The Theodore Roosevelt Conservation Partnership

By Sakura Ung

The mission of the Theodore Roosevelt Conservation Partnership is to guarantee all Americans quality places to hunt and fish. The TRCP represents the needs of all hunters and anglers with decision-makers in Washington, D.C., and across the country, including in Pennsylvania. In short, they seek to safeguard our outdoor traditions by improving federal and state conservation policies and laws.

Following in the footsteps of its namesake, Theodore Roosevelt, the TRCP works to ensure that conservation issues remain a top priority and the interests of sportsmen are fully served. Roosevelt, an avid supporter of conservation and the outdoors, stated the following in his 1912 Confession of Faith Speech at the Progressive National Convention in Chicago: “There can be no greater issue than that of conservation in this country.” Roosevelt was responsible for the creation of 150 national forests and 24 reclamation projects in states such as Montana, Utah, and Washington.

Since its inception, the TRCP has focused on supporting policies to improve habitat and clean water, expand sportsmen's access, and boost the outdoor recreation economy. This includes fighting for conservation incentives for private landowners, improving federal investments in public lands and natural infrastructure, modernizing management of marine fisheries, conserving backcountry lands, restoring sage grouse habitat, and educating the public about the impact of chronic wasting disease in deer and elk.

“Conservation means development as much as it does protection. I recognize the right and duty of this generation to develop and use the natural resources of our land; but I do not recognize the right to waste them, or to rob, by wasteful use, the generations that come after us.”


Pennsylvania is home to thousands of hunters and anglers across all 67 counties. The Commonwealth is considered a leading hunting state in the country because of its 4.5 million acres of public lands as well.
Litter comes in many forms and sizes and poses unique problems. It can be as small as a tiny bolt or as large as an eight-story satellite. And many satellites have been discarded. The space around our planet is becoming a junkyard.

In the past 60 years, the space around the Earth has gone from a virtually debris-free environment to a zone cluttered with man-made objects. According to NASA, more than 600,000 pieces of space litter are hurtling around the planet at speeds so high they threaten launches, active satellites and the International Space Station. The challenge is likely to grow as the price of launching satellites decreases and more players enter the private aerospace market.

Exactly how much debris is flying around is subject to debate. Active satellites, numbering in just the thousands, comprise a small percentage of Earth-orbiting objects; the rest is free-floating space litter. NASA and the U.S. Air Force 18th Space Control Squadron tracks more than 21,000 pieces of large space debris that measure more than four inches. More than 600,000 pieces that measure about the size of a marble are also tracked. They can be just as dangerous, zipping around Earth at more than 18,000 mph. It is estimated that there are more than 166 million pieces of even smaller objects that remain untracked.

Because of this immense, orbital debris field, the U.S. military issues hundreds of alerts every day warning commercial satellite operators of a possible collision.

The ISS and various military and commercial satellites must regularly be repositioned to avoid being struck by items circling the globe. The space station has had to be repositioned well over 30 times in order to avoid collisions with space debris.

Sputnik, launched by the Soviet Union on October 4, 1957, did not start the accumulation of space litter. It burned up on atmospheric re-entry just three months later. However, the long-term problem began to grow soon afterward. Vanguard 1, the second satellite launched by the U.S., was placed into orbit in 1958 and stopped radio transmission six years later, but the satellite is still in Earth's orbit and is expected to remain so for nearly 200 more years.

Space litter may originate in one of three ways: mission-related operations, accidents, intentional creation or collisions. For example, satellite deployment operations can generate many objects of various sizes. Metal bolts, screws, protective fabric shields and other incidental hardware items have typically been discarded into orbit. Over the years, regular objects, including pliers, wrenches, cameras and tool bags became un tethered and drifted away.

A new litter removal market could emerge with recent interest in launching private commercial satellites. International space guidelines suggest that satellites should be removed from orbit within 25 years of its mission's end – but it is difficult to ensure that everyone plays by the rules.

People are no better at picking up after themselves when we visit other celestial bodies either. According to a recent article in the Pittsburgh Post-Gazette, an estimated 400,000 pounds of detritus rests on the lunar surface. Six lunar landers, three lunar rovers, camera gear and backpacks, a few faded flags and even some golf balls are scattered across six Apollo landing sites. In addition, more than 70 vehicles from various nations are scattered across the moon. Mars is the final resting place of over a dozen robots, from the over 40-year-old Viking 2 lander to the smashed remains of the Schiaparelli, the ill-fated European and Russian lander that crashed in 2017.

The only international law that applies to space objects is the Liability Convention, which was reached by the U.N. General Assembly in 1971. It says that when something falls out of space and lands on the ground, the country where that object originated is absolutely liable for any damage it causes.

America's 77-ton Skylab made an uncontrolled re-entry in July 1979. Much of it burned up in the atmosphere's upper strata, but larger pieces, jagged shards survived re-entry. Instead of landing in the Indian Ocean, it crashed through the atmosphere spreading pieces of wreckage near the southwest Australian town of Esperance. Weeks later when NASA officials arrived to examine the debris they were issued a $400 fine for littering, which the town council later waived.
Why is so Much Food Wasted in the U.S.?

Coleen Engvall, Research Analyst

Nearly half of the food grown and produced in the U.S. is thrown away or left to rot in fields. This amounts to over $160 billion worth in 2010 alone, according to the USDA. Food waste presents a few different environmental challenges. First, the water, energy, fertilizers and labor cost to grow the food is wasted. This strains not just the finances of the farmers spending these resources, but also the surface water that supplies irrigation and livestock needs, and the watersheds which receive excess sediment, nutrients and pollution as runoff. Second, once food is disposed of, it requires resources and infrastructure to be hauled away and stored. Landfills occupy more and more space and the rotting food releases methane, a potent greenhouse gas, into the atmosphere.

There are many reasons for the increase in wasted food. Grocery stores aggressively sort produce based on cosmetic flaws, and price fluctuations can lead to entire fields going unharvested.

A significant amount of the food waste in this country, however, happens in homes. A 2014 USDA report estimated that 21 percent of food waste happens at the consumer level. This includes food that is thrown out in the preparation process, uneaten portions and food that spoils before it makes it to the table.

A study from Ohio State University Professor Brian Roe set out to understand why Americans throw out so much food that we fully intended to eat when we bought it. Professor Roe and his team of researchers surveyed over 300 American households about what was in their refrigerator, how they expected they would use it and how much they predicted would be thrown away. They then sent follow-up surveys to see how reality met with their expectations and why.

Many American consumers believe that they are throwing food away when it spoils, but researchers say a significant amount of the food wasted is safe.

The households were very optimistic about their plans to use their perishable food. They predicted that they would eat all or most of their meat and vegetables, 71 percent of their fruit and 84 percent of their dairy. A week later when the follow-up survey was filled out, they admitted to eating only 50 percent of the meat, 44 percent of the vegetables, 40 percent of the fruit and 42 percent of the dairy.

Using the responses from the participants, the researchers examined what went wrong and how education and policy could be better utilized to reduce this waste.

The survey responses revealed correlations between certain misconceptions and behaviors with greater amounts of food waste. For example, many of the households reported throwing food away after the “best if used by” date. The researcher note, however, that these dates are often used to indicated quality rather than safety. Without a standardized system, the variety of package dating styles confuses consumers into throwing away safe food. Their data showed that fears about freshness or safety were the main reason for waste.

This shows that education on how to determine food safety could go a long way in reducing the nations overall waste. The researchers also point to legislation before Congress that would clarify safety and quality dates on packaging.

The researchers noted that more data is needed on the behaviors of individuals to best tailor a response.

More information found in the study can be read at: https://news.osu.edu/much-fridge-food-goes-there-to-die/.
Pentagon Report Concludes Climate Factors are a National Security Concern
Tony Guerrieri, Executive Director

A report by the U.S. Department of Defense outlines how climate change is already threatening military installations around the country. In the decades ahead, the Pentagon expects the problems to only get worse, warning that rising seas could inundate coastal bases and drought-fueled wildfires could endanger those that are inland.

The assessment, Report on the Effects of a Changing Climate to the Department of Defense, was mandated under a 2016 directive requiring the DoD to incorporate climate considerations in its planning for operations and infrastructure. It looks at 79 major military installations around the country, assessing both the current and future risks of severe weather including recurrent flooding, drought, wildfires, desertification and thawing permafrost.

The findings paint a pessimistic picture: two-thirds (or 53) of the facilities are vulnerable now or will face flooding in the years ahead, and more than half (43 bases) will likely face drought. Wildfires are a concern for 36, including the threat of mudslides and erosion from rains after the blazes.

The installations break down by organization as follows:
- Air Force: 35
- Army: 20
- Navy: 19
- DLA: 2
- DFAS: 1
- NGIA: 1
- WHS: 1

U.S. military facilities are already encountering some of the effects, according to the report, noting that Joint Base Langley-Eustis in Virginia has experienced 14 inches of sea-level rise since 1930. And Navy Base Coronado in California already is subject to flooding during tropical storms as well as recent fires in 2017 and 2018 that encompassed parts of the Vandenberg Air Force Base.

In the Washington, D.C. area, several DoD sites – including Joint Base Andrews, home of Air Force One – are experiencing drought conditions that have been severe in the past 16 years, the report says. Those conditions can lead to ruptured utility lines and cracked roads, the Pentagon warns, as moisture disappears from the soil.

Which states have the most bases at risk? Virginia has nine; California and Florida have six; Colorado has five; Maryland has four; and Arkansas, Washington D.C., Georgia, Hawaii and Ohio all have three.

The report mentions only one Pennsylvania installation facing problems. The Defense Distribution Depot (Defense Logistics Agency) in Central Pennsylvania is at risk for worsening floods. It isn't currently threatened by drought but is vulnerable to it in the future.

A new report shows that Department of Defense installations are vulnerable to climate-related damage.

It is relevant to point out that “future” in this analysis means only 20 years in the future, according to the report. It adds, projected changes will likely be more pronounced at the mid-century mark and vulnerability analyses to mid- and late-century would likely reveal an uptick in vulnerabilities if adaption strategies are not implemented.

To address these concerns, the report recommends the DoD increase installation resiliency and expand research grants through its Strategic Research and Development Program and Environmental Security Technology Certification Program. Yet the report notes that more cooperation is needed with U.S. allies to further enhance the resiliency and sustainability of U.S. military and humanitarian operations abroad.

White-Tailed Deer and Reforestation
Coleen Engvall, Research Analyst

White-tailed deer populations on the east coast have been growing, which has caused some forest managers and conservationists concern. Forest restoration efforts have assumed that deer were eating saplings, thus preventing valued species such as oak and pine from becoming re-established. This not only diminishes the number of those kinds of trees, but opens the door for low value species and invasives. Temperate forests across the country have been experiencing shifts in dominant species and the establishment of invasive plants, and deer have been targeted as a reason for this.

However, recent data has contested this assumption.

White-tailed deer populations have continued to grow since their overhunting in the 1800s to estimated tens of millions, with upper estimates reaching a staggering 80 million animals. However, tree density in forests has also increased during this timeframe.

In order to determine why the conventional knowledge about deer and reforestation fails to explain these trends, researchers from Pennsylvania State University conducted an in-depth analysis on eastern forests and their relationship with this herbivore.

They looked at forest stocking and deer populations in counties in 26 states in the Eastern U.S., gathering data sets and inventories from 1982 to 1996. They also factored in the time needed to observe saplings becoming established trees, the historical density and the dominant tree species. The researchers note, however, that tree size/age was not factored in to their study.

When comparing the deer populations across the Eastern U.S., they categorized counties by density. The first category had less than 5 deer per square kilometer, the second having 5 to 11, and the last having greater than 11, which the researchers cited as the existing threshold to expect forest damage.

Surprisingly, they found very little correlation between deer density and tree establishment, challenging the existing knowledge.

Especially when the probable inaccuracy of the deer population estimates is taken into account, they determined that deer density had very little direct effect on the understocking of forests overall.

A few sites saw consistent damage from deer, but these areas were the outliers in the study. All of this means that deer are probably not responsible for the shifts in forest compositions that most regions have been experiencing.

While deer in one small area may favor maple saplings over hemlock, any canopy change will generally remain confined to that area, if a change is seen at all, rather than shifting an entire region towards hemlock.

To further support their conclusion that deer are not the primary cause for forest shifts and stocking decreases, they included data on which saplings deer are likely to snack on versus the prominence of that species after five years. The researchers looked into regionally important trees and the proportion that fell victim to deer browsing. As one might imagine, certain saplings and plants are more appetizing than others, and white-tailed deer have shown regional variance in taste as well.

For this study, the researchers selected 19 important tree species to see how their seeding and survival correlated to the number of deer in each specific region and what they preferred to eat. The trees selected included important Pennsylvania species such as Eastern hemlock, ash, oak, black cherry, Eastern red cedar and sugar maple.

Again, they found no significant correlation. In fact, the probability for a species that was favored to flourish or not was almost identical despite how appetizing deer find them. For example, deer are not inclined to dine on white pine saplings in some regions, and the prevalence of that species has increased over the length of the study. However, deer have also shown distaste for beech, and that species propagation has decreased.

All this shows, the researchers argue, that deer have a minimal - if any - impact on the future composition of forests.

Deer overpopulation has often been characterized as an enemy to reforestation efforts. New research argues that the picture is more complex.

Sea Level Rise in Florida Could Harm Septic Systems

Tony Guerrieri, Executive Director

There is a lot of discussion on how climate change is causing sea level rise and more frequent and intense weather events. But what does that mean to our daily lives? Ultimately, the dangers posed by climate change come not just from catastrophic events like hurricanes and polar vortexes. Warming temperatures and melting glaciers are already causing increased rainfall and a steady rise in sea level along the nation’s coast.

This change in sea level will raise groundwater tables along the nation’s coast, which will in turn disrupt the functioning of the most basic infrastructure many homeowners rely on every day – an onsite septic system.

A report by Florida’s Miami-Dade County Department of Regulatory & Economic Resources looks at how failing septic systems are emerging as an unexpected consequence of climate change. It identifies current and future vulnerable areas, and outlines potential approaches to limit vulnerability through infrastructure improvements and policy changes.

Since 1994, sea levels have risen four inches and are expected to rise another two to six inches by 2030. The rise of sea water has brought higher groundwater levels in some areas and those will continue to rise over the long term.

Failing septic tanks are damaging Florida’s environment and will cost billions to replace.

According to the report, Miami-Dade County relies heavily on septic tanks that require constant maintenance, and will require even more attention as sea levels continue to rise. In total, there are about 108,000 properties within the county that still use septic tanks, about 105,000 of which are residential. Many are already malfunctioning during storms or wet years. Most homeowners who rely on a septic tank, also rely on a nearby well for their drinking water, food preparation, baths, laundry, and other household water uses.

In the next twenty years, sea level rise could cause up to 64 percent of Miami-Dade County’s systems (more than 67,000) to malfunction, leading to a host of diseases, the contamination of household drinking water and property damage.

Conventional septic systems get installed in zones where it’s not practical or cost effective for local governments to put in a traditional sewer system. They function by collecting wastewater in impenetrable tubs, and then just letting the liquid sit there for a while. Gravity does the work of separating out the solids, and pulling the liquid out into the septic drain field, where it slowly gets filtered through the soil.

Septic systems require a certain separation distance between the bottom of the drain field and the seasonal high-water level to provide for treatment. For it to work, the bottom of the drain field needs to be at least a foot above the height of the groundwater. Older rules required one foot of soil, but newer regulations call for double that. This is hard to come about since there is not so much dirt between a home and the groundwater below.

Because soils in Southern Florida are relatively unsuitable for septic tanks because they are so porous, rising sea levels and heavy rains can push groundwater levels upward, eating up precious space and leaving the once dry dirt soggy. Waste water doesn’t filter like it’s supposed to in soggy soil. The overflow carries nitrogen, phosphorus, bacteria, viruses and pharmaceuticals into the groundwater and ultimately surface waters. The result is public health problems.

The report did not forecast past 2040, when the region is expecting around 15 inches of sea rise, a number that is predicted to creep exponentially upward over the decades.

Ripping out every septic tank and laying down new pipes to connect the homes to the county’s sewer system won’t be cheap. According to the report, the latest estimate put the price tag at $3.3 billion. That doesn’t cover commercial properties, an estimated extra $230 million cost. The county’s current general obligation bond includes $126 million to extend sewer services to businesses.

For now, anyone who wants to connect their property to the county’s sewer system has to pay out of pocket. The report cites the average price as $15,000. Besides borrowing more money with another bond, the report pointed out the county’s best options would be continuing to collect the per-home fee or establishing special taxing districts and spreading the cost into a neighborhood.

Recap of Committee Events
See what we’ve been up to around the Commonwealth

In August, the Committee hosted a presentation focusing on rails-to-trails initiatives and local bicycle tourism in Northwestern Pennsylvania at the request of JLCC member Representative Parke Wentling.

During the two-day program which was held in Mercer and Crawford Counties, attendees heard from legislators and key stakeholders from Pennsylvania and Ohio regarding the development and progress of rails-to-trails projects spanning from Erie to Pittsburgh and Jamestown to Ohio. In addition, the economic and recreational impacts of bicycle tourism on local communities was also a key topic.

In order to gain a firsthand look at these initiatives, members and attendees had the opportunity to participate in bicycle rides at Goddard State Park as well as along the Shenango River Trail. Those in attendance also visited the Linesville Spillway and Trail located at Pymatuning State Park, which is a very popular tourist destination that is home to thousands of carp. Over 300,000 citizens visit the spillway annually.

The program was very informative and educational and the Committee looks forward to receiving more updates on these projects in the near future.

This Month in Conservation History
A look back at the evolution of environmental stewardship

15 Years Ago

A study conducted by researchers from the University of Southern California was published in the New England Journal of Medicine in September 2004 which linked the chronic effects of ambient air pollution on the lung function and development of children.

The researchers examined the lung function of 1,759 children between the ages of 10 and 18 in twelve communities in Southern California. Over the course of eight years, the researchers measured the children's lung health while also monitoring the levels of air pollutants that were present in the children's respective communities.

The researchers found that children who resided in communities with higher levels of air pollution (i.e. pollutants mainly from car exhaust and fossil fuels), the greater the deficits that were present in their lung function. Specifically, the researchers noted that 18 year olds who lived in communities with the highest amount of air pollution had lung function capacities that were less than 80 percent what they should have been.

Based on their findings, the researchers ascertained that continued efforts to improve air quality can lead to better health results among children and individuals.
as its many forests and woodlands. Sportsmen play a large role in ensuring that Pennsylvania's waterways and wildlife habitat remain vibrant and healthy – and the TRCP is committed to helping maintain hunting and fishing opportunities for these men and women through the collaborative efforts of its 58 partner groups. TRCP’s coalition includes the top conservation, hunting and fishing groups including: Ducks Unlimited, Trout Unlimited, Backcountry Hunters & Anglers, Pheasants Forever, National Wildlife Federation, National Wild Turkey Federation, and many more.

In August 2018, the TRCP conducted a statewide survey polling 700 registered voters – 300 of which identified themselves as sportsmen – regarding their views on conservation and clean water issues in Pennsylvania. 75 percent of sportsmen who participated in the survey considered themselves to be conservationists.

Highlighted below are some of the results gathered from Pennsylvania sportsmen on the issues of conservation and clean water:

- 92 percent of sportsmen and women support protecting more of Pennsylvania’s exceptional value streams.
- 80 percent of sportsmen support restored funding for the Growing Greener program.
- 73 percent of sportsmen are strong supporters of ensuring polluters are held responsible for their actions and safeguards are put in place to prevent pollution in waterways.
- 65 percent of sportsmen think the conditions of local rivers and streams have improved over the last 10 years.
- 63 percent of sportsmen strongly support forest restoration and areas next to waterways such as rivers in order to prevent water pollution.
- 53 percent of sportsmen strongly support funding for projects that will clean up abandoned mines, which is responsible for the pollution of over 5,600 miles of streams in the state.
- 53 percent of sportsmen believe that agricultural runoff such as from pesticides and fertilizers is a major contributor of water pollution.
- 51 percent of sportsmen believe that standards for water quality should be strengthened.

Given the many environmental and economic benefits that Pennsylvania’s hunters and anglers offer to the Commonwealth’s $29.1 billion outdoor recreation industry, it is important that we continue to strive towards preserving and maintaining the state’s vast and diverse landscapes so these opportunities can remain for generations to come.

For more information about the TRCP, please visit www.trcp.org. To view more of their comprehensive poll questions and results, please go to www.trcp.org/papoll.