



1986-2016

30 Achievements for Iowa Natural Resources

2016 marks the 30th anniversary of the Iowa Department of Natural Resources. In the last 30 years, Iowa citizens, companies, organizations and agencies have partnered to positively impact quality of life and to preserve our natural heritage. While there's still work to be done, and while there are numerous success stories not on this list, the DNR's 30th anniversary is an opportune time to recognize 30 accomplishments by many Iowans who have changed our natural resources for the better. Here are 30 achievements:

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1. REAP Cultivates Thousands of Achievements

What Has Changed: Since it was established in 1989, Iowa's Resource Enhancement and Protection Fund has provided \$316 million to more than 15,000 projects across Iowa.

Why It Matters: Perhaps no other funding source has so greatly improved Iowa's outdoor recreation and conservation opportunities. REAP has funded projects in all 99 counties, providing resources and encouraging partnerships with measurable impacts. Projects include soil conservation initiatives, new trail and park development, protection of vulnerable areas like the Loess Hills, environmental education for thousands of Iowa students, preservation of historic resources/treasures, and much more.

2. Trout Triumph

What Has Changed: The number of streams able to support naturally reproducing trout has increased from six in 1980 to 45 in 2014 through massive efforts to reduce sediment in streams.

Why It Matters: For years, sediment and pollutants made it difficult for trout to flourish in northeast Iowa's unique cold-water streams. Concerted efforts by landowners, state agencies and non-profit organizations like Trout Unlimited and Hawkeye Fly Fishing Association have dramatically improved water quality. During the last 20 years landowners have created buffer strips, reduced streambank erosion and developed habitat. These efforts are keeping streams cleaner and making it easier for trout, which depend on clean water to survive, to reproduce and sustain their populations. Thriving trout also improve fishing opportunities, drawing thousands of anglers to northeast Iowa and helping local business to flourish as well.

3. Clearing Up Nasty Air Emissions

What Has Changed: Since 1990, sulfur dioxide emissions have decreased by 60 percent and nitrogen oxides are down 43 percent, despite increases in the number of emission sources, and growth in Iowa's population and industries.

Why It Matters: Controlling air pollution protects public health and encourages a stronger economy. Nitrogen oxides and sulfur dioxide air pollutants have the most serious effects on the young, elderly, those with lung diseases and people who exercise outdoors. These pollutants contribute to forming ozone and particulate matter. Large facilities across Iowa have actively worked to reduce emissions, replacing aging equipment with more efficient technology that incorporates the latest emissions controls. These practices have improved air quality dramatically during the last 30 years. While Iowa's gross domestic product soared (up by 65 percent) since 1990, vehicle miles traveled climbed by 38 percent and population increased 11 percent, air pollutant emissions decreased. Attaining good air quality allows existing facilities to expand and attracts new industry to Iowa.

4. Return of Iowa's Natural Landscapes

What Has Changed: Since the early 1990s, Iowa has gained at least 1 million acres in restored forest, wetland and prairie grasslands. A prominent example is the opening of the Neal Smith National Wildlife Refuge in 1990, with 5,600 of restored prairie acres in central Iowa.

Why It Matters: By the 20th century, about 92 percent of Iowa, made primarily of prairie, wetland and forests, had been converted to agricultural use. While those fertile lands provide food and economic returns, there is still a need to return and restore areas of Iowa to natural landscapes for the protection of water quality and improved habitat for wildlife. Partnerships among state, federal and private landowners have worked diligently to restore nearly a million acres to reflect their natural state in the last 30 years. In recognition of Iowa's unique position in the prairie landscape, the Neal Smith National Wildlife Refuge was established in 1990 with a mission to protect, restore, re-construct and manage the diverse native ecosystems of tallgrass prairie, oak savanna, and sedge meadow. Along with the Neal Smith Wildlife Refuge, many Iowa organizations have committed to protecting native prairie areas, and to also establishing plots of the type of native tallgrass prairie that existed here 150 years ago.

5. The Groundbreaking Ground Water Protection Act

What Has Changed: The 1987 passage of the Ground Water Protection Act established one of the most comprehensive approaches to water quality protection in the history of the state, creating a sustainable approach that exists today.

Why It Matters: During the mid-1980s, the human health hazards of contaminated drinking water became a growing concern for Iowans. Numerous scientific and governmental organizations came together with recommendations for protecting groundwater, and in 1987, the Iowa Legislature created a landmark approach to protecting drinking water supplies. With a focus on education and incentives for compliance, the legislation established fee-based funding to create programs that addressed underground storage mitigation, closing of private wells and ag drainage wells, proper waste disposal and more. It also created the Leopold Center for Sustainable Agriculture at ISU and the Center for Health Effects of Environment Contamination at the University of Iowa. Many of the milestones mentioned in this list of accomplishments were achieved because of the innovative Ground Water Protection Act.

6. Eagles Make a Comeback (And So Do Peregrines, Turkeys, Swans, Otters and More)

What Has Changed: Through state and federal partnerships and restoration programs:

- The number of nesting pairs of eagles in Iowa has grown from two in 1985 to 360 in 2014.
- Peregrines, gone from Iowa by 1964, had their first restoration in 1989. By 2014, Iowa had 13 nesting pairs producing 33 young, especially along cliff areas of the Mississippi and urban buildings across Iowa.
- Prairie chickens' last known Iowa nesting took place in 1952. Through restoration efforts that began in the late 1980s, between 11 and 13 broods containing 85 chicks were observed in southern Iowa and northern Missouri in 2014.

- Osprey – although there are no historical records of osprey in Iowa, restoration efforts had developed 15 nesting pairs with 30 young by 2014.
- Trumpeter swans last nested in Iowa in the late 1800s. Restoration beginning in the mid-1990s has produced a cumulative 437 swan nests since 1998, with 45 nesting pairs in 2014.
- Otters were extirpated in Iowa by the early 20th century. Through a restoration effort that began in 1985, the species has become so plentiful a trapping season could be established. By the 2014, 1,195 otters were harvested and the statewide population is considered very healthy.

Why It Matters: Numerous species were considered either threatened or hadn't existed in Iowa for decades due to dramatic loss of habitat, overhunting or extensive use of now-banned pesticides harmful to wildlife. Iowa looked for opportunities to successfully reintroduce these species so they could continue to have self-sustaining, reproducing populations. A priority for the restoration efforts is to develop good habitat. In a successful restoration program, release of animals is only the beginning. Working with partners such as federal agencies, county conservation boards and even citizen volunteers who help monitor and survey, it takes extensive research to determine why restoration programs are working or not working, based off biological data and observation. These efforts have paid off for these native Iowa species. As the nation's symbol, Bald eagles are perhaps the best known success story. For most of the 20th century, nesting eagles were nonexistent in Iowa. Few believed Bald eagles could ever make a comeback from their place on the federal endangered species list. But with dramatic changes in the use of pesticides and lead that were killing eagles, along with numerous partnerships by state and federal organizations to reintroduce eagle to their natural habitat, their numbers have again soared. By 2009, the Bald eagle was removed from the threatened and endangered list, and generations of Iowans enjoy seeing the elegance and power of our nation's symbol on a regular basis throughout Iowa.

7. Wind Renews Iowa's Energy Resources

What Has Changed: Since the mid-1990s, Iowa has become the leading state in the country in wind production, with 28.5 percent of its electricity being generated from wind by the end of 2014 from more than 3,000 turbines.

Why It Matters: Traditionally Iowa's electricity production came primarily from coal-fired power plants. Looking for renewable, clean energy sources became a priority for the state, and wind is a plentiful resource in Iowa. In 1983, Iowa became the first state in the country with an alternate energy law requiring a certain percentage of electricity to be generated from renewable resources. The current wind production facilities in Iowa avoid more than 8.7 million tons of carbon emissions annually, equivalent to taking 1.5 million cars off the road. Additionally, the wind production industry provides tax credits to landowners and economic development through new jobs. Creating alternative, clean resources for electricity production will continue to be a goal, although continued study about wind energy's impact on wildlife should be part of wind development's future progress.

8. Iowa's Lakes Put Unity in Community

What Has Changed: Since 2006, 22 Iowa lakes have been restored through comprehensive water quality and outdoor recreation improvements. An additional 23 lakes currently have active projects in progress and 14 lakes are in planning phases.

Why It Matters: Iowa's lake restoration program, currently receiving almost \$10 million annually, is focused on improving Iowa lakes through a science-based approach. Given that six out of ten Iowans visit an Iowa lake each year, these lakes are a focal point for community-based outdoor recreation, tourism and an overall source of pride. The lake restoration program focuses on water quality as a primary tool for economic development in Iowa.

9. It's All About the Watershed

What Has Changed: In the last 10-15 years, targeted practices in watersheds have been the focus of many water quality improvements in Iowa. As an example, in 2013-14 alone, landowners installed 331 practices such as streambank stabilization, buffer strips and sediment control structures, resulting in more than 9,000 tons of soil being prevented from eroding, and more than 13,500 pounds of phosphorous entering the water. Each year for at least the last 10 years, on-the-ground practices created similar results.

Why Is It Important: Addressing water quality requires a more comprehensive understanding of what causes the problems. Fixing a lake 30 years ago often involved a simple approach to a complex problem -- dredge the lake. As one fisheries biologist put it, "It was like replacing the carpet and the furniture every time it rains instead of fixing the roof." Most of Iowa's water quality issues are related to runoff from rain and snowmelt, so understanding how water flows in a watershed among related creeks, rivers and lakes is vital. Watershed practices are being focused by communities and landowners who work to protect their nearby water bodies. Meanwhile on a national level, concern about hypoxia in the Gulf of Mexico from agricultural practices in the Mississippi River watershed puts water quality in a national spotlight. Targeted erosion control practices at critical points in the watershed are keys to protecting and improving water quality downstream.

10. The Great Iowa Trail Boom

What Has Changed: Iowa's bike trail system has expanded to more than 1,200 miles since the 1980s, along with hundreds of miles of trails throughout state parks and public areas.

Why It Matters: Biking has grown in popularity during the last 30 years, in great part because of the accessibility of safe, well-maintained trails that criss-cross the state. With leadership from organizations like the Iowa Natural Heritage Foundation, the Iowa DOT and others, millions of dollars have been invested to create bike trails systems that are improving quality of life, increasing tourism, and creating greater enjoyment and pride in Iowa's outdoors.

11. Green Bins an Iowa Way of Life

What Has Changed: From 1992 to 2015, the number of Iowa communities with curbside recycling increased by 176 percent, from 240 to 644. Currently 2.2 million Iowans are able to participate in curbside recycling.

Why It Matters: Residential recycling is no longer considered an “optional” practice by most Iowa households. With an increase in accessibility, most Iowans are choosing to divert materials from landfills. It costs far less to recycle materials than it does to create new ones. Beyond the economic benefits, recycling protects habitat and biodiversity, saving energy and resources such as water, trees and metal ores. During the last 30 years, recycling has become much more commonplace in Iowa. Whether Iowans recycle curbside or take recyclables to community drop-off sites, they are all helping to make a difference to the environment on a daily basis.

12. Public Lands Provide Protection

What Has Changed: Iowa’s public lands increased by 147,000 acres since the mid-1980s, including wildlife management areas, state and county parks, and forest areas.

Why It Matters: Public land provides places for outdoor recreation, habitat development, preservation of fragile natural areas and more. Typically, communities near public land areas experience increases in tourism and economic development, whether those areas are wildlife management areas that provide hunting, lakes that provide water recreation and fishing, or parks that provide scenic views and recreation. With only 3 percent of land publically owned, many of the land purchases in the last 30 years in Iowa focused on protecting and improving current natural resource areas. Numerous Iowa organizations and communities have placed value on establishing more public land areas for these purposes, including the Iowa Natural Heritage Foundation, the Iowa chapter of the Nature Conservancy, the Iowa DNR and many more.

13. Hatcheries Mean Better Fishing for Iowans

What Has Changed: Iowa hatcheries spawn, raise and stock more than 150 million fish annually, including northern pike, catfish, muskellunge, blue gill and trout. Iowa is a national leader for its walleye hatchery and stocking process, achieving up to 85 percent survival rate of its fingerling-sized fish, and producing 175,000 walleye each year stocked in lakes and rivers.

Why It Matters: Thanks to the hatchery program, anglers can catch species that might not otherwise exist in waters across Iowa. Hatchery staff produces the quantity and size of fish to establish, maintain, or enhance existing populations. A specific example of success is Iowa’s walleye program. Walleye is a highly sought after sport fish in Iowa. Raising and stocking walleye at fish hatcheries ensures adequate populations. Prior to the mid-1980s, walleye were notoriously difficult to grow to survivable sizes once they were stocked, so hatchery staff began an innovative research program to improve success. Their pioneering efforts created one of the best walleye stocking programs in the country, and Iowa is considered a national leader in the field of walleye culture emulated by many other agencies in North America. Just as importantly, Iowa anglers have the opportunity to catch this desirable fish at hundreds of Iowa lakes and streams.

14. Deer Strategies Create World Class Herd in Iowa

What Has Changed: Iowa has earned a reputation as having some of the best white-tail deer hunting in the country. With more than 100,000 deer licenses sold each year, management strategies have produced valuable hunting opportunities while creating economic activity from both resident and nonresidents who come to Iowa to hunt deer.

Why It Matters: After being nearly extirpated in the 1800s and then reintroduced in the mid-20th century, Iowa's white-tail deer herd has grown to plentiful levels. Deer are coveted as a valuable source of meat and for the sport among hunters. However, balancing ecological concerns of a healthy deer herd with societal concerns about impacts to crops and property requires well-thought-out deer management strategies. The DNR and partners use in-depth analyses of harvest data and hunter surveys to understand deer herd size. That information is used to set deer seasons in ways that protect the herd during their vulnerable life phases – such as birth and rut – while setting quotas and season dates to adjust to the highs and lows of the deer herd size. Just as importantly, Iowa deer hunters have been a critical link in deer management. Their participation in special hunts and programs, including Help Us Stop Hunger (HUSH), a program that provides deer meat to food shelters, ensures a balanced deer herd still offering opportunities for trophy-sized bucks and plentiful hunting for generations to come.

15. Trails Emerge on Iowa Waterways

What Has Changed: To date, 915 miles of designated water trails, along with 1,016 miles under planning and development, provide outdoor recreation for paddlers. Additionally, 14 low-head dams are being replaced or removed on several waterways, and 22 additional dams are under study.

Why It Matters: Two of the fastest growing outdoor recreation sports in Iowa are canoeing and kayaking. Part of the growth has been due to Iowa's dedication to creating a designated water trail system to help paddlers navigate more safely, protect private property and increase enjoyment of the outdoors. Along with the designated water trails, Iowa communities have looked for ways to replace or remove aging low-head dams. By removing these dams, communities can increase safety, improve habitat for fish, and create new recreation through development of whitewater attractions where the dams were once located.

16. Honey Creek Resort Leads List of New State Parks

What Has Changed: In 2008 Iowa opened Honey Creek Resort State Park on Rathbun Lake. The first of its kind in the state, Honey Creek Resort features a hotel/conference center, 18-hole golf course, indoor water park, 28 cottages, beach, boat rentals, activity center, green initiatives, and more.

Why It Matters: Iowa's state parks provide high-quality experiences built on beautiful natural settings, recreational opportunities and convenient amenities. Over time, services offered at nature-based parks across the nation have become more sophisticated and diversified. Honey Creek's nicely appointed overnight accommodations and leading-edge recreational facilities attract today's families, travelers and professionals in vacation or meeting destinations. The resort park provides a platform for connecting many audiences -- young and old, urban and rural, casual participants and

active, families and professionals, to the beauty, enjoyment and importance of Iowa's natural resources.

Along with Honey Creek Resort, the parks system also opened Banner Lakes at Summerset State Park near Indianola and Elinor Bedell State Park in Okoboji. Both parks are situated near higher-population areas and provide expanded outdoor recreation to more Iowans. An additional park, Good Earth at Blood Run in northwest Iowa, is being planned.

17. Safely Managing Household Hazardous Materials

What Has Changed: Iowa established the Regional Collection Center (RCC) system in 1995, with 70 RCCs now serving 500,000 households and collecting more than 51 million pounds of Household Hazardous Materials (HHMs) since the program started.

Why It Matters: HHMs are found in nearly every home, farm and business in Iowa. Classified as any material that is toxic, flammable, corrosive or reactive, they can harm people and the environment if not properly stored or disposed. Iowa's Regional Collection Centers provide safe venues for Iowans to get rid of harmful materials like paint and cleaners, without them going into landfills or down a drain. Iowa has more regional collection centers than Minnesota, Missouri, Nebraska and Illinois combined.

18. New Lakes, New Outdoor Enjoyment

What Has Changed: Iowa has created 11 new lakes in the last 30 years, including Belva Deer, Lost Grove Lake, Brushy Creek Lake, Beaver Lake, 3 Mile Lake, 12 Mile Lake, Lake Sugema, Hawthorn and more.

Why It Matters: Lakes in Iowa tend to be the centerpieces of their local areas. They provide fishing opportunities, boating and swimming, and often encourage new business through hotels, restaurants and stores who serve visitors. Just as importantly, lakes and their surrounding areas can provide habitat to aquatic species and wildlife, and can even offer flood control protection. The 11 lakes built in Iowa in the last 30 years are now some of the most popular fishing and recreation locations in Iowa, and will continue to provide value for years to come.

19. Iowans Get Involved

What Has Changed: Thousands of Iowans have dedicated millions of hours in the last three decades to volunteering for natural resource and environmental improvements.

Why It Matters: In the last 30 years people have come to value "a greener way of life" in their homes and lives. People are placing a greater emphasis on healthy lifestyles and environmental stewardship. This stewardship ethic has produced a new level of volunteerism across the state, as Iowans look for ways to make a tangible difference by improving their local parks and green spaces, planning outdoor recreational events, cleaning litter, planting trees, monitoring water quality and much more. Thousands of Iowans have shown their dedication to city, county and state-level

organizations that appeal to their natural resource values and outdoor interests. From paddling clubs to prairie associations, and from sustainable agricultural groups to hunter education programs, Iowans are making a difference to natural resources.

20. Standing Up for Sustainable Design

What Has Changed: Thirty years ago, sustainable design was an emerging concept in buildings. By 2015, more than 100 buildings in Iowa are certified as meeting LEED (Leadership in Energy & Environmental Design) standards, the highest level of sustainable design certification in the country.

Why It Matters: Sustainable design in new buildings centers on minimizing environmental impacts and embracing the natural world in the building's aesthetic design. In Iowa, sustainability has become a valued component to many new buildings constructed during the last 25 years, especially in businesses, educational facilities and public buildings. These buildings feature innovations in renewable energy sources, energy efficiency, improved water use and wastewater management, eco-friendly materials, and more. LEED, established by the U.S. Green Building Council, is one of the nation's most recognizable certification programs with stringent guidelines to meet different levels of sustainability. Currently 102 buildings in Iowa are LEED certified, demonstrating leadership on a national level for commitment to high performance.

21. GIS Puts Iowa on the Map

What Has Changed: Geographic Information Systems (GIS), along with aerial photography, have become critical tools for understanding data in a visual format. Thousands of data sets and millions of data points have been mapped and made available to the public, transforming Iowa's ability to protect natural resources and improve recreation.

Why It Matters: During the floods of 1993, extensive data were developed to help with disaster management and recovery. Today the DNR partners with many state and national organizations to house thousands of GIS datasets for use in natural resource management and decision-making. Essentially, if data can go on a map, it can be included in a GIS data set. From areas of population, to streams, to public hunting areas, to contaminated sites, the types of data sets are endless. Just as importantly, layering, or connecting those data sets has become critical to protecting the environment and improving public safety. An additional data source is LiDAR, providing elevation data to identify where water flows, how flooding occurs and more. GIS will continue to have a critical place in natural resources in Iowa's future.

22. Conservation on Private Land

What Has Changed: Easements held by the Iowa DNR on private land have increased from seven acres in 1986 in Hamilton County, to about 4,500 acres spread across 17 different counties. This joins hundreds of acres of easements through other non-profit organizations, cities and counties. Additionally, the state has created 9,000 acres in hunting areas on private lands by paying landowners for habitat improvements on those acres in exchange for opening lands to the public.

Why It Matters: Iowa is often referred to as one of the most altered landscapes in the world as native prairies and wetlands gave way to highly productive agricultural land. The goal of easements is to permanently protect vital natural resource areas while keeping land in private ownership. Other practices to increase conservation on private land include managed grazing, where pastures are managed to benefit both cattle and wildlife; the CRP program; and the Iowa Habitat and Access Program (IHAP), which has resulted in nearly 9,000 acres of habitat improvements while providing public access to the land for hunting. Innovative efforts to establish conservation practices and habitat development on private lands help strike a balance between valuable resource protection and private land ownership.

23. Underground Storage Tanks – Protection is in the Numbers

What Has Changed: Beginning in 1990, underground storage tank sites in Iowa were investigated for contamination. Since that time, more than 6,000 petroleum contaminated sites have been identified in Iowa. The good news is that 5,300 of these sites have been cleaned up. Due to federal and state regulations, tank systems are vastly different from what was installed prior to 1988. With a focus on leak prevention, releases have dropped from several hundred a year to fewer than 50. Almost 30,000 underground tanks have been removed in Iowa since the 1980s.

Why it Matters: Historically, thousands of service station sites across Iowa stored petroleum in underground storage tanks. Over time, many of these tanks corroded, causing undetected releases of petroleum to soil and groundwater. By 1984, these leaking underground tanks had become a national problem. It takes only a few drops of gasoline to contaminate surface water or groundwater, both of which are vital for a healthy Iowa. Contamination poses dangers to the public and to the environment, and it is very costly to clean up. Underground storage tanks may still be out of sight as they always have been, but they are no longer ignored or lost from attention. Releases are decreasing each year due to improvements in technology, regular inspections, trained operators, tanks protected from corrosion, new piping and better construction.

24. Putting the Plug in Ag Drainage Wells

What Has Changed: The number of agricultural drainage wells has decreased by 60 percent since the early 1990s, from 400 to less than 60.

Why It Matters: Ag drainage wells (ADWs) were originally installed in the early 1900s to provide outlets for surface runoff and tile drainage water from cropland areas. ADWs discharge water directly to groundwater aquifers. This drainage water, carrying contaminants from fertilizer, pesticide and manure applications, and sometimes rural septic systems, posed a threat to drinking water in nearby domestic wells. In the early 1990s several hundred ADWs were operating in northern Iowa. DNR and the Iowa Dept. of Agriculture and Land Stewardship worked with farmers to close or permit the ADWs, providing cost-share for alternative drainage solutions. Today, less than 60 remain active; a number that continues to decline as more wells are plugged.

25. Addressing Environmental Impacts of Animal Feeding Operations

What Has Changed: In the 1990s and early 2000s, Iowa was one of the first states in the nation to pass laws addressing the environmental and community impacts of animal feeding operations at levels more stringent than federal standards. The laws establish separation distances between animal feeding operations and residences, as well as distances from environmentally sensitive areas. Similar laws created separation distances for manure application on fields, while requiring more than 4,500 applicators to be trained and certified to apply manure. Additionally, a set of criteria called the Master Matrix is currently being used by 88 Iowa counties to determine the air, water and community impacts of new or expanding facilities prior to approving their construction.

Why It Matters: Iowa's fertile soils and climate have made it a top ag-producing state. The state is first in hog production, corn, soybeans, layers and pullets; sixth in cattle and calf, and ninth in turkey production. During the 1990s, as livestock and poultry production became increasingly vertically integrated, the number of farms decreased. The rapid decline of producers and large increases in animals produced per farm led to public outcry about odors and industrialized farms. To address these issues, the Iowa Legislature established laws to better regulate the impacts of these facilities, especially with the potential for more growth. While concerns still exist about the long-term quality-of-life issues related to the animal production industry, use of the Master Matrix does establish standards for addressing new or expanding facility construction. Additionally, state agencies are working with operators to mitigate environmental impacts through education and compliance.

26. A Whole New Way of Doing Business

What Has Changed: The environmental ethic of Iowa's businesses and industries has completely changed how those companies operate, manufacture, distribute and dispose of materials. As one measurable example, companies participating in the state Pollution Prevention internship program (which assigns an engineering intern from an Iowa college to provide pollution prevention strategies) have saved more than \$78 million while resulting in 1.47 billion gallons of water, 218,000 tons of solid waste, 8,300 tons of hazardous waste, 377 billion kWhs, 42,800 grams of mercury and nearly 555,000 metric tons of greenhouse gases.

Why It Matters: Decisions made in boardrooms today have impacts on the environment around us. Manufacturers and other industries are incorporating more environmentally-friendly practices into their operations. "Companies are looking at more than just the bottom line. They are recognizing their importance in protecting the environment and they want to be good corporate citizens," said Mike Ralston, director of the Iowa Association of Business and Industry. Beyond protecting the environment, companies have learned that greener practices can also produce financial benefits by reducing waste and increasing production efficiencies that lower energy use and air emissions. In the last 30 years, Iowa has been home to some of the most leading-edge corporations, from an environmental standpoint, in the world.

27. Access to Outdoor Recreation

What Has Changed: The federal government passed the American with Disabilities Act (ADA) in 1990 for public facilities to provide access for people with disabilities. New 2010 standards for ADA compliance included a focus on outdoor amenities such as fishing piers, play areas, shooting facilities and recreational boating facilities. To help provide these services, in the Iowa state parks system alone, there are more than 90 ADA-compliant amenities ranging from cabins to trails to fishing jetties. County and city parks also provide dozens of accessible amenities to citizens.

Why it is important: Passage and implementation of the ADA has opened outdoor recreational opportunities for the disabled community that would not have been available to them in the past. The ability to access and enjoy many of these outdoor amenities can greatly enhance quality of life. Since the implementation of these federal standards, design and construction of public facilities to serve the disabled community has become a common practice, and will continue to be a priority for future natural resource planning.

28. Waste Water Treatment Facilities Clean Up

What Has Changed: More than 800 Iowa communities are managing their waste water to minimize impacts on Iowa's rivers and streams. Additionally in the last 30 years, numerous communities have taken advantage of state and federal funding programs to update their wastewater facilities. One program alone, the State Revolving Fund, has provided \$1.6 billion since 1989 for these purposes.

Why It Matters: Improving Iowa's rivers and streams is a decades-long process, and Iowa has come far. Just 70 years ago, numerous Iowa communities, including Des Moines, dumped untreated sewage directly into local rivers. The 1972 federal Clean Water Act was the first time the nation established discharge limits for treatment facilities, with the goal of fishable and swimmable streams and the elimination of all pollutants discharged to a receiving stream. To help meet these goals, along with new and evolving state requirements, Iowa communities have been creating, expanding or updating their wastewater treatment facilities, a process that has taken several decades to achieve. The overall impact has been to minimize, and in most cases completely prevent, untreated or poorly treated sewer water from entering Iowa waters.

29. Terrestrial Turnaround

What Has Changed: Since 2003, more than 1,000 "brownfield" sites, typically old industrial sites, have been assessed, cleaned up, and redeveloped in Iowa through grants and technical assistance from the DNR and Federal EPA, with many former industrial districts and blighted neighborhoods being renovated into showcase developments. Additionally, more than 10 million tires from 100 large stockpiles were cleaned, recycled and re-used.

Why It Matters: Blighted sites with dumped solid waste or contamination present a legacy of environmental risk and community decline. Abandoned brownfields are often "skipped over" for redevelopment, as developers choose undeveloped sites to expand community footprints. Reuse of brownfield sites addresses environmental contamination. Additionally, redeveloping these areas creates successful economic development in many Iowa neighborhoods, including Port of Dubuque,

Coralville's Iowa River Landing, the renovated Stockyards District in Sioux City, and Riverpoint West in Des Moines. Brownfield sites in Iowa's smallest communities have been renovated for new businesses, or transformed into city parks and community centers. Another, more visible issue was the hundreds of abandoned, scrap tire piles around Iowa. These tire stockpiles presented huge risks of environmental catastrophe. Large tire stockpiles can burn for months, releasing toxic emissions into the air, soil, and water. Quick response to remove tire stockpiles, many in urban areas, minimized risks of catastrophic fire and environmental impacts.

30. Two Citizen-Supported Amendments

What Has Changed: In 1996, 88 percent of Iowa voters passed an amendment to the Iowa Constitution to protect the Fish & Wildlife Trust Fund from being diverted for other purposes. Then in 2010, 63 percent of Iowans passed a constitutional amendment supporting a dedicated funding source for natural resources, which would be paid for through a small percentage of the Iowa sales tax if that tax is ever increased.

Why It Matters: The Fish and Wildlife Trust Fund was first established in 1937 to manage and regulate wildlife and fishery resources. Funding comes from purchases of hunting and fishing licenses by Iowa citizens. After efforts to use these funds for purposes other than natural resource protection, Iowa citizens voiced their support by passing an amendment that ensures these funds can only be used for promoting, managing, researching, and regulating hunting, fishing, and trapping in Iowa. In the mid-2000s, a bipartisan group of stakeholders and legislators recommended that the best way to ensure long-term water quality efforts, soil conservation, and improved natural areas for fish and wildlife habitat was to create a sustainable funding source. The amendment to create the Natural Resources and Outdoor Recreation Trust Fund passed by a majority of Iowans and was supported by a coalition of 120 organizations representing 250,000 members in 99 counties. By 2015, it has yet to be funded because it takes a legislative vote to increase the Iowa sales tax. Both amendments demonstrate Iowa citizens' high level of interest in improving and protecting natural resources for the future.