



Japanese *katagami* stencil paper is made from several thin sheets of washi (Japanese hand-made paper) adhered together with persimmon tannin, into which designs are cut with thin knives. It has traditionally been used for dyeing cloth. In Japan, katagami stencil dyeing started around the 12th century. Becoming popular among all classes of society, including common people, by the 18th century, it was widely used in printing textiles such as kimonos. Under these circumstances, beautiful designs as well as advanced techniques unique to Japan have been developed.

A wide variety of motifs are employed by *katagami* stencil paper, and nature in all its four seasons and various creatures are seen in numerous patterns. Among these motifs, people's livelihoods such as those of farmers are also employed. Some creature motifs have special meanings; for example, a dragonfly represents strength and agility, while a lobster is a symbol of longevity. The traditional Japanese cultural phenomenon, *katagami*, has indeed been molded by biodiversity in the country.

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Living in harmony with nature

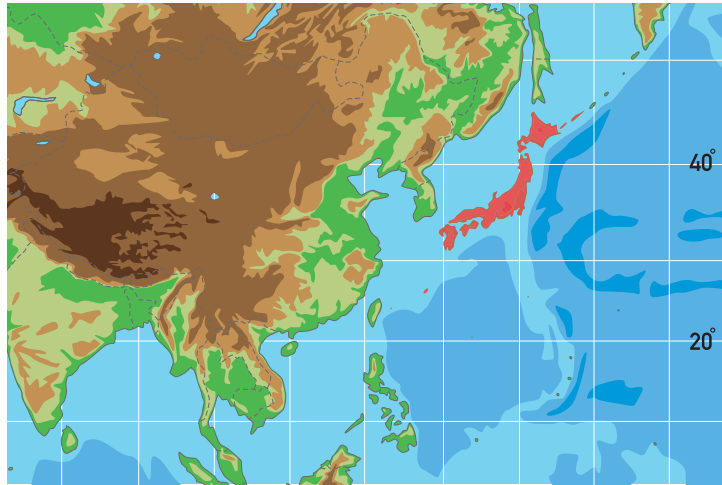
The National Biodiversity
Strategy of Japan
2012 - 2020

– Japan – Islands where people live side by side in harmony with nature

Consisting of several thousand islands that vary greatly in size, Japan is a long archipelago stretching for approximately 3,000 km from north to south located in the mid latitudes (20-45 degrees) of the northern hemisphere. It extends from the subtropics to the sub-frigid zones, so a wide range of ecosystems have evolved. With forests accounting for about two thirds of the area of the country, it has a complex topography from sea coasts to mountain ranges with considerable differences in elevation and the four seasons are clearly defined due to the effects of the monsoon climate. All of these factors combined have created diverse habitats and environments for the growth of plants and animals. At present, more than 90,000 species have been confirmed as existing in Japan and if those yet to be confirmed are included, it is estimated that Japan is home to over 300,000 species.

Compared to other developed countries, Japan has an extremely high proportion of endemic species; around 40% of its terrestrial mammals (30% if marine mammals are included) and about 80% of its amphibians are found nowhere else. The fact that Japan is the only developed country where wild monkeys still live is further evidence that it still has a rich natural environment. In addition, extensive areas where unique habitats have been created by humans, such as Satochi-Satoyama areas (rural landscapes formed by sustainable use of natural resources) and agricultural land, have also contributed to the country's rich biodiversity.

Japan also has especially strong biological ties with Asia. As a result of the Japanese islands having been repeatedly connected to the Asian continent by land and then separated from it by sea areas, there are rare species that have survived or evolved in unique ways in Japan after migrating from the continent during one of the glacial periods when land bridges formed between them. Furthermore, migratory birds that mainly travel across the borders of Asian countries use Japan as a breeding or wintering ground.



Reduced intervention in nature

The negative impact on biodiversity of reduced human intervention in nature has become a problem in Japan. Due to changes in resource use such as the decline in the use of wood as a fuel and the decreasing and aging population of people managing forests and farmlands, the Satochi-Satoyama agricultural complex is no longer being maintained as it once was. Consequently, species that live specifically in this secondary natural environment that has been maintained by human intervention are now in danger of extinction. In contrast, the populations of wild deer and boar have been expanding rapidly and are having an adverse effect on ecosystems and are causing severe damage to the agriculture and forestry industries.

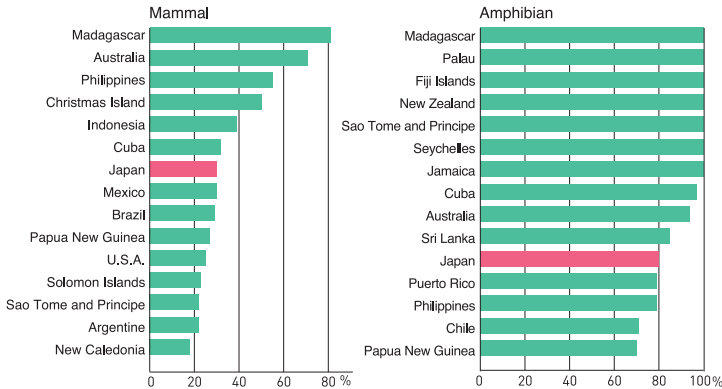
Efforts to reintroduce the crested ibis to the wild

Although the wild-born crested ibis (*Nipponia nippon*) became extinct in Japan in 1981, ibises of the same species were presented to Japan for breeding by the Chinese government in 1999. With the gradual increase in the population, the birds started to be released on Sado Island, Niigata Prefecture, in 2008. In 2012, the released ibises successfully hatched eggs in the wild and it was confirmed that a chick had left its nest, becoming the first one born in the wild to do so in 38 years. The crested ibis is a bird that lives in the Satochi-Satoyama habitat, which consists mainly of paddy fields. The project, which was aimed at the reintroduction of the crested ibis into the wild in Japan, was carried out in collaboration with the local residents and has become a symbol of the development of a region existing in harmony with nature.

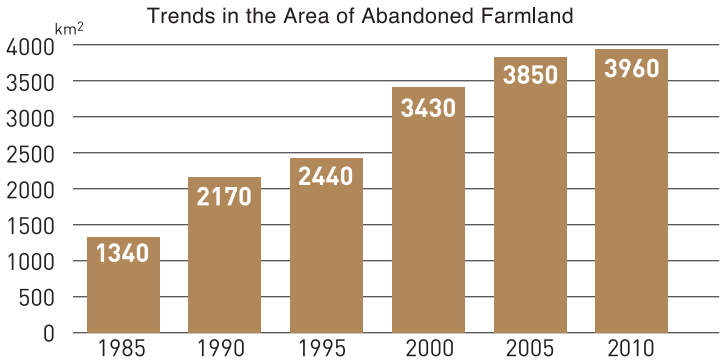
The Ogasawara Islands were registered as a World Natural Heritage site in recognition of the fight against the introduction of alien species

The impact on biodiversity of the increasing spread of invasive alien species has also been identified as a serious problem in Japan. The Ogasawara Islands, which were registered as a World Natural Heritage site in 2011, are a group of oceanic islands that have never been connected to any other land area and are thus habitats to a great number of endemic species that have evolved in unique ways. However, non-native species such as green anoles (*Anolis carolinensis*) have had a significantly detrimental impact on the biodiversity of these islands. The designation of the islands as a World Natural Heritage site was partly due to the efforts of a range of actors such as local residents working together to maintain and manage the natural environment through the control of these alien species and these and other measures have been bearing fruit and are evaluated highly.

Top 15 countries in terms of the proportion of endemic species



Source: Compiled by the Ministry of the Environment based on the Global Mammal Assessment (GMA) of IUCN.
* Including marine mammals.



Source: Chronological Statistics of the Census of Agriculture, the Ministry of Agriculture, Forestry and Fisheries.



Significance of living with nature

The Great East Japan Earthquake that occurred in March 2011 wreaked havoc on human life, as the earthquake and tsunami, representing the brutal forces of nature, left 15,870 people dead and 2,814 people missing mainly in the Pacific coast region of the Tohoku district (as of September 19, 2012). With the total damage estimated to reach as much as 16.9 trillion yen, the disaster inflicted enormous damage on people’s lives and livelihoods. It has caused us to realize again that on the one hand, nature bestows rich blessings upon us, while on the other hand it can become a huge threat.

It is important to understand that nature has these two sides, as well as to live in accordance with rules of nature without destroying the balance of these forces while showing reverence and gratitude towards it and acknowledging that humans are a part of it, so that we can continue enjoying its blessings in the future. Furthermore, regarding nature as assets to be passed on to the next generation, it is necessary to consider sustainable economies. It is essential to build a “truly enriching society grounded on natural ecosystem” by expanding the interaction between human and nature.



Scene of the earthquake disaster

Green reconstruction with the creation of the Sanriku Fukko (Reconstruction) National Park as the core concept

Although it has a rich natural environment, the Pacific coast region of the Tohoku district is also an area where people have lived facing harsh natural conditions such as frequent tsunamis. Starting from the creation of the Sanriku Fukko (Reconstruction) National Park, we will take a variety of approaches towards the reconstruction of the region where extensive knowledge, techniques and culture have been developed in order to coexist with nature. We are endeavoring to strengthen the ties between forests, villages, rivers and the sea by conserving and regenerating the bountiful ecosystems, and to reconstruct and rehabilitate the affected areas by creating a new national park as a place where we can learn about the blessings and threats of nature and re-examine the relationships and forms of coexistence between human and nature.



Kabushima island (Hachinohe City, Aomori Prefecture).

Five challenges to the conservation of biodiversity and the sustainable use of its components

Taking into account the experience of the Great East Japan Earthquake as well as the importance of the conservation of biodiversity and the sustainable use of its components, the National Biodiversity Strategy of Japan 2012-2020 has advocated the rationale of “realizing a truly enriching society grounded on natural ecosystem” as its principle for the realization of a society supported by biodiversity and existing in harmony with nature. The challenges that Japan faces and the directions it will take from this point onward with a view to realizing such a society are explored below.

1 Raising public awareness of biodiversity

Awareness of the importance of biodiversity has begun to rise triggered by the Tenth Meeting of the Conference of the Parties to the Convention on Biological Diversity (COP10). Nevertheless, it is now necessary to facilitate an understanding of a society in harmony with nature through hands-on experience and enable corporations and individual citizens to take concrete actions, thereby calling for a greater focus on and mainstreaming of biodiversity conservation. For this purpose, we will strive to convey the importance of biodiversity to the public in an understandable way from time to time through various measures including the promotion of projects implemented by a range of cooperating actors under the Japan Committee for United Nations Decade on Biodiversity and through assessment of the economic value of biodiversity, and propel the conversion to social and economic systems as well as lifestyles that pay due consideration to biodiversity.



Japan Committee for UNDB

2 Developing human resources and a collaborative framework

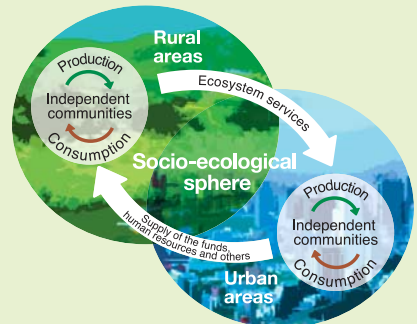
With ongoing activities aimed at the conservation of biodiversity and the sustainable use of its components such as rehabilitation of the natural environment, the maintenance of the Satochi-Satoyama areas, and the extermination of alien species in various areas, it is now necessary to develop a framework to promote cooperation and collaboration among the individual actors, thereby helping them take cross-sectional approaches and continue their efforts. Meanwhile, there are currently insufficient human resources to carry out these activities. Accordingly, we will expedite the development of a framework for collaboration among a wide array of actors along with provision of the human resources required for ecosystem conservation and sustainable agriculture, forestry and fisheries industries.



Forest volunteers (Hadano City, Kanagawa Prefecture).

3 Regions linked by ecosystem services

We believe the basic requirements for the realization of a society in harmony with nature is to create independent and distributed communities that cycle and use in a sustainable way the locally-produced ecosystem services. However, if it is difficult to do so, then it is important to consider the issue from a wider perspective including the connections to other regions both in Japan and abroad. Japan regards regions linked by ecosystem services in this way as a “Socio-ecological sphere”. We will reinforce interaction and cooperation among such regions within the sphere and help them build supportive relationships.

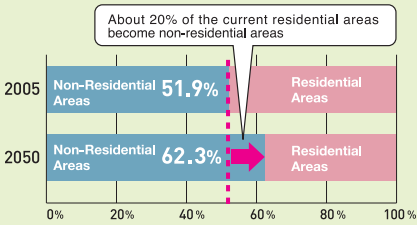


Concept of a Socio-ecological sphere

4 National land conservation and management taking into account the dwindling population, etc.

Japan’s population is expected to decline from about 128 million at present to around 87 million by 2060. In line with this, the area of inhabited land is also likely to decline. Taking these circumstances into account, it is necessary to describe the desirable future direction of the use of national land from a comprehensive perspective; for instance, it may be necessary to identify areas that should be left to succession and turned into forests, and Satochi-Satoyama areas that should be intensively conserved. In addition, by endeavoring to restore the corridors and links between natural ecosystems in Japan that have been severed by national land development, we will promote the formation of networks of linked ecosystems on a global basis.

Estimates for Changes in the Ratio of Total National Land Accounted for by Residential Areas and Non-Residential Areas(2005→2050)



5 Strengthening the scientific knowledge base for the development of political measures

In order to appropriately facilitate the conservation of biodiversity and the sustainable use of its components based on correct comprehension and recognition of its benefits, it is necessary to enhance scientific knowledge regarding biodiversity. For this purpose, we will strive to enrich our data on biodiversity, continually renew it and make it available as quickly as possible. Through the provision of comprehensive assessments based on indices, etc., we are also planning to make better use of such data in the development of national policies and projects carried out by individual actors. In addition, we intend to make an active contribution to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) and promote domestic system improvements.

Towards the achievement of the Aichi Biodiversity Targets

COP 10 was held in Nagoya, Aichi Prefecture in October 2010. It was a historic meeting as it achieved substantial results such as the adoption of the Strategic Plan for Biodiversity 2011-2020 incorporating the Aichi Biodiversity Targets, which are new global targets for 2011 onwards, together with the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (the Nagoya Protocol on Access and Benefit-sharing (ABS)). The National Biodiversity Strategy of Japan 2012-2020 has set short- and long-term targets that are in line with the Strategic Plan for Biodiversity 2011-2020. It also presents a roadmap for the achievement of the Aichi Biodiversity Targets and overall grand design for national land use over the next century.

2010

The Tenth Meeting of the Conference of the Parties to the Convention on Biological Diversity (COP10)

2012

Development of the National Biodiversity Strategy of Japan 2012-2020

Roadmap for the achievement of the Aichi Biodiversity Targets

As a roadmap for the achievement of the Aichi Biodiversity Targets, we have, in accordance with the Targets, set 13 national targets tailored to the circumstances and needs of Japan, 48 key action goals to attain the national targets and 81 indices to assess the status of accomplishment of the national targets for all five of the national strategic goals.

Strategic goals

National targets

Key action goals

indices

2020

Short-term targets

In order to halt the loss of diversity, we will take effective and urgent action aimed at the achievement of the national targets of Japan determined according to the attainment of the Aichi Biodiversity Targets.

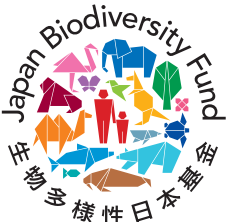
2050

Long-term targets

We will ensure that Japan becomes richer in terms of biodiversity through the maintenance, recovery and sustainable use of this biodiversity. In addition, we will contribute to the realization of a society in harmony with nature and that enables us to continue enjoying ecosystem services.

For the coming century: A grand design for the future of the national land in a society in harmony with nature

It is also important to restore damaged ecosystems from a long-term (i.e. a century) perspective. Accordingly, we have proposed a “Grand design for the national land in a society in harmony with nature” in concrete terms as our vision for the coming century.



Contribution to the world for the achievement of the Aichi Biodiversity Targets

The daily life of each of us is supported by the biodiversity of life on earth. In order to achieve the Aichi Biodiversity Targets as the international objectives for biodiversity conservation, it is crucial to keep this fact in mind and promote international cooperation for the conservation and sustainable use of the world’s biodiversity from a global perspective. Japan will make an active international contribution through financial support from the Japan Biodiversity Fund for developing countries in their capacity building efforts towards the achievement of the Aichi Biodiversity Targets, the promotion of the Satoyama Initiative to expedite the conservation of secondary natural environments in a sustainable manner and through other means.



Japan’s National Targets for the Achievement of the Aichi Biodiversity Targets

Strategic goals	National targets	Key action goals	Aichi Targets
Strategic goal A: Address the underlying causes for the loss of biodiversity	A-1: Achieving the “mainstreaming of biodiversity across society”	A-1-1: Flesh out and enhance publicity, education, and public awareness on biodiversity	1 2 3 4
		A-1-2: Promote initiatives to visualize economic values of biodiversity and ecosystem services	
		A-1-3: Promote the formulation of Regional Biodiversity Strategies and practical initiatives by local municipalities, and revise guidelines on formulating Regional Biodiversity Strategies by 2013	
		A-1-4: Promote the formulation of strategies and plans by the national and local governments in consideration of biodiversity, and implement incentives that take biodiversity into consideration, etc.	
		A-1-5: Establish and announce policies for sustainable business activities and encourage their implementation	5
Strategic goal B: Advance initiatives geared towards minimizing human-induced pressures on ecosystems and promote their sustainable use	B-1: Reduce the rate of loss of natural habitats, as well as their degradation and fragmentation	B-1-1: Establish methods and baselines designed to determine the rate of loss of natural habitats and their state of degradation and fragmentation by the midterm review of the Aichi Biodiversity Targets that is scheduled for 2014 or early in 2015	
		B-1-2: Carry out the initiatives needed to reduce the degradation and fragmentation of natural habitats by 2020, etc.	
		B-1-3: Overhaul the enforcement status of the Wildlife Protection Act by 2015, etc.	
		B-1-4: Promote measures to combat damage by wildlife to agricultural crops and to forests, etc.	
	B-2: Engage in agriculture, forestry, and fisheries that ensure the conservation of biodiversity in a sustainable manner	B-2-1: Promote initiatives that seek a balance between production-related activities and the conservation of biodiversity such as sustaining agricultural production and managing production bases that can be operated sustainably	6 7
		B-2-2: Work to allow forests to sustainably exhibit their multi-functionality, and move forward with monitoring surveys for forests, etc.	
		B-2-3: Promote initiatives that seek a balance between sustainable fisheries and the conservation of biodiversity, etc.	
		B-2-4: Implement initiatives to create Satoumi areas that are in harmony with nature	
	B-3: Improve the state of contamination from nitrogen and phosphorous, conserve aquatic organisms and increase their productivity, and maintain water quality and habitats	B-3-1: Eliminate nutritive salts and organic pollutants from river basin areas while proceeding to the next phase of Reduction of Total Pollution Amount by March 2015	8
		B-3-2: Examine environmental standardization with respect to lower level Dissolved Oxygen for the conservation of aquatic organisms and transparency for the conservation of aquatic plants by 2014, etc.	
		B-3-3: Carry out investigations and studies aimed at establishing management policies in order to maintain habitat environments	
		B-4-1: Create a list of invasive alien species and organize information pertaining to the routes by which the species establish themselves by 2014, etc.	9
	B-4: Identify invasive alien species based upon the results of examinations of the enforcement status for the Invasive Alien Species Act, and lay out the order of priority for controlling these invasive alien species, etc.	B-4-2: Arrange the thinking behind the order of priority for controlling species, promote efforts such as their systematic control, and formulate an action plan to prevent damage from alien species by 2014	
		B-4-3: Regulate or exterminate high priority invasive alien species, while also making progress in restoring the habitation status of rare species and restore ecosystems to their original state through such efforts	
		B-5-1: Identify human-induced pressures on ecosystems that are vulnerable to climate change, such as coral reefs, seagrass beds, tidal flats, islands, and subalpine and alpine areas by 2013, define the ecologically acceptable values for these human-induced pressures by 2015, and institute initiatives for achieving these ecologically acceptable values by 2015	
	B-5: Promote initiatives for minimizing human-induced pressures		10
Strategic goal C : Improve the status of biodiversity by conserving ecosystems, species, and genetic diversity	C-1: Appropriately conserve and manage 17% of inland areas and the like, and 10% of ocean areas and the like	C-1-1: Set in place methods and baselines for determining the status of conservation and management by the midterm review for the Aichi Biodiversity Targets which are scheduled to be held in 2014 or early in 2015	11
		C-1-2: Move ahead with examinations on identifying regions that contribute to the conservation of biodiversity and promote their appropriate conservation and management	
		C-1-3: Examine policies for ecological networks at the wide area level and move ahead with forming these, etc.	
		C-1-4: Select important marine areas and examine the need and methods for their conservation by 2014	
	C-2: Prevent the extinction of threatened species, and maintain the genetic diversity of crops and livestock animals, etc.	C-2-1: Collect knowledge related to threatened species and periodically revise Red Lists, etc.	12 13
		C-2-2: Promote the designation of National Endangered Species of Wild Fauna and Flora and initiatives for protect these species and increase their populations, etc.	
		C-2-3: Promote the setting in place of habitats for preventing the extinction of threatened species or decline of their populations	
		C-2-4: Promote ex-situ conservation for and the return to wildlife of species such as the crested ibis and the Tsushima leopard cat, etc.	
Strategic goal D: Enhance the benefits to all from biodiversity and ecosystem services	D-1: Strengthen the benefits received from biodiversity and ecosystem services through the conservation and restoration of ecosystems	D-1-1: Establish sustainable forest management and promote the development and conservation of diverse and healthy forests, etc.	14
		D-1-2: Conserve and use the environment in rural areas and utilize regional resources through sustainable agriculture	
		D-1-3: Promote the Satoyama Initiative both domestically and overseas	
		D-1-4: Establish by 2013 the Sanriku Fukko (Reconstruction) National Park and promote the restoration of coastal forests	
		D-1-5: Implement initiatives to create Satoumi areas that are in harmony with nature	
		D-1-6: Undertake considerations for efforts like developing new policies to utilize the arrangements for Biosphere Reserves	
	D-2: Restore at least 15% or greater of degraded ecosystems, thereby contributing to climate change mitigation and adaptation	D-2-1: Establish methods and baselines designed to determine the conservation and regeneration of ecosystems by the midterm review of the Aichi Biodiversity Targets that are scheduled for 2014 or early in 2015	15
		D-2-2: Promote measures for the conservation and restoration of ecosystems, thereby advancing measures for climate change mitigation and adaptation	
	D-3: Ratify the Nagoya Protocol on ABS and implement domestic measures	D-2-3: Promote forest sink measures such as properly carrying out forest operations and establish green corridors, etc.	16
		D-3-1: Ratify the Nagoya Protocol on ABS as early as possible, and steadily put into practice the obligations found in this protocol through efforts like setting up checkpoints to monitor the use of genetic resources by 2015 at the latest	
Strategic goal E: Steadily promote policies based upon the NBSAP, strengthen the scientific grounds as a foundation for such promotions, and promote capacity building in the biodiversity field	E-1: Promote policies based on the NBSAP	D-3-2: Promote aid for developing countries aimed at having them ratify the Nagoya Protocol through the Global Environment Facility (GEF), the Nagoya Protocol Implementation Fund (NPIF), and others	17 18 19 20
		E-1-1: Revise the NBSAP over 2015 and 2016 as needed	
	E-2: Have traditional knowledge be accorded respect, strengthen scientific grounds as well as the connections between science and policy, and effectively and efficiently mobilize the funds needed to achieve the Aichi Biodiversity Targets	E-1-2: Contribute to the achievement of Target 17 around the world through the GEF, the Japan Biodiversity Fund, and others	
		E-2-1: Reevaluate the wisdom on traditional knowledge and techniques for resource usage, and pass them down and promote their use	
		E-2-2: Enhance data on the natural environment, continuously and quickly update it, etc.	
		E-2-3: Round out the scientific knowledge related to marine organisms and ecosystems	
		E-2-4: Carry out comprehensive assessment of biodiversity and perform midterm assessment related to Japan’ s national targets	
		E-2-5: Actively take part in and contribute to the IPBES and set in place a domestic structure for this purpose	
		E-2-6: Set in place a structure to determine the extent to which resources have been mobilized in Japan and report this to the Secretariat of the Convention on Biological Diversity	

*The target year for national targets B-5, D-3, and E-1 is 2015, and 2020 for all other national targets. When no year has been listed as the target year for the key action goals, then the same applies to the target years for the national targets.