

# **Overview of the National Biodiversity Strategy of Japan 2012-2020**

**Roadmap towards the Establishment of an Enriching Society in  
Harmony with Nature**

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**Provisional Translation  
by Ministry of the Environment, Japan**



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## **Preamble**

### **○ Circumstances surrounding the formulation of the National Biodiversity Strategy of Japan 2012-2020**

#### **(1) Holding of the Tenth Meeting of the Conference of the Parties to the Convention on Biological Diversity (COP 10)**

COP 10 was held in Nagoya, Aichi Prefecture of Japan in October 2010, where the Strategic Plan for Biodiversity 2011-2020 (Aichi Biodiversity Targets) was adopted as a new set of global targets. Based upon recommendations from Japan, this plan listed achieving a world of “living in harmony with nature” by the year 2050 as its Vision. It also lists “taking effective and urgent action to halt the loss of biodiversity” as its Mission, and in order to achieve these it established 20 targets (Aichi Biodiversity Targets) to serve as specific action goals.

#### **(2) Occurrence of the Great East Japan Earthquake**

In March 2011 an earthquake and tsunami struck, along with an ensuing major accident that occurred at the Fukushima Daiichi Nuclear Power Station, which released vast quantities of radioactive materials into the environment. This caused devastating damage to the people and their livelihoods, mainly in the region along the Pacific Coast of the Tohoku Region, and also had an enormous impact on the natural environment. Nature, which provides us with plentiful benefits, also at times poses a significant threat and brings about disasters. This served as an opportunity to once again recognize the fact that we coexist together with a nature that has these two faces. What is more, it exposed the vulnerability of contemporary Japanese socio-economic systems where the production and distribution of energy and goods are extremely centralized.

### **○ Role of the National Biodiversity Strategy of Japan 2012-2020**

Based upon the background circumstances mentioned above, the National Biodiversity Strategy of Japan was formulated in September 2012 in order to fulfill the following roles.

#### **(1) Roadmap for Japan for the achievement of the Aichi Biodiversity Targets**

#### **(2) Proposal for a direction for achieving a world of “living in harmony with nature,” in light of the fact that the Great East Japan Earthquake gave us a chance to review the relationships between humans and nature**

#### **(3) Guidelines for formulating and revising the Regional Biodiversity Strategies that are the basic plans for the conservation of biodiversity and the sustainable use of its components in local areas**

## ○ History of the Formulation of the National Biodiversity Strategy of Japan

The National Biodiversity Strategy of Japan was formulated as the government's basic plan regarding the conservation of biodiversity and the sustainable use of its components pursuant to Article 6 of the Convention on Biological Diversity and Article 11 of the Basic Act on Biodiversity. Japan formulated the first National Biodiversity Strategy of Japan in 1995, following which it has formulated such strategies in 2002, 2007, and 2010, making this the fifth such strategy (and the second such strategy pursuant to the Basic Act on Biodiversity, which was entered into force in 2008).

## ○ Structure of the National Biodiversity Strategy of Japan 2012-2020

The overall structure of the strategy is shown in Appendix 1.

## ○ Check and review for the implementation of the strategy

The planned period for the strategy is from the years 2012 until 2020, which is the target year for the Aichi Biodiversity Targets. However, they will be revised as needed based upon the results of the interim evaluation of the Aichi Biodiversity Targets that is scheduled to take place during COP 12 in 2014 or early in 2015. Moreover, two rounds of comprehensive progress checks will be carried out regarding the achievement status of the strategy while also looking ahead towards the formulation of the next national strategy by the year 2020, which is the final year of the planned period for this strategy.

# Part 1. The Strategy towards Conservation and Sustainable Use of Biodiversity

## Chapter 1. Importance of Biodiversity and Rationales for Achieving a Society in Harmony with Nature

This chapter lays out the importance of biodiversity through the connections between the benefits that we can obtain from ecosystems in which a diverse array of living organisms is involved and human lifestyles. It also sets forth the rationales for achieving a society in harmony with nature that is supported by biodiversity.

### ○ Importance of biodiversity

Our lives are underpinned by the benefits that we can obtain from ecosystems, such as food, water, and a stable climate, with such benefits referred to as “ecosystem services.” In the Millennium Ecosystem Assessment (2005) that was carried out under the leadership of the United Nations these ecosystem services were divided into four categories, with each service having the following important roles.

- (1) **Supporting services:** Including nutrient cycling, soil formation, supplying oxygen through photosynthesis, etc.
- (2) **Provisioning services:** Provide food, water, timber, fiber, resources for the development

**of medicines, etc.**

- (3) Cultural services: Provide spiritual and religious values, aesthetic values, fields for recreation, etc.**
- (4) Regulating services: Including water purification, climate regulation, the prevention of natural disasters and the mitigation of damage, control of pests through natural enemies, etc.**

**○ The rationales for achieving a society in harmony with nature supported by biodiversity**

This arranges the importance of the conservation of biodiversity and the sustainable use of its components in line with the rationale behind ecosystem services.

**(1) Biodiversity provides the foundation for the existence of life**

Living organisms on the earth are closely related and connected to each other within one circle called the global ecosystem. The various functions of the diverse ecosystem serve as the foundations essential for the existence of all life at the present time and in the future.

**(2) Biodiversity has useful value for humans**

We humans have relied on diverse organisms in our daily lives. In addition, there are possibilities for the indirect or potential utilization of organisms. Therefore, biodiversity has useful value for humans which contributes to a good life at the present time and in the future.

**(3) Biodiversity serves as a fountain of rich culture**

Similarly to Japan, there are communities around the world which consider humans as part of nature, where people have created diverse cultures by respecting nature and living with nature. Biodiversity provides a foundation for spiritual worlds. It supports and serves as a fountain of diverse cultures, and could be described as an asset that is full of local characteristics indigenous to each area.

**(4) Biodiversity ensures the safety of life into the future**

The development and conservation of diverse and healthy forests, the abstention from improperly converting the landscape, and the promotion of conservation oriented agriculture contribute to preventing soil erosion and disruption as well as securing safe drinking water and food. Maintaining a sound balance of nature and its use by humans from a biodiversity standpoint will lead to efficiently ensuring the safety of life when looking from a long-term perspective over generations.

**<Basic approach for achieving a society in harmony with nature>**

In order to achieve a world of “living in harmony with nature” that is mentioned in the Aichi Biodiversity Targets, everyone need to understand and act in accordance with the importance of the conservation of biodiversity and the sustainable use of its components described above. In light of the importance of this, the following section lays out the rationales for achieving a society in harmony with nature that is supported by biodiversity.

**“Realizing a truly enriching society grounded on natural ecosystem”**

It is important that we approach nature with a mentality of gratitude and reverence, since nature

provides us with plentiful benefits but can also pose a threat to us on occasion. It is also essential that we understand that people are a part of nature. In this respect, it is important that we select activities that are in line with order of nature based on the idea of harmony with nature and the mechanisms of material circulation, so that our activities will not disrupt nature's balance and we will be able to continue benefiting from nature into the future. In order to do this, it is necessary to elaborate a sustainable economy which can maintain the healthy state of nature by considering nature as an asset to be handed down to the next generation and appropriately recognizing its value. We must continue realizing a truly enriching society grounded on natural ecosystem by extending this sound connection in which a balance has been struck between nature and people out to every last corner of society.

## **Chapter 2. The Current Situation and the Challenges concerning Biodiversity**

This chapter lays out the challenges when it comes to promoting the conservation of biodiversity and the sustainable use of its components based upon the current situation of biodiversity and the occurrence of the Great East Japan Earthquake.

### **○ Characteristics of biodiversity in Japan from the global perspective**

The number of known species in Japan is over 90,000, and it is estimated that this number exceeds 300,000 when unknown species are included. Therefore, Japan has rich biotas on its 380,000 km<sup>2</sup> land area (inland areas). Japanese biodiversity is characterized by a high percentage of endemic species: including about 40% of land mammals and vascular plants, about 60% of reptiles, and about 80% of amphibians that are endemic to Japan. Japan has rich natural environments which provide habitats for wild monkeys (Japan is the only developed country which has a wild monkey population) and many other medium and large wild animals including bears and the Sika deer (*Cervus nippon*). Conversely, much of its unspoiled nature is being lost to development and other such factors, and for these reasons Japan is globally recognized as an important region when it comes to the conservation of biodiversity.

What is more, the Japanese waters have rich diversity of species, including 50 species of marine mammals out of 127 worldwide (40 species of whales and dolphins, eight species of seals and sea lions, as well as sea otters and dugongs), about 3,700 species of sea fish species which is about 25% of an estimated 15,000 worldwide sea fish species, and 122 species of seabirds out of about 300 worldwide. Japanese waters have very high levels of biodiversity, with over 30,000 species living in these areas ranging from bacteria to mammals, which is about 15% of the total number of marine species worldwide.

### **○ Japan causing impacts on global biodiversity**

The ecological footprint of Japan in 2008 was about 1.5 times the global average. Japan depends upon imports from overseas for many of the resources consumed domestically, which impacts the biodiversity in other countries as well. For this reason, we need to recognize that our everyday

lives are closely connected to global biodiversity, and that these two things are by no means unrelated.

### ○ **The structure of biodiversity crises in Japan**

The biodiversity crises in Japan have been organized into the following four types. Various measures have been taken against these crises at the national and global levels and some results have been seen, but the crises are still in progress.

#### **(1) First crisis (caused by human activities including development)**

Effects from negative factors caused by humans, such as the development of reclaimed land in coastal areas, deforestation, and overexploitation. Crises such as declining populations and the loss and deterioration of the habitats of wild plants and animals persist.

#### **(2) Second crisis (caused by reduced human activities)**

Effects from reduced or discontinued human activities as a result of changes to the industrial structure or use of resources, as well as depopulation and the aging of society, including insufficient management of Satoyama landscapes areas. Crises such as the deteriorating quality of Satoyama landscapes and other such areas as habitats, the extinction of species, and decreasing populations are continuing and growing larger. The damage to agriculture and forestry from wildlife and the impact on ecosystems are growing particularly severe.

#### **(3) Third crisis (caused by artificially-introduced factors)**

Effects from factors introduced by humans in the process of leading modern lives, such as alien species and chemical substances. Crisis such as changes to biotas and ecosystems endemic to regions from alien species and the impact from chemical substances on ecosystems persist.

#### **(4) Fourth crisis (caused by changes in the global environment)**

Effects from changes in the global environment such as global warming, climate change such as more frequent strong typhoons and changes in precipitation, a decrease in primary production in the oceans, and the acidification of the oceans. Crises such as the extinction of species and severe impacts or fears of such impacts on fragile ecosystems persist.

### ○ **Impacts of the Great East Japan Earthquake on biodiversity**

The natural environment of the Pacific Coast in the Tohoku Region was greatly influenced by the Great East Japan Earthquake which occurred in March 2011, because it caused major changes to the topography of the area which provides the foundation for ecosystems. The earthquake caused land subsidence and the tsunami moved vast amounts of soil.

Maritime forests were flooded over an area extending about 37 km<sup>2</sup> along the Pacific Coast, with many of these maritime forests being seriously damaged by being washed away, submerged, or flattened.

Tidal flats in many different regions were affected by the tsunami, and the composition of species living on some tidal flats has changed significantly due to the changes in topography and the bottom materials in tidal flats in coastal areas.

Conversely, in the back swamps along the coastline which were used as agricultural land, the germination of the threatened species *Monochoria korsakowii* from seeds which were dormant in the soil and killifish swimming in shoals have been observed, and the recovery of these ecosystems has been noted. However, such ecosystems continue changing still today, and so attentive monitoring must be carried out in an ongoing manner.

Furthermore, large amounts of radioactive materials were released into the atmosphere and the ocean as a result of the accident at the Fukushima Daiichi Nuclear Power Station, which pose a concern for the impacts on wild animals and plants. Increases in radioactive materials contained in sea-bottom soil have been confirmed on the coast.

## ○ **Challenges towards the conservation of biodiversity and the sustainable use of its components**

This section arranges future challenges for the conservation of biodiversity and the sustainable use of its components into the five points shown below, in light of the current situation of biodiversity and the Great East Japan Earthquake that occurred in March 2011.

### **(1) Understanding of and action for biodiversity**

The mainstreaming of biodiversity—which promotes understanding of biodiversity through experiencing it first-hand, develops initiatives for the conservation and sustainable use of biodiversity in the form of national movements, and works to shift over to social systems and lifestyles which are conscious of biodiversity—has come to pose a challenge.

### **(2) Securing human resources and cooperation**

Efforts for the conservation and sustainable use of biodiversity have been progressing in various different regions, yet are still limited to localized initiatives in separate regions and actions by individual parties. As such, promoting initiatives that are region-wide, sectoral, or cross-sectoral poses a challenge for the future. Furthermore, another challenge is presented by the shortages of human resources to oversee initiatives like the conservation of biodiversity in local regions; the protection and management of wildlife; the maintenance and restoration of ecosystems; as well as education, studies, and research on biodiversity. For these reasons, there is a need to structure systems to ensure continuous activities, such as creating initiatives and systems in local communities and forming nationwide networks through cooperation and collaboration between different parties, as well as to develop and utilize human resources who can provide education related to biodiversity.

### **(3) Recognition of the “Socio-ecological sphere” connected through ecosystem services**

The Great East Japan Earthquake exposed the vulnerability of socio-economic systems where the production and distribution of energy and goods are extremely centralized. Therefore, we need to aim for the recycling and sustainable use within local areas of what they can handle, with independent, distributed local communities serving as the foundation for this. On the other hand, we need to view those things that they would have difficulty handling from a more wide-area perspective that encompasses both the domestic and overseas countries. Although ecosystem services are mainly provided by rural areas which are rich in nature, larger areas including cities benefit from ecosystem services. As this indicates, collectively recognizing the rural and urban areas which have supply-demand relationships for ecosystem services as “Socio-ecological sphere” and deepening cooperation and exchanges within these spheres (such as by connecting producers with consumers, for example), offer challenges for the future.

### **(4) Conservation and management of national land in light of the decreasing population, etc.**

Japan lost a great deal of its biodiversity as a result of the rapid changes that occurred during its period of rapid economic growth that began in the latter half of the 1950s. As a result of past population increases, residential areas expanded onto land which is vulnerable to natural disasters, and ensuring the safety of these areas required costly infrastructural development. It has been estimated that Japan’s population of 128.05 million people as of 2010 will fall to 86.74 million people in 2060. We need to reconstruct appropriate modalities for people and national land given the declining population, while also presenting a vision for the future for national land that includes comprehensive determinations.

### **(5) Increasing scientific knowledge**

One of the problems stopping the spread of actions for the conservation of biodiversity and the sustainable use of its components is the lack of a full understanding of the current situation of biodiversity and a lack of evaluations based on scientific knowledge. Therefore, we must continuously implement surveys employing a consistent methodology in order to understand chronological changes, and accumulate materials such as specimens of living things and literature. We also need to share the information related to biodiversity in the possession of various different parties while also utilizing scientific knowledge and data in future policies and specific measure.

### **Chapter 3. Targets for the Conservation of Biodiversity and the Sustainable Use of Its Components**

Against the backdrop of the importance of and the rationales for biodiversity discussed in Chapter 1, this chapter will indicate targets to be aimed for in response to the current situation and challenges laid out in Chapter 2.

#### **○ Japanese targets for the conservation of biodiversity and the sustainable use of its components**

##### **<Long-term target (2050)>**

Through the maintenance and recovery of biodiversity and the sustainable use of its components, the current biodiversity in Japan will be enriched further and a society in harmony with nature will be achieved where humans can benefit from ecosystem services into the future.

##### **<Short-term target (2020)>**

In order to halt the loss of biodiversity, effective and urgent action will be taken with the aim of achieving the Japanese national targets towards the achievement of the Aichi Biodiversity Targets.

※ The Japanese national targets for the achievement of the Aichi Biodiversity Targets are provided in Part 2.

#### **○ Grand design for national land in a society in harmony with nature**

In order to restore already lost ecosystems, it is important to take action from a very long-term perspective (100 years), although the time needed to restore a lost ecosystem depends on the type of ecosystem. From this standpoint, a “grand design for national land in a society in harmony with nature” has been set forth as a target vision to be achieved in 100 years time.

##### **<Basic approaches set forth in the “Centennial plan”>**

The basic approaches for creating a “grand design for national land in a society in harmony with nature” for 100 years into the future are explained in the “Centennial plan” below.

- (1) Ecosystems on national land, which have been damaged or destroyed over the past 100 years, shall be restored in the next 100 years**
- (2) The maintenance and development of mutually beneficial relationships between local areas shall be aimed at regarding the supply of and demand for ecosystem services**
- (3) Ecological land management focusing on the development of safe and secure land in harmony with nature shall be performed**
- (4) A better balance between humans and nature shall be restored step by step by steadily improving the quality of nature across all national land**
- (5) It will be necessary to have accumulated scientific data provide back-up for adaptive conservation and management**

## <A grand design in accordance with national land characteristics>

This indicates the direction being taken with each type of regional category by adopting seven regional categories as basic units, which include natural mountain areas, Satochi-Satoyama/rural areas (including areas where artificial forests prevail), and urban areas.

### (1) Natural mountain areas

- Conserve natural mountain areas covering a reasonably large land area in each region.
- Ensure that human activities such as mountain climbing will not cause irreversible changes to ecosystems by prioritizing nature in principle when managing the areas.
- Implement appropriate management of the Sika deer (*Cervus nippon*) and control their impact on forest ecosystems.

### (2) Satochi-Satoyama/rural areas (including areas where artificial forests prevail)

- Promote efficient conservation activities by assessing the future changes in the natural environment and social circumstances in different parts of Satochi-Satoyama/rural areas, such as areas closer to remote mountains and areas closer to cities.
- Achieve better harmony between humans and nature through the revitalization of sustainable agriculture and forestry which puts more importance on biodiversity.
- Promote the establishment of appropriate relationships between humans and wildlife, for example by developing buffer zones.
- Promote the revitalization of rural districts through vigorous and effective utilization of local natural resources and the discovery and creation of new value, including the utilization of local areas for ecotours and the utilization of biomass resources.
- Promote support for conservation activities and the creation of systems through which the community as a whole including urban residents and businesses can support conservation activities.

### (3) Urban areas

- Promote the development of urban areas that are rich in nature, water and vegetation as an integrated effort with surrounding communities.
- Develop ecological networks through connecting green spaces in an effort to ensure biodiversity in cities.
- Ensure fields and opportunities for experiencing nearby nature in people's daily lives.
- Establish socioeconomic activities and consumption activities which are sustainable when looking from a global perspective.

#### **(4) River/wetland areas**

- Conserve and restore the habitats of various forms of life at the watershed level, while also paying attention to the connection with the sea. This will be achieved by conserving/restoring diverse river areas which are safe, secure and in harmony with the natural environment, maintaining a large water volume, restoring the original variability of rivers and by connecting the upstream and downstream parts of rivers as well as connecting waters within each watershed area.
- Establish domestic and international ecological networks centering on river/wetland areas.
- Improve water quality so that people can have contact with a variety of aquatic life and secure healthy hydrologic cycles including groundwater and spring water.
- Restore rivers and lakes that characterize Japan where rich ecosystems and local history, culture and life are in good harmony.

#### **(5) Coastal areas**

- Restore the connection between people and the sea and the rich biotas that are inherent in coastal areas where the land is in contact with the sea.
- Restore coastlines so that people can approach and enjoy them, through prioritizing the conservation of existing and neritic sea areas including tidal flats, salt marshes, seagrass beds and coral reefs and the conservation of natural coastlines, as well as through the restoration and creation of habitats for diverse organisms.
- Promote sustainable fisheries based on appropriate resource management.
- Revitalize sustainable fisheries in coastal areas through efforts for forest development in upstream areas, water quality improvement, etc.
- Promote the conservation and restoration as well as the sustainable use of coastal areas which are safe, secure and in harmony with the natural environment, through the restoration of coastal disaster prevention forests, etc.
- Promote the establishment of appropriate marine protected areas and the improvement of their management based on scientific knowledge, in order to work towards the above-described directions.

#### **(6) Oceanic areas**

- Promote the conservation of long-traveling animals while watching the trend for international coordination.
- Organize general marine data including marine resources, secure genetic diversity, and then promote sustainable fisheries on the basis of the ecological approach and appropriate resource management, through international cooperation where necessary.
- Strengthen efforts to remove and prevent marine pollution with international collaboration.
- Establish appropriate marine protected areas and improve the management of the areas based on scientific knowledge in order to achieve the directions mentioned above.

### **(7) Island areas**

- Promote the conservation of distinctive ecosystems and endemic biotas through the Conservation Programmes defined by the law for rare species and the control of alien species.
- Promote the creation of well-developed communities making the most of their originality.

## **Chapter 4. Basic Policies for Conservation of Biodiversity and the Sustainable Use of Its Components**

Based on the current status of and challenges for biodiversity discussed in Chapter 2, this chapter will show the basic guidelines for policies that should be deployed in order to achieve Japan's targets and its grand design—with its sights set on 100 years down the road—that was brought up in Chapter 3.

### **○ Basic perspectives**

The following seven items have been set out as shared basic perspectives that are crucial when it comes to developing policies whose goals are the conservation and sustainable use of biodiversity

#### **(1) Scientific recognition and a preventative/adaptive attitude**

- Human beings should recognize that they have limited knowledge and understanding about biodiversity including the species of living organisms and the mechanisms of ecosystems. We should always be modest enough to act cautiously. On top of that, we should not defer implementing biodiversity conservation measures for the reason of the incompleteness of the scientific evidence, but we should take action based on a preventative attitude of always striving to enrich scientific findings so that we can take measures in a timely manner
- Accurate monitoring concerning ecosystem changes is important, as is flexibly revising management and usage methods in accordance with the results of said monitoring.
- It is necessary that all the people concerned should have a wide range of science-based information on nature and society, and that the policies for the management and use of natural resources should be determined by society as a whole.

#### **(2) Community-based efforts**

- The conservation and sustainable use of biodiversity are underpinned by activities in local regions that focus on their own unique nature, as well as the existence of communities that play a leading role in such activities. Perspectives suited to each region are important for these.
- There is a wide variety of activities for the conservation and sustainable use of biodiversity according to the individual characteristics of each region. Since there is no uniformity to

these, it is important to continue to promote human resource development that harnesses the wisdom and techniques for proper management that have been created out of the broad array of experiences in each region.

- One important perspective is to stimulate and expand upon activities by creating personal and information networks between active regions while respecting the independent activities of the regions.

### **(3) The wide-area view**

- It will conceivably be possible to promote activities that bring about excellent spillover effects for other regions by supporting one another through mutually complementing and relying upon each other, rather than carry out activities solely through the viewpoints of each region on their own.
- It is crucial that people adopt a wide-area view that is cognizant of the hierarchical nature of and connections between the respective spaces at the global, national, and region levels, and that they promote domestic and international initiatives with a view towards resolving individual, specific challenges in each region.

### **(4) Coordination and collaboration**

- It is crucial to establish a system that promotes create structures for closer coordination and collaboration between a wide range of entities, including the national government, local governments, those engaged in agriculture, forestry and fisheries, businesses, private organizations, experts, and community residents.
- It is necessary to move ahead with activities on the basis of sharing scientific findings and information. It is also important to have experts take part in activities that require scientific knowledge and information, to have coordinators who connect ordinary people up with experts get involved, and to disclose information.

### **(5) Mainstreaming biodiversity in socio-economy**

- It is necessary to estimate the monetary value of the benefits from biodiversity that cannot be directly converted into money and incorporate it into socioeconomic systems
- It is crucial that people recognize the value from the benefits of biodiversity, which cannot be translated directly into money, and that this be incorporated into socio-economic initiatives and arrangements.

### **(6) Integrated viewpoint**

- In order to achieve for a sustainable society, it is necessary to integrate efforts to establish a society in harmony with nature, a low-carbon society, and a recycling-oriented society.
- It is important to coordinate and promote various aspects of such activities from an integrated perspective.

## **(7) The long-term merits of sustainable use**

- When looking at the benefits that we can obtain from an ecosystem in the long run, it may in many cases be more economical to continue conserving the ecosystem and utilize the benefits that we can obtain within its capacity to recover than to change it to an unrecoverable extent.
- Some biological resources are being utilized based on traditional knowledge accumulated by humans over a long period of time. Encouraging such form of utilization can contribute to conserving and maintaining traditional knowledge.
- It is more important than ever that we consider the long-term and sustainable benefits for each individual and for mankind, as well as reviewing our lifestyles so that we do not lose the ecosystem's capacity to recover and maintain the perspective of coexisting with healthy ecosystems into the future.

## **○ Basic strategies**

The five basic strategies below have been set out as the broad direction for the policies that Japan must address in a prioritized manner in the period lasting until roughly 2020, which is the planning period for the National Biodiversity Strategy of Japan.

### **(1) Mainstreaming biodiversity in our daily life**

Make the importance of the conservation and sustainable use of biodiversity common knowledge among local governments, businesses and people, and carry out the following initiatives in order to achieve “mainstreaming biodiversity in our daily lives” in which each respective party reflects this in their decision making and actions.

- Improving biodiversity education and increasing opportunities to experience biodiversity
- The formulation of Regional Biodiversity Strategies and the promotion of community-based efforts
- Promoting biodiversity-friendly activities by businesses (promote citizen participation and disseminate certification systems, etc.)
- Promoting the economic valuation of biodiversity, etc.

### **(2) Reviewing and rebuilding relationships between man and nature in local communities**

Revise the existing relationship between cities, which have developed primarily around consumption, and rural areas, which have taken it upon themselves to supply food, animal feed, and more. Consider these in an integrated manner as “Socio-ecological sphere” in which such regions coexist by mutually complementing one another. Maintain and develop the independence of each respective region and mutually beneficial relationships between regions, and carry out initiatives like those found below to enable the supply of and demand for the benefits of biodiversity to be continued on into the future.

- Promoting efforts for the conservation and utilization of Satochi-Satoyama areas and Satoumi areas

- Promoting the development of communities that coexist with wildlife
- Promoting agriculture, forestry and fisheries that contribute to the conservation of biodiversity
- Promoting efforts to conserve wildlife endemic to local areas (measures for rare species and measures against alien species), etc.

**(3) Securing linkages between forests, the countryside, rivers and the sea**

Carry out the following sorts of initiatives to improve the quality of the natural environment all over the country in order to realize a society in which people and nature are in harmony.

- Promoting the development of ecological networks, conservation and the restoration of nature
- The conservation and restoration of coastal and oceanic areas
- Promoting global warming mitigation and adaptation measures from a biodiversity standpoint , etc.

**(4) Taking action with a global perspective**

Fully recognize that our daily lives are supported by global biodiversity. From the perspective of conserving biodiversity at the global level, ensure the proper management of natural resources domestically and promote the proper management of imports and domestic distribution. Together with this, carry out the following sorts of initiatives in order to promote international collaborations regarding the conservation and sustainable use of the world's biodiversity with a global-level outlook.

- The contribution to international efforts toward the achievement of the Aichi Biodiversity Targets
- Promoting the Satoyama Initiative internationally
- Promoting the conservation and management of globally important priority areas found within Japan, etc.

**(5) Strengthening the scientific foundation and utilizing it in policy making**

Carry out the following sorts of initiatives to enhance scientific knowledge related to the conservation and sustainable use of biodiversity, and to tie the results of this in with the effective implementation of policies and measures.

- Collect basic data through the National Surveys on the Natural Environment and Monitoring Sites 1000
- Implement comprehensive assessments on biodiversity
- Strengthening the linkages between science and policy (set in place a domestic system for IPBES), etc.

## **Part 2. Roadmap for the Achievement of the Aichi Biodiversity Targets**

- Japan will set 13 national targets for itself for the five strategic goals in the Aichi Biodiversity Targets in order to achieve these, and set 48 key action goals that will be needed to achieve its national targets (Appendix 2). It will also set indicators in order to determine the target year and achievement status for each national target for items for which it is feasible to do so. The key action goals will be revised as needed based upon the results of the mid-term evaluation of the Aichi Biodiversity Targets at COP 12, which is scheduled to be held in 2014 or early in 2015. Efforts will be made to revise and bolster the targets in an ongoing manner by taking into consideration the continuity of said targets. This will be done to ensure that they accurately reflect the direction that is to be taken with Japan's national targets, and to make sure that they are appropriate and in accordance with environmental and socio-economic circumstances and the latest scientific findings.

## **Part 3. Action Plan on the Conservation of Biodiversity and the Sustainable Use of Its Components**

- Part 3 contains an action plan by the government for the next five years or so that lists roughly 700 specific measures for achieving the conservation and sustainable use of biodiversity, such as implementing the Roadmap for the Achievement of the Aichi Biodiversity Targets indicated in Part 2. In order to make it easy to understand the achievement status of the measures, it establishes numerical targets for those items for which it is feasible to do so (and contains target years where necessary), and also lists the current values. These measures will be expanded upon and enhanced as needed based upon the results of the mid-term evaluation of the Aichi Biodiversity Targets at COP 12, which is scheduled for 2014 or early in 2015, as well as changes in the conditions and the state of progress for measures both in Japan and overseas in the future concerning biodiversity.
- The connection between Japan's national targets (13 targets) as indicated in the Roadmap for the Achievement of the Aichi Biodiversity Targets from Part 2 and each section of the Action Plan from Part 3 (excluding Chapter 3) are shown in Appendix 3.

○ Structure of the Action Plan

**Chapter 1. Measures and Policies for National Land Area**

(Measures and Policies for Wide-Area Coordination)

- Section 1. Ecological Networks
- Section 2. Conservation of Priority Areas
- Section 3. Nature Restoration
- Section 4. Environmental Impact Assessments

(Measures and Policies for Local Areas)

- Section 5. Forests
- Section 6. Rural Areas and Satochi-Satoyama Areas
- Section 7. Urban Areas
- Section 8. Rivers and Wetland Areas
- Section 9. Coastal Areas and Oceanic Areas

**Chapter 2. Cross-Sectoral and Fundamental Measures and Policies**

(Communication and Implementation)

- Section 1. Promoting the Mainstreaming of Biodiversity

(Conservation and Management of Wildlife)

- Section 2. Appropriate Protection and Management of Wildlife
- Section 3. Responding to Alien Species and Other Factors that Disturb Ecosystems

(Sustainable Use)

- Section 4. Agriculture, Forestry, and Fisheries
- Section 5. Eco Tourism
- Section 6. Sustainable Use of Biological Resources

(International Approach)

- Section 7. Promoting an International Approach

(Strengthening the Scientific Grounds)

- Section 8. Promoting the Organization of Information and Technical Development

(Efforts against Global Warming)

- Section 9. Promoting the Mitigation of Global Warming and Adaptation to Its Effects from the Perspective of Biodiversity

(Integrated Approach)

- Section 10. Promoting an Integrated Approach for a Society in Harmony with Nature, a Recycling-Oriented Society, and a Low Carbon Society

**Chapter 3. Reconstruction and Restoration from the Great East Japan Earthquake**

- Section 1. Reconstruction and Restoration from the Great East Japan Earthquake

- Section 2. Initiatives for the Development of a New Type of Society in Harmony with Nature

## Overall Structure of the National Biodiversity Strategy of Japan 2012–2020

<b>Preamble (See P1-2)</b>	
	<ul style="list-style-type: none"> <li>■ Background to and the role of the National Biodiversity Strategy of Japan 2012-2020</li> <li>■ History of the National Biodiversity Strategy of Japan</li> <li>■ Structure of the National Biodiversity Strategy of Japan 2012-2020</li> <li>■ Check and review for the implementation of the strategy</li> </ul>
<b>Part 1. The Strategy (See P2 – 14)</b>	
Chapter 1	<p>[Importance of Biodiversity and Rationales for Achieving a Society in Harmony with Nature]</p> <ul style="list-style-type: none"> <li>What is biodiversity? &lt;Section 1&gt; <ul style="list-style-type: none"> <li>■ Origin of the earth and the birth of life</li> <li>■ Mass extinction and human activities</li> <li>■ What is biodiversity?</li> </ul> </li> <li>Biodiversity that supports life and livelihoods &lt;Section 2&gt; <ul style="list-style-type: none"> <li>■ What are ecosystem services?</li> <li>■ Biodiversity that supports life and livelihoods</li> </ul> </li> <li>The rationales for achieving a society in harmony with nature supported by biodiversity &lt;Section 3&gt; <ul style="list-style-type: none"> <li>■ Four rationales for conserving biodiversity</li> <li>➔</li> <li>■ Basic approach for achieving a society in harmony with nature</li> </ul> </li> </ul>
Chapter 2	<p>[Current Situation and Challenges]</p> <ul style="list-style-type: none"> <li>■ Summary of the outcomes of COP 10 and COP-MOP 5 &lt;Section 1&gt;</li> <li>■ The current situation of biodiversity in the world and its connection to Japan &lt;Section 2&gt;</li> <li>➔</li> <li>■ The current situation of biodiversity in Japan &lt;Section 4&gt;</li> <li>■ The current status for the conservation of biodiversity and the sustainable use of its components &lt;Section 5&gt;</li> <li>➔</li> <li>■ Challenges towards the conservation of biodiversity and the sustainable use of its components &lt;Section 6&gt;</li> </ul> <p style="text-align: right;">Structure of biodiversity crisis &lt;Section 3&gt;</p> <ul style="list-style-type: none"> <li>First crisis (caused by human activities including development)</li> <li>Second crisis (caused by reduced human activities)</li> <li>Third crisis (caused by artificially-introduced factors)</li> <li>Fourth crisis (caused by changes in the global environment)</li> </ul>
Chapter 3	<p>[Targets]</p> <ul style="list-style-type: none"> <li>Japanese targets &lt;Section 1&gt; <ul style="list-style-type: none"> <li>■ Long-term targets &lt;2050&gt;</li> <li>■ Short-term targets &lt;2020&gt;</li> </ul> </li> <li>➔</li> <li>Grand design for national land in a society in harmony with nature &lt;Section 2&gt; <ul style="list-style-type: none"> <li>■ Basic approaches set forth in the “Centennial plan”</li> <li>■ The overall picture of the grand design for national land</li> <li>■ A grand design in accordance with national land characteristics</li> </ul> </li> </ul>
Chapter 4	<p>[Basic Policies]</p> <ul style="list-style-type: none"> <li>Basic Perspectives &lt;Section 1&gt; <ul style="list-style-type: none"> <li>(1) Scientific recognition and a preventative and adaptive attitude</li> <li>(2) Community-based efforts</li> <li>(3) Wide-area view</li> <li>(4) Coordination and collaboration</li> <li>(5) Mainstreaming biodiversity in socio-economy</li> <li>(6) Integrated viewpoint</li> <li>(7) Long-term merits of sustainable use</li> </ul> </li> <li>➔</li> <li>Basic strategies &lt;Section 2&gt; <ul style="list-style-type: none"> <li>(1) Mainstreaming biodiversity in our daily lives</li> <li>(2) Reviewing and rebuilding relationships between man and nature in local communities</li> <li>(3) Securing linkages between forests, the countryside, rivers and the sea</li> <li>(4) Taking action from a global perspective</li> <li>(5) Strengthening the scientific foundation and utilizing it in policies</li> </ul> </li> <li>➔</li> <li>The roles of different entities and coordination/collaboration &lt;Section 3&gt;</li> </ul>
<b>Part 2. Roadmap for the Achievement of the Aichi Biodiversity Targets (See P15and Appendix 2)</b>	
	[Japan’s National Targets for the Achievement of the Aichi Biodiversity Targets]
<b>Part 3. Action Plan (See P15,16and Appendix 3)</b>	
Chapter 1	[Measures and Policies for National Land Area]
Chapter 2	[Cross-Sectoral and Fundamental Measures and Policies]
Chapter 3	[Reconstruction and Restoration from the Great East Japan Earthquake]

## 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”	<p>A-1-1: Flesh out and enhance publicity, education, and public awareness on biodiversity</p> <p>A-1-2: Promote initiatives to visualize economic values of biodiversity and ecosystem services</p> <p>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</p> <p>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.</p> <p>A-1-5: Establish and announce policies for sustainable business activities and encourage their implementation</p>	1 2 3 4
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	<p>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</p> <p>B-1-2: Carry out the initiatives needed to reduce the degradation and fragmentation of natural habitats by 2020, etc.</p> <p>B-1-3: Overhaul the enforcement status of the Wildlife Protection Act by 2015, etc.</p> <p>B-1-4: Promote measures to combat damage by wildlife to agricultural crops and to forests, etc.</p>	5
	B-2: Engage in agriculture, forestry, and fisheries that ensure the conservation of biodiversity in a sustainable manner	<p>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</p> <p>B-2-2: Work to allow forests to sustainably exhibit their multi-functionality, and move forward with monitoring surveys for forests, etc.</p> <p>B-2-3: Promote initiatives that seek a balance between sustainable fisheries and the conservation of biodiversity, etc.</p> <p>B-2-4: Implement initiatives to create Satoumi areas that are in harmony with nature</p>	6 7
	B-3: Improve the state of contamination from nitrogen and phosphorous, conserve aquatic organisms and increase their productivity, and maintain water quality and habitats	<p>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</p> <p>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.</p> <p>B-3-3: Carry out investigations and studies aimed at establishing management policies in order to maintain habitat environments</p>	8

Strategic goals	National targets	Key action goals	Aichi Targets
	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-4-1: Create a list of invasive alien species and organize information pertaining to the routes by which the species establish themselves by 2014, etc. B-4-2: Arrange the thinking behind the order of priority for the 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	9
	B-5: Promote initiatives for minimizing human-induced pressures	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	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 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	11
	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. 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 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. C-2-5: Create networks for the conservation of plant genetic resources, etc.	12 13

Strategic goals	National targets	Key action goals	Aichi Targets
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. 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	14
	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 D-2-2: Promote measures for the conservation and restoration of ecosystems, thereby advancing measures for climate change mitigation and adaptation D-2-3: Promote forest sink measures such as properly carrying out forest operations and establish green corridors, etc.	15
	D-3: Ratify the Nagoya Protocol on ABS and implement domestic measures	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 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	16
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	E-1-1: Revise the NBSAP over 2015 and 2016 as needed E-1-2: Contribute to the achievement of Target 17 around the world through the GEF, the Japan Biodiversity Fund, and others	17
	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-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	18 19 20

\* 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.

(Appendix 3)

Connection between the Structure of Part 3 (Action Plan) and Part 2 (National Targets)

\* This table shows the connection between Japan's national targets (13 targets) as indicated in the Roadmap for the Achievement of the Aichi Biodiversity Targets from Part 2 and each section of the Action Plan from Part 3 (excluding Chapter 3).

[Part 2] National targets [Corresponding Aichi Biodiversity Targets]		A	B					C		D			E	
		A-1	B-1	B-2	B-3	B-4	B-5	C-1	C-2	D-1	D-2	D-3	E-1	E-2
[Part 3]	1	(	(	(	(	(	(	(	(	(	(	(	(	(
	2	)	)	)	)	)	)	)	)	)	)	)	)	)
	3	(	(	(	(	(	(	(	(	(	(	(	(	(
	4	)	)	)	)	)	)	)	)	)	)	)	)	)
Chapter 1. Measures and Policies for National Land Area														
Measures and Policies for Wide-Area Coordination														
Section 1	Ecological Networks	○	○	○	-	-	○	○	○	○	○	-	○	-
Section 2	Conservation of Priority Areas	○	○	○	○	○	○	○	○	○	○	-	-	○
Section 3	Nature Restoration	○	○	-	-	-	-	-	○	○	○	-	-	○
Section 4	Environmental Impact Assessments	○	-	-	-	-	-	-	-	-	-	-	-	○
Measures and Policies for Local Areas														
Section 5	Forests	○	○	○	-	-	○	○	○	○	○	-	○	○
Section 6	Rural Areas and Satochi-Satoyama Areas	○	○	○	○	-	-	○	○	○	○	-	-	○
Section 7	Urban Areas	○	○	-	○	-	-	○	-	-	○	-	-	○
Section 8	Rivers and Wetland Areas	○	○	○	○	○	○	○	-	-	○	-	-	○
Section 9	Coastal Areas and Oceanic Areas	○	○	○	○	○	○	○	○	○	○	-	-	○

○: Indicates those measures and policies within the section that apply or that potentially apply

[Part 2] National targets [Corresponding Aichi Biodiversity Targets]		A	B					C		D			E	
		A-1 ( 1 2 3 4 )	B-1 ( 5 )	B-2 ( 6 7 )	B-3 ( 8 )	B-4 ( 9 )	B-5 ( 10 )	C-1 ( 11 )	C-2 ( 12 13 )	D-1 ( 14 )	D-2 ( 15 )	D-3 ( 16 )	E-1 ( 17 )	E-2 ( 18 19 20 )
[Part 3]														
Chapter 2. Cross-Sectoral and Fundamental Measures and Policies														
Communication and Implementation														
Section 1	Promoting the Mainstreaming of Biodiversity	○	○	-	○	-	○	○	-	○	○	-	○	○
Conservation and Management of Wildlife														
Section 2	Appropriate Protection and Management of Wildlife	○	-	○	-	-	○	○	○	○	○	-	-	○
Section 3	Responding to Alien Species and Other Factors that Disturb Ecosystems	○	-	○	○	○	○	-	○	-	-	-	-	○
Sustainable Use														
Section 4	Agriculture, Forestry, and Fisheries	○	○	○	○	○	○	○	○	○	○	-	○	○
Section 5	Eco Tourism	○	-	-	-	-	-	○	-	-	-	-	-	-
Section 6	Sustainable Use of Biological Resources	-	-	-	○	○	-	-	○	-	-	○	-	○
International Approach														
Section 7	Promoting an International Approach	○	○	○	○	○	○	○	○	○	○	○	○	○
Strengthening the Scientific Grounds														
Section 8	Promoting the Organization of Information and Technical Development	○	○	○	-	-	○	○	○	○	○	-	-	○
Efforts against Global Warming														
Section 9	Promoting the Mitigation of Global Warming and Adaptation to its Effects	○	○	○	-	-	○	○	○	○	○	-	-	○
Integrated Approach														
Section 10	Promoting an Integrated Approach for a Society in Harmony with Nature, a Recycling-Oriented Society, and a Low Carbon Society	○	○	○	○	-	-	-	-	○	○	-	-	-
Chapter 3. Reconstruction and Restoration from the Great East Japan Earthquake														
Section 1	Reconstruction and Restoration from the Great East Japan Earthquake	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 2	Initiatives for the Development of a New Type of Society in Harmony with Nature	-	-	-	-	-	-	-	-	-	-	-	-	-

○: Indicates those measures and policies within the section that apply or that potentially apply