

Chapter 1

# LAND

## Key issues facing Utah's land

- 1A** Straightforward Administrative Fixes Could Better Support Wetland Restoration
- 1B** Measuring Utahns' Attitudes Toward Energy Projects
- 1C** Grappling with Tough Consequences of Free-Roaming Horses on Western Lands
- 1D** Public Lands and Urban Quality of Life
- 1E** Quantifying the Value of Recreational Fishing in Utah

PROFESSOR VALLEY | MICHELLE SMITH

## Chapter Introduction

BRIAN STEED

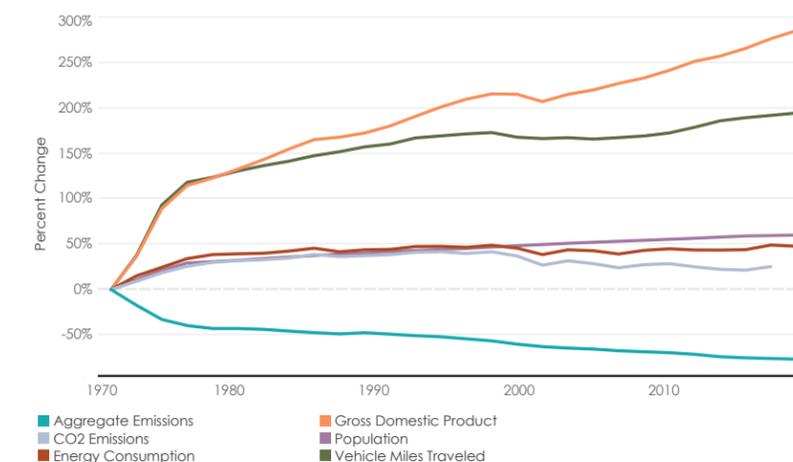
Utahns, like people across the country, seem to want more of everything. When it comes to energy, the U.S. is seeking more oil and gas, along with increased electricity from coal, wind, solar, geothermal, and nuclear sources. This growing demand calls for new power generation, transmission, and storage capacity, as well as investment in energy technologies.

Our growth and energy needs mean we don't just want—but genuinely need—more minerals like copper, uranium, molybdenum, beryllium, vanadium, tellurium, lithium and other critical minerals. Meeting this demand requires new mining and processing operations nationwide. Here in Utah, we urgently need more housing and infrastructure, including transportation systems, which often means more sand and gravel, as well as the conversion of agricultural and other open lands into urban uses.

At the same time, there's a growing desire to protect environmental values: preserving agricultural communities, maintaining open space, expanding access to outdoor recreation, supporting wildlife habitat, and enhancing the quality of nature-based experiences. These goals can seem at odds with our demands for resources, housing, and infrastructure, underscoring the complex challenges we face.

The good news is that we can meet these demands while maintaining the quality of life we expect. Yes, difficult decisions and trade-offs are ahead, but, with thoughtful planning, we can create a brighter future. To succeed, we will need the best science, reliable data, and sound policies. This is no small task, but if the past is prologue, Utahns are up to the challenge.

**Figure 1.1.1** U.S. Population Growth, Economic Growth, and Energy Consumption (1970 - 2019)



Source: Environmental Protection Agency



# Straightforward Administrative Fixes Could Better Support Wetland Restoration

KARIN M. KETTENRING & ANNIE L. HENRY

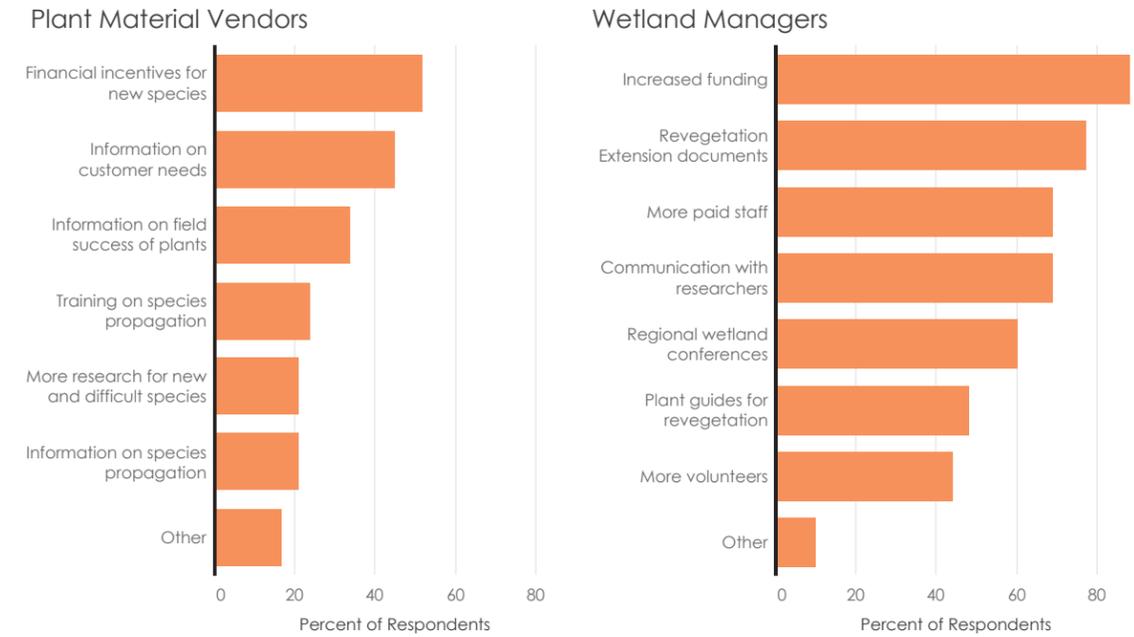
**Changes to funding cycles and policies, and increased funding, would improve wetland managers' ability to revegetate Utah's wetlands and allow native plant vendors to offer more species.**

Utah communities rely on healthy wetlands to manage droughts and flooding events and to provide essential wildlife habitat. Native vegetation in degraded wetlands often needs to be reseeded or replanted to fully support these ecosystem services, but many native species are hard to source from vendors. A new survey of wetland managers and native plant vendors in the Intermountain West illustrates how some fixes to administrative and funding cycles could aid wetland restoration (Figure 1.A.1).

Challenges managers face include budget limitations, too few employees, conflicts with recreation and cultural resources, and lack of access to diverse native wetland plant species. Vendors report that it is difficult to take risks on new native plant species that managers may seek.

Managers of wetlands would benefit from increased funding and longer funding cycles to hire and retain qualified personnel, and increased awareness of the importance of wetlands. Vendors report that contracts

**Figure 1.A.1** Resources needed to improve wetland revegetation



with managers could alleviate hardship from market fluctuations and improve the number of species they can make available. Short funding cycles often prevent managers from planning far enough into the future to give vendors the lead time they need to make new species available for purchase. Funding restrictions often do not allow managers to provide funds until they receive the

plant product. Changes to these timelines could help. Financial incentives to produce new or difficult-to-grow species would offset the high costs vendors have to consider when offering new species. The survey results underscore the need for funding entities to prioritize wetland revegetation efforts in an informed way to support production of native wetland seeds and plants.

Native vegetation in degraded wetlands often needs to be reseeded or replanted to fully support these ecosystem services, but many native species are hard to source from vendors.

# Measuring Utahns' Attitudes Toward Energy Projects

BETSY BRUNNER & STACIA RYDER

Utahns' attitudes towards different types of energy varied, but wind and solar were most popular.

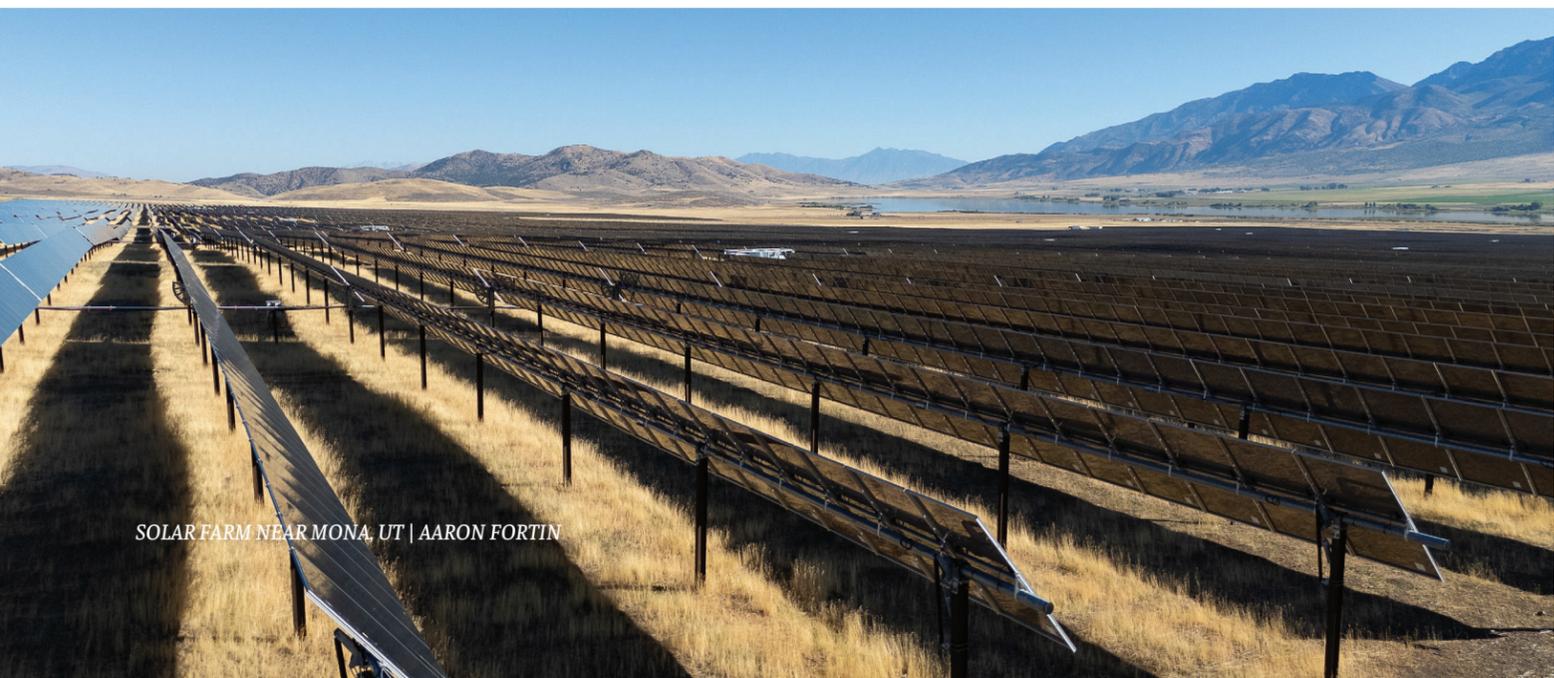
Utah's population is forecasted to reach 4 million residents by 2033, which will significantly increase energy demand. While state policy specifies that "Utah shall have adequate, reliable, affordable, sustainable, and clean energy sources" (Utah State Code 79-6-301), the projects necessary to realize this vision have yet to be sited.

Understanding public attitudes about energy can help government agencies and utility organizations in making better decisions. This knowledge can help identify opportunities to inform voters regarding benefits and risks for energy technology. Such understanding is vital to engage the public, address concerns, increase trust, and facilitate effective energy transitions.

According to the 2023 Utah People and the Environment Poll (Figure 1.B.1), half of the survey's respondents indicated it was important to have access to carbon-free electricity. However, only 39% of respondents were willing to pay more for them, despite Utah energy costs being among the lowest in the nation.

Respondents' support for locating energy projects within 50 miles of their homes varied based on the type of project. Less than 20% supported coal-fired power plants, and 40% neither supported nor opposed natural gas-powered plants. Solar and wind projects garnered support from 73% and 72% of respondents, respectively. Nearly 60% of survey respondents supported geothermal projects, and 47% supported nuclear projects. However, a significant percentage of respondents neither supported nor opposed having geothermal (37%) and nuclear (22%) sites located near their home.

Additional research could help evaluate Utahns' familiarity with these technologies and identify needs for education and outreach. Meaningfully engaging the public in the siting process can also increase public trust and support, which can help facilitate smooth and effective energy transitions.



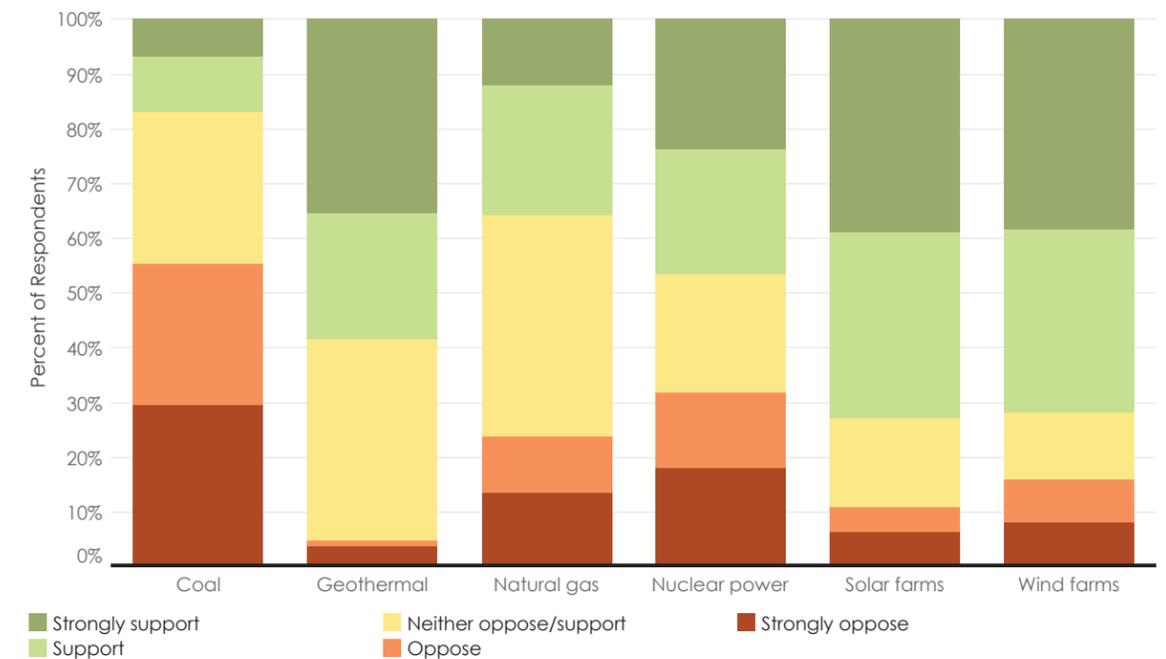
SOLAR FARM NEAR MONA, UT | AARON FORTIN



WIND TURBINES NEAR MILFORD, UT | AARON FORTIN

Half of the survey's respondents indicated it was important to have access to carbon-free electricity.

Figure 1.B.1 Attitudes toward locating various resource/energy projects within 50 miles of respondents' homes



# Grappling with Tough Consequences of Free-Roaming Horses on Western Lands

DAVID STONER, KATHRYN SCHOENECKER, & ERIC THACKER

**Huge population increases of wild horses on western rangelands have economic impacts on agriculture and wildlife, and high-profile management decisions are becoming increasingly difficult in the face of conflicting social values.**

The wild horse is a romantic and iconic symbol of American heritage and values. Few people are unaffected by the image of these animals galloping across untamed western landscapes. However, growing populations on sensitive arid rangelands have spurred debate about wild horse management, competing land uses, and impacts to rural economies and the environment.

Big game hunting and livestock production, activities that are economically vital in rural Utah, often come in direct conflict with wild horse populations. The sustainability

of these activities is closely tied to range conditions. Since 2008, horse populations in the western U.S. have increased by more than 230% (Figure 1.C.1). Given extensive habitat and dietary overlap with livestock and wildlife, this creates high potential for competition.

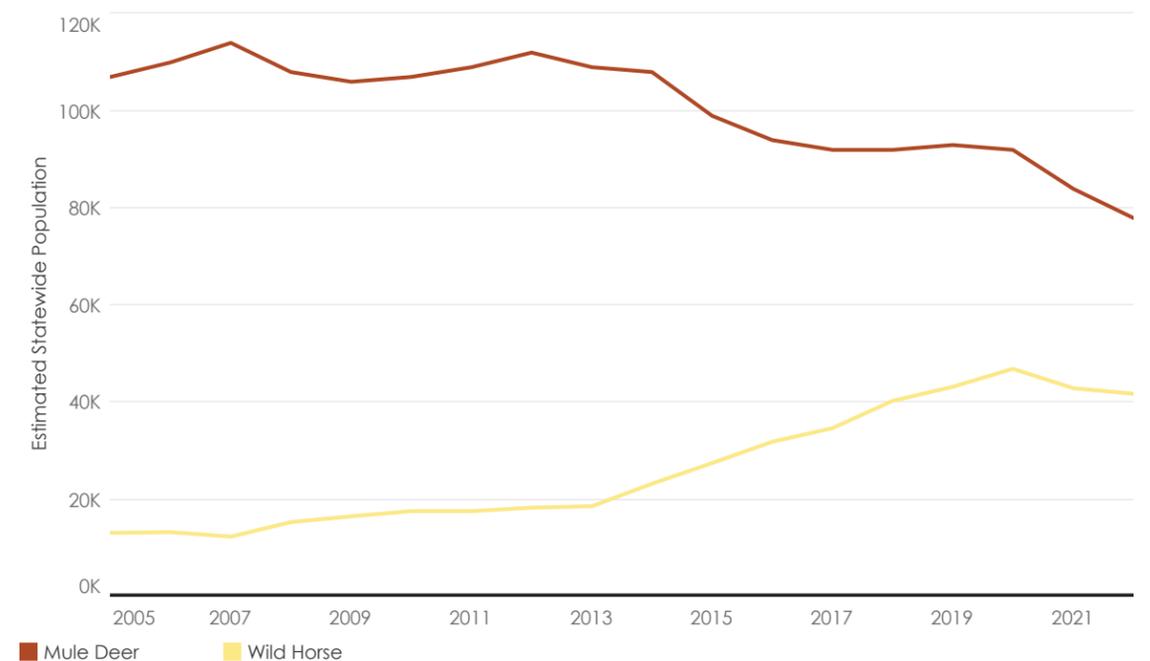
Non-native wild horses have special protections under the law. They are not subject to the same control methods land managers use to regulate livestock grazing or wildlife populations. Utah State University scientists and United States Geological Survey collaborators are

conducting research on ways to curtail growth of wild horse populations. They monitor rangelands using NASA satellite imagery to predict grazing capacity, wildlife population trends, and health of wild horses. Research shows that, unlike native animals, the body condition of horses does not fluctuate with range conditions, indicating resilience to drought and harsh winters. Other projects include development of long-lasting forms of horse contraception and quantifying the impacts of natural mortality from predation and other

causes. These efforts will assist state and federal land managers with efforts to navigate this growing problem.

Currently the only widely effective means of controlling horse populations is to physically remove the animals from the range, but this method has been challenged in court as inhumane. Quantifying the impacts horses have on sensitive habitats, grazing capacity, and competition with valued wildlife will be increasingly important as public opinion and changing demographics continue to influence management decisions.

**Figure 1.C.1** Population trends of mule deer and wild (feral) horses in Nevada



WILD HORSE IN UINTA BASIN | UTAH STATE UNIVERSITY



WILD HORSE ON UTAH RANGELANDS | UTAH STATE UNIVERSITY

# Public Lands and Urban Quality of Life

SHERZOD B. AKHUNDJANOV & PAUL JAKUS

**The places people choose to live and work reveal that residents value nearby public lands.**

People prefer to live in places they like. Some people want to live in warmer climates while others prefer cooler places. Some prefer to live near an ocean or beach while others prefer mountains. And others place a high value on arts and entertainment offered in dense urban regions.

Where people choose to work and live reveals the value of those amenities. Past research shows people will accept a lower wage and pay higher housing costs to live someplace with desirable amenities. Conversely, in areas with few desirable amenities, people will require higher wages and lower housing costs to live there.

Utah State University researchers examined differences in wages and housing costs across 172 combined statistical areas (urban areas) in the United States. After accounting for worker skills and housing characteristics, a quality of life index was calculated for each urban area. Similar to previous studies, higher quality of life regions

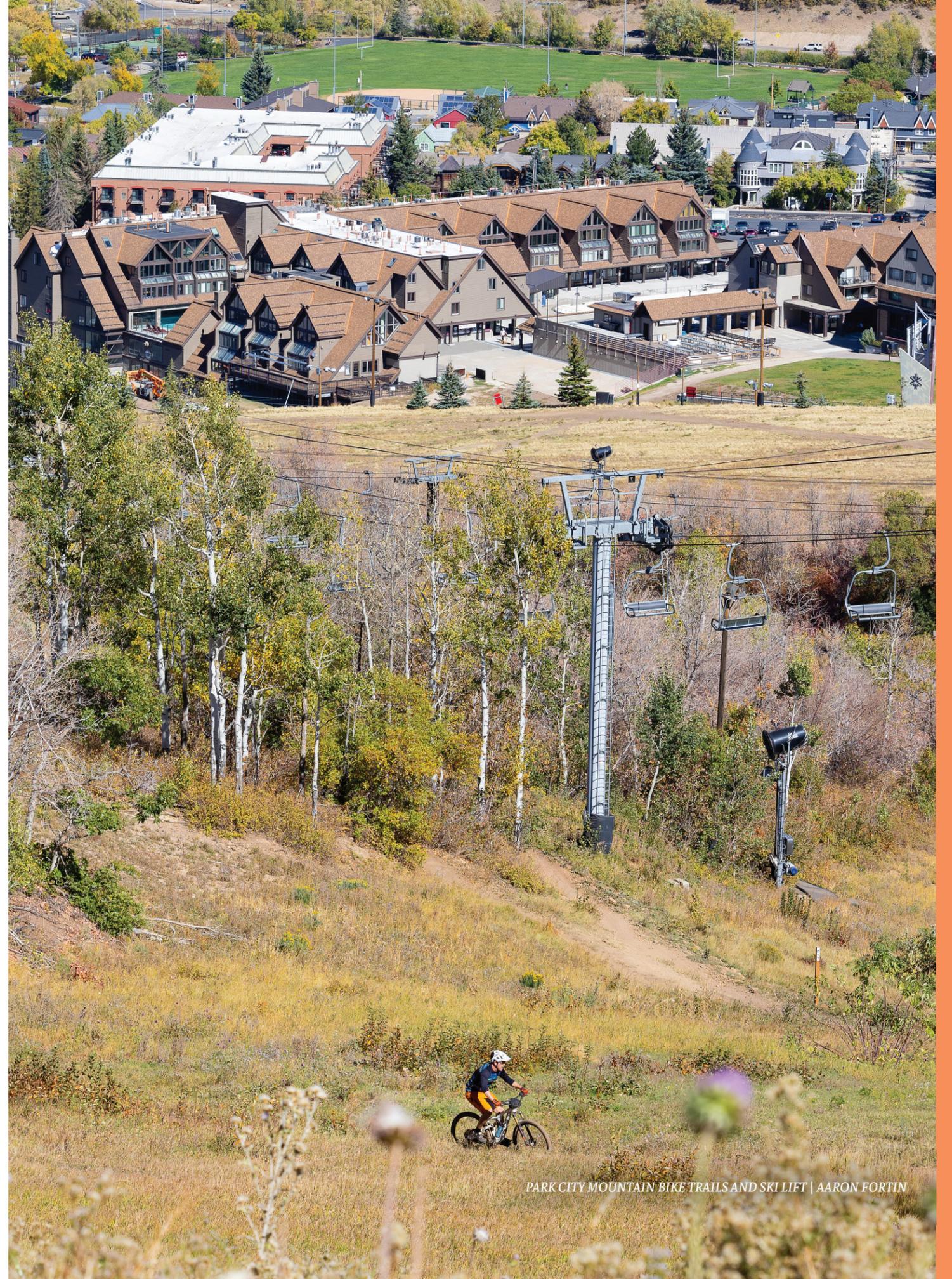
were associated with proximity to beaches, warmer climates, and vibrant arts and entertainment sectors.

The researchers also found that nearby public lands are a key factor in urban quality of life. This research significantly expands the literature's typical focus on national parks and wilderness areas to include more "generic" public lands not subject to special protections. These are important because many popular public land activities, such as motorized recreation and mountain biking, are prohibited or highly restricted in protected areas.

This study identifies a recruitment advantage for Utah industries because many potential workers are willing to accept lower wages to live near high-quality recreation opportunities offered by nearby public lands. This advantage, however, may be offset by higher housing costs.



ST. GEORGE COMMUNITY NEAR SNOW CANYON STATE PARK | AARON FORTIN



PARK CITY MOUNTAIN BIKE TRAILS AND SKI LIFT | AARON FORTIN

Utah's recreational fisheries produce \$1.28 billion in economic value to residents and out-of-state visitors.



FISHING AT KERMSUHLAKE, HIGH UINTA MOUNTAINS | AARON FORTIN

# Quantifying the Value of Recreational Fishing in Utah

JORDAN SMITH

**Fishing is a billion-dollar recreational activity in Utah that managers can maintain into the future by preserving access to waterways in developing areas.**

Hundreds of thousands of Utahns visit the state's streams, rivers, lakes, and reservoirs to fish each year. While each fishing license costs Utahns anywhere between \$5 and \$40, the social and personal value the state's residents get from fishing is considerably greater. First-time anglers earn the chance of having a novel outdoor experience, while seasoned anglers find the opportunity to hone skills, spend time outside, and test equipment. Families and friends get the chance to be outside together, creating memories that may last a lifetime.

These social and interpersonal values are often very difficult to quantify, but with the right methods and resources, it is possible to better understand how the experience of fishing is valued in the state. Researchers from Utah State University's Institute of Outdoor Recreation and Tourism used data from nearly 3,000 fishing trips, as well as geospatial data characterizing fishing opportunities, to estimate

the value of recreational fishing in Utah—worth an estimated \$1.28 billion to Utahns and out-of-state visitors.<sup>1E</sup> But these valuable opportunities are at risk. Population growth, which is often associated with urban sprawl and a loss of access to fishing opportunities, is expected to lead to a loss of over \$250 million by mid-century (Figure 1.E.1). Similarly, increases in air temperatures are making mid-summer trips less preferable, leading to a loss of another \$200 million by 2050. Recognizing these shifts, managers can begin to anticipate likely impacts on both economic returns and well-being derived from fishing. Fisheries and land managers can make strategic policy decisions, such as preserving access to fishing opportunities in developing areas of the state, to mitigate these losses. Proactive management will support the sustainability of fishing experiences in Utah, fish habitat, and the fish themselves.

**Figure 1.E.1** Effects of population growth and temperature increases on the value of recreational fishing in Utah

Total use value of Utah's fishing opportunities	\$1,283,548,814
Expected loss due to projected population growth by 2050	\$257,888,545
Expected loss due to projected 1 degree C increase in mean daily maximum temperatures by 2050	\$197,720,100

# Utah's LAND *in the news*

As we've tracked Utah and national news through 2024, we have compiled some of the key land issues and topics that have appeared in media outlets this year.

## 1. FEDERAL LAND CHALLENGES

Utah is challenging federal control of millions of acres of public lands in a lawsuit seeking state ownership, arguing that local management would better serve state interests. Meanwhile, the Bears Ears National Monument Resource Management Plan is finalized, granting additional restrictions based on input from local tribes and others. Both issues highlight the evolving landscape of public land management.

## 2. WILDFIRE IN THE WEST

Utah faced significant wildfire challenges in 2024, including the Yellow Lake fire, which scorched over 33,000 acres. Western states have struggled with resource constraints, as several have exhausted their wildfire response budgets early in the season. The increasing intensity of fires underscores the ongoing difficulties in managing wildfire risks across the region.

## 3. MINERAL EXTRACTION IN CENTRAL AND SOUTHERN UTAH

In 2024, uranium mining in southern Utah saw renewed interest due to rising global demand for nuclear energy. At the same time, lithium exploration along the Green River gained momentum, driven by the growing electric vehicle market. These developments are shaping discussions around resource extraction and its future in Utah's energy landscape.

## 4. HOUSING DEVELOPMENT'S IMPACTS ON LAND MANAGEMENT

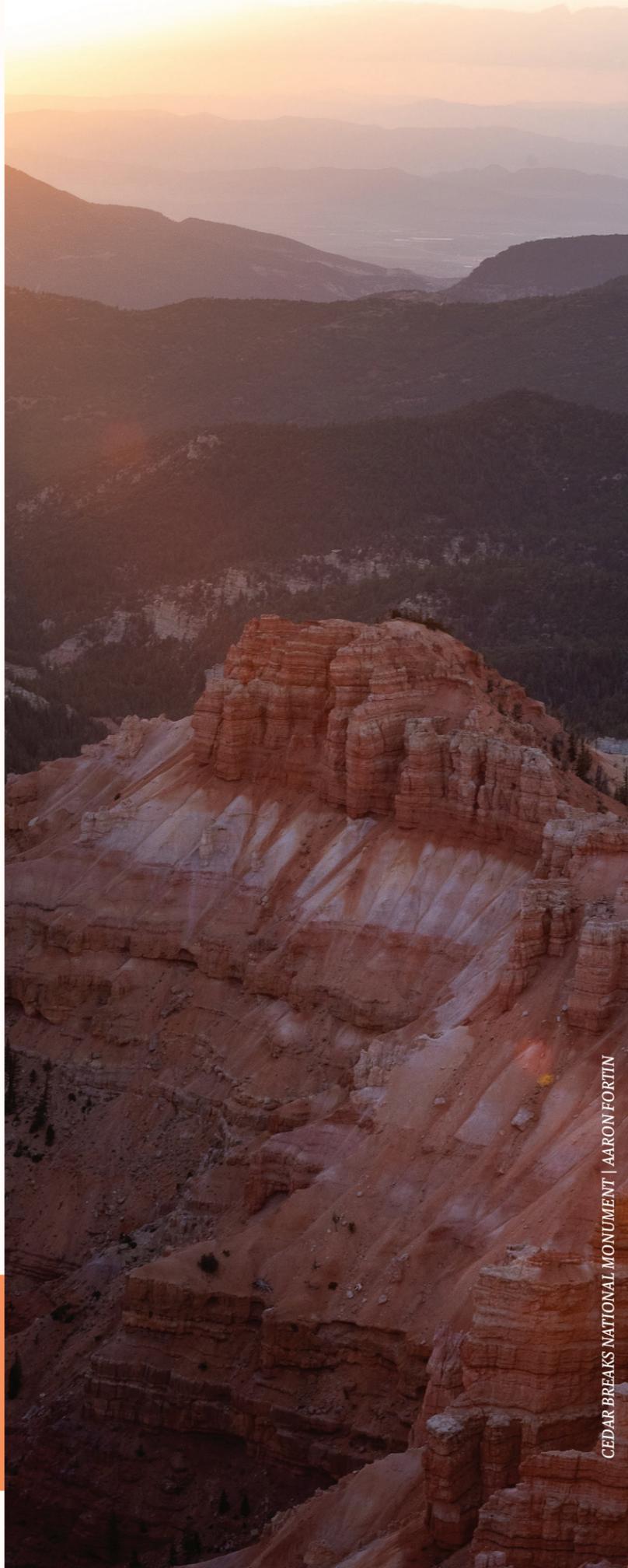
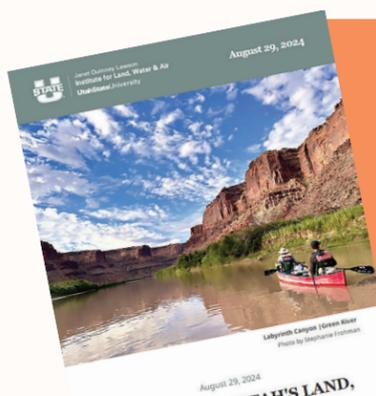
Utah's growing demand for housing in 2024 has intensified land management challenges, exemplified by rapid development in Washington County. Urban expansion competes with agricultural, recreational, and conservation priorities, while water scarcity complicates planning. Rising housing costs and limited availability are driving new discussions about resource allocation and long-term land use strategies in the state.

## 5. NEW EFFORTS IN EFFICIENT LANDSCAPING

In 2024, Utah passed legislation encouraging cities to adopt water-saving measures, including restrictions on turf in new developments, as part of broader municipal water conservation efforts. Recent research on drought-resistant bermuda grass has shown promise for reducing water use in landscaping, offering a potential solution as the state continues to address its ongoing water conservation challenges.

### What's going on in Utah's land, water and air?

We publish a weekly email newsletter containing a roundup of stories in the media related to Utah's land, water, and air. This year, we shared nearly 2,000 stories, primarily from local media, with additional coverage from national outlets. Subscribe to our weekly email news roundup at: [usu.edu/ilwa/newsletter](https://usu.edu/ilwa/newsletter).



CEDAR BREAKS NATIONAL MONUMENT | AARON FORTIN

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