



# Contraception and Consumption in the Age of Extinction: U.S. Survey Results



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## Executive Summary

Over the past two centuries the Earth's human population has doubled, and doubled again, and nearly doubled yet again, increasing from 1 billion to more than 7.6 billion people today.<sup>i</sup> Species extinctions and die-offs of wild animals and plants are unfortunately keeping pace. Over the past 50 years, as human populations have doubled, wildlife populations have plummeted by half.<sup>ii</sup>

Humans have an enormous influence on wildlife and the environment. Only one-fifth of ice-free land on the planet has very low human impacts.<sup>iii</sup> Agriculture and grazing, fossil fuel use, logging, urban sprawl, climate change and the introduction of invasive species have fragmented habitat and transformed landscapes across the globe. In the United States, reckless extraction, production and consumption have an outsized impact on the planet. If everyone in the world lived the way Americans do today, it would take five Earths to sustain us.<sup>iv</sup>

In order to understand how people in the United States perceive their impact on wildlife and the environment, the Center for Biological Diversity conducted a nationally representative online survey in the winter of 2019. Researchers, academics and activists acknowledge population growth and consumption affect the environment, but few social scientists have studied what the general public thinks of these subjects. This research fills that knowledge gap.

## Key Survey Findings

The survey's key findings are broken down into four topics: population, family planning, climate change and consumption.

### Population Key Findings

1. Seventy-three percent of respondents think the world's population is growing too fast. This is a 23% increase over 2013 survey results. Nearly three-fourths of respondents (73%) agree human population growth is driving other animal species to extinction, a 13% increase over 2013 survey results.<sup>v</sup>
2. More than half of respondents (60%) see biodiversity loss as caused by both human population growth and consumption levels.
3. A vast majority of respondents (85%) think society has a moral responsibility to prevent wildlife extinctions and a majority (69%) think society has a moral responsibility to slow human population growth if it would help prevent extinctions.

### Family Planning Key Findings

1. Lack of healthcare access was the most critically important topic for survey respondents. Eighty percent agree that all types of birth control should be legal, free and easily accessible. Additionally, 68% of respondents agree that immigrants, people of color and other marginalized communities lack access to healthcare.
2. Over 50% of respondents are talking with partners, family and/or friends about desired future family size.
3. Actions of respondents, such as voting for supportive policymakers and advocating for reproductive health policies, vary between federal, state and local issues, with actions focused primarily on federal policies.



### Climate Change Key Findings

1. Seventy-one percent of respondents agree that human population growth is making climate change worse. This is a 14% increase over 2013 survey results.
2. Those that believe the climate crisis is very or critically important are more likely to see the connection between climate change and population, consumption and the extinction crisis.
3. One-third of respondents believe climate change may compel others to choose to have fewer children.

### Consumption Key Findings

1. Three out of 4 respondents say the United States isn't doing enough to protect natural resources. This is a 24% increase from 2013 survey results.
2. Most respondents (74%) say Americans consume too many natural resources. This sentiment grew by 26% since the 2013 survey. However, nearly half of respondents (48%) also believe they personally consume less than the average American.
3. Respondents who say there is a moral responsibility to prevent extinctions are more likely to acknowledge that consumption patterns have an impact on the environment.

The best solutions to address population pressure are those that advance human rights, like education for all, voluntary family planning, universal access to contraception and reproductive healthcare — including abortion.

It's also necessary to address consumption by focusing upstream on reuse and waste prevention and building a just, sustainable economy that supports shorter supply chains, local jobs and resilient, equitable communities. Sustainability is not just about having enough resources for human beings but about sharing the planet and creating a livable future for all creatures and organisms that share and constitute our ecosystems.

## Introduction

Over the past century, human civilization and our increasingly destructive industries have expanded around the globe, resulting in an unprecedented impact on wildlife and wild places. A 2019 UN report on biodiversity loss predicts that a million species are at risk of extinction in the coming decades due to human activity.<sup>vi</sup>

The abundance of wildlife species has declined 68% since 1970<sup>vii</sup> and around 75% of coral reefs are threatened.<sup>viii</sup> One study found most nations with growing populations can expect a 3.3% increase in the number of threatened mammals and birds over the next decade, and a 10.8 % increase by 2050, based on human population growth alone.<sup>ix</sup>

Another study shows that predicted human population growth will cause half a million new housing units to be added in Vermont, New Hampshire and Massachusetts alone between 2000 and 2050, causing the overall occupancy of five forest-dependent bird species to decrease by as much as 38% by the year 2050. The study also found that 97% of towns in those states have already experienced some decline in species occupancy within their borders.<sup>x</sup>



Humanity's dependence on fossil fuels and industrial agriculture, persecution of wildlife, massive habitat destruction and unsustainable consumption all play major roles in the extinction crisis. These destructive industries and practices also accelerate climate change and harm plants, animals and vulnerable communities. Growth continues to consume remaining wild spaces, degrade the landscape and drive pollution and other environmental threats that disproportionately harm low-wealth communities and communities of color.

However, solutions exist.

Project Drawdown, a nonprofit organization that seeks to help the world reach the point in time when greenhouse gas levels stop climbing and begin to decline, lists education of women and girls and family planning as two of the top 10 climate change solutions.<sup>xi</sup>

Any discussion of family planning, particularly in the context of population, must acknowledge past and current injustices; reject any form of coercion, eugenics or ecofascism; and support the fight of Black, Indigenous and other people of color to have good healthcare and a safe and healthy living environment.

Women with more years of education have fewer and healthier children and are more likely to actively manage their reproductive health. Educated girls also realize higher wages and greater upward mobility, contributing to economic growth.<sup>xii</sup>

Additionally, we must address our destructive extraction and production practices and the unsustainable consumerism that drives them. Infinite consumption is not the path to planetary resilience.

While the United States should continue supporting recycling and composting, it's not enough to focus on waste management. It's necessary to explore new models that shift our economy from one fueled by endless consumption to one powered by service-based consumption and zero-waste systems that mitigate and prevent environmental harm. The new green economy should focus on creating local jobs and resilient, equitable communities.

In order to advance these reproductive health and waste prevention solutions, the Center conducted a nationally representative survey in the winter of 2019. The survey's intent was to analyze the public's awareness, knowledge, beliefs, attitudes, perceptions, behavioral intentions, self-efficacy, and norms around the topics of population, wildlife extinctions, consumption and climate change.

## Survey Methodology

We surveyed 899 people distributed evenly across each of the 50 U.S. states and the District of Columbia, proportionate to the U.S. Census Bureau's population estimates for 2018, to achieve statistically accurate results (95% confidence level).

Respondents were recruited online via the Amazon platform Mechanical Turk ("MTurk") using both an English and Spanish survey, and Survey Monkey was used to collect the data.





The survey asked questions about population, consumption, voluntary family planning and climate change, and included questions from a previous survey conducted by the Center in 2013 to gauge change over time. Results were analyzed using a series of basic statistical approaches in SPSS software. We implemented several quality-control measures into our survey to eliminate false respondents.

## Survey results

The survey results are divided into four key themes: population, family planning, climate change and consumption. Although these issues are intertwined, awareness of them, perceptions of them and opinions on solutions to the problems often differ.

### Population

People in the United States have a disproportionate impact on the environment. The goal of endless growth ignores the reality that the planet has finite resources.

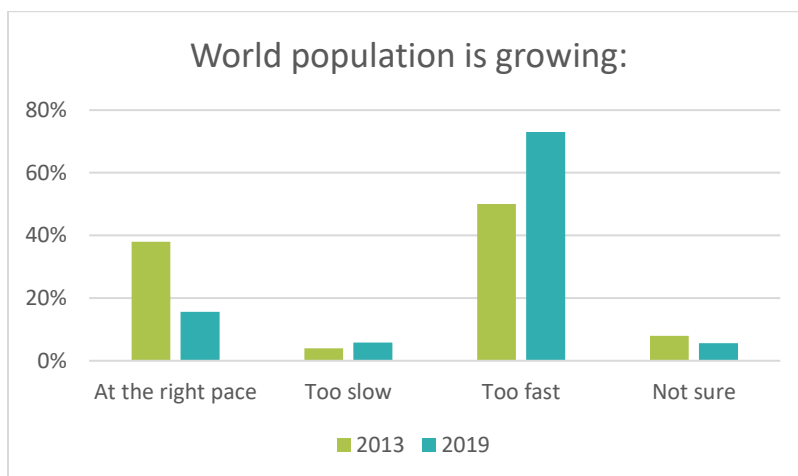
By including questions about population growth in the survey, the Center wanted to understand whether the public draws a correlation between the number of people on the planet and the alarming rate of animal extinction. Overwhelmingly, they do.

**Key finding 1: Seventy-three percent of respondents think the world's population is growing too fast. This represents a 23% increase over 2013 survey results. Nearly three-fourths of respondents (73%) agree human population growth is driving other animal species to extinction, a 13% increase over 2013 survey results.**

Concern about population growth and the environment is increasing. Relative to 2013, people are significantly more likely to believe that global population growth is driving other species to extinction.

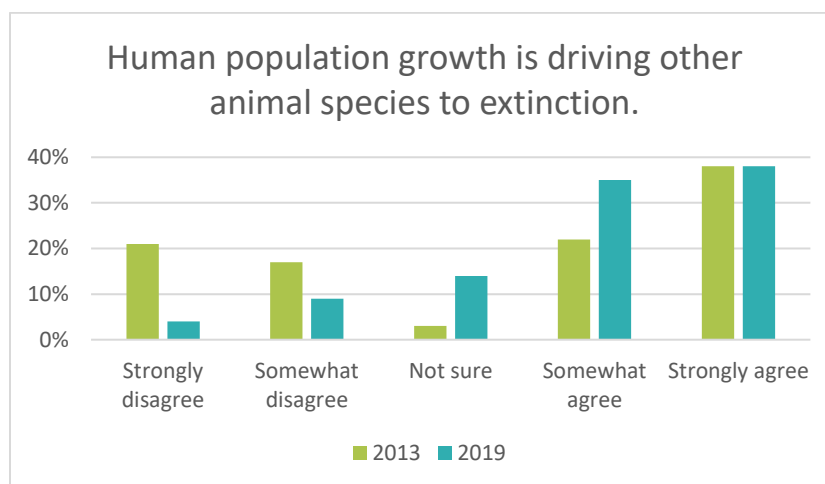
Seventy-three percent also think the world's population is growing too fast. This is a 23% increase over 2013 survey results.

Chart 1. In 2018 the world population reached 7.6 billion. The world's population is projected to reach 11 billion by the end of the century. Do you think the world's population is growing too fast, growing too slow, growing at about the right pace or not sure? (2013/2019 response comparison)



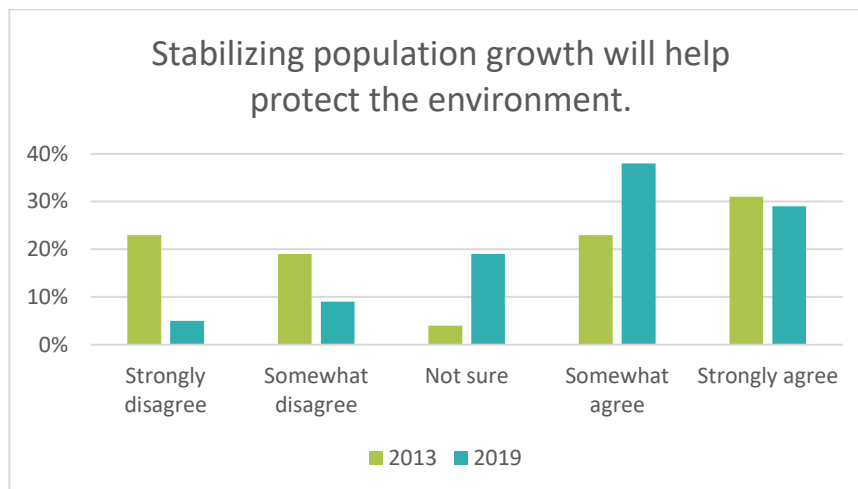
Nearly three-fourths of respondents (73%) agree that human population growth is driving other animal species to extinction. This is a 13% increase over 2013 survey results.

Chart 2. Rate your agreement or disagreement with the statement: "Human population growth is driving other animal species to extinction." (2013/2019 response comparison)



Two out of three respondents (67%) agree that stabilizing population growth will help protect the environment. This is a 13% increase over 2013 survey results.

Chart 3. Rate your agreement or disagreement with the statement: “Stabilizing population growth will help protect the environment.” (2013/2019 response comparison)



Although sentiment around the interconnected topics of population growth and environmental degradation is growing, only 34% of respondents knew that 4 billion people have been added to the world's population since 1970. Four percent answered 500,000, 24% answered 500 million and 38% answered 1 billion.

### Key finding 2: More than half of respondents (60%) see biodiversity loss as caused by both human population growth and consumption levels.

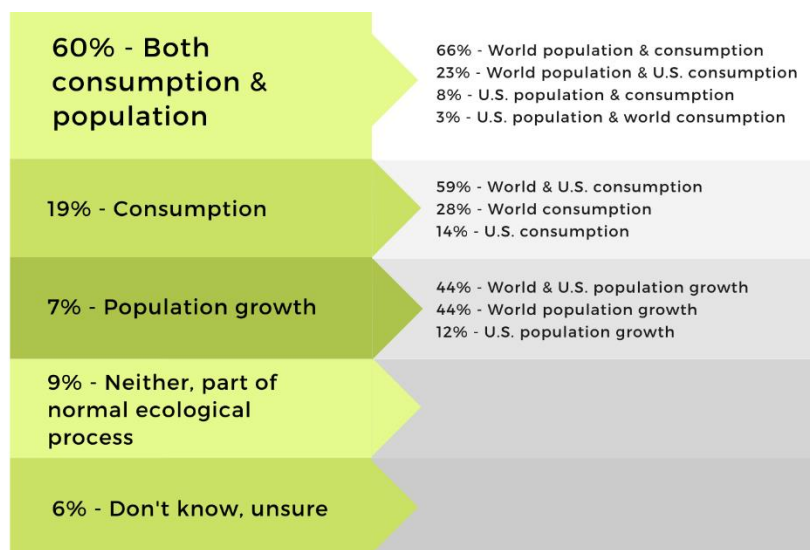
The United States contains just 5% of the world's population but uses 30% of all resources and creates 30% of all waste.<sup>xiii</sup> Yet the debate continues about whether environmental degradation is driven by human population growth or high consumption levels. The answer, of course, is that we need to address both to successfully curb the extinction crisis.

Most survey respondents agree. Sixty percent say both population growth and consumption levels are responsible for the rapid loss of species biodiversity. This proportion increases to 65% among respondents who felt that society has a moral responsibility to prevent wildlife extinctions. Among those who say both population growth and consumption levels are responsible for biodiversity loss, the majority (66%) see it as a global issue.

Although the problems and solutions are global, human impact varies greatly by factors such as region and wealth. The Intergovernmental Panel on Climate Change notes that although each person added to the planet increases greenhouse gas emissions, the gap in per capita emissions between the highest and lowest emitting countries is vast — more than 50 times greater for the highest emitters.<sup>xiv</sup>



Figure 1. What is primarily responsible for the rapid loss of species biodiversity?



**Key finding 3: A vast majority of respondents (85%) think society has a moral responsibility to prevent wildlife extinctions, and a majority (69%) think society has a moral responsibility to slow human population growth if it would help prevent extinctions.**

One of the most interesting statistics gathered from the survey is that the vast majority (85%) of respondents think society has a moral responsibility to prevent wildlife extinctions. This surprising result raises several questions, and although the phrase *moral responsibility* may give respondents more latitude for interpretation than is desirable — and the question doesn't address whether respondents are willing to act personally on the moral responsibility they feel society has as a whole — it nonetheless suggests a high level of social commitment to the goal of preventing extinctions.

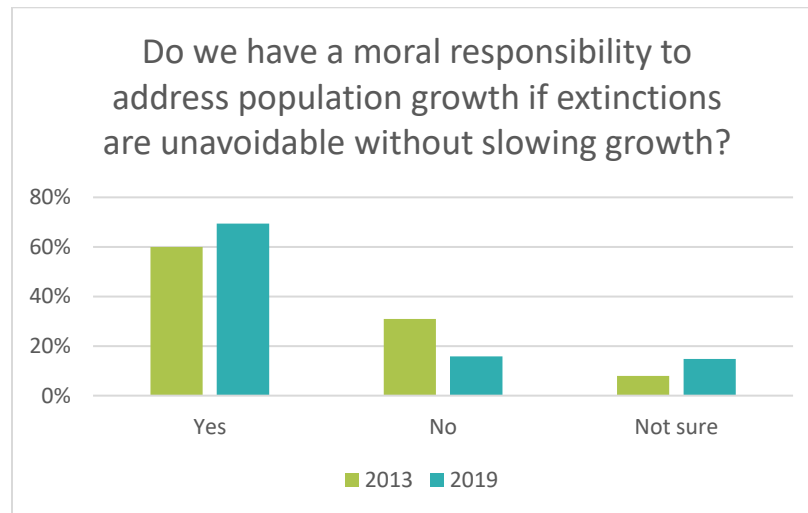
Of the 85% of respondents that think society has a moral responsibility to prevent wildlife extinctions:

- Two out of three (65%) indicate both human population and consumption are primarily responsible for the rapid loss of species biodiversity.
- Two-thirds (67%) feel no challenge discussing the topic of population growth with others.
- One-third (34%) voted for policymakers who acknowledge that population pressures impact the environment.



In addition, 69% of respondents say if widespread wildlife extinctions are unavoidable without slowing human population growth, our society has a moral responsibility to address the issue. This is a 9% increase over 2013 survey results, demonstrating a rise in concern about human activity driving the extinction crisis. More than half a billion people were added to the planet between 2013 and 2019.<sup>xv</sup>

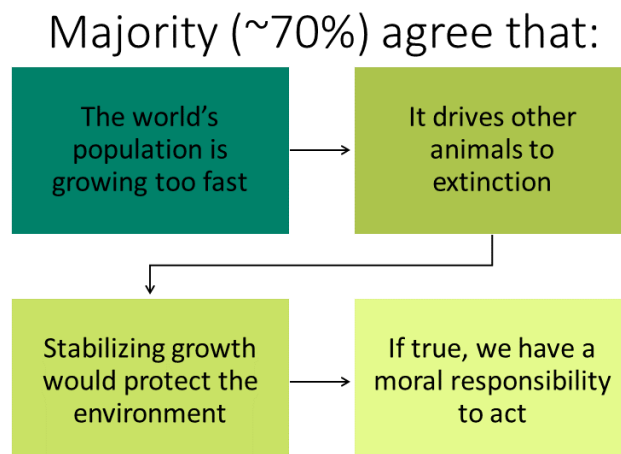
Chart 4. Do we have a moral responsibility to address population growth if extinctions are unavoidable without slowing growth? (2013/2019 response comparison)



Respondents' belief that population growth is a moral issue increases their likelihood of voting for reproductive rights.

Those that feel a moral responsibility to address population growth are 27% more likely to vote for policymakers who support reproductive rights.

Figure 2. Morality and population growth



## Family Planning

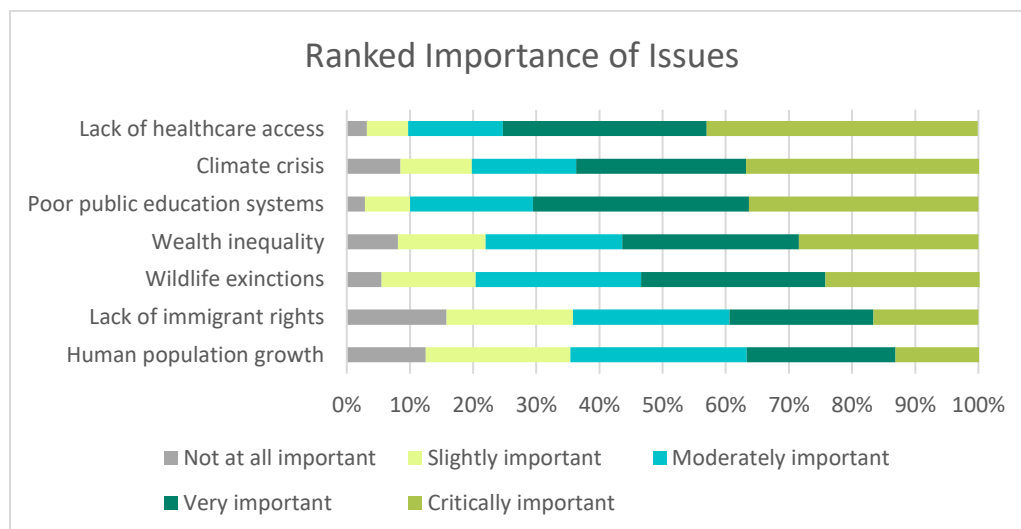
As noted earlier, every child born in the United States has an outsized impact on the planet. Although the U.S. fertility rate is not as high as those in other nations, we still have a lot of work to do to take full responsibility for our reproductive futures. Nearly half of all U.S. pregnancies are unintended, yet reproductive rights remain under attack at both state and federal levels.<sup>xvi</sup> And there is an unmet need for family planning. According to Power to Decide, 19 million people in the country need publicly funded contraception.<sup>xvii</sup>

By including questions about family planning in the survey, the Center wanted to gauge the public's support for reproductive healthcare policies and find out if family planning discussions are taking place behind closed doors.

**Key finding 1: Lack of healthcare access was the most critically important topic for survey respondents. Eighty percent agree that all types of birth control should be legal, free and easily accessible. Additionally, 68% of respondents agree that immigrants, people of color and other marginalized communities lack access to healthcare.**

Respondents were asked to rank the issue most important to them from a list of social and environmental concerns. Lack of healthcare access was the most critically important topic (43%) for respondents, followed by the climate crisis (37%).

Chart 5. Indicate the level of importance each topic is to you.

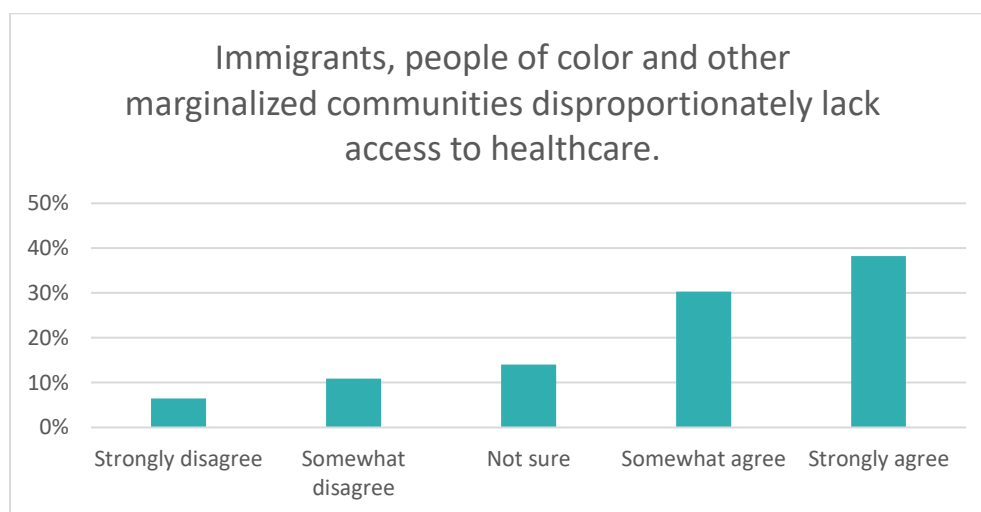


Consistent with previous research,<sup>xviii</sup> this survey also showed an overwhelming majority (80%) agree that all types of birth control should be legal, free and easily accessible – 56% strongly agree and 24% somewhat agree.



Two-thirds (68%) of survey respondents agree that immigrants, people of color and other marginalized communities disproportionately lack access to healthcare. Respondents seem to understand that reproductive healthcare is riddled with inequalities. Black women have greater difficulty getting contraception<sup>xi</sup> and face greater pregnancy risks associated with climate change.<sup>xx</sup> They also experience worse pregnancy outcomes due to inadequate healthcare access and other economic and social pressures caused by systemic racism. Reproductive freedom is a life-or-death issue for people of color, who are already on the front lines of pollution and the climate crisis.

Chart 6. Rate your agreement or disagreement with the statement: “Immigrants, people of color and other marginalized communities disproportionately lack access to healthcare.”





### **Key finding 2: Over 50% of respondents are talking with partners, family and/or friends about desired future family size.**

The survey asked about the conversations people are having with partners, family and friends about the number of children they want. Half of respondents have talked, are talking or will talk with partners, family and friends about the number of children they want (67%, 59% and 59% respectively).

Over half (56%) of those aged 30-49 have talked to their partner about the number of children they want versus just 32% for those between the ages of 18 and 29. This difference may be explained by young age or lack of having a partner. One-fifth of all people surveyed are talking about the number of children they want or are planning to talk about it in the future.

Surprisingly, only 51% of people who expect to have no children in the future have talked to their partner about the number of children they want.

### **Key finding 3: Actions of respondents, such as voting for supportive policymakers and advocacy for reproductive health policies, vary between federal, state and local issues, with actions focused primarily on federal policies.**

The survey results show respondents are more willing to vote for policymakers that are supportive of reproductive rights than to advocate for reproductive rights policies at the federal, state or local level. Additionally, survey participants are more willing to advocate for federal reproductive rights policy than state or local reproductive rights policy.

Forty-four percent of survey respondents are willing to vote for policymakers that support reproductive rights and 28% are willing but need more information. Almost half (46%) of respondents say they have done this in the past.

As noted above, an overwhelming majority (80%) agree that all types of contraception should be legal, free and easily accessible. However, this belief does not always translate to political action.

The table below shows those who said they have advocated for family planning policies in the past and those who said they are willing to take action, though some indicated a need for more information before acting.

**Table 1. Advocating for various family planning activities.**

<b>Advocating for</b>	<b>Have done in past</b>	<b>Willing to do</b>
<b>...federal policy making modern birth control legal, free and easily accessible</b>	18%	62%
<b>...state policy agendas around universal access to birth control</b>	10%	51%
<b>...local policy agendas around comprehensive sex education</b>	9%	51%

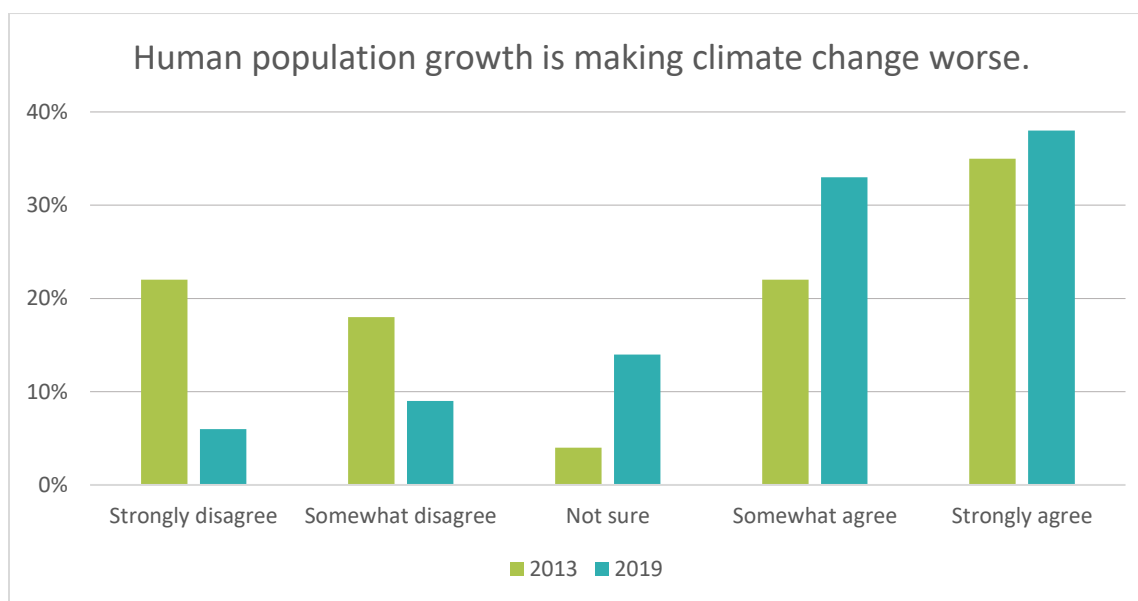
## Climate Change

If we don't reduce our greenhouse gas pollution, sea levels worldwide will rise another 3 or 4 feet on average — and perhaps up to 6.5 feet or more — within this century due to melting glaciers and ice sheets. But rising seas are just one example of the risks people face due to the climate crisis. Increasingly intense storms and wildfires, rising temperatures and changing weather patterns pose a major risk to us and our nation's wildlife. The United States is home to more than 1,700 federally protected threatened and endangered species, many of which depend on coastal and island habitats, as well as forested areas, for survival.<sup>xxi</sup>

By including questions about climate change, the Center wanted to see if the general public understands the connection between population, consumption and the climate crisis and if that connection affects their actions.

**Key finding 1: Seventy-one percent of respondents agree that human population growth is making climate change worse. This is a 14% increase over 2013 survey results.**

Chart 7. Rate your agreement or disagreement with the statement: “Human population growth is making climate change worse.” (2013/2019 response comparison.)

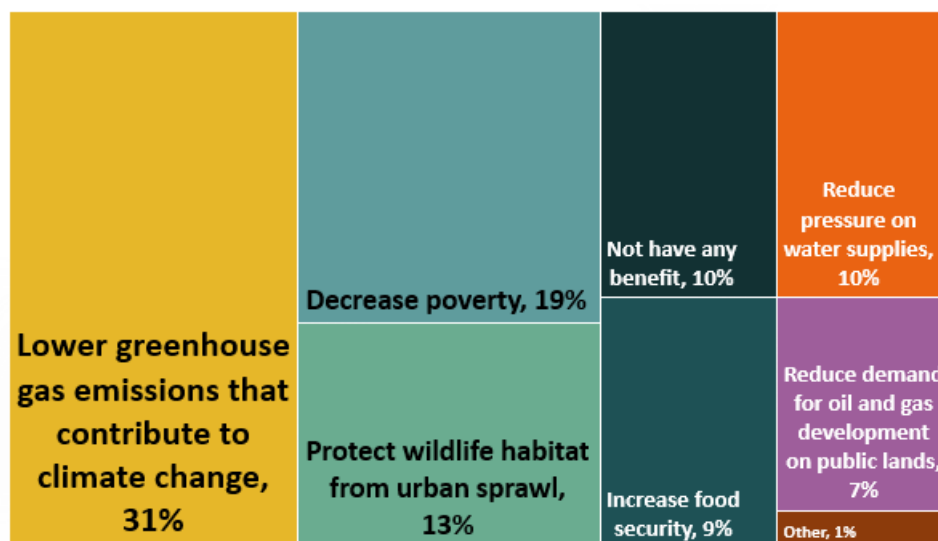


When asked what the top benefit is to addressing U.S. population growth, respondents understood that it helps lower greenhouse gas emissions contributing to climate change (31%).

This question offered an “other” write-in option. Respondents said other benefits to addressing U.S. population growth include reducing resource consumption; improving access to birth control; bringing about equality; and reducing pressure on housing, education, healthcare and social services.



Chart 8. What is the top benefit you see to addressing U.S. population growth?



\*For "Increase food security," the results relate only to our English-speaking respondents.

**Key finding 2:** Those that believe the climate crisis is very or critically important are more likely to see the connections between climate change and population size, consumption and the extinction crisis.

Table 2. Attitudinal differences for those that believe the climate crisis is very or critically important.

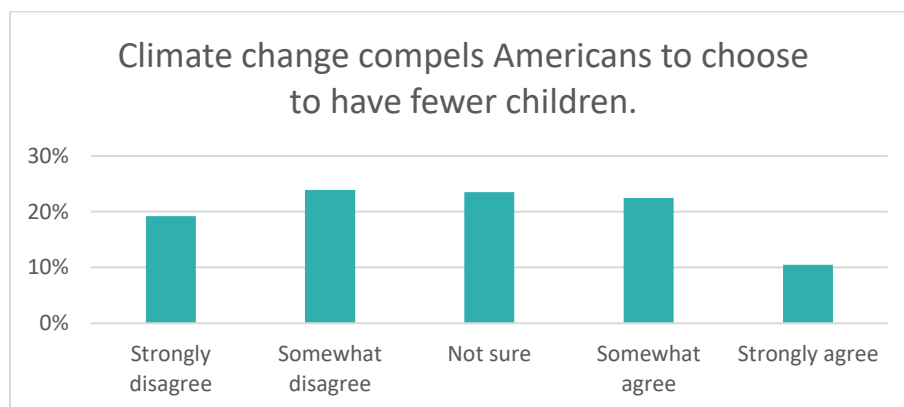
Statement or Question	In comparison to those that don't think the climate crisis is important	In comparison to overall survey respondents
Human population growth is making climate change worse.	36% more likely to strongly agree	13% more likely to strongly agree
Immigrants, people of color and other marginalized communities disproportionately lack access to healthcare.	35% more likely to strongly agree	13% more likely to strongly agree
The U.S. is doing too little to protect natural resources like water, air, wildlife and land.	33% more likely to agree	12% more likely to agree
Society has a moral responsibility to prevent wildlife extinctions.	23% more likely to agree	8% more likely to agree
The average American consumes too many natural resources.	20% more likely to believe	7% more likely to believe
The world's population is growing too fast.	16% more likely to believe	6% more likely to believe
If wildlife extinctions are unavoidable without slowing human population growth, society has a moral responsibility to address population growth.	28% more likely to agree	10% more likely to agree

Those who feel the climate crisis is important are also 9% more likely to be hesitant to talk about population growth because of concerns about its potential impacts on immigrants, people of color or other marginalized communities.

**Key finding 3: One-third of respondents believe climate change may compel others to choose to have fewer children.**

Climate change is cited by young people as a reason to have fewer children.<sup>xxii</sup> Thus a new question was added to the 2019 survey that prompted respondents to “State your agreement or disagreement with the sentence: ‘Climate change compels Americans to have fewer children.’ ” One-third of respondents (33%) somewhat or strongly agree with this statement; however, the results are split evenly between agree, not sure and disagree, showing a variety of attitudes around this emerging issue.

Chart 9. Rate your agreement or disagreement with the statement: “Climate change compels Americans to choose to have fewer children.”



People who are currently and/or are willing to talk to their partner about the number of children they want are slightly more likely to believe that climate change compels Americans to have fewer children than the general population.

However, agreement or disagreement with this statement seems to have little effect on personal future fertility decisions. Sixty-three percent of all survey respondents said they do not plan to have future children — though some respondents are already parents — and the percentage is similar for those that agree (61%) and those that disagree (64%) that climate change compels Americans to have fewer children.

## Consumption

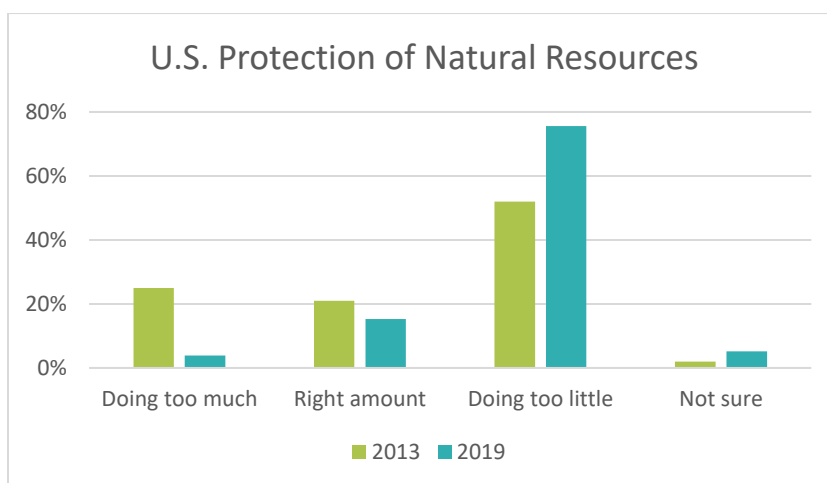
Most products in the United States come from virgin materials and the extraction, processing and distribution systems associated with everything we consume have an environmental impact. The amount of waste produced in the country has steadily increased over the past 60 years. Each person generates nearly twice as much waste now as a person did in 1960.<sup>xxiii</sup>

By including questions about consumption, the Center wanted to understand whether the public believes the United States is doing enough to stop environmental degradation caused by our outsized consumption and see if the public makes the connection between their personal consumption habits and the extinction crisis.

**Key finding 1: Three out of 4 respondents say the U.S. isn't doing enough to protect natural resources. This is a 24% increase from 2013 survey results.**

Three out of four (76%) respondents think the United States is doing too little to protect natural resources like water, air, wildlife and land. This is a 24% increase over 2013 survey results.

Chart 10. Do you think the U.S. is doing too much, too little, or the right amount to protect natural resources like water, air, wildlife and land? (2013/2019 response comparison)



**Key finding 2: Most respondents (74%) say Americans consume too many natural resources. This sentiment grew by 26% since the 2013 survey. However, nearly half of respondents (48%) also believe they personally consume less than the average American.**

Seventy-four percent of respondents think the average American consumes too many natural resources. This is a 26% increase over 2013 survey results.

Interestingly, however, survey results show that nearly half (48%) of respondents think they consume fewer resources than the average American. This discrepancy between what people believe others are doing versus what they believe they are personally doing could be leading to an increase in guilt-free overconsumption.

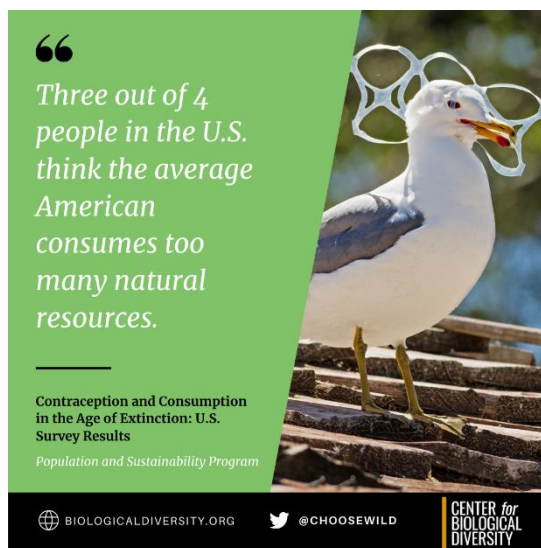
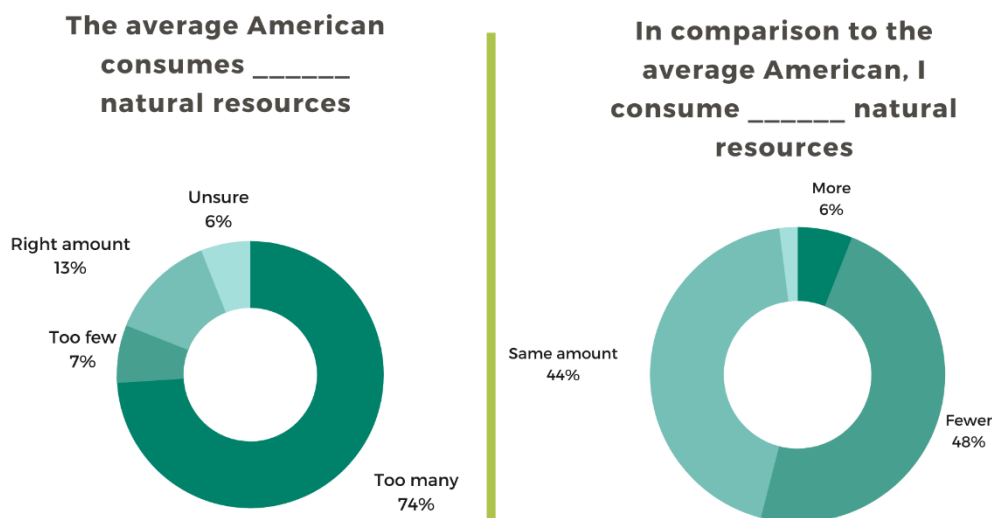


Figure 3. Comparison of two questions about natural resource consumption.



Of the 19% of respondents that believe consumption is primarily responsible for the rapid loss of biodiversity, 28% believe world consumption is the primary cause, 14% believe U.S. consumption is the main cause and 60% believe both world and U.S. consumption are the cause of biodiversity loss.

Survey respondents do not see a distinction between consumption patterns of the global north and the global south even though research has shown that the average American has an environmental footprint nearly 700% larger than the average person in most African countries.<sup>xxiv</sup>

The survey included many questions about respondents' behavioral intentions and previous actions. One-third of respondents in this section said they are willing to act in the following ways if they had more information:

1. They would reduce personal consumption by buying only what they need

According to survey respondents, over half (51%) are willing to reduce their personal consumption by buying only what they need and an additional 31% are willing to buy only what they need but need more information. A majority (67%) of respondents say they have reduced their personal consumption in the past.

2. They would vote for policymakers who acknowledge that consumption patterns impact the environment

Thirty-nine percent of respondents say they are currently voting for policymakers who acknowledge consumption impacts the environment. Over three-fourths of respondents (77%) are willing to do this, but 34% of them need more information.

### **Key finding 3: Respondents who say there is a moral responsibility to prevent extinctions are more likely to acknowledge that consumption patterns have an impact on the environment.**

As noted in the population section, the vast majority (85%) of respondents feel a moral responsibility to prevent wildlife extinctions. As shown above, 39% of respondents voted for policymakers who acknowledge that consumption patterns impact the environment. Of those who say there is a moral responsibility to prevent extinctions, that number jumps to 42%.

Finally, 2 out of 3 (69%) respondents say if widespread wildlife extinctions are unavoidable without slowing human population growth, our society has a moral responsibility to address population growth. Those that feel a moral responsibility to address population growth are 28% more likely to vote for policymakers who acknowledge consumption patterns affect the environment.

## **Conclusion**

This survey data helps break down the binary thinking that environmental degradation is either solely caused by population growth or consumption. It also affirms that both individual actions and systems change play a crucial role in saving wildlife and wild places. Across the country survey respondents understand how population growth and environmental degradation work together to accelerate the extinction and climate crises.

The topic of human population can be an understandably sensitive issue. The rights and dignity of Black, Indigenous and other people of color have historically been — and still are — violated in the name of population control, causing long-term harm and reproductive oppression. These injustices must be acknowledged and confronted in the conversation about human impacts on the environment, especially as concerns about population growth continue to increase.

The Center for Biological Diversity believes the welfare of human beings is deeply linked to nature. It is necessary to promote and embrace diversity and justice to create the social change needed to protect

the environment and all who depend on it. By advocating for comprehensive reproductive health, education and equity, we can create a just, healthy future for people and the environment.

The Center also believes it is necessary to focus upstream on waste prevention and reuse and build a new green economy that supports local jobs and supply chains, empowering communities to become resilient and equitable.

Oversimplifying this work as an either/or problem fails to recognize the complexity of the issue or the systems of oppression that threaten both human rights and the environment. Global solutions to the climate and extinction crises must focus upstream on policy, downstream on individual actions, and on both population pressure and consumption.

## Acknowledgements

Graphic design: Linda Rico; Statistical methodology and analysis: Ryan Ricciardi and Dr. Anthony Panzera

## References

- <sup>i</sup> United Nations. 2019. Department of Economic and Social Affairs. <https://www.un.org/en/sections/what-we-do/promote-sustainable-development/index.html>
- <sup>ii</sup> Scott, J.M. 2008. Threats to Biological Diversity: Global, Continental, Local. U.S. Geological Survey, Idaho Cooperative Fish and Wildlife, Research Unit, University of Idaho. <https://scholar.law.colorado.edu/cgi/viewcontent.cgi?article=1014&context=water-resources-and-transformation-of-American-West>
- <sup>iii</sup> Jacobson, A.P., Riggio, J., M. Tait, A. et al. 2019. Global areas of low human impact ('Low Impact Areas') and fragmentation of the natural world. *Sci Rep* 9, 14179. <https://doi.org/10.1038/s41598-019-50558-6>
- <sup>iv</sup> Global Footprint Network. 2020. Country Trends: North America. [http://data.footprintnetwork.org/?\\_ga=2.10602418.728955779.1599258986-871759858.1599258986#/countryTrends?type=earth&cn=2004](http://data.footprintnetwork.org/?_ga=2.10602418.728955779.1599258986-871759858.1599258986#/countryTrends?type=earth&cn=2004)
- <sup>v</sup> Public Policy Polling. 2013. National Survey Results for Center for Biological Diversity. [https://www.biologicaldiversity.org/programs/population\\_and\\_sustainability/pdfs/NationalSurveyResults2-2.pdf](https://www.biologicaldiversity.org/programs/population_and_sustainability/pdfs/NationalSurveyResults2-2.pdf)
- <sup>vi</sup> United Nations. 2019. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). <https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/>
- <sup>vii</sup> World Wildlife Fund. 2020. Living Planet Index. <https://livingplanet.panda.org/en-us/>
- <sup>viii</sup> Burke, L. et al. 2011. Reefs at Risk Revisited. World Resources Institute (WRI), The Nature Conservancy, World Fish Center, International Coral Reef Action Network, UNEP World Conservation Monitoring Centre and Global Coral Reef Monitoring Network.
- <sup>ix</sup> McKee. 2013. Human Population Density and Growth Validated as Extinction Threats to Mammal and Bird Species. <https://link.springer.com/article/10.1007/s10745-013-9586-8>
- <sup>x</sup> Brown. 2014. Predicting Impacts of Future Human Population Growth and Development on Occupancy Rates of Forest Dependent Birds. <https://pubs.er.usgs.gov/publication/70187261>
- <sup>xi</sup> Project Drawdown. 2020. Sector Summary – Health and Education. <https://www.drawdown.org/sectors/health-and-education>
- <sup>xii</sup> Project Drawdown. 2020. Sector Summary – Health and Education. <https://www.drawdown.org/sectors/health-and-education>
- <sup>xiii</sup> Story of Stuff. 2007. [https://www.storyofstuff.org/wp-content/uploads/2020/01/StoryofStuff\\_FactSheet.pdf](https://www.storyofstuff.org/wp-content/uploads/2020/01/StoryofStuff_FactSheet.pdf)



- <sup>xiv</sup> Blanco G., R. Gerlagh, S. Suh, J. Barrett, H.C. de Coninck, C.F. Diaz Morejon, R. Mathur, N. Nakicenovic, A. Ofosu Ahenkora, J. Pan, H. Pathak, J. Rice, R. Richels, S.J. Smith, D.I. Stern, F.L. Toth, and P. Zhou, 2014: Drivers, Trends and Mitigation. In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. [https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc\\_wg3\\_ar5\\_chapter5.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_chapter5.pdf)
- <sup>xv</sup> U.S. Census Bureau. n.d. U.S. and World Population Clock. <https://www.census.gov/popclock/>
- <sup>xvi</sup> Finer. 2016. Declines in Unintended Pregnancies in the U.S., 2008-2011. <https://www.nejm.org/doi/full/10.1056/NEJMsa1506575> and <https://www.guttmacher.org/fact-sheet/unintended-pregnancy-united-states#>
- <sup>xvii</sup> Power to Decide. 2020. <https://powertodecide.org/what-we-do/access/birth-control-access>
- <sup>xviii</sup> Kaiser Family Foundation. 2019. KFF Poll: Public Opinion and Knowledge on Reproductive Health Policy. <https://www.kff.org/womens-health-policy/poll-finding/kff-poll-public-opinion-and-knowledge-on-reproductive-health-policy/>
- <sup>xix</sup> University of Michigan. 2019. Water, Water Everywhere, But Not a Drop to Drink: Black Women Face a 'Contraceptive Desert'. <https://news.umich.edu/water-water-everywhere-but-not-a-drop-to-drink-black-women-face-a-contraceptive-desert/>
- <sup>xx</sup> Flavelle, C. 2020. Climate Change Tied to Pregnancy Risks, Affecting Black Mothers Most. <https://www.nytimes.com/2020/06/18/climate/climate-change-pregnancy-study.html>
- <sup>xxi</sup> Center for Biological Diversity. 2013. Deadly Waters: How Rising Seas Threaten 233 Endangered Species. [https://www.biologicaldiversity.org/campaigns/sea-level\\_rise/pdfs/Sea\\_Level\\_Rise\\_Report\\_2013\\_web.pdf](https://www.biologicaldiversity.org/campaigns/sea-level_rise/pdfs/Sea_Level_Rise_Report_2013_web.pdf)
- <sup>xxii</sup> Business Insider. 2019. <https://www.businessinsider.com/millennials-americans-worry-about-kids-children-climate-change-poll-2019-3>
- <sup>xxiii</sup> Environmental Protection Agency. 2019. Advancing Sustainable Materials Management: 2017 Fact Sheet. [https://www.epa.gov/sites/production/files/2019-11/documents/2017\\_facts\\_and\\_figures\\_fact\\_sheet\\_final.pdf](https://www.epa.gov/sites/production/files/2019-11/documents/2017_facts_and_figures_fact_sheet_final.pdf)
- <sup>xxiv</sup> Global Footprint Network. 2019. <http://data.footprintnetwork.org/#/>.