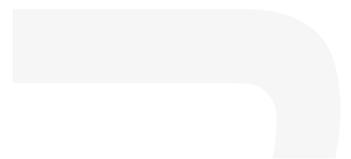




J B I B

Japan Business Initiative for Biodiversity



This Is JBIB	2
Introduction	3
Our Objectives	
JBIB Brief History	
Our Activities	4
JBIB Challenge 2020	5
Our Working Groups	6
Good Practices	12

Cover Photo

top: Wild cherry blossoms in Yoshino, Nara

middle: Snow monkey (*Macaca fuscata*)

bottom: Rice terraces in Matsunoyama, Niigata

Will you join us?

A message from JBIB Chairman

Terrible natural disasters have devastated societies worldwide in the past few years. The huge flood in Thailand last year is just one example. It had a large impact not only on the lives of the people but also on global industry and economy. Climate change was likely the main reason behind the flood, but I believe continuous deforestation and destruction of other ecosystems made the disaster worse. While our business activities have the purpose of making people's lives more comfortable and safe, they also have unimagined side effects. This has, of course, not been our intention. As can also be seen in the targets adopted at Aichi, Japan, during the last Conference of the Parties to the Convention on Biological Diversity (CBD COP10), we corporations are now facing growing expectations. We urgently need to bring about a shift towards sustainable business practices.

To respond to these demands, I am convinced that we need to deal with biodiversity conservation as a business management issue. We must introduce the biodiversity perspective into our daily business operations and contribute to biodiversity conservation in a real way, in areas outside our business as well. We came to realize this in 2007 and started to take some serious actions. At that time I was Chairman of Mitsui Sumitomo Insurance Co., Ltd. and we held a symposium on the topic of business and biodiversity. We were 14 companies deciding to take action together, and in April 2008 we launched JBIB, the Japan Business Initiative for Biodiversity.

COP9 and COP10 to the Convention on Biological Diversity stimulated further discussion, and the understanding that biodiversity and ecosystem services are closely linked to corporate activities has spread within the international business community; more and more corporations have begun to take action on the issue. At JBIB we have been thinking hard about what to do and have continuously moved forward. As a result, we have found new friends, and membership has tripled to a total of 49 member companies. We have developed a number of tools and methods for corporations, and these have been used not only by JBIB member companies but also by non-member companies. Many Japanese companies developing groundbreaking methods for biodiversity conservation are members of JBIB. This is a clear indication that JBIB is the leader in this field. I am proud of this achievement.

At COP10, a vision was adopted with a view to 2050 called "Living in Harmony with Nature." The Japanese people have, since times of old, felt grateful for the blessings of nature and taken good care of all living things. It can be said that "Living in Harmony with Nature" is really an ethic born from our traditional lifestyle and perception of nature. I have a renewed sense of urgency that as business people we need to redesign our business models to be in true harmony with nature. I have heard that India, the host country of COP11, also has a culture of wise interaction with nature, and I think the COP11 message, "Nature Protects if She is Protected," is a reflection of such wisdom. I hope COP11 will stimulate and speed up efforts for biodiversity conservation and make it possible for humans to coexist with nature. In that context corporations need to sincerely take on and fulfill a responsible role. With this purpose in mind, I would like to move forward in cooperation with corporations and partners in all parts of the world. I am looking forward to taking action together with many more of you.



秦 喜 秋

SHIN Yoshiaki
Chairman
Japan Business Initiative for Biodiversity

This Is JBIB

Proactive Business for Biodiversity Conservation

JBIB is a group of Japanese corporations committed to biodiversity conservation. The initiative was launched in 2008 with 14 companies. Now it has grown to a group of 49 leading companies representing many different business fields. We are persistently moving towards our goal of balancing business operations with the necessity of biodiversity conservation.

Introduction

Why businesses work for biodiversity

The reason for a corporation to think about biodiversity conservation is not just because it is ethical or contributes to society. Biodiversity provides what we call ecosystem services, a variety of rich bounties and functions very important for human society. Every corporation depends on such ecosystem services in some way. It is, for example, obvious that companies using food, wood, paper or textiles as raw materials would not be able to continue their businesses without such natural resources provided by ecosystem services. Other companies need clear water and clean air, and those resources are purified as they circulate in the ecosystem. Factories and offices are protected from natural disasters like storms, landslides and tsunami by surrounding forests. Most tourism businesses cannot exist without some beautiful nature. These are all different forms of ecosystem services.

But when companies make use of ecosystem services, there is, unfortunately, some impact or influence on biodiversity and the ecosystem. As the business grows, impact also grows, and this can even become counterproductive. When biodiversity is lost, it will no longer be possible to make use of the ecosystem services. In other words, business operations will come to an end.

In this way, business activities depend on ecosystem services and biodiversity while also having a negative impact on them. For this reason, it is necessary for corporations to conserve biodiversity and ecosystems.

In order to fulfill the three objectives of the Convention on Biological Diversity, namely, the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising out of the utilization of genetic resources, corporations are expected to take on a more proactive role than before.

What one company can do is limited, and efforts are not efficient when a company acts alone. We therefore have all the corporations in JBIB exchange information and together investigate the issue of biodiversity conservation from an international point of view. With this experience as a basis we raise the level of our own efforts. This is how we try to do our part in achieving the aforementioned three objectives of CBD.

Our Objectives

What we are aiming for

JBIB aims to make substantial contributions toward the conservation of biodiversity in our capacity as corporations. We have set the objectives of our activities as follows and will keep continuing to make such efforts.

- 1 To explore links between business and biodiversity and to use that knowledge in our business practices**
- 2 To promote dialogue and collaboration with stakeholders**
- 3 To share good practices within Japan and abroad**
- 4 To advocate and undertake educational efforts for the promotion of biodiversity conservation**
- 5 To conduct projects to fulfill the aforementioned objectives**

JBIB Brief History

- 2008** Inspired by a symposium on the topic of business and biodiversity, 14 companies launched JBIB
- 2009** JBIB started a network of associate members (see page 11)
The Business & Biodiversity Interrelationship Map was developed and made public
- 2010** The Biodiversity Handbook was created and made public for CBD COP10
- 2011** A Hint List was developed to support employees in their work for biodiversity (see page 10)
JBIB Guidelines for Sustainable Business Sites was developed and made public (see page 8)
- 2012** JBIB has grown to 34 regular members and 15 associate members, a total of 49 private companies

Our Activities

Biodiversity conservation from the inside

1. Working groups

The regular work of JBIB is carried out in working groups. Meetings are held every month for study and practical work. Topics of working groups are reviewed each year in accordance with the interests of member companies. In 2012 there are seven working groups. From page 6, you can read about the activities and achievements of each group.

2. Lectures and seminars

In order to learn about the latest achievements in this field and to deepen our understanding on biodiversity and ecosystems, we invite university professors and other external specialists and hold lectures for JBIB members on topics of interest five to six times a year.

3. Dialogue with NGOs and authorities

We convey our perception of issues and exchange information with NGOs and government agencies, and host dialogue meetings with persons in charge at relevant authorities. Government agencies and authorities often ask for our opinion as corporations. Our Executive Director (the head of the secretariat) and member companies' representatives are also members of government committees.

4. Review of environmental reports

Every year we go through the content of over 500 environmental reports from major companies in Japan. We review what kind of perspectives they have on the issue of biodiversity and what kind of actions they are taking. The result of the review is reported at an annual symposium.

5. Ecosystem experience

Most of JBIB's activities take place in meeting rooms indoors, but since the focus is on biodiversity and ecosystems, we feel it is important to know about and actually experience this in real life. A few times each year we make study visits to some outstanding examples of good practice to hear from biodiversity conservation experts and people active in the field. Once a year we meet for a workshop of two days and one night.



6. Informal meetings for executives

Once a year we hold informal meetings for executives of JBIB member companies where we convey the most recent news about JBIB activities and business & biodiversity. We also discuss how biodiversity can be handled as a management issue. For more intensive and frequent discussions among the executives, we have decided to hold such meetings twice a year from 2012.



7. Seminars at environmental exhibitions

The Eco-Products Exhibition is the largest environmental trade fairs held annually in Japan, showcasing a broad variety of eco-friendly products and services. Every year JBIB organizes a seminar in conjunction with the fair. Many company representatives and employees with an interest in environmental issues visit the exhibition. JBIB seminars are a popular learning opportunity for them.

8. Annual symposium "Business Talking Biodiversity"

This is the symposium that inspired the start of JBIB. Mitsui Sumitomo Insurance Co., Ltd. holds this symposium every year. The purpose is to convey the most recent knowledge and to showcase good practices in the field of business and biodiversity. Many corporate participants are repeaters who come back every year. Since 2007 this symposium has been held five times.



9. JBIB Challenge 2020

On the occasion of COP10 in 2010, with a view to the year 2020, we discussed how we as private companies should consider our goals for biodiversity conservation and take serious actions toward them. We prepared a checklist, called "JBIB Challenge 2020," to enable member companies to see how they stand in conserving biodiversity and using resources we receive from ecosystems in a sustainable way in daily operations.

10. Outgoing Lectures

We are confident in our belief that JBIB members are Japan's leaders in terms of corporate biodiversity conservation measures. Members are working proactively based on knowledge gained through active membership in JBIB. As a result, JBIB and its member companies are often invited to speak at conferences, seminars and symposia both within Japan and abroad. As a group we take part in numerous international expert consultations and workshops. We appreciate these opportunities to share our experience, and always welcome inquiries about speakers or collaboration on projects. Some of our past experiences are as follows:



- Invited to speak at ASEAN Centre for Biodiversity (ACB) South-East Asian Regional Workshop on Business and Biodiversity (Bangkok), 2009
- Invited as a panelist at The Global Reporting Initiative (GRI) The Amsterdam Global Conference on Sustainability and Transparency (Amsterdam), 2010
- Co-organizing a seminar at CBD COP10 with ACB (Nagoya), 2010
- Invited to speak at CSR Asia Summit (Kuala Lumpur), 2011

JBIB Challenge 2020

As private companies, we depend on both biodiversity and ecosystem services to continue our daily operations, but we also have an impact on them. We recognize that we are expected to play more proactive roles to achieve the three objectives of the Convention on Biological Diversity: the conservation of biological diversity, the sustainable use of its components, and fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

JBIB is a group of companies committed to conservation of biodiversity. We aim to provide society with ways to achieve conservation of biodiversity and sustainable use of biological resources via our collaborative efforts for coexistence of business and ecosystems.

To promote these efforts, we have prepared the following 12-item checklist so that each company can use this as a common guideline. JBIB will conduct annual surveys of the progress made by the companies for each of the items to spur on efforts for even higher levels of achievement by 2020.

COMPREHENSION

- Identify our business dependence on, and benefits from, biodiversity, and share them throughout the company.
- Identify our business impacts on biodiversity and share them throughout the company.

MANAGEMENT

- Establish company policy and objectives both long and medium-term for biodiversity conservation and take action to conserve biodiversity accordingly.
- Establish a responsible procurement policy to conserve biodiversity and purchase materials and goods accordingly.
- Promote awareness and education for both management and staff about biodiversity.
- Collaborate with external agencies such as NGOs and research institutions that work for biodiversity conservation and support their activities.
- Disclose to and share company initiatives on biodiversity conservation with the public.

IMPLEMENTATION

- Avoid development and use of land with high conservation value.
- Understand the environmental surroundings of our operational sites and manage them properly, taking into account the conservation of the local species, habitats and ecosystems.
- Carry out business with consideration of impacts on biodiversity throughout the life cycles of our products and services.
- Continue efforts to reduce to zero the impacts of our business activities on biodiversity.
- Understand that local cultures, lives and economies are supported by local biodiversity, make sustainable use of biological resources (including genetic resources), and share such benefits in a fair and equitable manner

Since the adoption of "JBIB Challenge 2020" in 2010 each member company has been moving forward in line with each of the goals. We have since then compiled the results of our work every spring and have confirmed that steady progress is being made.

Our Working Groups

Taking great steps forward every month

When companies become members of JBIB they must join one or more working groups in accordance with their interest. Monthly group meetings are the core activity of JBIB. Participants are persons in charge of biodiversity issues at each company. Group discussions are therefore about real difficulties they experience in their work and the results are directly fed back into the daily work of each company. JBIB's work is practical, and each working group's theme stands at the forefront of the debate on how corporations relate to biodiversity.

Business & Biodiversity Interrelationship Map



Working Group 1

This working group deals with a cornerstone in the JBIB collection of tools. Many companies are at first not aware of how their business is related to the biodiversity of the planet. While benefitting from ecosystem services, business operations also have impacts on ecosystems. For example a business might depend on the ecosystem of a lake for water to use in its processes, or on raw material from a forest ecosystem. And what happens to the ecosystem around a mine from where metal comes?

As an entry point to become a company actively contributing to biodiversity conservation, the company needs to understand its own relationship with ecosystems. To make this easier, JBIB has developed a tool we call a "Business & Biodiversity Interrelationship Map." With this tool a company can analyze its relationship to various ecosystems and organize the information as a one-sheet overview. What is the largest impact? What ecosystem services does the company depend on? Where do we need to focus our attention?

The Business & Biodiversity Interrelationship Map covers the whole lifecycle of a product from raw material procurement to waste management. It also outlines land use at the site of operations and how the business depends on and impacts the biodiversity there.

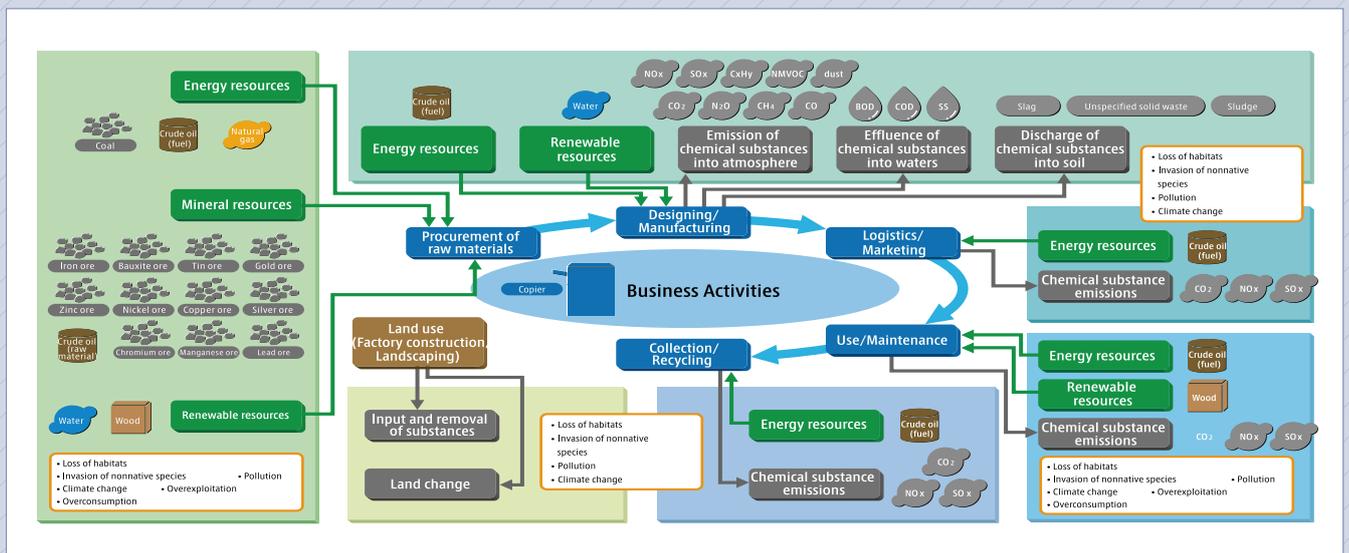
The Interrelationship Map tool is provided by JBIB for any company to use. Some member companies publish the findings in their environment or sustainability report. Non-member companies can make use of this tool as well.

So far we have concentrated on making a qualitative analysis but we are now turning to the issue of quantitative analysis. By quantity, we mean to express achievements in numbers. For example, a company may be using paper for packaging. Logging trees for paper has an impact on the forest ecosystem but how large is that impact? Is it possible to compare the impact on a forest in Indonesia with the impact on a forest in Malaysia? Or if plastic is used for packaging instead of paper, will the impact on biodiversity be larger? In order to minimize the burden on the environment, the impact of operations needs to be measured. As there is yet no good established methodology for quantitative analysis of biodiversity impact and conservation results, we are exploring the possibility of developing such a tool.

An example of a Business & Biodiversity Interrelationship Map

This diagram (map) shows the interrelation between a recycled multifunctional digital copier (shown in the center) and biodiversity along its life cycle. The life cycle begins with "procurement of raw materials" and goes through "designing/manufacturing," "logistics/marketing," "use/maintenance," and ends with "collection/recycling." Dependence and impact on biodiversity are shown for each stage of the life cycle including the land used for the factory.

This is a unique and visual way to show all the relationships at a glance, making it suitable for sharing this association with stakeholders both inside and outside of the company.





The purpose of this group's work is to minimize the impacts of land development and site management on the biodiversity and ecosystems of land owned or used by companies and their surrounding areas, and to turn such corporate land into a habitat attracting and accommodating more living organisms. In Japan it is required under law for 20 percent of any large business site such as a factory, to be set aside as a green area. This requirement can also be fulfilled if separate green areas add up to 20 percent. These separate green areas can be connected to become a larger, connected microecosystem and thus become a better habitat for insects, birds and small animals. This will contribute to local biodiversity conservation and can be a part of a design to restore nature in an urban or industrial landscape. We have developed a tool kit composed of three practical tools for sustainable land use. The information and insights gained from these tools can be added to regular environment management cycles for their continuous improvement. A spin-off association* from the working group now provides a training course for JBIB members and non-member companies on how to achieve sustainable land use by using these tools.

A. JBIB Land Use Score Card

The Score Card is a method to evaluate land use from a sustainability perspective. It contains indicators to evaluate the current sustainability status of a business site. It concerns the design and structure of green areas, use of chemicals, elimination or avoidance of alien species, cooperation with the local community, environmental education for employees and much more. While making efforts to achieve a top score of 100 points, possibilities for improvement can be identified.

With the help of the JBIB Monitoring Sheet, company employees can easily identify birds and insects found on their company's site. With the Land Use Score Card they can evaluate the sustainability of the site. Any company can easily get started on sustainable land use by making use of these two tools and the JBIB Guidelines for Sustainable Business Sites.

B. JBIB Guidelines for Sustainable Business Sites

This is a more detailed explanation of the indicators used in the Score Card. The guidelines provide answers to several important questions. Why should a company engage in biodiversity conservation? How can a business site be used while also considering conservation? The guidelines explain points to note with good examples from real life. The reader can immediately gain an understanding of the basics of sustainable land use.

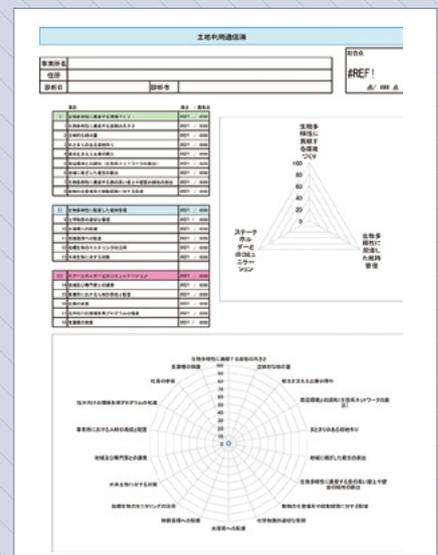
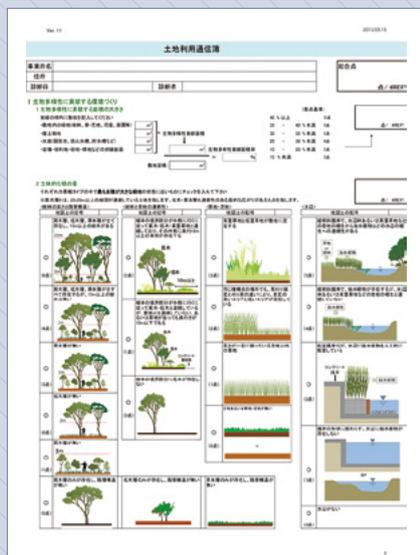
C. JBIB Monitoring Sheet

Corporate sites can be totally changed and look very different depending on methods of maintenance. It is often the case that the original vegetation is completely destroyed when a new factory is established. This is followed by some ornamental trees and shrubs planted by professional gardeners. Though the owner of the site may well be aware of what trees can be found there, the presence of other living organisms inhabiting the area and immigrating into the area might be less well known. To make it easy to investigate the situation we provide a monitoring sheet. Employees with no previous biodiversity knowledge can use this sheet to make an inventory of living organisms inhabiting the site. Use of the monitoring sheet has a valuable educational effect since it requires company employees to be involved in identifying a variety of species and paying attention to their presence in the ecosystem.

Since 2012 the group has held training courses for companies interested in using the tool kit. Some 30 companies have taken part in the courses in less than half a year. Some of them are now preparing to use the tool kit in their own site management routines.

* Association for Business Land Use coexisting with Nature and Community (BLUNC) For details, visit <http://www.blunc.org>

The image shows a detailed monitoring sheet with columns for '観察種' (Observed Species), '観察日' (Observation Date), '観察時間' (Observation Time), '観察場所' (Observation Location), and '観察者' (Observer). It includes a checklist for various bird and insect species.



Forest Creation for Coexistence

Working Group

3



Many companies together with employee volunteers are engaged in planting trees and nurturing forests. But creating a sustainable forest ecosystem is not just about planting trees. Are their efforts really benefiting the local community and the living organisms in the area? Are the planted trees contributing to biodiversity? Planting trees is a good thing, but what tree species have been planted? Are they native to the area or are they non-native species? Are there a few tall trees of the same species, or many different species? How do the people of the community perceive the trees? Are the trees creating a good habitat for birds and insects? The goal of this group is to develop guidelines for forest conservation, which takes into consideration the sustainability aspects of both biodiversity and the local community.

To hammer out the guidelines we hold workshops and study meetings with invited lecturers from academia and NGOs. We visit companies involved in forest restoration to study good practices, and plan to use the guidelines in a model project.

The guidelines will not just be about how many trees to plant or the size of the planted area. Our goal is to respond to the needs of stakeholders and provide solutions for problems in society through the creation of truly sustainable forests.

While the guidelines are still in the development process, some features have already become clear. We think it is important to emphasize the link between forest activities and a company's core business. Each company needs to develop their own unique "forest story" if it wishes to create or restore a forest. We also believe it is important to pay attention to differences in forests. Forest ecosystems in Japan and those in other countries are very different. There are large differences even within Japan. We also focus on the importance of cooperation with NGOs and experts involved in forest projects, as well as the active involvement of company employees.



Water and Ecosystems

Working Group

4

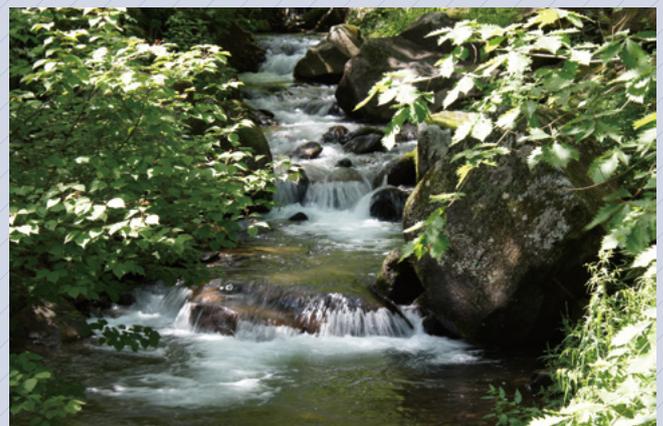


This group is working on issues related to water and all the relevant ecosystems, including rivers, lakes, groundwater and the sea, from a biodiversity and ecosystem perspective. We have divided the group into two subgroups working on quality and quantity aspects, respectively.

There is legislation in place to prevent water pollution, but such laws don't take into account the biodiversity perspective. For example a lower water level, a smaller water flow or a change of water temperature can change the living environment for many organisms. Some of them may not even be able to survive a small change in the environment. In the Quantity subgroup, with an understanding that water is an important shared resource between humans and other living organisms, we look at the amount of water a business uses from a source and assess its impact on the ecosystem.

The Quality subgroup looks at what is good water from the point of living organisms in and around the water. Are the water quality standards set with humans in mind good enough for other species? How is used water made clean again? Are businesses using mechanical methods for purifying the water? Is that a good method for the living organisms or from a perspective of energy consumption? Could a biological purifying method like a constructed wetland be better? Could a constructed wetland save money by reducing the use of expensive energy?

While listening to experts and making visits to study good practices we aim to develop business guidelines for the use of water resources by March 2013.



Responsible Procurement

5

Working Group



This newest group was started in 2012. Fourteen companies with businesses in fields such as manufacturing, retail, printing, construction and insurance take part in this group. When using the Business & Biodiversity Interrelationship Map many companies find that the procurement process has indirect, but large impacts on ecosystems. Businesses use wood, metal and various other raw materials. While metal comes from mineral resources, which are not living material, the mining process can have a large impact on living organisms and their habitats in areas where the ore is extracted. It is important for corporations to recognize and be aware of such impacts. The group looks at the whole lifecycle of products from raw materials to final disposal.

It is clear that some costs can be reduced simply by making the operational process more efficient and using less resources. We should always strive to leave nothing to waste. Sometimes, costs can be cut and energy saved at the same time. In many cases, however, it is much tougher to save costs when a company tries to be responsible by procuring only materials excavated and processed with a minimum impact on ecosystems and communities. An important approach to take then would be communication with consumers to gain their support for such efforts.

As a new group we are still exploring the issues and discussing what would be the most meaningful action for us to take. Our aim is to promote responsible raw material procurement. There are already a number of existing certification systems and certified materials ensuring both traceability and accountability for consumers. However, not all materials are included in such certification systems. Our idea is to produce comprehensive procurement guidelines for companies to use in their endeavors to make their whole procurement process responsible. Both manufacturing and retail companies can look at their whole supply chains to find areas of improvement and increase the traceability of products.



Management

6

Working Group



All member companies have some employees in charge of biodiversity issues. Although they have knowledge and enthusiasm for the task, they might encounter difficulties in communicating with and involving employees and the management. A person recently given the job to deal with biodiversity might have to tackle many questions like "what's the advantage of doing this," or he or she might experience difficulties with questions like "how can I explain this to my boss." These are issues we ourselves encounter and struggle with as well. In this group we work to reply to all those internal questions, support those employees, and make it easier for the company to get started.

With this in mind we have developed a tool called a Hint List. It helps employees to structure their communication within the company and formulate convincing arguments to get other employees involved.

To develop the Hint List we interviewed JIBB member companies as well as non-member companies. We organized our findings around the following questions:

- WHY deal with this?
- WHAT to do?
- HOW to do it?
- HOW FAR to go?

We then listed concrete ideas and examples of how to answer these questions. While doing so we also received feedback for improvement from member companies at workshops and a symposium. The feedback we received was used to make it more user-friendly. In March 2012 we published the easily-searchable Hint List on the JIBB website.





Working Group

This group promotes the sharing of information between member companies and presents the activities of JBIB members to a larger audience.

The main output of the group is the monthly JBIB newsletter for members. Since most working group meetings are held in parallel, members of different groups seldom hear about what the others do. The newsletter has an important function in conveying within JBIB what is going on in all the different groups. The newsletter is printed on paper so that group members can take it back to their offices directly and use it to report about JBIB activities and proceedings to their supervisors or even to the management, as well as to share information with colleagues. Back issues are available in an archive in the JBIB members' section of the website.

Another important activity is arranging a seminar during the large Eco-Products Exhibition, which takes place in Tokyo annually at the end of the year. This year will mark the third time for us to hold this event that welcomes speakers from JBIB member companies and external experts.



Facilitating learning and participation

JBIB associate membership and an introductory course

JBIB's aim is to actively contribute to biodiversity conservation through corporate activities. Member companies are expected to learn and work together at JBIB, take action independently and collaborate with each other in the field. However, the interrelationship between business and biodiversity is still a rather new topic for the business community. We hear that many business people wish to deepen their understanding of biodiversity before they actually take action. Non-member companies have also said it is difficult to find time for active participation in the working groups.

In response to these voices and in order to extend our corporate network for biodiversity conservation, we decided to provide knowledge to those who wish to learn. This is why we created a new type of membership in July 2009, an associate member status for companies wishing to join our network and learn useful and up-to-date information about business and biodiversity. We call those members JBIB associate members.

For the associate member network we provide lectures every second month about business and biodiversity. This one-year lecture course covers a range of topics starting with the first steps to understanding business and biodiversity and goes on to very practical applications as well as the latest good practices. After completing this six-lecture course, associate member companies can initiate actions by themselves.

Topics of lectures in 2011:

1. What is biodiversity? What does it mean for a corporation?
2. Let's find the connections between biodiversity and your own company operations
3. How to go about it within the company
4. Biodiversity and economy – How to make use of market mechanisms for biodiversity conservation
5. Global trends in business and biodiversity
6. Collaborating with NGOs for conservation

Ad hoc program: Study visit - Biodiversity in the cityscape, the Little Tern Project

In this lecture series, we not only have lectures but also some short workshops where JBIB member companies speak about their own activities. The course conveys desk knowledge together with practical know-how. Regular member companies can also participate, and it offers opportunities for both regular and associate member companies to meet and get to know each other.

Good Practices

JBIB members show the way

JBIB members have strong motivations and are working seriously for biodiversity conservation. JBIB members study and act together in working groups. Based on this experience each company initiates and carries out its own unique projects.

The impact a corporation has on biodiversity and ecosystem is different in each case and depends on where it operates. Aware of these differences, and taking into account their own particular relationship to biodiversity, member companies have developed a number of unique activities. This section showcases some of those practices.

Biodiversity-responsible procurement of raw materials and a survey of skipjack tuna resource

Ajinomoto Co., Inc.



Ajinomoto has three business areas: food, amino science, and pharmaceuticals and health. As all raw materials come from nature, their sustainable procurement leads to conservation of biodiversity and a sustainable business model.

A joint survey on skipjack tuna resources with expert organizations is one such effort. Skipjack tuna is the raw material for 'Hon Dashi' soup stock, a major product on the Japanese broth market. Since 2009, in collaboration with the Fisheries Research Agency in Japan, surveys have been conducted on the migration of some 8,500 skipjack tagged, released and traced from the waters off the Nansei Islands to the western Pacific coast of Japan to monitor the skipjack resource and to find out why the catches have been getting smaller recently. The result of the survey is shared with the Western and Central Pacific Fisheries Commission.

Ajinomoto is also engaged in the Cassava High-Yield Cultivation Project in Indonesia as well as responsible and sustainable procurement of shrimp, paper, and palm oil.



About 8,500 tagged skipjack were released in the waters off the Nansei Islands in southwestern Japan.



The skipjack survey helps to find out how the fish migrate around the western and central Pacific waters off the coast of Japan.

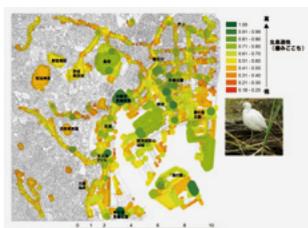
Rapid & high-quality plan-making for ecosystem networks in urban areas

Shimizu Corporation



Shimizu Corporation developed a system called Urban Ecological Network (UE-Net) system in 2010. The system analyzes and assesses the natural environment in urban regions by using satellite imageries. The UE-Net system can show how suitable the environment of a site is for living organisms and make a quantitative assessment of expected effects if the site is turned into a green space. In 2011, the UE-Net assessment database was enhanced and habitat suitability maps covering 200 km² of area in the Tokyo region were produced with existing ecosystem networks indicated. It enables developers to rapidly make high-quality urban greening plans while taking into account conservation measures for animal habitats and the improvement of ecosystem networks in surrounding regions. The company is collecting assessment data of habitat suitability for three bird species and two butterfly species in the Tokyo waterfront area, and the database is utilized for community development and creation of waterfront and greenery in central Tokyo.

Assessment data of habitat suitability for little egrets (small white herons) in the Tokyo waterfront area.



The biotope in Shimizu Institute of Technology was created by using the UE-Net system.



Biodiversity preservation with the Borneo Conservation Trust and introduction of certified sustainable palm oil detergent in Japan

Saraya Co., Ltd.



Palm oil is a major ingredient of many Saraya products. Oil palms are grown on plantations in Malaysia and Indonesia where the expansion of plantations is destroying habitats for endangered wildlife such as orangutans and elephants. Alarmed by this problem, Saraya co-founded the Borneo Conservation Trust (BCT) with local governments and concerned organizations. On Borneo, the BCT has been trying to connect habitats fragmented by plantations with green corridors. The BCT also rescues injured elephants and orangutans isolated in fragmented forests, and sends them back into the forests after medical treatment.

In 2005, Saraya became a member of the Roundtable on Sustainable Palm Oil (RSPO). While taking an active role in RSPO, Saraya launched in 2010 the first detergent in Japan made from RSPO-certified palm oil, which is sustainable palm oil that has been kept separated from non-sustainable palm oil throughout the process of harvest, refinement, production and transportation. The consumers can thus feel assured that they are using a truly biodiversity-friendly product.



One percent of all Saraya sales are donated to the BCT to preserve biodiversity and wildlife, including activities to rescue injured animals such as elephants.

Long-term support for the conservation of forest ecosystems worldwide

Ricoh Company, Ltd.



Ricoh places priority particularly on forest ecosystems with rich biodiversity and has been promoting forest ecosystem conservation projects since 1999. The main aims of the projects are to establish a framework for sustainable forest management in partnership with environmental NGOs and local communities to protect local species, natural habitats and the life of residents. The project sites were carefully chosen to provide support to programs related to endangered biodiversity-rich natural forests that can be protected or restored with support from Ricoh.

Every project comprises three phases: the start-up phase, the cooperation phase and the independence phase. The projects are designed to be long-term so that local residents will eventually take the initiative in sustainably protecting the forests (independence phase).

The company now works on the conservation of two forests in Japan and one each for Russia and China, and restoration of a forest in Ghana, Brazil and Malaysia, respectively.



Ricoh is working on environmental education for local children to encourage them to think about forest conservation.

Ballast water purification system for conservation of marine ecosystems

Hitachi, Ltd.

HITACHI
Inspire the Next

Hitachi has focused on the effects of ballast water on ecosystems. Ballast water is sea water taken into ships to stabilize hull balance when unloading cargoes. Such sea water contains plankton, bacteria, viruses, mud and sand from the unloading port. As the ballast water is discharged together with the plankton and other organisms at another port, it impacts the marine ecosystem of that area. This has developed into a global environmental problem.

To tackle this issue, the International Maritime Organization (IMO) has stipulated that all new ships from 2012 must install a ballast water management system. Hitachi developed the 'ClearBallast' water purification system, the first in Japan to be certified by IMO in 2009. The system adopts environment-friendly water purification technology using magnetism instead of toxic chemicals and allows high speed processing. It has no adverse effects like marine pollution, which can be caused by residual toxic chemicals, and the method can also significantly reduce mud sediment in ballast tanks.



IMO enacted an international convention on ballast water in 2004 to protect the marine environment. JX Shipping Co., Ltd. (former Yuyo Steamship Co., Ltd.) has installed Hitachi's ballast water purification system on its ships. The system prevents the ship's ballast water from polluting and disturbing the marine ecosystem.

Promoting use of FSC-certified paper and protection of rare species in company plantations

Mitsubishi Paper Mills Ltd.

**MITSUBISHI
PAPER MILLS
LIMITED**

Mitsubishi Paper Mills is working to popularize use of paper certified by the Forest Stewardship Council (FSC), an international forest certification system, as its major effort for biodiversity conservation. In 2002, Mitsubishi's plantation in Chile obtained FSC certification and is conducting research on local fauna and flora and limiting the amount of trees logged based on the forest's growth. It also strives to nurture seedlings of a rare species Keule (*Gomortega keule*) for planting in its forests. The protection of rare animals around the plantation is brought to the attention of employees as well.

Three of the company's forests in Japan have also obtained FSC certification in 2007 and are undertaking responsible forest management and biodiversity conservation measures.

To promote sales of FSC-certified paper, the company established a supporter system for Japanese companies using this paper. Companies can support the management of certified forests in Japan by partly bearing its cost, with this regarded and counted as their contribution to regional development.



Collecting Keule seeds in the forests in Chile. Keule is a rare species of the area.

Greenery management with goats cuts CO₂ emissions

Kajima Corporation

**in KAJIMA
CORPORATION**

Kajima became the first company in the Japanese construction industry to formulate an Action Plan for Ecosystem Conservation in 2005. It was revised and renamed Kajima Biodiversity Guidelines in 2009. A recent unique effort is the use of animals like goats and chickens for urban green area management. Unlike noisy power weeders or grass cutters, goats and chickens produce less grass waste and no noise or CO₂ emissions. Field tests in Tokyo resulted in a sharp decrease of alien plants such as Canada goldenrod and an increase of native grass species. Nature's gift of goat milk can be enjoyed as well.

Another effort is to create a cityscape of biodiversity under the concept of "Kajima Biophilic Cities." In central Tokyo, the "Japanese Honeybee Project" is underway, keeping native bees on rooftops to study how far they fly, what kinds of flowers they visit, and learning how to make ideal green spaces where various insects and plants can coexist.



Experiments showed that goats ate most of the alien plants here, and chickens ate the rest. As a result, it was totally weeded without the use of chemicals or power grass cutters.

Reducing agricultural chemicals with information and communication technology

Fujitsu Limited

FUJITSU

Fujitsu utilizes its information and communication technology (ICT) to enhance farming efficiency. In farming, crop outcome often depends on the farmer's intuition based on long years of experience. Fujitsu's Multi-sensing Network System allows more effective farming by precisely analyzing ever-changing temperatures, humidity and rainfall. The data from thermometers, hygrometers and rain gauges set up in the field are transmitted wirelessly for off-site analysis.

A vineyard owner cooperating in environmental and social activities together with employees of Fujitsu adopted the system. Precise temperature data made it possible to decrease the amount of agricultural chemicals and, consequently, the workers' exposure to chemicals. The quality of the wine also improved. Less agricultural chemicals mean a safer workplace and lower costs. In addition, it helps conserve the surrounding ecosystem because there are fewer adverse effects. In 2012, the company added rain gauges and hygrometers for an even more precise sensing system. In such ways, it plans to continue contributing to agriculture and sustainable society through ICT.



Fujitsu's Multi-sensing Network System is already showing good results in the vineyard temperature-sensing project.

Integrated pest management services for urban green spaces

Green Wise Co., Ltd.



Founded as a landscape contractor in 1905, Green Wise has now expanded its services to provide consulting services for rooftop and urban greening. In a green space at the corporate headquarters, constant experiments are carried out and gathers experience on organic farming and Integrated Pest Management (IPM). It is now applied to management of greenery both indoors and outdoors.

In 2011, the company started offering green space management services using IPM for the business facilities of Ricoh Creative Service. IPM is designed to restrain the increase of pests and weeds by maintaining the environment and through careful observation and monitoring. The service also makes use of eco-friendly pest control such as Bt biopesticides, natural pesticides and organic fertilisers instead of chemical pesticides and fertilizers. The service was introduced at Ricoh's Omori office in Tokyo. It was able to dramatically limit the amount of agricultural chemicals used to less than 1 percent of the previous year, and led to an increase in the numbers of beneficial insects such as ladybugs.



Green Wise has a model garden, a "Connection and Communication Garden" stimulating the five senses, for developers, commercial facilities, offices or collective housings, which is a perfect match for the design of eco-friendly communities.

Aiming for 100 percent sustainable palm oil

Kao Corporation



As a major user of palm oil and palm kernel oil for its toiletry and chemical products, Kao joined the Roundtable on Sustainable Palm Oil (RSPO) in 2007 as part of its social responsibility. By procuring palm oil from RSPO members in Malaysia, the company is committed to conserving the local biodiversity, respecting local people's rights and using sustainable palm oil. Now its goal is to switch all palm oil used in products to RSPO-certified sustainable palm oil and palm kernel oil by 2015 provided that a sufficient amount can be procured. Under the "Book and Claim system" Kao already managed to do this in 2011 for all palm oil bought in Japan. Its factory in Kashima, which produces and ships products made from RSPO-certified palm oil, was accepted in the Supply Chain Certification System by RSPO in March 2012. Kao is also trying to procure RSPO-certified palm kernel oil, which is more difficult to switch to because it is produced in much smaller quantities than palm oil.



Harvesting the fruit of oil palm trees (*Elaeis guineensis*). Kao started to procure RSPO-certified palm oil under the Book and Claim system.

Butterflies in the cityscape

Takenaka Corporation



Takenaka started the "Butterfly Project" in Nagoya in 2009 with the purpose of finding new ways for humans and nature to coexist in an urban environment. Planters were placed in 14 spots in urban areas in Nagoya and were filled with plants attractive to butterflies like mandarin oranges and thistles. Researchers then studied the butterflies over time, counting their numbers, identifying species, and observing how they are related to the area's environment, to gather knowledge on good conditions for attracting butterflies. The project has since then expanded to be included in urban development plans by local stakeholders. In 2010, a shopping mall in Nagoya implemented the Butterfly Project and remade green spaces along their shopping streets into flower beds. This attempted to contribute to restoration of the environment and biodiversity conservation by attracting butterflies and creating places where people can come in contact with living creatures. The results of the studies have been made public for reflection in urban greenery plans.



Streets in Nagoya lined with herbs and flowers to attract butterflies. This is one of Takenaka's efforts to revitalize nature in urban areas.

Expanding paper procurement criteria to supplier's business conduct

Fuji Xerox Co., Ltd.



As a manufacturer of copiers and the supplier of paper used in these machines, Fuji Xerox has long been concerned with sustainable and responsible paper procurement. The company established its own paper procurement criteria for the first time in 2004. It was one of the earliest standards in the industry in Japan. The criteria were revised in 2012 to limit paper procurement to purchases made only from socially responsible suppliers. Previous criteria only concerned paper, but the company added criteria to cover the actions of paper suppliers as well. The company now pays attention to whether a supplier's business activities involve considerations for HCVF (High Conservation Value Forests), forestry ecosystems, and CSR perspectives such as worker safety and protection of the rights of local residents.

Recognizing the need to reduce its own environmental impact to fulfil its responsibility for biodiversity conservation, major Fuji Xerox factories in Japan and abroad underwent inspections to avoid adverse effects on surrounding ecosystems.



Fuji Xerox procures paper only from suppliers managing forests sustainably.

Connecting urban and rural life for sustainability

Mitsubishi Estate Co., Ltd.



Mitsubishi Estate started a project in collaboration with an NGO in 2008 to promote sustainability through interaction between people in urban and rural areas, while also making good use of local resources. In this project, employees with families in Tokyo and residents of Mitsubishi's condominiums took part in tours to Yamanashi prefecture, where they experienced rice-planting and vegetable harvesting. In 2012, a community house was built using trees from nearby mountains that had been cut for thinning. Visitors from the city and local residents worked together on the house.

That same year, another project was accomplished. Employees cultivated abandoned fields, grew rice without agricultural chemicals and successfully brewed sake (Japanese rice wine). Chemical-free rice growing is beneficial for biodiversity, and well-managed rice terraces prevent landslides and floods because rain is easily absorbed into the soil. This typical ecosystem service is diminishing as the population shift from rural to urban areas result in more and more rice paddies being abandoned.



Participants in a tour to Yamanashi Prefecture took part in bringing abandoned farmland back into production in a sustainable way.

Advanced wood procurement guidelines for better supplier awareness

Sekisui House, Ltd.



In 2005, Sekisui House conducted a survey among some 60 of its major wood suppliers, requesting specific information relating to their wood processing facilities and wood components, and asking questions about tree species, place of origin, legitimacy of logging and much more. Based on the survey results, Sekisui House in 2007 formulated its own wood procurement guidelines and set forth 10 principles covering many aspects of wood procurement including the issue of illegal logging, conservation of biodiversity, livelihood of the residents in the logging areas, and revitalization of the domestic forestry industry. The company classifies all procured wood into four procurement ranks: S at the top, followed by A, B, and C. It promotes FairWood* procurement in an effort to increase the share of S-ranked wood. The ratio has steadily improved with 60 percent of S-rank procurement and 25 percent of A in 2012. Sekisui House received the award of excellence in the Ministry of the Environment's Japan Awards for Biodiversity.

* A joint endeavor by NGOs for procurement of environmentally and socially fair wood



Woods are ranked according to the wood procurement guidelines of Sekisui House.

Nurturing animals and plants around LNG terminals

Osaka Gas Co., Ltd.



At its LNG terminals, where LNG is received, stored, and regasified, Osaka Gas divides the grassland into two areas: an area where grass is cut short for factory operations and an area for nurturing living organisms. In the latter area, a plan is underway to use local seeds and seedlings to create a place where various animals and plants can coexist.

One of the terminals created a biotope and space for nurturing endangered local plants in cooperation with researchers nearby in an effort to use this as a refuge area for the valuable gene pool of the region. According to a 2010 research, more than 70 percent of those plants showed healthy growth.

Green belts surrounding the LNG terminals are managed by thinning trees along roads to create space for various plants to thrive. Previously the greenery along public roads was trimmed to form a tall hedge of only one species of tree. The forest is thinned and set back from the road to be attractive to various living organisms.



The vast site of the Osaka Gas LNG terminal has green belts around the perimeter and provides places of refuge for endangered local plants.

Tropical reforestation and environmental education for biodiversity conservation in Indonesia

Mitsui Sumitomo Insurance Co., Ltd.



Mitsui Sumitomo Insurance consumes a great deal of paper in its business. Taking its environmental responsibility seriously, the company began to restore and revitalize a tropical forest in Paliyan, Indonesia, in collaboration with the Indonesian government, in 2005. In the first phase, 300,000 trees of 30 local species were planted on 350 hectares of denuded forests. Project achievements are monitored through research done by a local university (University of Gadjah Mada) on diversity of birds and insects and interviews with local residents. Two other projects have also been launched to reduce illegal logging and to ensure revitalization of the forest: environmental education to elementary school students to teach the importance of the forest and the planting of fruit trees to support the local economy.

In the second phase from 2011, in conjunction with taking care of planted trees, agricultural technology is being provided to support the economic independence of local farmers and elementary school teachers are educated about the environment to enable them to educate their students.



The site used to be covered with rocks. (Oct. 2005)



The project brought the forests back to life with lush green foliage. (Dec. 2011)



For faster and smoother shift of business

Thank you for your interest in JBIB and our activities. I hope you now understand that we have been working on business and biodiversity to contribute substantially to biodiversity conservation by considering our land use, supply chains and more. Through our five years of activities and experience, we have become increasingly convinced that biodiversity is our business. This is, of course, because we would like to bring sustainability both to our business and to biodiversity. But I would like to add one more important feature of biodiversity to our reasons—the fact that biological resources are the only things that are sustainable. Hence, only biodiversity can ensure the sustainability of businesses. We need to work harder to shift our business model to one in which business can really coexist with nature and diverse life. This can be done by exploring and learning from these biological resources, rather than exploiting them. For a faster and smoother shift to responsible and sustainable business, however, we would like to ask all the consumers, NGOs and governments to identify responsible businesses and support their efforts. This is the only way such a shift can happen for sure.

Finally, I would like to take this opportunity to express my gratitude to all of you who have supported our activities. For those who want to work together with us, I am looking forward to our collaboration in the near future. Thank you.

On behalf of all JBIB members,

Dr. ADACHI Naoki
Executive Director
Japan Business Initiative for Biodiversity

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Photo
top: Coral reef in Kumejima Island, Okinawa
middle: Maple leaves in autumnal tints
bottom: An Autumn Darter, an endemic dragonfly
(*Sympetrum frequens*)



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