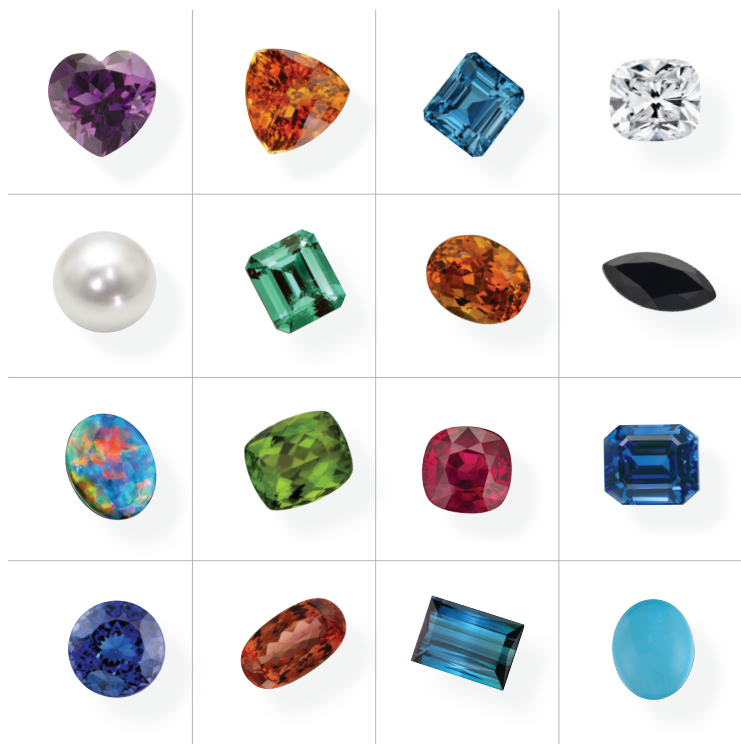




GEMSTONES & ENHANCEMENTS

WHAT YOU SHOULD KNOW



A fine CUT GEMSTONE
offers the FULL ARRAY
of NATURE'S INTRICATE BEAUTY,
HIGHLIGHTED
by the SKILL
of the LAPIDARY'S ART.

G E M S T O N E S

A crystal fragment from deep within the earth, a raw natural creation... no other treasure of the earth has inspired man's desire to capture and possess its extraordinary beauty like a gemstone. The spell a gem casts over the imagination is powerful. It has inspired us to free its beauty from nature's bonds, cut its shapes, and maximize its colors for adornment and to express our individuality.

In addition to gemstone cutting, over the centuries we have developed countless other methods to improve upon the natural properties of gemstones and pearls. These techniques are known as *enhancements*. They derive from our desire to draw from nature's bounty the truest and purest color and brilliance. A basic understanding of these enhancement techniques will add to your appreciation of the beauty, durability and value of gemstone jewelry.

GREAT THINKERS *like*
LEONARDO DA VINCI
BELIEVED *that* AMETHYST
could DISSIPATE
EVIL THOUGHTS *and* QUICKEN
the INTELLIGENCE.



AMETHYST / CITRINE

Amethyst and citrine are gemstone varieties of quartz. Purple has long been considered a royal color, so it is not surprising that amethyst has been in demand throughout history. Fine amethysts are featured in the British Crown Jewels, and were also a favorite of Catherine the Great and Egyptian royalty. Great thinkers like Leonardo da Vinci believed that amethyst could dissipate evil thoughts and quicken the intelligence.

Darker hues of amethyst are rarely enhanced to perfect their color, although some varieties do respond well to heat enhancement. Brownish varieties are commonly heated to turn them into bright yellow or orange colors known as citrine. This enhancement method is permanent and will last for the life of the gemstone.

Named from the French word for lemon, *citron*, many citrines have a deep yellow color. Sunny and affordable, citrine can brighten almost any jewelry style, blending especially well with the yellow gleam of polished gold. In ancient times, citrine was carried as a protection against snake venom and evil thoughts.

AQUAMARINE

The very name *aquamarine* brings to mind the clear blue tint of the sea. Legend says that it is the treasure of mermaids, with the power to keep sailors safe at sea. Aquamarine was long thought to have a soothing influence on married couples, making it a good anniversary gift.

Many aquamarines are greenish when mined and cut. For those who prefer a purer blue, these stones are heated to enhance their blue color permanently. Some aquamarine fanciers prefer the greenish hues, saying the greener tones remind them more of the sea. The color tones of aquamarine are subtle and varied. Their soft luster is a wonderful addition to any natural colored gemstone jewelry collection.



LEGEND *says* AQUAMARINE
is the
TREASURE *of* MERMAIDS,
with the
POWER *to* KEEP SAILORS
SAFE *at* SEA.

CULTURED PEARL

According to ancient Chinese legend, the moon holds the power to create pearls, instilling them with its celestial glow and mystery. Pearls have been treasured for their lustrous, creamy texture and subtle iridescent reflections since the dawn of humankind.

Because natural pearls are so rare and difficult to recover from the ocean's depths, man invented the technique of culturing saltwater and freshwater pearls from oysters and other mollusks by carefully seeding them with irritants similar to those produced by nature. The painstaking effort of culturing is one of the most dramatic examples of man's quest to coax beauty from nature.

Due to demand for perfectly matched white pearl strands, cultured saltwater and freshwater pearls are often bleached to achieve a uniform color. They may also be polished in tumblers to clean and improve their luster.

Pearls are most commonly thought of as white, but they are actually naturally produced in many colors including gold, yellow, champagne, pink, peach, lavender, gray and black.

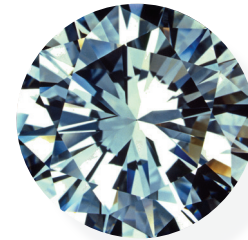
Dyes, heat treatment and irradiation are common treatments that produce a wide range of colors such as yellow, pink, green, blue, purple, gray and black in cultured freshwater and Akoya pearls. Some South Sea cultured pearls are bleached to lighten their hue, but most South Sea and Tahitian cultured pearls are not enhanced to improve their color.

Produced by a living organism, pearls require special care because they contain calcareous crystals that are sensitive to chemicals and acids. To care for your cultured pearls, avoid using perfume, hairspray, abrasives, solvents and nail polish removers while wearing them. Like your skin, cultured pearls contain water and may dehydrate and crack if exposed continuously to arid conditions. Your jeweler will tell you how to best care for your cultured pearls.



ACCORDING *to* ANCIENT
CHINESE LEGEND,
the MOON HOLDS *the* POWER *to* CREATE
PEARLS, INSTILLING THEM *with its*
CELESTIAL
GLOW *and* MYSTERY.

UNIQUE *in the* WORLD OF GEMSTONES,
DIAMOND *is the* HARDEST *of all* SUBSTANCES.
PERHAPS *it is* BECAUSE *of*
this DURABILITY *that* DIAMOND *is* TREASURED
as a SYMBOL *of* LASTING DEVOTION.



DIAMOND

Diamond is celebrated for the purity of its brilliance. Yet within the structure of diamond we often find impurities, or inclusions, that deflect light, distracting our eye from the radiance we so value. Many of these tiny imperfections are removed when the diamond is shaped. Another enhancement technique focuses tiny beams of laser light at imperfections, then vaporizes them. The voids are then filled with clear resins or glass-hardened substances, rendering them less visible. This treatment is stable, where only extreme heat or specifically formulated chemicals can remove the filling.

Diamonds may also be colored in a variety of hues. Extreme heat and irradiation permanently enhance certain innate color properties, allowing them to display their hues in a more brilliant array. Black diamonds, for example, are enhanced in this way.

High-pressure high-temperature treatment, known as HPHT, can improve the color of certain types of diamonds. HPHT treatment can remove tints from some diamonds, making them more colorless, or can intensify the pink, blue, green and yellow colors in others. Because HPHT-treated diamonds sell for less than natural colored diamonds, industry rules require HPHT-treated diamonds to be identified with an inscription on the girdle of the diamond to prevent misrepresentation.

EMERALD



Emerald, to many, symbolizes rebirth and the abundance of the life force. The rich green hue brings to mind the regeneration of life in spring and hope of new possibilities.

Yet perfection in emerald, as in all things, is among the most rare of nature's treasures. When they are mined from the earth, almost all emeralds have unique birthmarks that distinguish them as truly natural gemstones.

Early gem merchants sought to purify the transparency of their emeralds by immersing them in clear oils or paraffin. They found that clear oils and waxes rendered surface fissures less visible to the eye. Today, we have many sophisticated technologies with which to enhance the clarity of emeralds. In addition to the oils and waxes of ancient methods, we now use clear resins to penetrate the open fissures surfacing in the stones. Hardeners are often added to solidify these liquids. This step prevents the resin from evaporating, thus making the clarity enhancement more stable than oiling or waxing the gem. However, these measures are not permanent, so emeralds must be cleaned with care.

The ANCIENTS believed

EMERALDS

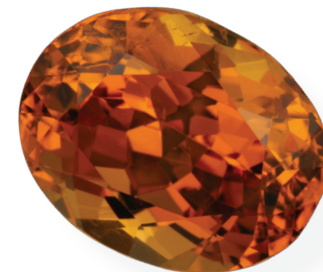
EMPOWERED *their* OWNER

with FORESIGHT

into the FUTURE.

Although emerald itself is quite durable, the garden of inclusions may make individual gems vulnerable to damage if handled roughly. To understand the journey your emerald has traveled from the earth to your possession is to gain special insight into its magic.

AddMoreColorToYourLife.com



GARNET

Vibrant and natural, garnets offer a beautiful and varied palette of colors. Garnet's name is most likely derived from the word pomegranate and evolving into the 14th century Middle English word "gernet" meaning "dark red." However, garnets are much more than the rich red stones that most people envision.

The vivid oranges of "Mandarin" garnet, and lush greens of Tsavorite, give the garnet family bright lively colors to add to the palette of the rich, velvety reds of Pyrope. The warm earth tones of Hessonite, Almandine and Spessartite complement the golden yellows of Grossular. Lively purples and the pastel pinks of Rhodolite and Grossular blend with the subtle blues of color change varieties. This broad spectrum of color gives people born in January one of the most versatile gemstones to choose from.

Almost always natural and untreated, the garnet group offers consumers a family of gemstones created by the earth and not altered or enhanced by man.

Garnets are fiery and lively gemstones, a result of garnet's high transparency and superior hardness. For example, Demantoid, a rich green variety of garnet, is one of the most brilliant of all gemstones and enjoys a dispersion, or fire, even higher than that of diamond. Demantoid is occasionally heat-treated to enhance the color. The majority of garnets offer hardness above 7 on Mohs scale and are also generally tough and very durable and incredibly versatile for use in jewelry.



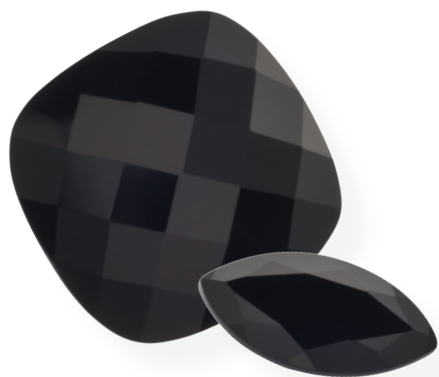
AMERICAN GEM TRADE ASSOCIATION

BLACK ONYX, *said to sharpen*

THE WITS OF THE WEARER,

HAS *also* BEEN A STAPLE

OF GENTLEMEN'S JEWELRY *for* DECADES.

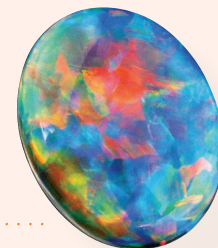


ONYX

In the notoriously fickle world of fashion, there can be no more enduring trend than the combination of black and white. In the universe of jewelry fashion, diamond undeniably represents the choice for white gemstones, and for centuries the preferred black gemstone has been black onyx.

Black onyx is a member of the chalcedony family, a group that includes agate, sardonyx, jasper and carnelian, among others. Black onyx is actually solid colored chalcedony that has been dyed to give it a uniform and consistent black color. The tradition of dying onyx dates back centuries, and was well documented by Pliny the Elder in the early parts of the first century A.D. It was not until the famed gemstone cutters of Idar-Oberstein, Germany, who had been cutting gemstones for nearly 500 years, developed the sophisticated techniques for dying chalcedony in the later years of the 19th century that there was enough material available to fill popular demand for this classic black gemstone.

Typically fashioned into beads or cut in cabochon fashion, black onyx has been a staple for jewelry wearers looking for a gemstone to provide contrast to their diamonds. It was popular at the beginning of the 20th century, where it graced the lacy platinum jewelry of the Edwardian period and the stunning geometrical designs of the Art Deco period. Black onyx, said to sharpen the wits of the wearer, has also been a staple of gentlemen's jewelry for decades.



OPAL

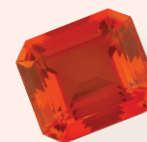
Known by ancient Romans as "The Queen of Gems," color-play opal is nature's gemstone kaleidoscope. Myriad light-refracting prisms formed as countless silica particles settled in fissures in host rock. Over the eons this silica lattice gelled, hardening into the amorphous structure we call "opal." Gem varieties of Australian White, Black or Boulder opal, Mexican color-play opal and fine Brazilian opal have proven their value as one of Nature's treasures to the many generations of discerning jewelry designers and jewelry lovers across the globe.

Other, more recently discovered opal varieties are Ethiopian color-play opal and Andean blue and pink opal. Andean blue and pink opals are non color-play varieties. Mexican opal, typically called "fire opal," has been mined for many generations. The orange, orange-red or yellow hues of Mexican opal may be faceted or cut in cabochon shapes.

Most gem-quality opal is not enhanced to improve durability. Oiling or soaking these opals in water is unnecessary and in the case of Ethiopian opal is not recommended. A porous variety of precious opal, known in the trade as "hydrophane," should not be immersed in colored fluids or oils as these can be absorbed and change appearance. Various types of opals can be treated to darken the body color. These varieties of opal require special care, as solvents and harsh cleaners can alter the treatment.

Opal doublets and triplets consist of a thin layer of opal cemented to an ironstone or black backing. Opal triplets consist of the doublet layers topped with a clear dome. The clear top provides a cabochon-like appearance and more durability to the thin layer of opal beneath. If a doublet or a triplet is exposed to intense steam cleaning or to solvents, the epoxy will tend to degrade, causing structural damage to the assembled layers.

Wear your opal and treat it with the same care you would any fine colored gemstone jewelry. As with most gemstones, abrasion with other stones may cause damage to the polish of your opal. Keep your fine opal jewelry separated in proper storage when you are not wearing. To be safe, clean all your opals with dry soft cloth and avoid extreme temperature changes.



PERIDOT HAS BEEN ADORED

since ANCIENT TIMES;

ITS HISTORY TRACES BACK

MORE THAN 3,500 YEARS

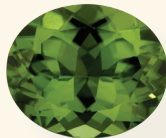
to when it

was PRIZED BY THE ANCIENT EGYPTIANS.



PERIDOT

Peridot has been adored since ancient times; its history traces back more than 3,500 years to when the ancient Egyptians prized it. Found in various shades of green, peridot is most desired in lime hues. Peridot has been credited with a host of magical powers and healing properties, such as protection against nightmares and possessing the power to ward off evil. It is the recommended gift for couples celebrating their 16th wedding anniversary. Peridot may be damaged if it is subjected to dramatic changes in temperature, so avoid excess heat or ultrasonic cleaners. As a general rule, peridot is not enhanced.



RUBY

Gem of passion, of smoldering desire, ruby has been treasured for thousands of years. Because the ancients thought its glowing red color was due to an inextinguishable inner fire, ruby was also associated with courage and power.

Throughout most of recorded history, ruby has been the most valuable of gems. It was believed wearing a fine red ruby bestowed good fortune on its owner—although the owner must have already had good fortune enough to possess such a rare and beautiful gem!

Despite all the best efforts of gem merchants to use technology to enrich color, fine ruby is still exceptionally rare. After being extracted from the earth, rubies today are commonly heated to high temperatures to maximize the purity and intensity of their red hue. Impurities may also dissolve or become less noticeable after heating. However, heating will only improve the color if the gem already contains the chemistry required.

Occasionally, when subjected to traditional heating methods, small surface reaching imperfections may be permeated with flux material, which makes these small fissures less visible. This enhancement, like heating, is permanent under normal conditions.

Another level of enhancement in rubies is *diffusion*, in which foreign elements, added during the heating process, artificially intensify the color of the gemstone. Whether enhanced or not, rubies remain among the most durable of gems. Ruby treated by diffusion is far less costly and much more available than rare, fine untreated gems or those successfully heat-treated using traditional methods.

A manufactured product that has appeared on the market is lead-glass-filled *composite manufactured* ruby. This material is ruby that has been significantly filled with lead glass to improve its appearance. This lead-glass-filled composite ruby is far less costly and much more available than rare, fine untreated gems or those successfully heat-treated using traditional methods. Unlike natural ruby, or ruby treated by traditional methods, lead-glass-filled composite ruby requires special care to avoid damage. It should not be exposed to heat, ultrasonic cleaners or common household chemicals. To be safe, all rubies should only be cleaned with warm, soapy water.



IN ANCIENT TIMES,
a GIFT *of a* SAPPHIRE
was a
PLEDGE *of TRUST and* LOYALTY.

It is FROM this
TRADITION *that* SAPPHIRE *has long* BEEN
A POPULAR CHOICE
for ENGAGEMENT RINGS.

SAPPHIRE

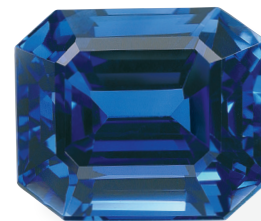
Velvety blue. Liquid blue. Evening-sky blue. Cornflower blue. Because sapphire embodies an infinite palette of blue hues, ancients believed that the earth rested on a giant sapphire and its reflection colored the sky.

But like the endless colors that appear in the sky, sapphire is also found in many other shades besides blue, from the gold of a sunrise to the fiery reddish-orange of sunset to the delicate violet of twilight. Sapphire may even resemble the pale white gloaming of an overcast day.

In ancient times, a gift of a sapphire was a pledge of trust and loyalty. It is from this tradition that sapphire has long been a popular choice for engagement rings.

Yet the perfect sapphire is as rare as the finest work of art. Thus, over the centuries, we have developed methods to enhance the purest hues of sapphire. This is now commonly achieved by controlled heating of these gems, a technique that not only improves color but also can improve clarity. But heating will only improve the color if the gem already contains the chemistry required. Heating sapphires is a permanent enhancement, as lasting as the gemstones themselves.

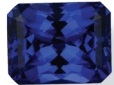
Another method of treating sapphires is *diffusion*, in which the color is artificially changed by diffusing foreign elements into the surface or throughout the gemstone. This *diffusion* process can create color or alter existing colors. Sapphire treated by diffusion is far less costly and much more available than rare, fine untreated gems or those successfully heat-treated using traditional methods. Diffused sapphire is available in shades of orange, pinkish-orange, yellow and sometimes blue. Recutting or repolishing may affect the color of some diffusion-treated gemstones.



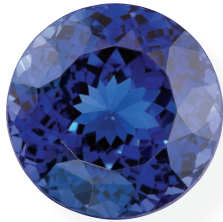
LEGEND HAS IT *that the* EFFECT OF HEAT
was first DISCOVERED



WHEN *some* BROWN GEM CRYSTALS
LYING *on the* DRY EARTH WERE
CAUGHT *in a* FIRE SET BY LIGHTNING



that SWEEPED *through* THE
GRASS-COVERED HILLS.



TANZANITE

Tanzanite, the ultimate prize of a gem safari, has a mesmerizing blend of rich purples and blues with a velvety deepness of color unlike any other gem. Mined only in Tanzania at the foot of the majestic Mount Kilimanjaro, virtually every Tanzanite is heated to permanently change its color from orange-brown to the spectacular violet-blue color for which this precious gemstone variety is known.

Legend has it that the effect of heat was first discovered when some brown gem crystals lying on the dry earth were caught in a fire set by lightning that swept through the grass-covered hills. The Masai herders driving cattle in the area noticed the beautiful blue color and picked the crystals up, becoming the first Tanzanite collectors.

Wear your Tanzanite and treat it with the same care you would any fine colored gemstone jewelry. As with most gemstones, abrasion with other stones may cause damage, so keep your Tanzanite jewelry separated in proper storage when you are not wearing it. Use mild detergent soap and water to clean your Tanzanite.



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TO PAZ

The Egyptians said topaz was colored with the golden glow of the sun god. Legend has it that topaz dispels all enchantments and helps to improve eyesight. The ancient Greeks believed that it had the power to increase strength and make its wearer invisible in times of emergency.

Topaz sometimes has the amber gold of fine cognac or the blush of a peach, and all the beautiful warm browns and oranges in between. Some rare and exceptional examples are pale pink to a sherry red. Sometimes peach-colored topaz can be “pinked” by gentle heating. This color change is permanent.

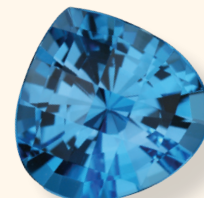
Blue, once the rarest color of topaz, is today the most common, thanks to a stable enhancement process that turns colorless topaz blue. After the raw topaz is extracted from the earth and cut, it is irradiated to brown and then heated to sky blue. This enhancement process is permanent.

Due to the popularity of blue topaz, a treatment process called vapor deposition was developed to create additional colors of topaz. In this treatment process, similar to those used by opticians and camera makers to make lens coatings, a thin colored film is bonded on the surface of topaz to create dark blue, red, pink, and green colors, or rainbow iridescence. These vapor deposition-enhanced topaz colors must be handled with special care, as the coating can be scratched and abraded.

Topaz is a very hard gemstone, but it can be split with a single sharp blow, a trait it shares with diamond. As a result, it should be protected from hard knocks. Clean with mild dish soap and use a small brush to scrub behind the stone where dust can collect.



*KEEP me in YOUR HOME and I WILL
gather UP the SUNLIGHT and RADIATE
good HEALTH to ALL your FAMILY.*



AMERICAN GEM TRADE ASSOCIATION

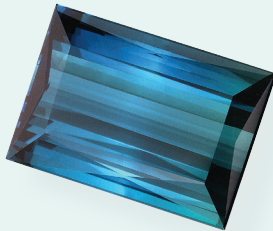
ANCIENT MYSTICS BELIEVED

TOURMALINE *could*

ENCOURAGE ARTISTIC INTUITION:

It HAS the PALETTE

to EXPRESS EVERY MOOD.



TOURMALINE

Tourmaline- Tourmaline's name comes from the Sinhalese word *turmali*, which means "*mixed*." Occurring in more colors or combinations of colors than any other gemstone variety found in nature, this gem lives up to its name. It has the a palette to express every mood. Perhaps this is why ancient mystics believed tourmaline could encourage artistic intuition.

Dark blue, blue-green and green tourmalines are occasionally heated to lighten their color. Red tourmalines, also known as rubellites, and pink varieties are sometimes heated or irradiated to improve their colors. Heat and irradiation color enhancement of tourmalines is permanent.

Occasionally, some tourmalines may have surface-breaking fissures that are filled with resins, with or without hardeners. Care must be observed with these gems, because this process is not permanent. Avoid exposing them to harsh abrasives and strong chemical solvents.



TURQUOISE

While turquoise is usually associated today with Native American culture, the ancient Egyptians were mining turquoise in 3200 B.C. Many ancient cultures regarded turquoise as a source of metaphysical power. Turquoise was thought to protect from evil, maintain virtue and bring good luck.

Turquoise is an opaque, light to dark blue or blue-green gem.

The finest color is an intense blue. Turquoise may contain narrow veins of other materials, either isolated or as a network. They are usually black, brown or yellowish-brown in color. Known as the matrix, these veins of color are sometimes in the form of an intricate pattern, called a spider web.

To improve its color and durability, turquoise is commonly stabilized with polymers, a permanent enhancement. It is also sometimes permeated with colorless oil or wax, which is considered not as stable as polymers. Some turquoise is dyed to improve its color, but rarely, as this is not a permanent enhancement.

Special care is required for all turquoise regardless of whether or not it is enhanced. A porous gem, turquoise can absorb anything it touches. Avoid contact with cosmetics, perfumes, skin oil, acids and other chemicals. Avoid exposing it to heat.

TURQUOISE *was* THOUGHT *to*
PROTECT *from* EVIL, MAINTAIN VIRTUE
***and* BRING GOOD LUCK.**



This brief description of gem enhancements does
not cover all gemstones that are treated today.
For more information please contact the American Gem Trade
Association at 800-972-1162 or on line at
www.addmorecolortoyourlife.com

ADD MORE COLOR TO YOUR LIFE™

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to promoting the long-term stability and integrity of the natural
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