

<https://rhinos.org/about-rhinos/state-of-the-rhino/>

2021 State of the Rhino

The International Rhino Foundation (IRF) publishes our signature report, State of the Rhino, each September. The report provides current population estimates and trends, where available as well as key challenges and conservation developments for the five surviving rhino species in Africa and Asia.

Through grants and field programs, IRF has funded rhino conservation efforts in more than 10 countries in its 30 year history, focusing on scientific research, anti-poaching, habitat management, conservation breeding, environmental education and demand reduction. Over the past decade alone, IRF has invested more than \$20 million in rhino conservation and research.

Highlights from the 2021 State of the Rhino report:

- Greater one-horned rhinos continue their population rebound in India and Nepal, surpassing 3,700 individuals.
- Emergency recovery efforts progress, despite the impact of the global pandemic, for the Critically Endangered Sumatran rhino.
- Javan rhinos experience a small but significant increase to 75 individuals, with new births offsetting natural deaths in the world's last remaining population.
- South Africa's rhino population, the world's largest, faces increased poaching after declines in 2020.
- The global black rhino population grows across Africa.

- Africa's white rhino population, under pressure from poaching, declines.
- Advancements in Assisted Reproductive Technology (ART) continue to show promise for rhino breeding.

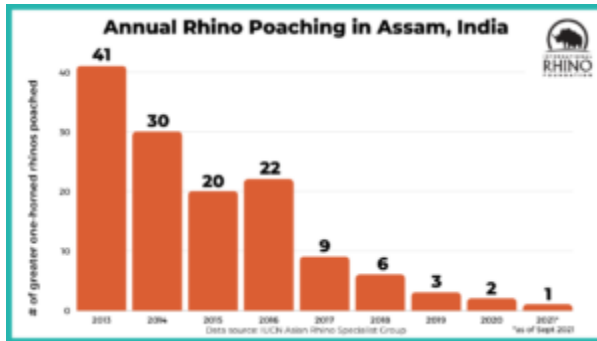
Greater one-horned rhinos (India and Nepal)

Vulnerable >3,700; Population Increasing

India Rhino Vision 2020 comes to a close



The greater one-horned rhino population, which once numbered as low as 100 individuals in the early 1900s, has increased to more than 3,700. Strict protection by government authorities and forestry officials in India and Nepal has resulted in several years of poaching declines. In 2020, there were only two recorded losses in the state of Assam in India, the region with the largest greater one-horned rhino population, continuing the successful downward trend in poaching losses.



India Rhino Vision 2020 (IRV2020) came to a close earlier this year with its final operation, the translocation of two rhinos from Pobitora Wildlife Sanctuary to Manas National Park. The operation was delayed a year because of the global pandemic, which continues to have a significant impact in India.

The goal of IRV2020 was to increase the rhino population in Assam to 3,000 by establishing populations in new areas. The program successfully re-established a new population in Manas National Park, which now numbers 47 individuals. Rhinos can now be found in four Protected Areas in Assam: Pobitora Wildlife Sanctuary, Orang National Park, Kaziranga National Park and Manas National Park.

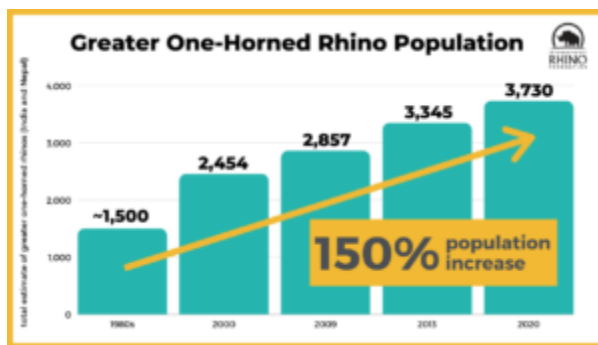
Building on IRV2020, a coalition of government, nonprofit organizations and community partners, including the International Rhino Foundation (IRF), are developing a new strategic program for India's rhinos to increase the population to 4,500 in the coming decade. The plan will be released later this year.

Nepal completed a new nationwide census for greater one-horned rhinos and the population now stands at 752, an increase of 107 from the previous survey in 2015. The

census was originally scheduled for 2020, but was delayed due to COVID-19 mitigation efforts.

The increase in Nepal's greater one-horned rhino population is encouraging, but there are ongoing concerns. Population growth averaged 5% per year according to the 2015 survey. That growth rate has slowed to 3% in 2021. Chitwan National Park, home to Nepal's largest rhino population, has experienced a worrisome increase in natural rhino deaths over the past few years. And for the first time in nearly four years, four rhinos were poached in Chitwan in 2020.

Protection continues to be a key focus to increase populations. Additionally, habitat management, including removal of invasive species and creating new suitable areas, is necessary to increase food resources and the overall health of rhinos.



“The continued growth of the greater one-horned rhino population is encouraging and the result of tremendous collaboration between the governments of India and Nepal, local and international organizations and the local communities that value their rhinos and other wildlife as national treasures,” said Nina Fascione, executive director of IRF.

“With ongoing combined efforts, we can expect to see continued growth of existing

populations as well as the potential to introduce rhinos to additional habitats they once called home.”

Javan Rhinos (Indonesia)

Critically Endangered 75; Population Stable

Javan rhinos increase to 75 individuals in Ujung Kulon National Park



Indonesia’s Ministry of Environment and Forestry has announced four Javan rhino births in the first half of 2021, increasing the world’s only remaining population of Javan rhinos to 75. The new births offset declines due to natural deaths, for a small overall population increase from 74 animals last year.

Javan rhinos are found only in Indonesia’s Ujung Kulon National Park (UKNP), where the population appears to be slowly growing. Ten years ago, there were fewer than 50 Javan rhinos in UKNP, but thanks to active and effective conservation efforts by the Park, the rhino population has gradually increased, with at least one new calf recorded every year since 2012.

“IRF welcomes and celebrates these new Javan rhino calves,” said Fascione. “The new births and continued population increase of this critically endangered species are the result of the commitment of the Government of Indonesia and Ujung Kulon National Park officials to the protection of the Javan rhino and its habitat.”

Ujung Kulon National Park runs a comprehensive rhino monitoring program, tracking every individual Javan rhino. The monitoring program, which is supported by IRF and on-the-ground partner Rhino Foundation of Indonesia (YABI), plays a critical role in the protection and management of this species and provides demographic data on the park’s Javan rhino population that can be used for population management. In time, the data will also guide decisions on which rhinos to move to a second site in order to reduce the species’ risk of extinction and allow for further population growth.

Javan rhinos are kept safe by Rhino Protection Units operated by YABI in partnership with Ujung Kulon National Park. Responding to potential threats from illegal fishing throughout the park, YABI and UKNP launched two marine Rhino Protection Units (RPUs) in January, 2020. During their first year of operations, the marine RPUs apprehended 220 people illegally fishing and encroaching within Ujung Kulon park waters. It’s important for Javan rhinos to supplement their diet with salt, and they have historically been sighted along the park’s beaches for this reason. But in recent years, as more illegal fishermen have built fishing platforms along the northern peninsula, fewer and fewer rhinos have been seen. Instead they must traverse much greater distances inland to find plants that contain enough salt. Now that the marine patrol units are effectively keeping illegal fishermen away, we hope that more rhinos will return to

the beaches. The RPU's' hard work was rewarded this year with a rare sighting, captured on video, of a Javan rhino on the beach.

Expanding habitat for Javan rhinos is a priority to ensure continued growth of the population. In 2010, the Government of Indonesia established an additional 5,100 hectare area in UKNP, called the Javan Rhino Study and Conservation Area, to expand the available habitat for rhinos. Rhinos move in search of food sources and mates, and will settle into a new area if both are available. We hope that rhinos take advantage of this new protected area soon.



Arenga obtusifolia, commonly known as Arenga palm, is a fast growing, dominant plant species that naturally occurs in UKNP. It chokes out other native plant species, including the rhinos' preferred food plants. In 2020, with our local partner YABI and Ujung Kulon National Park authorities, IRF continued a program to control Arenga palm, hiring local workers to remove it manually. Manual cutting is harder work but makes very little noise, so there is less disturbance to the rhinos. This habitat restoration work opens new pathways for Javan rhinos and allows for preferred food plants to regenerate.

Sumatran rhinos (Indonesia)

Critically Endangered <80; Population Decreasing

Efforts to save Sumatran rhinos continue despite impacts of the pandemic in Indonesia



In Sumatra and Kalimantan, efforts to save the Sumatran rhino continue despite significant difficulties caused by the global pandemic. The dedicated individuals working to save Sumatran rhinos have continued their vital rhino conservation operations while facing some of the world's worst COVID infection rates.

In 2018, a groundbreaking project, the Sumatran Rhino Rescue (SRR), was established to support the Indonesian government's emergency action plan to save Sumatran rhinos. Indonesian officials, along with local and international organizations, are working together in an effort to capture and relocate Sumatran rhinos to conservation breeding facilities like the Sumatran Rhino Sanctuary (SRS), established in 1995 by the International Rhino Foundation and YABI. The goal is to quickly and safely increase rhino numbers, creating a source population from which animals can eventually be reintroduced into the wild.

Before that can happen, wild rhinos must be located for possible capture and transfer. Survey teams were established last year in three areas known to have rhino populations: Way Kambas and Gunung Leuser National Parks in Sumatra and in East Kalimantan, a province on the island of Borneo where a lone rhino was sighted. Six individuals are currently being tracked in the three regions with hopes that captures can begin in late 2021. A new SRS is being constructed in Leuser to facilitate conservation breeding in that region.

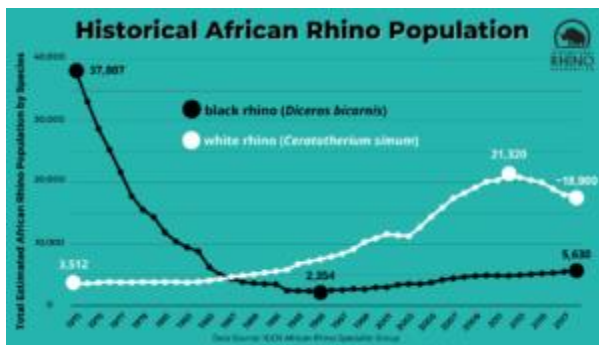
Capture teams, which include veterinarians, transport experts and other specialists, conducted in-person training before the pandemic, but recent training has had to take place virtually. Local and international experts have participated, sharing best practices to safely capture and move rhinos.

Communities in Indonesia face mounting health and economic challenges as a result of the global pandemic. As such, there are concerns about poaching of rhinos and other wildlife. “It is critical that protection and monitoring continues, and indeed is strengthened, at this time to ensure the survival of this species,” said Fascione. “Rhino Protection Units are in place and additional security, including cameras, are being installed and upgraded to meet these needs.”

Due to their dense habitat, shy nature and small numbers, direct sightings and even camera-trap documentation of this species is rare – population estimates are compiled based on footprint data and other signs of presence. Despite protection and monitoring, this population continues to decline due to loss of habitat and isolation of populations, making it difficult for rhinos to find each other and breed.



“Under the leadership and guidance of the government of Indonesia’s Emergency Action Plan for Sumatran Rhinos, IRF has joined a coalition of organizations working to save the Critically Endangered Sumatran rhino,” said Fascione. “We must act now and utilize every tool in the toolbox to save this imperiled species.”



White rhinos (Africa)

Near Threatened 17,212 – 18,915; Population Decreasing

Africa’s white rhino population, under pressure from poaching, declines

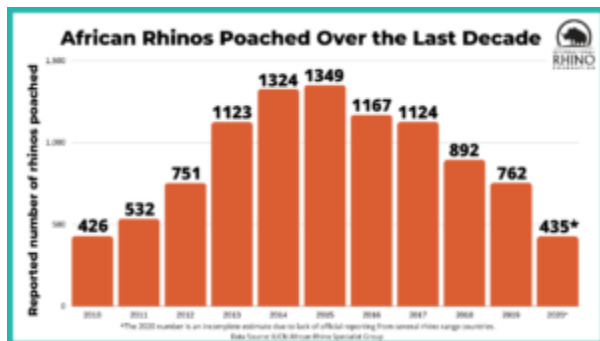


There are two extant white rhino subspecies, northern and southern. The northern white subspecies was officially declared extinct in the wild in 2018. Today, the only two living northern white rhinos in the world are two females at the Ol Pejeta reserve in Kenya. To date, reproductive scientists have harvested, fertilized, and frozen 12 oocytes using eggs harvested from the living females and frozen semen samples from deceased male northern white rhinos. IRF is excited about this important step of Assisted Reproductive Technology ART, but as the science is still in its nascent stages for rhinos, there is still a long way to go before a northern white rhino calf could be created through this technology.

The official current southern white rhino population estimate from IUCN's African Rhino Specialist Group (AfRSG) remains at ~18,000 white rhino, which represents a 12% decrease for this species in the past decade. In February, 2021, South African National Parks (SANParks) released a report indicating that the total white rhino population in Kruger National Park – once thought to be the largest population of white rhinos in the world – had plummeted 67% from about 10,621 in 2011 to just 3,549 individuals in 2019.



The AfRSG is still working to model what this estimate from Kruger National Park means for the total white rhino population. Some experts have estimated that Kruger’s steep population declines put the continental white rhino population number closer to 15,500 individuals. If this is accurate, it would actually represent a 24% decline for this species over the past decade.



After experiencing a decline in poaching in 2020, due largely to border closures and lockdowns as a result of COVID mitigation measures, white rhino poaching incidents are again on the rise. South Africa reported that poaching in the first half of 2021 is higher than last year, though still below the number of deaths recorded in the same period in 2019. Authorities have also noted a rise in poaching figures in other areas of the country, possibly due to the lower number of rhinos found in Kruger.



“Rangers put their lives on the line every single day to save rhinos and other wildlife.

However, poaching is a policing issue and rangers can’t do it alone,” said Fascione.

“There needs to be a great deal of inter-cooperation between government departments, including environmental protection agencies, police and the court systems, which often operate in silos with their own mandates.”

In a win for rangers and rhino conservation, the Skukuza Court, located in the Kruger National Park and known as the “rhino court” because it handles so many poaching cases, was reopened in April this year. A decision by the South Africa Supreme Court thwarted efforts to permanently close Skukuza and move cases to a court further away. Rangers can once again testify against suspected poachers without extensive travel, and can return to the field to protect rhinos as soon as possible.

Elsewhere in Africa, Botswana continues to face severe poaching pressure on both black and white rhinos, resulting in perilous decreases to their populations. Controlled by an organized criminal network that spans four countries, including the Democratic Republic of Congo, Zambia, Namibia and Botswana, rhino horn is smuggled to markets in Vietnam.

The Botswana government is taking steps to combat the current crisis, including moving rhinos to safer locations. Work is also being done to disrupt trade routes and intercept horn shipments in Zambia.

“IRF urges increased communication and coordination between governments and organizations on the ground to save Botswana’s rhinos,” said Fascione. “Collaboration between law enforcement officials, conservationists and communities is an effective tool in breaking down criminal networks.”

Throughout Africa, IRF has awarded more than \$8 million in grants over the past ten years to carefully selected parks and NGOs to strengthen security and anti-poaching efforts for key rhino populations, and to reduce demand for rhino horn in consumer countries and shut down illegal trade networks.

Black rhinos (Africa)

Critically Endangered 5,366 – 5,630; Population Increasing



Still recovering from devastating poaching losses since the 1970's, the black rhino has seen an encouraging population increase of 16-17% over the past decade. There are

three subspecies of black rhino, the southeastern, eastern and southwestern. All of these subspecies' populations have grown, with the largest gains seen by the eastern black rhino (33-42%) over the past decade. Last year, the AfRSG updated the most numerous subspecies, the southwestern, from Vulnerable to Near Threatened due to its sustained population growth over the last three generations. The other two subspecies and the species as a whole are still classified as Critically Endangered.

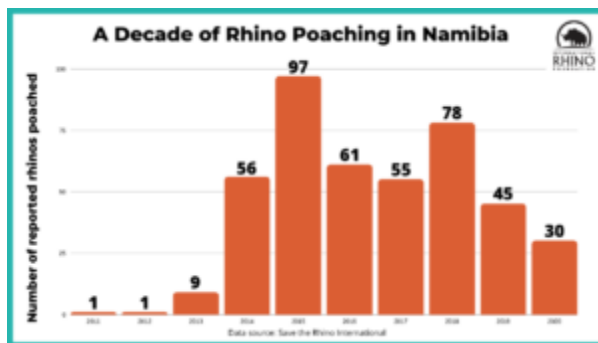


In Zimbabwe, after an absence of nearly thirty years, black rhinos are back in Gonarezhou National Park. To establish the new population, 29 rhinos were translocated in July 2021 from Buby Valley Conservancy (BVC), Malilangwe Wildlife Reserve and Save Valley Conservancy to Gonarezhou. The Gonarezhou Conservation Trust (GCT) is an innovative conservation partnership between the Zimbabwe Parks and Wildlife Management Authority and the Frankfurt Zoological Society that is responsible for the management of Gonarezhou National Park. IRF supported a feasibility study to assist in planning for this reintroduction and provided funding to support the translocations through the Lowveld Rhino Trust.

During the first half of 2021, BVC reported no poaching losses and a more than 6% increase in the population as a result of several births. Poaching continues to decline in

Zimbabwe after a crisis in 2019 when 77 rhinos were poached, allowing the population to recover and grow.

Namibia hosts the largest meta-population of black rhinos remaining in Africa and is the stronghold of the southwestern subspecies, with approximately 90% of the total population of southwestern black rhinos found in that country. Etosha National Park now holds the world's largest black rhino population, and rhino numbers are increasing steadily under a well-established and innovative conservation and management program implemented by the government of Namibia. The future of the southwestern subspecies therefore largely depends on Namibia's ability to maintain adequate standards of protection.



Save the Rhino International (SRI), IRF's partner in the United Kingdom, reports that the current poaching crisis is the most immediate risk to rhinos and threatens to undo the conservation successes of the past two decades. Namibia has suffered fewer incidents than neighboring South Africa, but significant poaching and risks remain.

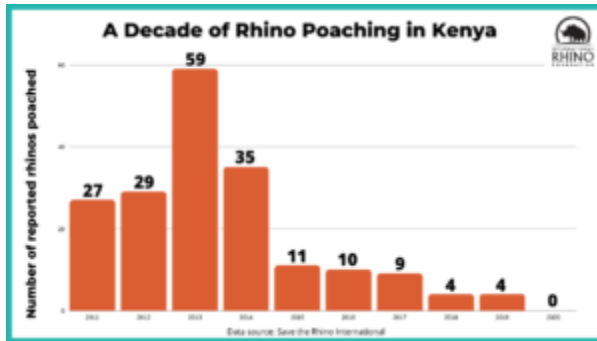
Alongside the poaching crisis, major droughts between 2017 and 2019 meant that proactive population management was essential for the survival of Namibia's rhinos.

Animals had to be moved into areas that could maintain enough water and ensure safety. These translocation projects have been vital for the country's rhinos.

“Despite huge challenges, thanks to the efforts of private and community reserves and government agencies, Namibia's black rhino population has increased by more than 6% in the last 10 years, while white rhinos have more than doubled in the same time,” said Cathy Dean, CEO of SRI.

In the early 1980s, the Kenyan government, realizing that the black rhino was headed for local extinction, implemented several strategies aimed at saving the species. One collaborative strategy was to place the remaining black rhinos into relatively small, intensively protected fenced sanctuaries on government and private land. All black rhinos in Kenya are owned by the state; private and community conservancies may apply to the Kenya Wildlife Service to become black rhino ‘guardians.’

Kenya produces a new Black Rhino Action Plan every five years. The current plan's goal is to achieve a population of 830 black rhinos by the end of 2021. Kenya's worst year for poaching was in 2013 when 59 animals were killed — more than 5% of the national population. The poaching rate has since declined, with just four animals poached in 2019 and none during 2020 – the first zero-poaching year in 21 years.



“The global pandemic has led to a loss in tourism revenue and corresponding budget cuts for the Kenya Wildlife Service and its partners, resulting in growing threats to wildlife,” said Dean. “It is our hope that Kenya can weather these challenges and continue the progress it has made for rhinos.”

Rhinos roam in nine countries in Africa, including Botswana, eSwatini, Kenya, Malawi, Namibia, South Africa, Tanzania, Zambia and Zimbabwe. Not all countries report population numbers or poaching data.

Rhino Conservation Research Efforts

In July of this year, scientists working to bring back the functionally extinct northern white rhino announced they had successfully created three additional embryos of the subspecies, bringing the total to 12. They used eggs collected from Fatu, one of the last two remaining northern white rhinos in Ol Pejeta Wildlife Conservancy in Kenya, and sperm from two deceased males.

A scientific consortium, Biorescue, is leading this research with cooperation from the Kenyan government. The eggs are being fertilized in a lab in Italy. Due to their advanced age, neither of the remaining northern white rhinos are capable of carrying a

calf to term, so a surrogate mother will be selected from a population of southern white rhinos if a viable embryo is developed.

Labs across the world are conducting additional artificial reproductive technology (ART) research in an effort to better understand its application to rhino conservation. “IRF continues to monitor achievements in ART with great interest,” said Fascione. “Any gains in the understanding of the science behind rhino breeding could prove extremely useful.”

IRF funds innovative rhino research focused on a variety of topics. During our most recent round of research grants, which totaled more than \$260,000, priorities included improving rhino monitoring and tracking, economic analysis of rhino conservation, and investigating key rhino health factors, including reproductive health.

Technical Advancements in Rhino Conservation

Technology plays a critical role in helping law enforcement and conservation organizations stop poachers, with radar increasingly being used successfully to detect, track and provide real-time actionable intelligence in South Africa.

The Meerkat wide area surveillance system developed and deployed in Kruger National Park by the South Africa government’s Council for Scientific and Industrial Research and other partners can distinguish between human and animal movement and alert park rangers to potential poachers. During the first 21 months of Meerkat’s use in Kruger, there was an 80% decrease in poaching incidents in areas where it was deployed.

“Technology developed to fight human crime is increasingly being applied to wildlife conservation as well,” said Fascione. “We encourage future developments that can help monitor rhinos, stop poaching before it happens and improve collaboration across borders.”

Wildlife Crime and Demand Reduction

Wildlife crime is an ever-evolving challenge and requires collaboration and coordination within and between countries, as rhino horn trade is controlled by large criminal syndicates that operate multi-nationally.

While the act of poaching is often the most visible and most readily understood part of wildlife crime, it is the transport, trade and sale of illegal rhino horn – from the protected area, across provincial boundaries and national borders and all the way to the end consumer – that makes this type of crime not just possible, but also profitable.

During the past year, there have been some large seizures of rhino horn and several high profile arrests of suspected wildlife trade criminals by authorities in South Africa, India and Vietnam. Training is ongoing to better analyze and secure crime scenes, collect evidence and provide testimony to convict wildlife criminals. In Vietnam, authorities have worked to secure longer sentences for wildlife criminals as a deterrent.

“Demand for rhino horn destined for black markets remains a top threat to the survival of rhinos,” said Fascione. “Continued coordination between countries for law enforcement is vital to breaking the hold of international criminal syndicates on trade.”

Recommendations

The report outlines the following priorities for all five species of rhinos:

1. Remain vigilant with anti-poaching activities, or “boots on the ground,” to meet the challenge of increased poaching created by economic losses, particularly those brought on by the COVID-19 pandemic.
2. Work with local communities to ensure they are active participants in wildlife conservation and receive economic incentives that improve livelihoods.
3. Continued cooperation and enforcement by governments of their wildlife crime laws and commitments to international treaties to foster more effective international collaboration on investigations to address the entire criminal supply chain.
4. Continue to improve habitats and return rhinos to their former ranges.
5. Support the activities of governments, people and organizations making a difference for rhinos.

Rhinos continue to face many threats from poaching, habitat loss, encroachment by people, and fragmented populations that inhibit breeding. “We must act today, to ensure these marvelous creatures can thrive for future generations,” said Fascione. “Let’s continue to build on our successes of greater one-horned, black, and Javan rhinos and reverse the declines for Sumatran and white rhinos, working together so rhinos can continue to thrive on Earth.”