



# All Toyota Green Wave Project

All Toyota Harmony with Nature Working

In our previous issue in June 2016, we briefly introduced the All Toyota Green Wave Project. We are pleased to release the second issue, which describes the All-Toyota activities that are now becoming widespread throughout Japan.

There are many things that each of us can do for the Earth and our ecosystems. Let us begin with what we can do in our daily lives, in our workplaces, households, and local communities.



## What We Can Do for a Better Environment — Establishing Connections

### What is biodiversity?

Biodiversity refers to the wide variety of life forms, including human beings, and their many interconnections. Our daily lives are supported by many benefits (the blessings of nature) from the natural circulation brought about by biodiversity. What are indispensable for our lives—including air, water, energy, food, materials for clothing, and interaction with nature—are all derived from nature's blessings.



### What would happen if biodiversity were to be lost?

Imagine that forests, birds, fish, insects and other organisms disappeared from the Earth, leaving human beings alone. We all know that humans could never survive alone, even with our buildings and advanced computers.

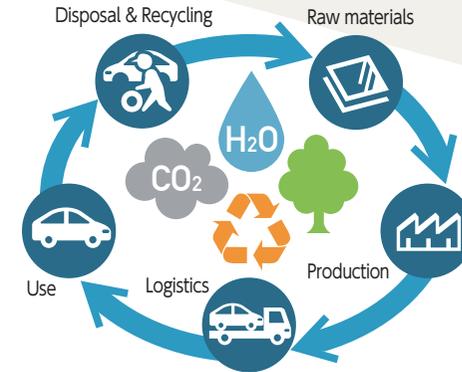
For example, all our food comes from living things. Oxygen, which is vital for us to live, is generated from forests. Our economically affluent lives are sustained by the blessings bestowed by biodiversity. If the loss of biodiversity continues at its current rate, eventually even the human race may be threatened with extinction.



CLICK!

### Relationship between the automobile industry and biodiversity

The automobile industry does not seem to have much to do with biodiversity; however, in fact, many of resources required by the industry are procured from the natural world. The industry has an impact on biodiversity when raw materials are obtained from habitats for wildlife. Additionally, biodiversity is directly or indirectly impacted by land use including the construction of plants, and by greenhouse gas emissions due to product use and business activities.



### Green Wave Project ⇒ Activities to connect communities toward harmony with nature



The Green Wave Project is one of the specific activities to achieve 'Challenge 6' set out under the Toyota Environmental Challenge 2050 with an aim to contribute to the restoration and enhancement of biodiversity and ecosystems. The All-Toyota Harmony with Nature Working Group was launched to expand the range of All-Toyota environmental activities in various parts of Japan and overseas. The automobile industry has connected people with other people, places, and goods. We, therefore, believe that amid the increasing fragmentation of habitats, it is all the more important to restore habitat, and to pass on the benefits of biodiversity to the next generation.

It is nature that enables us to live. Always keeping this in mind, we will take on the challenge of achieving a sustainable society.

## All-Toyota Harmony with Nature Working Group's Initiatives to Connect Activities

First Tree-Planting Event on the Millennium Hope Hills

The All-Toyota Harmony with Nature Working Group participated in the 4th Millennium Hope Hills Tree-Planting Event in Iwanuma City, Miyagi Prefecture, on May 28 (Sat), 2016. This project for promoting harmony with nature intends to create an evacuation site and minimize disaster risks by building a 10-km green embankment on a shore that was damaged by the Great East Japan Earthquake. A total of 175 people including 72 from 20 Toyota group companies and 103 from an NPO, Donguri-Mongori, which was funded by the Toyota Environmental Activities Grant Program, participated in the event. Some 2,500 seedlings of Tohoku tree varieties raised in Aichi were planted. The know-how developed through tree-planting activities at plants of Toyota Group companies was used for this first 'connecting' activity. Participation of Tohoku-based companies, including Toyota Motor East Japan, Inc. connected activities in Tohoku and Aichi.



### Tree-planting activities

Under the passionate guidance of tree-planting leaders, participants who planted trees for the first time worked enthusiastically to be able to instruct other employees in similar activities at their own companies. They held up the 'All-Toyota Green Wave Project' banner under the clear sky of Miyagi.



1 Before tree-planting



2 Seedlings of Tohoku tree varieties raised in Aichi Prefecture



3 Children plant seedlings that they have raised through their hard work.



4 After instruction on tree-planting, participants plant seedlings briskly and efficiently.



5 Straws spread over the soil retain water, and the ropes protect the seedlings.



6 We will continue monitoring the growth of these seedlings for years to come.

Second Fujimae Tidal Flat Cleanup Campaign

On October 29 (Sat), 2016, the All-Toyota Harmony with Nature Working Group participated in the Fujimae Tidal Flat cleanup campaign held near the Fujimae Tidal Flat and the mouths of the Shonai and Shinkawa Rivers in Nagoya City, Aichi Prefecture. This river cleanup campaign was launched in 2004, bringing together residents, students, industry associations and the government to work in collaboration. The 2016 campaign marked the second 'connecting' activity of the Working Group, with 21 members from 15 companies joining the cleanups. Involvement of this activity is significant for Aichi-based Toyota Group companies, to maintain and conserve biodiversity and ecosystems through this connection with local community activities.



### Cleanups

The river banks covered with thick reeds were littered with illegally dumped waste, PET bottles, empty cans, precooked food containers, and other types of refuse flowing down from the upstream of the rivers. Some Styrofoam waste could not be picked up because it was so finely dispersed. Considering that birds may swallow such Styrofoam waste, some participants pointed out the necessity for changing packaging materials. After the cleanups, the river banks were beautified beyond recognition.



### Tidal flat observation event

The Fujimae Tidal Flat serves as one of Japan's leading stopover sites for migratory birds and has been registered under the Ramsar Convention. At lowest tide, 238 hectares (equivalent to about 50 times the size of the Nagoya Dome) of tidal flat appears. On the flat tide, you can observe precious species, such as mudkipper, Japanese mud crab, and rare clams. On the opposite shore, flocks of wild ducks, cormorant, snipe and many other birds are resting. Participants of the observation event realized the importance and significance of bequeathing the rich natural environment to future generations.



# Connect People with Other People, with Places, and with Other Living Things

Message from the Activity Site

## Activities to connect green areas and like-minded people

Sango Co., Ltd. commenced Sango tree-planting activities in November 2006 at ECO 35 in Nagoya City. The company worked to create woodlands modeled after the woods surrounding Atsuta Shrine (one of the Shinto religion's most important shrines), at its idle former plant site. By producing a waterfront environment, the plant site was regenerated into a habitat for various living things in the urban area. Since then, the company has expanded tree-planting around the plants across group companies in Japan and overseas. Now eleven companies in Japan and seven overseas companies are planting trees indigenous to each region.



Needless to say, there is only so much that a single company can do. In particular, in order to implement harmony with nature activities, which is a global challenge, it is essential to invite like-minded people and work together. I am therefore very pleased to be able to continue our tree-planting activities as one of the 23 member companies of the All-Toyota Harmony with Nature Working Group. Last year, volunteers from the Working Group participated in the tree-planting event held in Iwanuma City — which Sango supported by offering seedlings. Going forward, we will proceed with our activities in cooperation with other participating companies of the said group.

The most important aspect of proceeding with the Green Wave Project is to attract more like-minded people. We will work together with residents, NPOs, governments, universities, and research institutions to expand the range of "connecting" activities to steadily advance the project. Through such efforts, I hope to enrich the natural environment, and enable indigenous organisms to return again to their habitats.



**Yukio Goto**  
Head of Afforestation Initiative Secretariat, Sango Co., Ltd.  
Under the guidance of Dr. Akira Miyawaki, Professor Emeritus at Yokohama National University, Mr. Goto started corporate afforestation activities. Currently he is pushing forward harmony with nature activities.  
Pictured at right: Head of Secretariat Goto

## Toward establishing a future society in which people and nature coexist in harmony

The All-Toyota Green Wave Project began in FY2016. The connection between participating companies has become stronger, and activities are now becoming widespread throughout Japan, primarily in the Chubu area. In the future, we aim to increase the number of participants by expanding the scope of our actions and locations on a group-wide basis, thereby effectively promoting our 'connecting' activities. By so doing, we strive to expand habitats that conserve ecosystems toward establishing a sustainable society where people and nature coexist in harmony.



Individual activities will

become larger scale activities



connecting communities across Japan.



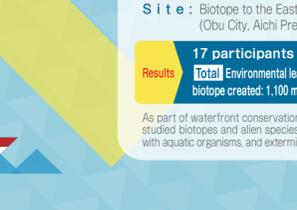
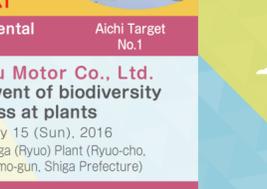
Future Activities

For details of FY2016 programs/events, please see on the reverse side.



# All-Toyota Green Wave Project FY2016 Challenge Map

In FY2016, 23 companies participated in the All-Toyota Harmony with Nature Working Group and implemented over 100 activities throughout Japan.



### 1 Hokkaido

**Ecosystem conservation** Aichi Target Nos. 1, 5, and 9

**Aisin Group**  
Extermination of alien species along the promenade by Lake Utonai  
Date: August 4 (Thu), 2016  
Site: Lake Utonai (Tomakomai City, Hokkaido)

**Results**  
30 participants, exterminated 7,243 alien plants (since 2016)

In collaboration with the Wild Bird Society of Japan, the Aisin Group exterminated the giant goldenrod along the promenade in the vicinity of Lake Utonai as part of environmental conservation activities.

### 4 Hokuriku

**Ecosystem conservation** Aichi Target Nos. 1 and 9

**Toyota Motor Corporation**  
Extermination of alien species and protection of indigenous species  
Date: September 24 (Sat), 2016  
Site: Area around the Toyota Shirakawa-Go Eco-Institute (Shirakawa Village, Ono-gun, Gifu Prefecture)

**Results**  
68 participants, exterminated 84kg of alien plants  
Total 175 participants, exterminated 121kg of alien plants (two years from 2015)

Plantain, an alien species in the Mt. Haku area, could have been brought by mountain climbers. The participants used a plant root cutter to exterminate it. This activity protects indigenous alpine plants that grow only on Mt. Haku.

### 5 Chubu

**Biotope and waterfront conservation** Aichi Target Nos. 1, 5, and 9

**Toyota Industries Corporation**  
Observation of organisms in the biotope  
Date: August 4 (Thu), 2016  
Site: Biotope at the East of Obu Station (Obu City, Aichi Prefecture)

**Results**  
17 participants  
Total Environmental learning: 200 participants, biotope created: 1,100 m<sup>2</sup> (five years from 2012)

As part of waterfront conservation efforts, participants studied biotopes and alien species enjoying interacting with aquatic organisms, and exterminated alien species.

### 7 Kinki

**Environmental learning** Aichi Target No.1

**Daihatsu Motor Co., Ltd.**  
Public event of biodiversity awareness at plants  
Date: May 15 (Sun), 2016  
Site: Shiga (Ryujo) Plant (Ryujo-cho, Gamo-gun, Shiga Prefecture)

**Results**  
4,000 participants (since 2016)

We put up biodiversity awareness enhancement posters to remind employees of 'biodiversity' and the fact that a variety of indigenous organisms live within the plant premises.

### 9 Kyushu

**Forest conservation and maintenance of satoyama** Aichi Target Nos. 1, 5, and 7

**Toyota Motor Kyushu Inc.**  
Conservation of Japan's top 100 rural landscapes  
Date: 2016 (six times a year)  
Site: Tokakujiki district, Kanda Town, Fukuoka Prefecture

**Results**  
102 participants  
Total 276 participants (22 programs in total since 2014)

In coordination with the government, employees of Toyota Motor Kyushu worked with local residents to mow grass on the footpaths of old rice fields, plant rice, sow buckwheat seeds and harvest rice, in order to maintain the beautiful landscape of terraced rice fields.

## Participating Companies

23 companies in All-Toyota Harmony with Nature Working Group

- Aichi Steel Corporation
- Aisan Industry Co., Ltd.
- Aisin AI Co., Ltd.
- Aisin AW Co., Ltd.
- Aisin Seiki Co., Ltd.
- Aisin Takaoka Co., Ltd.
- Daihatsu Motor Co., Ltd.
- Denso Corporation
- Gifu Auto Body Co., Ltd.
- Hino Motors Ltd.
- JTEKT Corporation
- Sango Co., Ltd.
- Toyota Auto Body Co., Ltd.
- Toyota Boshoku Corporation
- Toyota Central R&D Labs. Inc.
- Toyoda Gosei Co., Ltd.
- Toyota Industries Corporation
- Toyota Motor Corporation
- Toyota Motor East Japan Inc.
- Toyota Motor Hokkaido Inc.
- Toyota Motor Kyushu Inc.
- Tokai Riika Co., Ltd.
- Toyota Tsusho Corporation



### Forest conservation and maintenance of satoyama

To ensure healthy forests and *satoyama*, we need to take care of them. Thinning and planting trees and mowing grass moderately allow the sunshine into the forests. Through these maintenance activities, we keep forests and *satoyama* in a sound condition, thereby diversifying living organisms.

**Aichi Target Nos. 1, 5, and 15**

**Toyota Boshoku Corporation**  
Toyota Boshoku Group's 'Eco-Forest' Activity at Kashimo  
Date: October 15 (Sat), 2016  
Site: Eco-Forest and Forest of Fukusaki (Kashimo district, Nakatsugawa City, Gifu Prefecture)

Since 2006, about six times a year the Toyota Boshoku Group companies have continued activities to maintain forests covering an area of 7 hectares. Through these activities, these companies have cultivated the woodlands and raised employees' environmental awareness of conserving *satoyama*, forests, and nature. Employees have also interacted with local communities to deepen mutual understanding with them, gaining momentum of conservation activities.

**Results**  
72 participants  
Total 2,371 participants, planted 3,800 trees, Environmental learning: 168 participants (nine years from 2008)

### Biotope and waterfront conservation

To maintain biodiversity, we implement activities to ensure sanctuary (biotopes) for various life forms continuously, and to clean the waterfronts, so as to keep the habitats in better conditions.

**Aichi Target Nos. 1 and 14**

**Aisan Industry Co., Ltd.**  
Kuranagase River cleanup  
Date: June 4 (Sat), 2016  
Site: Kuranagase River (Obu City, Aichi Prefecture)

The Kuranagase River is a small and shallow stream with a width of some 10 m, and it is waist-deep in some places with accumulated sludge, which sometimes emits an offensive odor. We strive to make the waterfront environment more comfortable for aquatic life and wild birds, and help local residents to have a great affinity for nature.

**Results**  
29 participants, collected 220kg of rubbish (since 2016)

### Ecosystem conservation

We need to understand biodiversity to protect ecosystems. To this end, we conduct monitoring studies of organisms and activities to conserve rare species identified through our studies.

**Aichi Target Nos. 1, 5, and 12**

**Toyota Motor Corporation**  
Protection of a spawning site for loggerhead turtles on the Omotegama beach  
Date: April 2 (Sat), 2016  
Site: Akabane beach (Tahara City, Aichi Prefecture)

The Omotegama beach is the largest spawning site for loggerhead turtles in the main island of Japan. However, the site's ecosystem is now in jeopardy due to the displacement of sand. To restore the beach, for the last four years, Toyota employees and their families have been engaged in establishing erosion-prevention hedges to prevent the dispersion of the sand. This year, they also started creating sand fences using reeds. As a result of 6-year spawning site conservation efforts, the beach that was once covered with pebbles has now piled up sand.

**Results**  
164 participants  
Total 937 participants (six years from 2011)

### Environmental learning

We provide environmental education for children, who will take the lead in future environmental activities. To help raise the environmental awareness, we also offer opportunities to introduce our efforts and activities to conserve biodiversity.

**Aichi Target Nos 1 and 19**

**Toyota Auto Body Co., Ltd.**  
Environmental learning at the Kariya Fure-Ai Park  
Date: August 26 (Fri), 2016  
Site: Head Office / Fujimatsu Plant (Kariya City, Aichi Prefecture)

With an aim to create a plant in harmony with nature, Toyota Auto Body strives to conserve biodiversity and promote the Education for Sustainable Development (ESD) Project at the Kariya Fure-Ai Park. The program allows participants to catch aquatic life in the waterfront of the park, and we conducted a water purification experiment. The said program was designed to encourage people to feel a greater affection for and interest in nature, and develop eco-minded individuals.

**Results**  
20 participants  
Total 500 participants, biotope created: Approx. 5,000 m<sup>2</sup> (three years from 2014)

### Afforestation and tree-planting at plants

By creating rich forests through tree-planting, we seek to restore the ecosystems in the near future. Tree-planting efforts by individual Toyota Group companies to create woodlands in their plants also contribute to ecosystem restoration, promoting 'connection' of green areas.

**Aichi Target Nos. 1 and 5**

**Toyoda Gosei Co., Ltd.**  
Tree-planting at plants  
Date: May 21 (Sat), 2016  
Site: Nishimizoguchi Plant (Inazawa City, Aichi Prefecture)

Toyoda Gosei has been continuing tree-planting at its plants in Japan and overseas. The project was launched in commemoration of the 60th anniversary of the foundation of the company in 2009. By creating multi-layered forests covered with native plant species, the company nurtures a natural environment that is home to diverse life forms. So far we have planted some 290,000 trees at 25 production sites in total including 12 sites in Japan.

**Results**  
600 participants, planted 3,000 trees  
Afforestation area: 510 m<sup>2</sup>  
Total 34,000 participants (eight years from 2009)

### Afforestation and tree-planting at plants

**Aichi Target Nos. 1 and 5**

**Toyota Motor East Japan Inc.**  
8th Tree-Planting Event  
Date: June 12 (Sun), 2016  
Site: Iwate Plant (Kanegasaki-cho, Iwate Prefecture)

Employees of Toyota Motor East Japan planted seedlings from the acorns that they had collected together with kids of local kindergartens and elementary schools within the company premises.

**Results**  
750 participants, planted 2,800 trees  
Total 5,570 participants, planted 22,724 trees (eight years from 2009)

### Afforestation and tree-planting at plants

**Aichi Target Nos. 1 and 5**

**Toyota Tsusho Corporation**  
Coastal restoration project on Kujukurihama Beach  
Date: August 28 (Sun), 2016  
Site: Tonoshita Beach (Hasunuma, Sammu City, Chiba Prefecture)

The Toyota Tsusho Group companies planted black pine seedlings and engaged in environmental conservation activities with an aim to restore the coastal forests on Kujukurihama Beach, which were severely damaged by the Great East Japan Earthquake.

**Results**  
83 participants  
Total Planted 1,600 trees, Environmental learning: 192 participants (two years from 2015)

[Published by] All-Toyota Harmony with Nature Working Group 2

Leader: Aisin Seiki Co., Ltd. / Hattori, Otani, Owaki

Members: Aisin AW Co., Ltd. / Fujii, Daihatsu Motor Co., Ltd. / Nakadan,

Denso Corporation / Kunieda, Hino Motors Ltd. / Tamura

Toyota Motor Corporation / Oishi, Aoyama, Toyota Tsusho Corporation / Matsuura (Alphabetical order)

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[Published] June 2017

