest at the future site of the new Guelph Lake Nature Centre. Stay for an interpretive tour and an opportunity to learn more about the nature centre that

will attract 20,000 students and thousands of visitors each year. Note that the new nature centre will be inside Guelph Lake Park. Admission to the park is free with voluntary donations to the new Guelph Lake Nature Centre. 10 a.m. to 1 p.m.

A full list of planting events, including additional events, updates and details, is available online at

www.grandriver.ca/events.



About Grand Actions:

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Submission deadlines:

The 15th of February, April, June, August, October and December. Submissions may be edited for length or style. Photos and event information is also welcome. We do our best to publish items, but we are not able to guarantee publication.

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