Chapter II

Environmental Impact Assessments at the Project Implementation Stage

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Environmental impact assessments are frameworks for ensuring that environmental conservation is properly considered when implementing projects. They require that project proponents conduct surveys, forecasts, and evaluations in advance to determine the impact that their project is likely to have on the environment, publish the results, and invite feedback from the general public, local governments, and other stakeholders. The outcomes are then reflected in environmental mitigation measures and project plans.

The Environmental Impact Assessment Act stipulates procedures and approaches designed to ensure that environmental impact assessments are carried out appropriately and smoothly. It also includes planning and implementation procedures tailored to each stage of project development.

It is often difficult to flexibly address environmental mitigation in order to avoid or reduce environmental impacts during the project implementation stage. For this reason, planning stage procedures (Document on Primary Environmental Impact Consideration procedures)* call for a comparative review of the environmental impact of multiple project plan proposals at an early stage, looking at factors like location, scope, distribution, and composition beforehand in order to avoid or reduce serious environmental impacts.

Project implementation stage procedures (Scoping Document, Draft Environmental Impact Statement, and Environmental Impact Statement procedures) make use of the results of investigations carried out during planning stage procedures while selecting environmental impact assessment items and carrying out surveys, forecasts, and evaluations based on more detailed project plans and in line with project and regional characteristics. These procedures also involve a review of specific environmental mitigation measures aimed at avoiding or reducing environmental impacts for each of the selected EIA items.

By avoiding or reducing serious environmental impacts at the planning stage and then reviewing environmental mitigation measures in the environmental impact assessment during the project implementation stage, investigations can be carried out at each stage according to the maturity of the project planning process—since integrated environmental conservation is something that should be considered throughout project development.

Ultimately, the environmental mitigation measures reviewed these integrated procedures need to be reviewed to make sure that they are delivering the expected results, ensuring that the purpose of the environmental impact assessment has been achieved.

*Details on environmental impact assessments at the planning stage are summarized in the *Guide to Environmental Assessment Techniques: Planning-stage Environmental Consideration Documents (Concepts and Practices)*. The Environmental Impact Assessment Act also specifies the following two procedures to be carried out prior to the

project implementation stage, though some local government systems that are based on EIA ordinances and the like do not include them.

Document on Primary Environmental Impact Consideration procedures

Procedures for the Document on Primary Environmental Impact Consideration involve making a comparative review of the environmental impact of multiple project plan proposals at an early stage, looking at factors like location, scope, distribution, and composition beforehand in order to avoid or reduce serious environmental impacts. They were newly established in 2011 with the revision of the Environmental Impact Assessment Act. When selecting items for primary environmental impact consideration, note that in cases where (1) it seems possible to avoid or lesson impacts during the project implementation stage using environmental mitigation measures or (2) impacts are reversible or can be limited to a short period of time, determine for each project whether it is necessary to select these items as primary environmental impact consideration items for each project. If it is not necessary, project proponents can forgo treating them as serious environmental impacts during the planning stage and make them review items during the project implementation stage instead.

Procedures for the Document on Primary Environmental Impact Consideration typically involve conducting surveys based on existing documents held by national or local governments. For more information on specific technical tools, see the *Guide to Environmental Assessment Techniques: Planning-stage Environmental Consideration Documents (Concepts and Practices)*.

Note that these procedures are voluntary for those looking to implement Class-2 projects.

Determination of Class-2 projects (screening procedures)

A Class-2 Project is defined as a project whose scope is equivalent to that of a Class-1 project and for which determination (screening) procedures must be carried out to decide whether it is necessary to carry out an environmental impact assessment based on individual project and regional characteristics.

For basic matters, the competent ministry determines (1) judgement criteria based on individual project details and (2) judgement criteria based on the status of the environment and other conditions in the district where the Class-2 project should be implemented and the surrounding area for use during the screening process.

The party who receives the submission from the person looking to implement the Class-2 project and who has the authority to issue licensure or approval must invite opinions from relevant prefectural governors and then determine whether environmental impact assessment procedures need to be carried out for the project based on judgement criteria stipulated by the competent ministries.

Note that project proponents are allowed to independently move ahead with scoping documents and other procedures without going through the screening process.

Reference: Environmental impact assessment documents

The documents that project proponents prepare in the course of environmental impact assessment procedures are called environmental impact assessment documents, or "assessment documents" for short. The assessment documents stipulated in the Environmental Impact Assessment Act are Documents on Primary Environmental Impact Consideration, Scoping Documents, Draft Environmental Impact Statements, Environmental Impact Statements, and Reports. Procedures based on local government ordinances on environmental impact assessments generally follow the same pattern, though these ordinances sometimes refer to the documents by different names or may require the preparation of a written opinion report, for example.

■ Planning Stage Document on Primary Environmental Impact Consideration (Document on Primary Environmental Impact Consideration): The purpose of this document is to communicate the results of investigations into which items should considered for the purpose of environmental conservation when the location, scope and other key project elements are being determined. It includes the following key items:

- Name and address of the person looking to implement the Class-1 project
- Purpose and contents of the Class-1 project
- General conditions in the target project implementation area and its surroundings
- A summary of survey, forecast, and evaluation results for each primary environmental impact consideration item

■ Environmental Impact Assessment Scoping Document (Scoping Document): The purpose of this document is to communicate the methods that will be used for the upcoming environmental impact assessment. It includes the following key items:

- Name and address of the project proponent
- Purpose and contents of the project
- General conditions in the target project implementation area and its surroundings
- Environmental impact assessment items as well as survey, forecast, and evaluation methods relevant to the project (add to the above what project proponents did during the procedures for the Document on Primary Environmental Impact Consideration)
- A summary of survey, forecast, and evaluation results for each primary environmental impact consideration item
- Opinions of the competent minister on the Document on Primary Environmental Impact Consideration from the standpoint of environmental mitigation plus project proponent commentary
- If opinions were invited from relevant government agencies and/or the general public on the Document on Primary Environmental Impact Consideration or its proposals, a summary of those opinions and commentary from parties intending to implement the Class-1 project
- Evolution and details of investigations into environmental mitigation considerations during the process of deciding on the expected project implementation area and other items

■ Draft Environmental Impact Statement (Draft EIS): The purpose of this document is to communicate the results of the environmental impact assessment. It includes the following key items:

- Name and address of the project proponent
- Purpose and contents of the project
- General conditions in the target project implementation area and its surroundings
- Opinions invited from the general public on the Scoping Document from the standpoint of environmental mitigation plus project proponent commentary
- Opinions from prefectural governors and other officials on the Scoping Document from the standpoint of environmental mitigation plus project proponent commentary
- Environmental impact assessment items plus survey, forecast, and evaluation methods
- Results of the environmental impact assessment (including the status of investigations leading up to the implementation of measures for environmental mitigation and other relevant measures) (add to the above what project proponents did during the procedures for the Document on Primary Environmental Impact Consideration)
- A summary of survey, forecast, and evaluation results for each primary environmental impact consideration item

・Opinions of the competent minister on the Document on Primary Environmental Impact Consideration from the standpoint of environmental mitigation plus project proponent commentary
・If opinions were invited from relevant government agencies and/or the general public on the Document on Primary Environmental Impact Consideration or its proposals, a summary of those opinions and commentary from parties intending to implement the Class-1 project
・Evolution and details of investigations into environmental mitigation considerations during the process of deciding on the expected project implementation area and other items

■ **Environmental Impact Statement (EIS):** This document includes any required revisions to the Draft Environmental Impact Statement based on solicited opinions and feedback. It includes the following key items:
・Any revisions made to the Draft Environmental Impact Statement as needed
・Summary of opinions from the general public on the Draft EIS from the standpoint of environmental mitigation plus project proponent commentary
・Opinions from prefectural governors and other officials on the Draft EIS from the standpoint of environmental mitigation plus project proponent commentary

■ **Report on Environmental Mitigation Measures (Report):** The purpose of this document is to communicate the implementation status of environmental mitigation measures and the like. It includes the following key items:
・Name and address of the project proponent
・Basic project information (name, class, scope, implementation area, and similar details)
・Follow-up survey items, methods, and results
・Description of environmental mitigation measures along with results and level of uncertainty
・Description of expert advice received, if any
・Statement of the intention to make public the plans for and results of any follow-up surveys or environmental mitigation measures conducted after the preparation of the Report

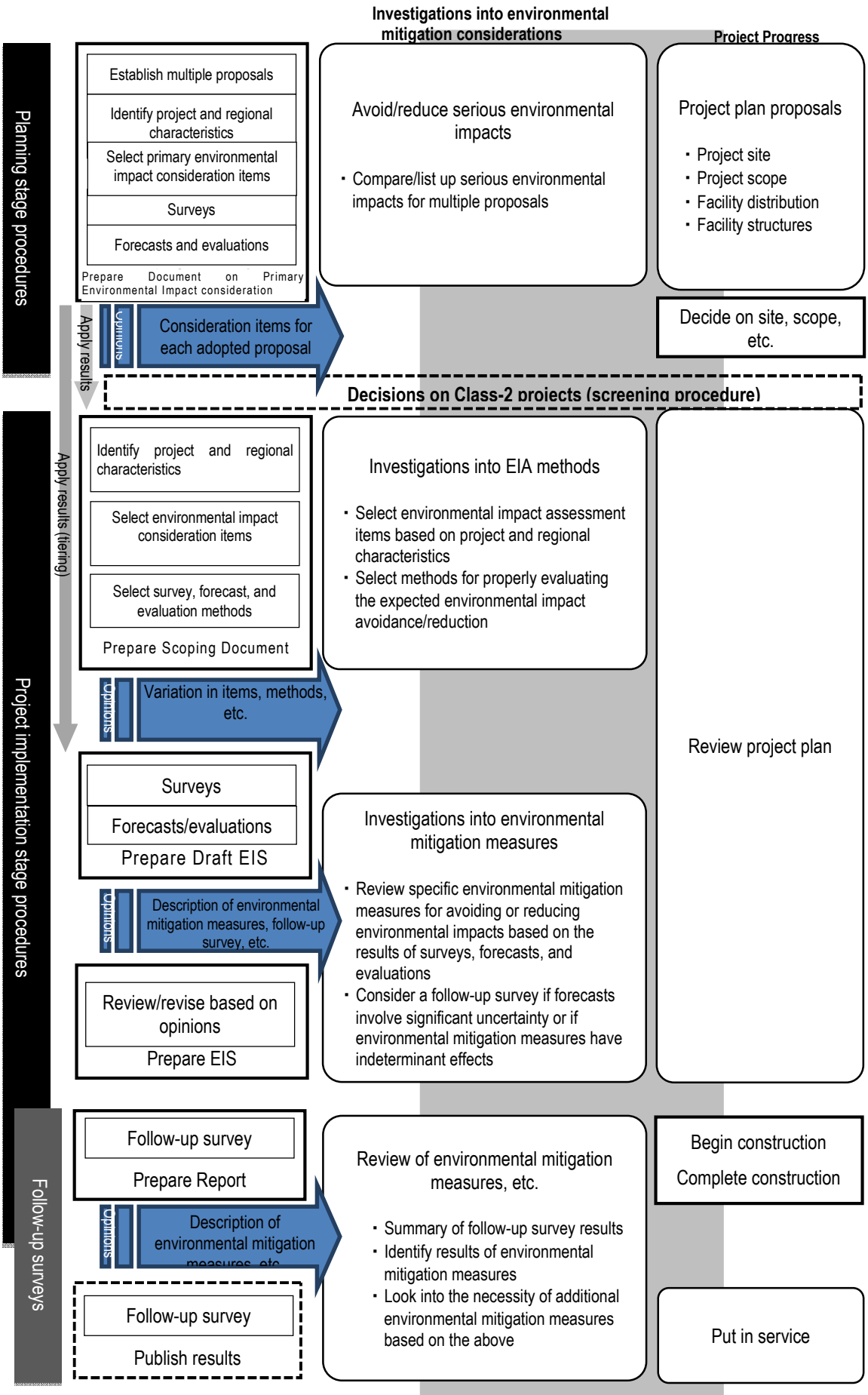


Figure II-1. Positioning of investigations related to environmental impact assessments and environmental mitigation considerations

Note: Dotted lines indicate legally-based procedures to be carried out as needed

1. Application of the results to planning stage procedures (procedures for the Document on Primary Environmental Impact Consideration)

1.1 Concepts

Tiering is the process of utilizing and reflecting the results, feedback, and other outcomes from the procedures for the Document on Primary Environmental Impact Consideration (done during the planning stage) so that environmental impact assessments can be conducted efficiently and logically during the project implementation stage.

Commentary: Tiering
"Tiering" means "layering" or "accumulating". In environmental impact assessments, it is the process of utilizing and reflecting investigation results and other outcomes from the previous stage into the current one.

1.1.1 Application to project plan explanations

If relevant feedback has been solicited from government agencies and/or the general public during planning-stage procedures for the Document on Primary Environmental Impact Consideration, then the evolution and details of investigations into environmental conservation considerations that took place when making decisions (on where to implement the project, for example) should be included in the Scoping Document. When explaining the project planning decision-making process in the Scoping Document, it is a good idea to outline the investigations that took place during planning-stage procedures for the Document on Primary Environmental Impact Consideration.

- Project plans in the Scoping Document should be formulated after the Document on Primary Environmental Impact Consideration has been prepared and will likely include the results of inquiries into social and economic factors as well. They will therefore not necessarily be in line with the best suggestions from an environmental perspective as discussed during the planning-stage procedures for the Document on Primary Environmental Impact. In some cases, the project plan may not be identical to any of the suggestions proposed in the Document on Primary Environmental Impact. For this reason, it is important to document the project plan investigation process as it continues beyond the Document on Primary Environmental Impact procedures.

1.1.2 Application to selecting EIA items and survey, forecasting, and evaluation methods

The results of surveys, forecasts, and evaluations for primary environmental impact consideration items in the Document on Primary Environmental Impact can be used to select items for the environmental impact assessment as well as EIA survey, forecast, and evaluation methods.

- If project proponents are selecting a project plan from among those listed in the Document on Primary Environmental Impact that will avoid or reduce serious environmental impacts on important species, for example, project proponents should be able to make project implementation stage procedures more efficient by adopting limited and simplified survey or forecasting methods that allow project proponents to identify environmental other than the serious ones identified in the planning stage.

- If there are primary environmental impact consideration items that forecasts show will have serious environmental impacts or items deemed to have a large degree of uncertainty, try prioritizing survey and forecast methods during the project implementation stage. Ideally, their work during the planning stage should help project proponents select a balanced and varied array of environmental impact items as well as survey, forecast, and evaluation methods.

1.1.3 Application to survey results (data)

Survey results from existing documentation collected and organized during the procedures for the Document on Primary Environmental Impact Consideration can be utilized in surveys during project implementation stage procedures as well.

- Regional environmental information collected and organized in the Document on Primary Environmental Impact Consideration can be used to describe general conditions in the target project implementation area during project implementation stage procedures, for example. This should make work during this stage go more efficiently.
- Survey results obtained during procedures for the Document on Primary Environmental Impact can be utilized for surveys conducted during project implementation stage procedures as well—which should make the surveys, forecasts, and evaluations conducted during the implementation stage more sophisticated and more efficient. Note, however, that environmental impact assessment items may require surveys of different scope in the planning and implementation stages, so make sure to be mindful of this when utilizing existing results.
- With landscapes and places for activities with nature, for example, the existing documentation collected and organized during procedures for the Document on Primary Environmental Impact, the regional characteristics or survey scope concepts that were arrived at through investigations based on those documents should be useable during the project implementation stage as well. Project proponents can make implementation-stage surveys more sophisticated by obtaining the most recent information from updated documents during project implementation stage procedures or reviewing survey target scope, for example, based on documents and data that were not collected and organized during procedures for the Document on Primary Environmental Impact.

1.1.4 Application to forecast results

Project proponents can utilize the results of forecasts conducted during procedures for the Document on Primary Environmental Impact in forecasts conducted during the project implementation stage.

- If project proponents are conducting relatively detailed forecasts during procedures for the Document on Primary Environmental Impact, project proponents can use the same or updated forecast criteria in their forecasts during the project implementation stage. This should make the surveys, forecasts, and evaluations conducted during the implementation stage more sophisticated and more efficient.
- If the project plans developed during the planning stage are thorough and detailed enough, project

proponents may be able to show the same forecast results from the Document on Primary Environmental Impact during the project implementation stage by conducting on-site surveys and the like (with landscape or places for activities with nature, for example). In this situation, project proponents can use the forecasts results from the procedures for the Document on Primary Environmental Impact during implementation stage procedures as well, which means that project proponents can forego doing surveys and forecasts again during the project implementation stage except in cases where they seem particularly necessary (e.g. when it is anticipated that environmental impacts will be severe or when major changes are made to the project plan).

1.1.5 Application to explanations on avoiding or reducing environmental impact

When considering environmental mitigation measures during project implementation stage procedures, project proponents must clearly indicate the results of reviewing multiple proposals for avoiding or reducing environmental impacts during procedures for the Document on Primary Environmental Impact alongside the results for avoiding or reducing environmental impacts during series of project plan reviews.

2. Selection of EIA items and survey, forecasting, and evaluation methods

2.1 Concepts for understanding project and regional characteristics

It is important to get a thorough understanding of target project details (referred to here as "project characteristics") as well as the natural and social conditions of the target project implementation area and its surroundings (referred to here as "regional characteristics"). The purpose of this is to get the information project proponents need to be able to outline project plans for the target project and their social context, identify the distinctive natural and social features of the region, select environmental impact assessment items, and select survey, forecasting, and evaluation methods. For this reason, project characteristics and regional characteristics, must be thoroughly and comprehensively understood—regardless of whether they end up being selected as environmental impact assessment items.

- When selecting environmental impact assessment items, project proponents must clearly identify the reason for those selections. This means that project proponents must get a thorough enough understanding of project and regional characteristics to explain those reasons.
- Project proponents should understand and organize information on project and regional characteristics to a certain extent as they are carrying out procedures for the Document on Primary Environmental Impact, so if project proponents have enough information to determine which items should not be selected as environmental impact assessment items, there is no reason to work towards a more in-depth understanding of project and regional characteristics for those particular items. Note that they will need to incorporate them if project proponents end up collecting additional relevant information after the procedures for the Document on Primary Environmental Impact.
- The project characteristics and regional characteristics needed to select environmental impact assessment items as well as survey, forecast, and evaluation methods differ for each EIA item, but if project proponents are looking to incorporate a broad a range of these characteristics and list them in the Scoping Document and other materials, they can include area maps or information on past trends and/or future expectations of natural and social conditions as needed to make it easier to get an overall picture of project and regional characteristics.

2.1.1 Understanding project characteristics

The purpose of thoroughly understanding project characteristics is to be able to list up the actions and behaviors that will be the key factors impacted the environment during project implementation. We refer to these here as "impact factors".

- Information on the project characteristics that need to be thoroughly understood is stipulated by the competent ministries for each type of project specified under the law. In general, it will include the following items. When selecting environmental impact assessment items or survey, forecast, and evaluation methods during stages when project plan details have yet to be finalized and it is difficult to organize detailed information (particularly information on carrying out construction work), it is best to understand project

characteristics by referring to examples of similar projects.

- Project category
- Location of target project implementation area
- Project scope
- Overview of project sharing plan
- Overview of project construction plan
- Other items relevant to the project

- Thoroughly understanding project characteristics includes recording the history and content of investigations into environmental mitigation considerations carried out during the process of hammering out project details. Clearly outlining the progress of looking into environmental mitigation considerations will help stakeholders and others who read the Scoping Document gain a better understanding of the project, which will in turn allow project proponents to gather more detailed and constructive opinions as well as gather feedback earlier in the project planning process.
- Information on project characteristics needs to be further specified through Draft Environmental Impact Statement procedures in line with the process used to flesh out the project plan and reflected in the selection of environmental impact assessment items as well as survey, forecast, and evaluation methods.

2.1.2 Understanding regional characteristics

Regional characteristics include those that are relevant to the selection of environmental impact assessment items as well as survey, forecast, and evaluation methods. They can be understood by gathering up-to-date literature and a wide variety of other resources, looking at surveys of general local conditions primarily through easy-to-obtain documents and data. In the process, it is important to collect information not only on the environmental situation in a region, but also on what in particular needs to be addressed when considering environmental conservation as well as the status of designated areas and regulations (as specified in laws and ordinances, for example).

1) Scope

The scope of regional characteristics that needs to be understood must be sufficient to select environmental impact items as well as survey, forecast, and evaluation methods. Consider the impact factors listed up as project characteristics and include the surveyed regions for impact factors selected as environmental impact items.

- If procedures for the Document on Primary Environmental Impact have been carried out, project proponents can use the regional environmental information that they collected and organized for that document as well as general conditions in the region as described in the Scoping Document to make this step go more efficiently.
- When it comes to the regions surveyed when selecting environmental impact assessment items, the

basic matters are defined as “Regions that include the scope of changes to environmental conditions of or beyond a certain extent or the scope within which the environment will undergo direct modification as a result of implementation of the target project, as well as the surrounding area.” The “scope of changes to environmental conditions of or beyond a certain extent” is different for each environmental impact assessment item. Furthermore, “changes of or beyond a certain extent” in terms of the impact that changes to environmental conditions have on people’s health, living environments, or the natural environment also varies by environmental impact assessment item.

- For this reason, the scope of regional characteristics that needs to be understood is not decided uniformly using squares drawn on a topographical map or some fixed distance from the project implementation area, or by administrative district. Instead, it should be determined according to each environmental impact assessment item or the components that make up the target regional characteristics. In addition to the project implementation area, it is necessary to designate a scope that sufficiently takes into account water systems, access roads and other traffic flows, and so on as well as natural features like river basins and topography.
- When determining the scope of regional characteristics to be understood, pay attention to those components while conducting an exhaustive survey of the area where the environmental conditions will undergo substantial change while flexibly addressing areas that will not undergo much change in environmental conditions; for example, by conducting surveys on targets that are particularly vulnerable to impacts. At the same time, if project proponents are able to anticipate targets particularly vulnerable to impacts in the surrounding area, it’s best to identify and make an effort to thoroughly understand those as well.
- Finally, if project proponents are in the process of conducting surveys for the purpose of understanding regional characteristics and feel that there is a need to broaden their target area; or if project proponents determine that there will be no ill effects from shrinking it, feel free to adjust the scope of those surveys as appropriate.

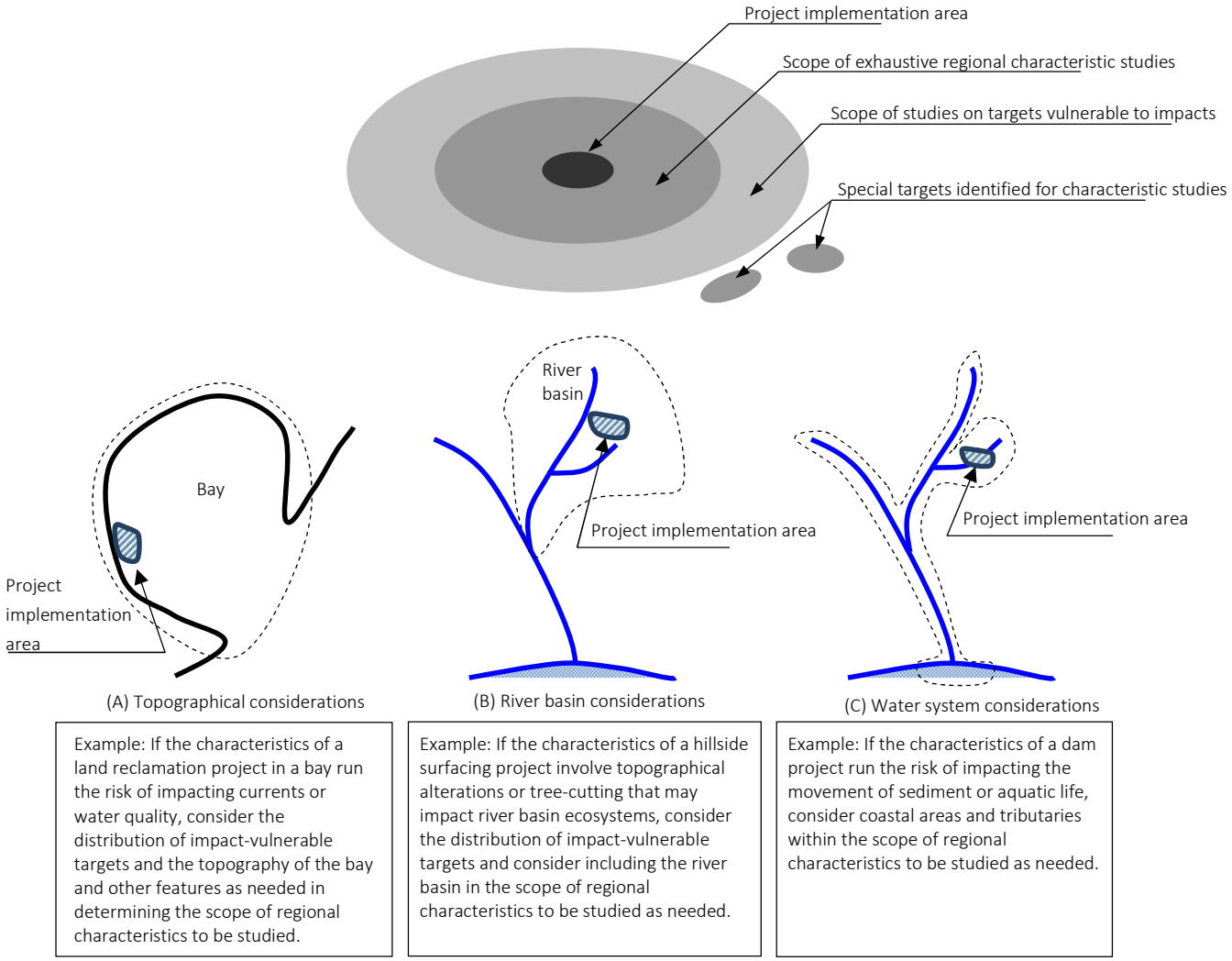


Figure II.2-1. Concepts for identifying scope of regional characteristic studies (visual)

2) Timeframe

Obviously the current status of an area should be given priority when studying regional characteristics, but for large projects subject to environmental impact assessments, it is necessary to take into account future project implementation and ongoing, long-term impacts once project structures are in service, tracking past status trends as well as future conditions.

- For example, when trying to understand the impact on the natural environment, looking at past vegetation trends and their causes (such as tracking how riverbed vegetation has changed as a result of human and/or natural factors) should allow project proponents to identify the current plant succession stage and thus investigate and determine how the succession will progress going forward.

3) Methods

To fully understand regional characteristics, collect and organize existing references (documents,

topographical maps, results of past studies, etc.), interview experts and other relevant parties, and conduct on-site investigations and field studies. When studying regional characteristics, project proponents should collect as much case study information as project proponents can (for example, on other projects in progress or past large-scale projects in the region) to gain critical perspectives on evaluating the impacts that implementing their project will have.

(1) Collect and organize existing references

Existing references on environmental conditions as well as data on population, industry, and other basic regional characteristics is often compiled as part of government documents, so it's important to start study of existing references by collecting and organizing materials from government agencies in the target region. If project proponents need more detailed information, they can usually get it by going back to the source documents for those references or contacting the department or agency that compiled them. In addition to government agencies, entities like electrical companies or road management companies (that run tollways, for example) often collect long-term monitoring data. Finally, when doing existing reference study, make sure to collect the latest available information and indicate sources when project proponents are organizing the data.

The following forms of documentation are typically collected as existing references on regional characteristics:

- Information on current environmental conditions: White papers on the environment, circular economies, and biodiversity; documents on the current environmental conditions in XX region, various databases made publicly available by the national or local governments, etc.
- Population, industry, or other basic information on social characteristics: Prefectural or municipal handbooks, statistical white papers, etc.
- References on history and culture: Prefectural or municipal histories, etc.

In addition, check the environmental conservation policies issued by national and local governments to find out whether there are areas/targets vulnerable to environmental impacts or legally designated from an environmental conservation perspective, or regions where the level of adverse environmental impact is already significant or that are at high risk for adverse impacts (see tables II.2-1 through II.2-4).

Table II.2-1. Examples of regions/targets vulnerable to environmental impacts

Classification	Description
Regions vulnerable to pollutant accumulation	Bodies of water that are largely closed off, areas where pollutants emitted during project implemented will tend to accumulate
Regions where maintaining human health and the living environment must be considered	Schools, hospitals, and residential areas; areas requiring particular consideration in terms of maintaining human health and the living environment (e.g. drinking water intake points)
Natural environments largely untouched by human modifications, natural environments serving as critical wildlife habitats, etc.	Virgin forests, marshlands, marine forests, tidal flats, coral reefs, natural coastlines, or other natural environments largely untouched by human modifications; vulnerable natural environments that would be hard to restore once modified
	Satochi-satoyama areas (secondary forests, managed forests, farmland, reservoirs, grasslands, etc.), marshlands that serve as riverside floodplains, riparian forests, and similar natural environments that are disappearing or in decline
	Watershed forests, windbreak forests, tidal flats that serve a water purification function, greenspaces that prevent sediment disasters, and other natural environments that perform critical functions
	Surviving forests and greenspaces in urban areas (mountainside forests, temple forests, forests surrounding private residences, etc.), waterside areas, and other natural environments that lend important characteristics to the region

Table II.2-2(1). Examples of areas/targets legally designated from an environmental conservation perspective

Classification	Relevant legislation	Article	Description
Areas designated for air pollution control	Air Pollution Control Act (Act No. 97 of 1968)	Article 5(2)-1	Specified areas subject to standards for controlling total emissions of sulfur oxides and nitrogen oxides
Areas designated for countermeasures against nitrogen oxides/particulates	Law Concerning Special Measures for Total Emission Reduction of Nitrogen Oxides from Automobiles in Specified Areas (Act No. 70 of 1992)	Article 6-1	Specified areas subject to fundamental policies to reduce the total volume of nitrogen oxide emissions
		Article 8-1	Specified areas subject to fundamental policies to reduce the total volume of particulates
Roads targeted for roadside improvement	Act on Improvement of Areas Along Trunk Roads (Act No. 34 of 1980)	Article 5-1	Roads that meet the following conditions and are designated by the prefectural government: ・ Roads with a daily traffic volume of over 10,000 vehicles ・ Roads with nighttime traffic noise of more than 65 dB/daytime noise of more than 70 dB ・ Roads in dense residential areas
Water areas and specified areas designated for water pollution control	Water Pollution Control Act (Act No. 138 of 1970)	Article 4(2)-1	Specified water areas and surrounding areas subject to total control standards for chemical oxygen demand and nitrogen/phosphorus
Designated lakes and designated areas	Law concerning Special Measures for the Conservation of Lake Water Quality (Act No. 61 of 1984)	Articles 3-1 and 3-2	Lakes and surrounding areas which are not assured or extremely likely of not being assured of environmental water quality standards
Seto Inland Sea areas	Act on Special Measures Concerning Conservation of the Environment of the Seto Inland Sea (Act No. 110 of 1973)	Article 2-1	Seto Inland Sea
		Article 2-2	Relevant prefectural areas (excludes areas designated under Article 3 of the Enforcement Order on the Act on Special Measures Concerning Conservation of the Environment of the Seto Inland Sea (Cabinet Order No. 327 of 1973))
Designated regions for collecting underground water	Industrial Water Act (Act No. 146 of 1956)	Article 3-1	Regions designated under the stipulations of the Industrial Water Act, the Act on the Regulation of Pumping up Underground Water for Use in Buildings, and similar legislation
	Act on the Regulation of Pumping up Underground Water for Use in Buildings (Act No. 100 of 1962)	Article 3-1	
National Parks, Quasi-National Parks, Prefectural Natural Parks	Natural Parks Act (Act No. 161 of 1957)	Article 5-1	National parks (natural scenic areas outstanding enough to represent the scenery of Japan)
		Article 5-2	Quasi-national parks (excellent natural scenic areas equivalent to national parks)
		Article 72	Prefectural natural parks (excellent natural scenic areas)

Table II.2-2(2). Examples of areas/targets legally designated from an environmental conservation perspective

Classification	Relevant legislation	Article	Description
Wilderness Areas, Nature Conservation Areas, Prefectural Nature Conservation Areas	Nature Conservation Act (Act No. 85 of 1972)	Article 14-1	Wilderness areas: Areas that preserve and maintain their original characteristic ecosystems without any influence of human activities.
		Article 22-1	Nature conservation areas: Natural areas in particular need of conservation due to their natural and/or social characteristics)
		Article 45-1	Prefectural natural conservation areas: Areas equivalent to nature conservation areas with natural and/or social characteristics in the surrounding areas that make them in particular need of conservation.
Natural Heritage	Convention Concerning the Protection of World Cultural and Natural Heritage	Article 11-2	Areas listed on the World Heritage List as natural heritage sites of particular importance and requiring conservation as forming part of the cultural heritage and natural heritage of all peoples of the world.
Suburban greenspace conservation areas	Act on the Conservation of Greenspaces around the Tokyo Region (Act No. 101 of 1966)	Article 3-1	Areas designated as greenspaces having a significant effect on maintaining/promoting the health of local residents in Tokyo or the surrounding region or in preventing pollution/disasters
	Act on the Arrangement of Conservation Districts in Kinki Area (Act No. 103 of 1967)	Article 5-1	
Greenspace conservation areas, special greenspace conservation areas	Urban Greenspace Conservation Act (Act No. 72 of 1973)	Article 5, Article 12-1	Areas designated in urban plans that are of the right location/scope to provide the functions essential to blocking, absorbing, or providing refuge to stop pollution or disasters; or well-suited to conservation in that they provide habitats for plant and animal life
Natural habitat protection areas	Act on Conservation of Endangered Species of Wild Fauna and Flora (Act No. 75 of 1992)	Article 36-1	Areas important for conservation of nationally endangered species
Wildlife sanctuaries	Act on the Protection and Control of Wild Birds and Mammals and Hunting Management (Act No. 88 of 2002)	Article 28-1	Important areas for the protection of wildlife

Table II.2-2(3). Examples of areas/targets legally designated from an environmental conservation perspective

Classification	Relevant legislation	Article	Description
Wetlands designated under the Ramsar Convention	The Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat	Article 2-1	Wetlands of international importance especially as waterfowl habitat and wetland areas listed as wetlands of international importance for the purpose of promoting the conservation of the plants and animals that live there
Scenic sites and natural monuments	Act on Protection of Cultural Properties (Act No. 214 of 1950)	Article 109-1	Scenic sites (gardens, parks, bridges, and embankments are limited to those that have been deemed integrated with the surrounding natural environment) or natural monuments (excludes relevant species and specimens when those plant and animal species are individually designated)
Historic natural preservation zones	Act concerning Special Measures for the Preservation of Historic Natural Features in Japan's Ancient Capitals (Act No. 1 of 1966)	Article 4-1	Structures and other sites of historical significance that are integrated with the surrounding natural environment and embody the tradition and culture of Japan's ancient capitals as well as land zones that are critical for maintaining the status of the lands that make up these sites
Landscape areas	City Planning Act (Act No. 100 of 1968)	Article 8-1-7	Zones designated in city plans as maintaining the urban landscape, such as (1) forested, hilly, waterside, or similar zones or sites that preserve quality natural environments (2) zones containing shrines and temples; and (3) zones that maintain quality residential environments
Protected forests	Forest Act (Act No. 249 of 1951)	Articles 25-1 and 25-2	Protected forest zones (limited to those forests designated as achieving the purposes set forth in articles 1-8, 1-10, and 1-11 of the act)
Protected water surfaces	Act on the Protection of Fishery Resources (Act No. 313 of 1951)	Articles 15-1 and 15-4	Water surfaces ideally suited to the hatching and growth of aquatic animals and/or the seeding of aquatic plants, and therefore designated as requiring measures for the protection and culture of aquatic life

Table II.2-3. Regions where the environment is already significantly compromised or is at high risk

Classification	Description
Areas not yet governed by environmental standards	Areas where environmental standards pertaining to atmospheric pollution, water pollution, land pollution, and noise are not maintained ・Environmental Standards for Air Pollution (Environment Agency Notification No. 25 of 1973) ・Environmental Standards for Nitrogen Dioxide (Environment Agency Notification No. 38 of 1978) ・Environmental Standards on Air Pollution Due to Benzene and Similar Substances (Environmental Agency Notification No. 4 of 1997) ・Environmental Standards on Air Pollution Due to Particulate Matter (Ministry of Environment Notification No. 33 of 2009) ・Environmental Standards on Noise (Environment Agency Notification No. 64 of 1998) ・Environmental Standards on Aircraft Noise (Environment Agency Notification No. 154 of 1973) ・Environmental Standards on Bullet Train Noise (Environment Agency Notification No. 46 of 1975) ・Environmental Standards on Water Pollution (Environment Agency Notification No. 59 of 1971) ・Environmental Standards on Underground Water Pollution (Environment Agency Notification No. 10 of 1997) ・Environmental Standards on Soil Pollution (Environment Agency Notification No. 46 of 1991)
Aras in excess of maximum permissible noise levels	Areas in excess of maximum request levels Article 17-1 of the Noise Regulation Act (Act No. 98 of 1968)
Aras in excess of maximum permissible vibration levels	Areas in excess of maximum request levels Article 16-1 of the Vibration Regulation Act (Act No. 64 of 1976)
Land subsidence areas	Areas where considerable land subsidence is occurring

(2) Interview experts and other relevant parties

Supplement study of existing references as needed by interviewing researchers and others well-versed in the regional environment. The interviews might be with university researchers, teachers of higher education, museum curators, local government officials (such those in the environmental administration or environmental impact assessment screening departments), nongovernment organizations involved in environmental conservation activities, local residents, and so on.

(3) Conduct on-site surveys or field investigations

Field investigations involve having technical experts with a certain amount of survey experience (they should be at the level of coordinators of the environmental impact assessment of leaders of working groups assigned to individual environmental components) going out to the site to check the local natural and social conditions. The purpose of this is not so much to obtain detailed survey results; the priority is to get an idea of regional characteristics that can't be grasped through documents and other references. When surveying, also make sure to be aware of the need to identify targets vulnerable to impacts under the project, such as facilities which require special consideration when it comes to environmental mitigation.

If nticipate selecting environmental impact assessment items during this stage, it should be possible to get a rough idea of the areas and sites that will be subject to surveys, forecasts, and evaluations during the field investigation.

Note that if project proponents cannot obtain sufficient information from existing references, or if the information they get is extremely dated, it is still possible to conduct on-site surveys to a certain extent during this stage with the purpose of getting the data they need to set up an appropriate environmental impact assessment action plan.

Table II.2-4 Examples of facilities likely to be vulnerable to impacts

Classification	Example facilities
Educational facilities	Nursery schools, kindergartens, elementary schools, junior high schools, high schools, universities, vocational schools, and other schools
Medical facilities	Hospitals, clinics offering residential services, long-term care facilities, etc.
Other public facilities	Libraries, foster homes, social services facilities, etc.
Parks	Children's playgrounds, city parks, etc.

2.2 Selecting environmental impact assessment items

2.2.1 Listing up environmental factors

Use the project characteristics to come up with a list of impact factors for the project.

- List up factors that could emit chemical or other harmful substances or damage or change the existing environment (1) during the construction work associated with the project, (2) due to the land or structures that will exist once construction is complete, and (3) while the project outputs are in service or use.
- It a portion of the project involves removing/scrapping structures in the target project implementation area, or if there are plans to remove/scrap structures as part of project activities (including when this is the goal of the project), impact factors related to this removal/scrappage need to be listed up as well.

Reference: Comparison with general projects (projects subject to legislation)

When selecting EIA items as well as survey, forecast, and evaluation methods for environmental impact assessments carried out according to the Environmental Impact Assessment Act, project proponents need to start by comparing the description of general projects stipulated in the ordinances of the competent ministry and compare them to the description of individual projects to identify the differences.

General projects as described in the competent ministry ordinances typically list reference items and methods as for each type of project as stipulated by the competent minister. Project proponents are to compare the details of their individual target projects with this general project description in order to determine the items and methods they should adopt, based on the reference items and methods given.

Note that the reference items are to be used simply as such (references) when selecting environmental impact assessment items; it is critical to give priority consideration to the actual project and regional characteristics.

Also note that whether or not project proponents end up adopting the reference items, they must clearly indicate the reason for the environmental impact assessment items selected in the Scoping Document.

2.2.2 *Listing up environmental components*

Use the regional characteristics in the project implementation area and the surrounding area to come up with a list of environmental components at risk for impacts due to changes in the environment.

- Project proponents do not need to look too closely at the relationship between environmental factors and environmental components at this stage, but they do need to look at environmental components while taking impact factors into consideration so that they do not end up selecting environmental components that have nothing to do with environmental factors for EIA items or failing to select environmental components for EIA items when there are relevant environmental factors at play.

2.2.3 *Selecting environmental assessment items*

Select environmental assessment items for the target project based on the relationship between the impact factors and environmental components.

- A matrix is useful for showing how impact factors and environmental components relate to one another without exception. An impact flowchart, on the other hand, can be used to look at how environmental components relate to one another, how impact factors and regional characteristics relate to other factors, and for identifying any secondary environmental impacts likely to arise. To avoid leaving out environmental impacts not sufficiently expressed in the matrix, prepare an impact association flowchart and use it to look more closely at the target impact factors and environmental components (see figure II.2-2).

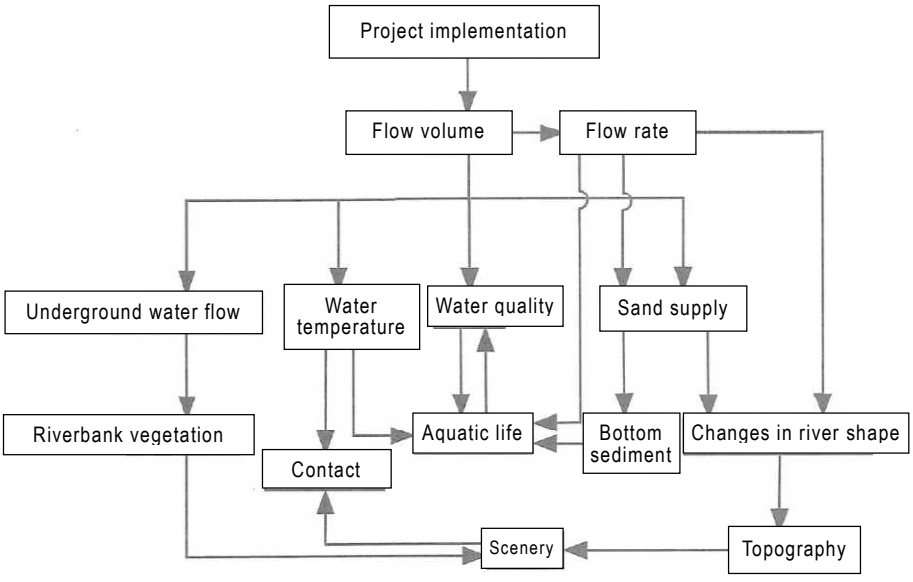


Figure II.2-3. Impact association flowchart (example)

- The environmental components “air quality”, “water quality”, and “soil quality and other environmental components” are closely linked to environmental “plants”, “animals” and “ecosystems” environmental components as well as the “places for activities with nature” component. For this reason, project proponents need to consider environmental components related to plants, animals, ecosystems, and places for activities with nature in the project implementation area and the surrounding environment when selecting environmental impact assessment items for air quality, water quality, and soil quality/other as well as when project proponents are looking into survey, forecast, and evaluation methods.
- Meanwhile, the information project proponents collect on components related to plants, animals, ecosystems, and places for activities with nature as it relates to air quality, water quality, and soil quality/other environmental components will also be useful for selecting the environmental impact assessment items related to these categories as well as looking into survey, forecast, and evaluation methods—so prior to conducting surveys, they need to sufficiently investigate the possibility of using the relationships among the different components and the information collected prior to the survey.
- For forecasting, the results from forecasts related to air quality, water quality, and soil/other can be used as basic forecast information for plants, animals, ecosystems, and places for activities with nature.
- The goal is to sufficiently consider the relationships among the different environmental components when selecting environmental impact assessment items and selecting survey, forecast, and evaluation methods. An impact flowchart investigation can make it easier to map out those relationships.
- If project proponents find that (1) project implementation will create no impact or extremely limited impact compared to general project descriptions, (2) the project implementation area or surrounding area is not one susceptible to impacts, (3) there will not be any other targets for a certain period of time, or (4) the level of impact is clear from similar case examples, they can consider not selectin environmental impact assessment items for the relevant environmental components. In that case, it will be necessary to provide information that explains the basis for the above decision under the “project description” and “general regional conditions” items in the Scoping Document and so on.

2.3 Selecting survey, forecast, and evaluation methods

2.3.1 Method investigation concepts

It is critical that the purpose of every task project proponents carry out as part of environmental impact assessment processes is well-defined so that associated surveys, forecasts, and evaluations can be conducted logically and effectively. Since surveys and forecasts are carried out for the purpose of evaluations, project proponents need to look into the methods they will use for each of the three processes in reverse of the order they will actually be carried out for the purpose of the EIA. This order of inquiry (evaluation methods, forecast methods, survey methods) is shown in figure II.2-4.

- If project proponents do not sufficiently look into surveys, forecasts, and evaluations beforehand, they

may end up conducting unnecessary surveys or have to do follow-up surveys to make up for shortcomings.

- As with selecting environmental impact assessment items, it is important to consider project and regional characteristics when selecting survey, forecast, and evaluation methods.

Points for consideration: When referring to survey, forecast, and evaluation methods used in similar case examples conducted nearby, it is a good idea to look at the final EIA documents (e.g. Environmental Impact Statements) produced during the project implementation stage. Keep in mind that the survey, forecast, and evaluation methods listed in the Scoping Document and the Document on Primary Environmental Impact Consideration may have ended up changing prior to actual implementation as a result of feedback and so on.

Points for consideration: Describing reasons for selecting survey, forecast, and evaluation methods

Project proponents should ideally provide specific details on why and how they arrived at the survey, forecast, and evaluation method selections.

・Lacking in specificity
"We used a dispersion simulation to select our forecast method."

・Ideal
"The project implementation area is located in a valley, and based on past air pollution status, we found that the inversion layer, especially in winter (February) caused atmospheric pollutants tend to reach high concentrations. Due to the amount and characteristics of the atmospheric pollutants generated by the project… Based on the status of the surrounding area and the project characteristics described above, we decided to adopt a XX forecast model with XX characteristics. For XX, where this model could not be applied, we adopted the XX model for forecasting in line with those conditions."

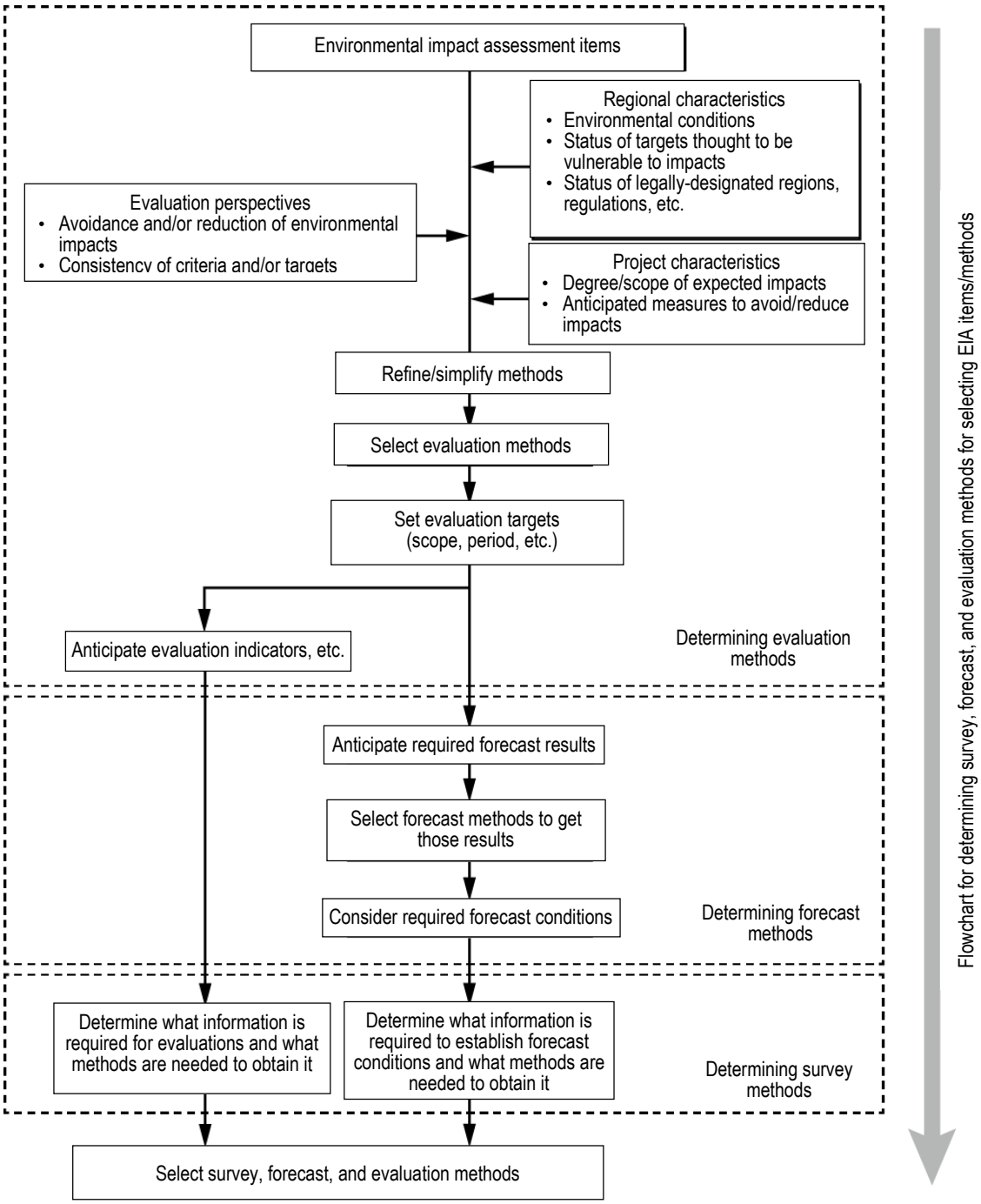


Figure II.2-4. Flowchart for determining survey, forecast, and evaluation methods

2.3.2 Refining and simplifying survey and forecast methods

As project proponents study the items selected as environmental impact assessment items ("selected items"), if they find that there is a chance that significant environmental impacts can be expected during the project planning stage, consider adopting survey/forecast methods that are more detailed than the reference methods (refining). On the other hand, if it becomes clear that environmental impacts will be minimal, for example, consider adopting survey/forecast methods that are simpler than the reference methods (simplifying).

Note that refining or simplifying survey/forecast methods does not only mean using more sophisticated or simpler methods in terms of technique, but also selecting more or less detailed survey/forecast sites and forecast conditions. The following are some examples of when refining or simplifying survey/forecast methods might be appropriate.

Examples of situations when using survey/forecast methods that are more detailed than the reference methods should be considered

- When it is determined from the forecast results in the Document on Primary Environmental Impact Consideration that forecasts will have a high degree of uncertainty
- When project characteristics indicate that there is a chance that environmental impacts will be significant
- When the region is vulnerable to environmental impacts or when there are vulnerable targets (see table II.2-1)
- When the region is legally-designated for environmental conservation or when there are legally-designated targets (see table II.2-2)
- When the regional environment is already significantly compromised or at high risk (see table II.2-3)
- When project or regional characteristics will likely make it difficult to conduct forecasts using general-purpose methods (e.g. reference methods) from a technical standpoint
- When local governments or project proponents have specific priorities when it comes to environmental conservation

Examples of situations when using survey/forecast methods that are simpler than the reference methods should be considered

- When it becomes clear from the forecast results in the Document on Primary Environmental Impact Consideration that environmental impacts will be minimal
- When there are not expected to be any regions subject to environmental impact or any targets for a certain period of time
- When it becomes clear from similar case examples that environmental impacts will be minimal

3. Surveys

3.1 Survey concepts

The purpose of surveys is to collect information that was not clear when surveys were done to identify regional characteristics during the procedures for the Document on Primary Environmental Impact Consideration and the Scoping Document (when collecting and organizing existing documentation, on-site investigations and field studies, etc.). They allow project proponents to understand the current status of the survey area in detail while also providing the information needed for forecasting and evaluations.

A variety of databases that can be utilized for environmental impact assessments have been set up and maintained in recent years. It is hoped that the use of these databases will improve the quality and efficiency of environmental impact assessments.

Reference: Databases that can be used for environmental impact assessments

■ Kankyo Tenbodai (Environmental GIS)
The Kankyo Tenbodai ("Environmental Observation Tower") service uses the Geographic Information System (GIS) to provide information on environmental conditions within Japan. It has information on measurement sites, measurement results, regulated areas, category designations, and so on—primarily on topics related to living environments (such as results from regular air pollution monitoring, water quality measurements from public bodies of water, and results from regular auto noise monitoring).

■ Japan's Integrated Biodiversity Information System (J-IBIS)
Japan's Integrated Biodiversity Information System collects and widely distributes a variety of information on biodiversity and natural environments in Japan. In addition to results from the National Survey on the Natural Environment (the "Green Census") and information on endangered species, the J-IBIS also has a search function (which it calls the "biodiversity information clearinghouse mechanism") that allows project proponents to find biodiversity-related data information sources across a wide range of sites run by universities, museums, researchers, and a variety of other groups and individuals. It also uses the Geographic Information System (GIS) to provide results from the Natural Survey on the Basic Environment, which includes surveys on plants, lakes and rivers, coastlines, marine areas (marine forests, tidelands, and coral reefs), national park boundaries, and more.

■ Monitoring Site 1000
This site collects ongoing data such as changes in the number of individuals in certain species (an ecosystem indicator) in around a thousand survey areas, including forests, tidelands, coral reefs, and various other ecosystems. Reports providing the results of these surveys are available for viewing and download.

■ Ikimono Log
The Ikimono Log ("Log of Living Things") is a system that records and shares distribution information for living things throughout Japan. In addition to listing information logged by the Ministry of the Environment, it allows regional research institutes, researchers, and everyday citizens to record and view information as well. Information on endangered species is not normally available, but if project proponents are using it for the environmental impact assessment, for example, project proponents can contact the Biodiversity Center of Japan, which will release it under certain conditions.

■ Basic Environmental Information Database for Environmental Assessments
The Basic Environmental Information Database for Environmental Assessments was set up for the purpose of increasing the quality and efficiency of environmental assessments. It uses the Geographic Information System (GIS) to provide the results of environmental surveys conducted in information management pilot districts across Japan as well as data on natural and social conditions—which can be used to identify regional characteristics.

Points for consideration: Utilizing results of environmental monitoring and other activities conducted by previous project proponents

The data from surveys, environmental monitoring, and similar activities conducted by other project proponents prior to implementing the environmental impact assessment for the target project can be utilized for their EIA as well, once its objectivity and validity has been confirmed via expert interviews and similar checks.

3.2 Survey methods

3.2.1 Selecting survey items

Survey items should be selected (1) to supplement insufficient information on conditions related to environmental components selected as environmental impact assessment items from surveys conducted to understand regional characteristics and (2) because they are necessary to conduct forecasts and evaluations.

3.2.2 Survey method concepts

As mentioned earlier, survey methods need to be considered using the following order of inquiry: evaluation methods forecast methods, survey methods. This is because the forecast and survey targets will change based on target periods and timeframes for forecasts and evaluations as well as the anticipated environmental impacts; these factors will also in large part determine which forecast methods and survey methods selected. Project proponents therefore need to look at which forecast methods are appropriate for the regional characteristics (e.g. topographical and climate conditions) after defined evaluation targets. Once that is done, project proponents can then look into the survey methods project proponents need to perform those forecasts.

3.2.3 Survey area/site concepts

The Basic Matters include the following stipulations on the range of the area and sites targeted for surveys (the "survey area" and "survey sites", respectively).

B. Survey area
By taking into consideration the characteristics of information subject to survey as well as the project characteristics and regional characteristics, the area which includes the range in which the condition of its environment will be changed to some extent by the implementation of the target project, or the area in which the condition of its environment will be directly modified and its surroundings, etc. shall be defined as the survey area.
C. Survey sites
In defining survey sites within the survey area, representative sites of the area and other sites which are appropriate and effective in information gathering shall be defined as the survey sites, based on details of information to be comprehended in accordance with the characteristics of the selected items and the condition of the objects which are likely to be seriously impacted.
(Basic Matters Section 4-5(1): Basic Matters concerning the Guidelines for the Selection of the Items for Environmental Impact Assessment etc.)

1) Survey area

Survey areas are naturally determined in accordance with environmental component characteristics, but the impact factors selected as environmental impact assessment items need to be taken into account as well—even when environmental components are the same. For example, if the operation of

construction equipment will impact air quality, include areas along major transportation routes in the survey area; if gas emissions form a thermal power plant will impact air quality, use the dispersal area of the gases emitted from the smokestacks as the survey area. On the other hand, if there are environmental impact assessment items that are expected to have a strong relationship to one another, coordinate those survey areas in advance according to the evaluation methods used for each item to make survey more efficient.

Note that if project proponents are using the survey results obtained during procedures for the Document on Primary Environmental Impact, keep in mind that their concepts for determining the target survey area may change as project plans become more complete during later stages of the process (after procedures for the Document on Primary Environmental Impact and Scoping Document are complete).

Points for consideration: Addressing the areas surrounding the target project implementation area under provisions for "minor modifications"

The Cabinet Order for Enforcement of the Environmental Impact Assessment Act stipulates project specification elements and modification conditions for "minor modifications" (articles 13, 18, 26, and 27) in each project category in its appended tables 2 and 3.

Depending on the type of project, specification elements may include the "location of the target project implementation area" with the condition that "an area located XXX meters or more (the exact distance depends on the individual project category) away from the target project implementation area prior to revision will not be included in a new target project implementation area".

This provision naturally applies to changes in construction plans set to take place within the target project implementation area, but may change the location of the project itself in the surrounding area up to XXX meters away—meaning that areas located up to XXX meters away are at risk for sustaining the same environmental impacts as the project implementation area. For this reason, consider carrying out equivalent surveys to those conducted on the project implementation area up to XXX meters away in order to ensure that these areas are sufficiently addressed even if project plans change; project proponents can anticipate having to establish a survey area that includes the surrounding area up to a XXX-meter radius.

Note that even project types that do not list the "site of the target project implementation area" as part of their specification elements may include similar provisions, so attention must be paid to these as well.

2) Survey sites

The following sites are among those that are important to keep in mind when selecting survey sites.

- Sites that are representative of the region
- Sites that allow project proponents to properly understand survey targets
- Sites at risk for particularly major impacts
- Sites that include targets requiring particularly careful consideration of environmental conservation
- Sites where environmental conditions are already significantly compromised
- Sites where pollution or other environmental harm is already advancing

Note that if project proponents are using the results of surveys on regional characteristics from existing documentation in forecasts, it is important to look at how well the existing measurement sites represent target area and clearly indicate the results of inquiry.

3.2.4 Survey period and timing concepts

The Basic Matters define survey period and timing as follows.

> *D. Period and timing of surveys*
> *In defining the period and timing of survey, an appropriate and effective period and timing of the survey shall be defined based on the details of information to be comprehended in accordance with the characteristics of the selected items, meteorological and hydrospheric characteristics of the region, and social circumstances, etc. In this case, concerning the survey objects whose seasonal fluctuation must be comprehended, survey period necessary to appropriately comprehend such fluctuation shall be ensured, and as for a year-round survey, it shall be launched as necessary from the time when less fluctuation in observation results is expected.*
> *In addition, in the cases where a long-term observation result is available and field study will be conducted, the said observation result and the results obtained from the field study shall be compared.*
> (Basic Matters Section 4-5(1): Basic Matters concerning the Guidelines for the Selection of the Items for Environmental Impact Assessment etc.)

- The period and timing of surveys need to be determined while considering fluctuations in the natural environment, in human activity, and so on. If project proponents are conducting a year-round survey, for example, they need to set a survey period that is not impacted by abnormal seasonal phenomena that only occur during certain years.
- Also make sure to sufficiently consider the fact that the required survey period and timing may change depending on the evaluation targets project proponents select (average values, maximum values, etc.).

Points for consideration: When to initiate year-round surveys

If project proponents are studying the number of people that use a park famous for cherry blossoms over the course of a year and use the Japanese fiscal year (which starts April 1) as their survey period, project proponents may not get an accurate grasp of the number of annual users depending on how early or late the cherries bloomed each season. In situations like these, where survey results depend heavily on when the survey period starts, project proponents need to set yearlong period in such a way that the survey begins during a time of year where there is relatively little fluctuation in the data.

4. Forecasts

4.1 Forecast concepts

Forecasts use a variety of methods (including numerical modeling, experiments, excerpts or analyses from case examples, and so on) to understand changes in environmental conditions and/or environmental loads in the target region so that the degree of environmental impact resulting from project implementation can be properly evaluated.

Note that project proponents may be able to utilizes forecast results from the Document on Primary Environmental Impact Consideration when needed in cases where relatively detailed forecasts were conducted during those document procedures.

- As project proponents are making inquiries in the proper order (evaluation methods, forecast methods, survey methods), the stage where they carry out forecasts is also the stage where project proponents will

further specify the forecasting methods. Remember, however, that project proponents must work to attain the latest insights on forecasts and evaluations as well as reconsider survey results. This means that there may be cases where project proponents will have to revise the forecast and/or evaluation methods that originally anticipated using.

- When selecting forecast methods, project proponents essentially want to pick the method that will allow them to get the most accurate quantitative results based on the insights project proponents have at the time. Keep in mind, however, that forecasts are always subject to error, and that there may uncertainties arising from the forecast methods or conditions project proponents use.
- Project proponents may be able to reduce error by verifying the accuracy of the data they are using for the forecasts or by conducting a sensitivity analysis on parameters. Forecast uncertainty, however, is something project proponents will need to consider when implementing environmental mitigation measures and follow-up surveys as well as during evaluations.
- Note that if project proponents want to help minimize the uncertainty of future forecasts, it is important to continue collecting and analyzing insights that come out of research on forecast methods and conditions as well as those from the results of follow-up surveys and environmental mitigation measures.

4.2 Forecast methods

4.2.1 Forecast method concepts

The forecasting methods project proponents use must take into account the characteristics of environmental components themselves as well as project and regional characteristics while upholding the required standards for evaluations related to the selected items.

- If project proponents are using forecasting models to run calculations that replicate current conditions, for example, they should make sure that they are maintaining the required standards for evaluation by checking thy calculated and observed values. If project proponents are using excerpts or analyses from similar case examples, they need to list up the similarities and differences to the target project in order to clearly demonstrate that the case is similar enough to be suitable.
- When it comes to current conditions, there may be environmental components without established forecasting methods—which means that project proponents may need to refer to scientific papers or forecast methods from overseas in order to understand the latest insights. Note that if project proponents are referring to overseas methods, remember that they may have been developed based on climatological or topographical features, for example, that are different than those in the country they are working in.

1) Forecast conditions: concepts

Forecasting things like air and water quality means tracking the behavior of pollutants under certain environmental conditions. In cases like these, project proponents will need to establish the environmental conditions they will use as a baseline. When establishing environmental conditions, project proponents may use maximum impact or average impact conditions—but in either case, they need to consider any fluctuations that may occur in the baseline environmental conditions and the range

of those fluctuations. Also keep in mind that average conditions are not necessarily equivalent to average environmental impact.

Points for consideration: Establishing future environmental conditions

When forecasting, project proponents will establish future environmental conditions based on the forecast target period. The forecast results then need to clearly separate those future environmental conditions from changes in environmental conditions arising from the target project in order to clearly indicate the degree of impact that the target project will have.

Organize the basic items so that it is clear what the future environmental conditions in the region will be as a result of business and other activities unrelated to the target project (background conditions), and then consider this as project proponents make their forecast. If there is some logical reason that makes it difficult to estimate future environmental conditions (e.g. lack of availability of current scientific standards and information), it is possible to use the current environmental conditions instead, but even in this case, project proponents should at least identify qualitatively what the future trends will be; in other words, whether conditions are likely to improve or decline.

Reference: Adaptation to climate change

The Intergovernmental Panel on Climate Change has approved and published its Fifth Assessment Report, a compilation of the latest scientific insights collected over 2013 and 2014 that includes findings from three reports: *The Physical Science Basis*, *Impacts, Adaptation, and Vulnerability,* and *Mitigation of Climate Change*.

The Fifth Assessment Report indicates that there is no doubt as to the warming of climate systems and that there is an extremely high possibility that human impacts are the predominant factor driving this warming in recent years. It also states that climate change has spread to every ocean and continent, impacting both natural systems and human societies. It also predicts that no matter what scenario we adopt for our future greenhouse gas emissions volume, average global temperatures will rise and the threat of climate change impacts will increase towards the end of the 21st century.

Measures to address climate change can be roughly divided into two categories. The first category is mitigation, which includes measures designed to curb emissions of the greenhouse gases that cause global warming in order to stop the progress of climate change. The second category is adaptation, which includes measures that adjust how natural environments or societies respond to the impacts that are either already happening or have the potential to happen. According to the IPCC, “mitigation and adaptation are complementary approaches for reducing risks of climate change impacts”, and must therefore be considered as two sides of the same coin.

Japan is also experiencing higher temperatures, more frequent heavy rains, fewer precipitation days, and rising sea surface temperatures, and the impact of these aspects of climate change are already manifesting as lower-quality crops due to higher temperatures, a deterioration or redistribution of plant life in alpine and subalpine zones, coral bleaching in subtropical areas due to higher ocean temperatures, plants blooming earlier in the year, and more. And as temperatures continue to rise, heavy rains become more frequent, precipitation days become fewer, sea surface temperatures continue to rise, rainfall amounts from storms increase, maximum intensity of typhoons increase, and ocean levels rise in the future, we are likely to see diverse impacts in a wide range of areas—from agriculture, forestry, and fisheries to aquatic environments, water resources, natural ecosystems, natural disasters, and human health.

Research and initiatives on adaptation to climate change are underway on a global scale. In Japan, the entire government came together in November 2015 to issue a Cabinet decision on the National Plan for Adaptation to the Impacts of Climate Change as a governmentwide coordination efforts to systematically and comprehensively promote initiatives to address a variety of climate change impacts. Going forward, it is expected that the government will continue to collect insights and make adaptation a priority in its plans. Finally, as research and technological development related to the impacts that climate change has on biodiversity, aquatic environments, water resources, and so on as well as to planning and implementation methods for adaptation measures progresses, and as related insights and case examples are collected, climate

change impacts will need to be considered as part of environmental impact assessments.

2) Forecast uncertainty

When selecting forecast methods for environmental impact assessments, project proponents essentially want to pick the method that will allow them to get the most accurate quantitative results based on the insights project proponents have at the time. Keep in mind, however, that forecasts are always subject to error and uncertainty.

Forecast uncertainty comes from measurement errors when attempting to understand the current status of and fluctuations in the natural and human factors used as a baseline for project proponents forecasts as well as from the limits, parameters, basic units, and other features inherent to the forecast model itself.

- These forecast uncertainties exist at many different levels, so consider how they will impact the forecast results, describe the extent of the uncertainty when recording those results, and avoid getting stuck on individual forecast conditions—have the flexibility to use strategies like including results from multiple forecast conditions. Project proponents must sufficiently verify both the validity and uncertainty level of their forecast conditions, especially when project proponents are working with conditions that themselves include estimates (such as traffic volume, for example).

Points for consideration: Forecast uncertainty

・Forecasting involves error and uncertainty

Forecast targets like pollutant concentration, climate conditions that involve forecasts, or traffic volume conditions are things that change moment to moment. Most of the time their fluctuations can be accurately understood, but they also demonstrate abnormal fluctuations when viewed over the longer term.

In addition to the forecast uncertainties that probabilistic fluctuations and abnormalities bring, there are assumptions about the natural and social fluctuations that largely drive future-oriented trends. These should be treated as phenomena that cannot be assumed to be known when conducting forecasts, and therefore represent another form of forecast uncertainty.

When it comes to the forecast methods, make sure project proponents understand the characteristics of the phenomena they are subjecting to forecasts (whether they are localized or occur across a wide area, whether the exposure is short- or long-term, etc.), which are essentially based on project characteristics and regional characteristics. Also make sure that project proponents are fully aware of the uncertainty inherent in their parameters and in the scope of application of methods, understanding that there will be a great degree of uncertainty in the forecast results if project proponents deviate from those applications.

・Measures to address forecast error and uncertainty

○ Fluctuations in phenomena
Be aware that probabilistic fluctuations introduce error into forecasts. When it comes to abnormal fluctuations, project proponents can verify whether something is occurring during an abnormal year, for example, or conduct a null hypothesis test to estimate abnormal values brought by fluctuations.

○Forecast methods
Use forecast methods and basic units whose accuracy level is well-understood as a result of data collection,

accumulated insights, experimental verification, and similar means. In many cases, regular improvements are made as researchers gain more insight into these methods, so make sure project proponents are aware of these technical trends and select forecast methods and basic units that maintain the necessary standards project proponents need to conduct evaluations on their selected items.

If there are technical issues such as the uncertainty inherent in forecast model parameters or the suitability of the application scope, do not get stuck on a single result derived from a single forecast condition. Instead, have the flexibility to address the issue by including results derived from multiple forecast conditions, for example. Note that in some cases comparative research has been conducted on different forecast models, so including excerpts from these studies can be an effective strategy as well.

○ Baseline forecast conditions
Setting up multiple scenarios and running forecasts for each can be an effective strategy for forecast conditions that are greatly affected by future social conditions (such as road development plans, for example). If project proponents are dealing with future traffic volume, for example, they could conduct forecasts for both maximum-level and minimum-level scenarios.

4.2.2 Forecast area/site concepts

The Basic Matters include the following stipulations on the range of the area and sites targeted for forecasts (the “forecast area” and “forecast sites”, respectively).

B. Forecast area
The range of the area subject to forecast (hereinafter referred to as the "forecast area") shall be appropriately defined out of the survey areas according to each selected item by duly considering the project characteristics and regional characteristics.
C. Forecast sites
Forecast sites within the forecast area shall be set from sites such as representative sites of the area, sites which are highly likely to be affected, sites suitable to accurate comprehension of possible impact on objects etc. to be protected, in accordance with the characteristics of the selected items and the condition of the objects to be protected, geographical, meteorological, and hydrospheric characteristics, etc.
(Basic Matters Section 4-5(2): Basic Matters concerning the Guidelines for the Selection of the Items for Environmental Impact Assessment etc.)

1) Forecast area

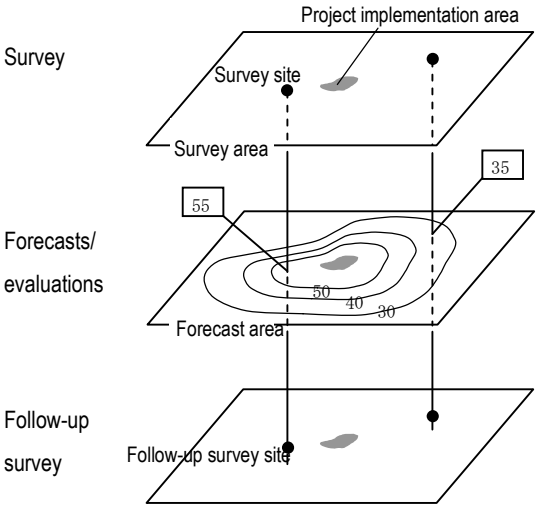
Forecast areas typically include the range in which environmental conditions will change by a certain minimum amount as a result of project implementation. This range will vary depending on the size and type of project, and must also be appropriately determined while taking into account forecast uncertainty and regional characteristics.

Note that project proponents may be able to refer to the concepts they used to determine the survey area and set the the same range for the forecast area, but if after considering the way project proponents plan to conduct their evaluations based on the forecast results project proponents find that it is not necessary to make the entire survey area the forecast area, they do not necessarily have to match.

2) Forecast sites

If fixed-point evaluations are unnecessary, project proponents do not necessarily need to establish forecast sites. However, if there are sites that are at particular risk for major impacts or if there are sites

that include targets requiring particularly careful consideration of environmental conservation, project proponents may want to define them as forecast sites. Ideally, project proponents will also consider the sites where they anticipate conducting follow-up surveys and monitoring surveys when establishing forecast sites.



Conduct on-site investigations and field studies to determine regional environmental conditions. Include among your survey sites those at risk for particularly major impacts, sites that include targets requiring particularly careful consideration of environmental conservation, and sites designated in laws and regulations

Conduct forecasts for the forecast area. Project proponents should ideally indicate specific forecast results in their evaluation (such as sites with conservation targets or legally-designated sites), even if their forecasts are area-wide.
→In this case, it is best to select sites while considering the follow-up survey and monitoring surveys as well.

Conduct follow-up/monitoring surveys.
→ Ideally, you should select sites based on your evaluation results and/or the purpose of your follow-up/monitoring surveys so that you can conduct follow-up surveys that compare survey and forecast results, for example.

Figure II.4-1. Determining forecast sites in consideration of follow-up surveys

4.2.3 Forecast period concepts

The Basic Matters define the period subject to forecast as follows.

D. Period subject to forecast
The period subject to forecast shall be defined, by duly considering the project characteristics, meteorological and hydrospheric characteristics of the region, and social condition etc., in terms of the time when steady state is maintained or the environmental impact is at its maximum once the service begins (limited to when defining such period is possible), or the time when the environmental impact is at its maximum during the construction, etc., so as to accurately comprehend the environmental impact for each of the selected items.
In addition, in cases where it takes an extended period from the time of putting lands etc. into service upon the completion of construction to the achievement of steady state or where the preconditions of forecast significantly vary within the forecast period, or where lands etc. are scheduled to be put into use before the completion of the construction relating to the target project, a midterm forecast shall be conducted as necessary.
(Basic Matters Section 4-5(2): Basic Matters concerning the Guidelines for the Selection of the Items for Environmental Impact Assessment etc.)

1) During construction

The forecast period during construction is defined as the period during which impacts on the environment due to construction work are greatest. Look at factors like changes in construction volume and in the construction area over time across the entire span of the construction plan (see figure II.42(A)). Note that in cases where the construction period is extremely long or where forecast conditions are likely to fluctuate (because traffic routes for construction vehicles will change during the course of construction, for example), project proponents should consider conducting intermediate forecasts during the construction period as well.

2) After being put into service

The forecast period after the project is put into service is defined as the period when facility operation or

traffic flow has reached a steady state (see figure II.4-2(A)). In cases where there will be a long period of time before the post-service steady state is reached, or where significant fluctuations are expected in forecast preconditions leading up to the steady state (traffic will be temporarily limited to two lanes, for example), project proponents should consider setting a target period for intermediate forecasts as well (see figure II.4-2(D)).

3) Other times

If the project calls for construction in phases, project proponents can anticipate that the start of the service period will overlap the construction period (figure II.4-2(B)). In cases like these, consider adding impact factors due to service to impact factors due to construction during the forecast period for construction (e.g. equivalent traffic volume that considers both large and small vehicles as basic units), and use the point in time where project proponents anticipate that environmental impacts will be at their maximum. Also note that in cases where project proponents anticipate the new emergence of targets requiring particular consideration during the construction period to project proponents should set a forecast period that takes into account the period during which those targets will be a factor when necessary (see figure II.4-2(C)).

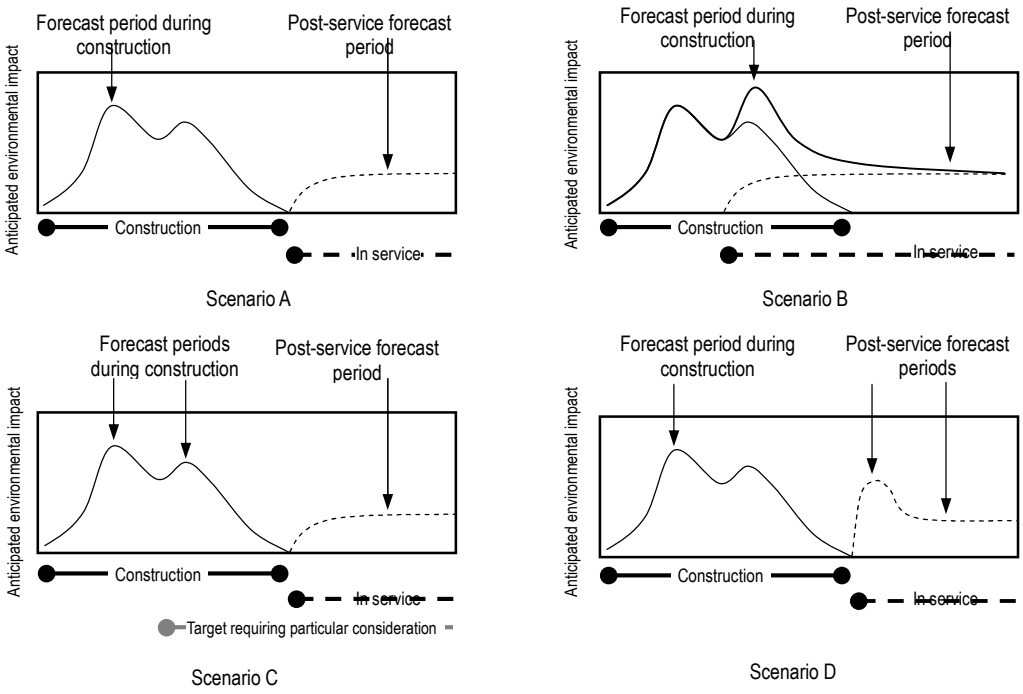


Figure II.4-2. Forecast period concepts

5. Environmental mitigation measures

The Basic Matters define environmental mitigation measures as follows.

> *Environmental mitigation measures shall be considered by the project proponent, within the practicable bounds, regarding the environmental impact on the environmental components relating to the selected items likely to be caused by the implementation of the target project, with the purpose of avoiding or reducing the said impact or satisfying the environmental mitigation standards or targets relating to the said impact.*
> (Basic Matters Section 5-1(2): Basic Matters concerning the Guidelines for Environmental Mitigation Measures)

5.1 Concepts

Environmental mitigation measures are considered by project proponents during the process of surveys, forecasts, and evaluations for the purpose of avoiding or reducing the impact of implementing the target project within a feasible scope. Because environmental mitigation measures are designed to build proper environmental consideration into project plans, they are a critical part of the environmental impact assessment process and must be considered and structured in as much detail as possible throughout the course of project planning—particularly in light of their content, effects, and suitability.

Note also that when considering environmental mitigation measures during the project implementation stage, it is important to specify the effects of avoiding or reducing severe environmental impacts while looking at multiple proposals during the planning stage and to indicate the environmental impact avoidance/reduction effects through the entire series of project planning considerations.

- When looking at environmental mitigation measures, project proponents need to consider whether there are areas or targets that are vulnerable to environmental impacts based on the impact factors of the target project, whether there are areas or targets legally designated from an environmental conservation perspective, or whether there are regions where the level of adverse environmental impact is already significant or that are at high risk for adverse impacts.
- In addition, while environmental mitigation measures include a broad range of approaches (from measures to avoid environmental impacts to compensation measures when impacts cannot be avoided), make sure to prioritize impact avoidance and/or impact reduction when devising environmental mitigation measures, considering compensation measures as needed only when project proponents have reached the limit of those avoidance and reduction efforts.
- Note that avoidance, reduction, and compensation are defined as follows in this document.

  Avoiding impacts: Avoiding impacts involves not taking actions (project actions that constitute impact factors) in whole or in part in order to avoid impacts (prevent them from occurring). It could also mean keeping impact factors away from environmental components forecast to undergo severe impacts and thereby preventing those impacts from occurring. In other words, these are measures that prevent impact factors or the resulting impacts from materializing.

  Examples: Suspending the project, modifying the project (e.g. changes to project details so that impact

factors do not occur), changing project implementation area or routes

Reducing impacts: Reducing impacts includes environmental mitigation measures that minimize, correct, or lessen/eliminate. Minimizing means limiting the extend or scope of project actions to make impacts as small as possible. Correcting means repairing, restoring, or recovering the environment subjected to impacts in order to fix the damage. Lessening/eliminating means taking steps to protect or steadily manage the environment during the period when actions are being taken in order to lessen or eliminate impacts. In short, impact reduction measures use some method to keep the materialization of impact factors and/or impacts to a minimum or to correct any impacts that may have occurred.

Examples: Changing the construction process, modifying facility structures, erecting soundproofing walls

Compensating for impacts: Compensating for impacts means adding value back into environmental components from an environmental conservation perspective to make up for what was lost. It involves creating similar environmental components to those that are compromised by the project. In short, compensation measures create new places or functions that offer value to compensate for environments that are lost or impacted so that the overall negative impact is mitigated.

- Note that it is difficult to strictly classify whether the environmental mitigation measures actually implemented had the effect of avoiding or reducing environmental impacts. Take altering construction vehicle routes as an example. If we consider residential areas as targets requiring protection, impacts could either be considered either reduced or avoided depending on the extent of the detours implemented.
- The concepts of avoidance and reduction vary depending on the perspective and to what degree environmental impacts are seen as having been reduced. For this reason, the important thing is not deciding whether or not the environmental mitigation measures project proponents take are avoidance measures or reduction measures, but instead finding ways to reduce environmental impacts as much as possible.
- Also note that if the project will affect environmental quality (e.g. involves air or water pollution) taking a compensation approach and creating a similar environment is rarely feasible. In these cases, finding ways to avoid or reduce environmental impact as project proponents consider environmental mitigation measures is critical.
- Finally, note that measures classified as “indemnifications” under the Environmental Impact Assessment Act are not considered environmental mitigation measures.

5.2 Consideration procedures

5.2.1 Environmental impact assessment guidelines

When considering an approach to environmental mitigation measures, project proponents should do so while looking at impacts to other environmental components as well, based on the project characteristics and regional characteristics associated with each component (for example, the positional relationships between the project implementation area and particularly important targets in terms of environmental consideration). Do

this while taking into account the effects of avoiding or reducing severe environmental impacts while looking at multiple proposals during the planning stage as well.

5.2.2 *Environmental mitigation measures in line with the maturity of project plans*

When considering environmental mitigation measures, inquiry needs to be in line with the maturity of the project plan. Difficulties frequently arise if project proponents attempt to find the right environmental mitigation measures for a plan that is nearly finalized already. Project proponents should therefore outline their approach to environmental mitigation measures while the project is still in the planning stages and then hammer out the specifics (details and methods) as the plan matures. This will allow project proponents to implement the proper measures.

Note also that when considering environmental mitigation measures during the project implementation stage, it is important to specify the effects of avoiding or reducing severe environmental impacts (considerations made while looking at multiple proposals as well as indicate the environmental impact avoidance/reduction effects through the entire series of planning considerations.

Points for consideration

What happens if project proponentsr project plans change after the Environmental Impact Statement has been released? If the details of the change reduce the scope of the project or results in negligible changes as stipulated under the various environmental impact assessment frameworks, there is no need to go through the environmental impact assessment process again. However, even changes that are negligible in scope may increase environmental impacts on certain environmental components compared to the previous project plan. There may also be changes in regional characteristics, such as when the environmental status of the target project implementation area and its surrounding area changes while the environmental impact assessment is being implemented.

Therefore, when finalizing project plans, take the time to once again ensure that project proponents have gone through the proper considerations regarding environmental conservation with the project, based on a thorough review of their approach to conservation throughout all stages of the environmental impact assessment process. This includes the details of the investigation into avoiding or reducing severe environmental impacts while looking at multiple proposals during the planning stage, the degree of environmental impact identified during Draft Environmental Impact Statement and Environmental Impact Statement procedures, and details of the process of hammering out specific environmental mitigation measures.

5.2.3 *Considering multiple proposals and tracking the investigation process*

Considering environmental mitigation measures involves comparing multiple proposals in terms of their implementation effects and feasibility as well as whether there are superior technologies that might be feasibly incorporated. In practice, project proponents need to repeatedly carry out forecasts and evaluations as they prioritize the selection of the most feasible environmental mitigation measures that will more efficiently avoid/reduce the environmental impacts due to project implementation.

When project proponents are looking to incorporate superior technologies within the scope of feasibility, note that even if project proponents have gotten a satisfactory result in terms of standards or targets resulting from environmental mitigation measures they chose for a certain reason, there is no guarantee that those results

are ideal from an effectiveness or feasibility standpoint. Therefore, it is important to compare multiple environmental mitigation measures and decide, for example, whether project proponents want to adopt measures that they expect to be more effective (even if they are somewhat low in feasibility) or adopt those whose feasibility project proponents can be sure of even if they are somewhat less effective. The Environmental Impact Assessment Act clearly outlines this process of comparing multiple proposals, so project proponents are required to be as specific as possible in describing their investigation process and results in the Draft Environmental Impact Statement and the Environmental Impact Statement.

- Note that environmental mitigation measures are carried out within a scope that is feasible for project proponents. If they are deemed sufficiently practical in terms of technology, cost, feasibility, and specificity, there is a chance that the results of the inquiry into environmental mitigation measures may end up changing the project plans (e.g. distribution plans or construction methods). If project proponents need to make major changes to their project plans for the purpose of reducing environmental load, it is important to clearly outline the evolution of consideration of environmental mitigation measures over time and organize it so that it is easy for residents and other stakeholders to understand.

5.2.4 Checking for impacts on other environmental components and impacts that will remain even after measures are implemented

Project proponents also need to evaluate any negative impacts on other environmental components as a result of implementing environmental mitigation measures and objectively list, wherever possible, the extent of (including the degree of uncertainty associated with) any remaining environmental impacts even after mitigation measures are carried out.

- When implementing environmental mitigation measures, there is a possibility that project proponents may introduce new environmental impacts to environmental components other than the ones project proponents are addressing—even if project proponents have sufficiently tackled the target component (this may happen, for example, if a soundproofing wall erected as a countermeasure against noise ends up blocking sunlight). In this case, make sure that project proponents sufficiently consider the extent of the new environmental impacts project proponents are causing and take additional mitigation measures as needed or appropriate steps to correct the impacts.

5.3 Verification of the adequacy of environmental mitigation measures

The Basic Matters stipulate the following when it comes to verifying the adequacy of environmental mitigation measures.

> *In considering environmental conservation measures, adequacy of the environmental mitigation measures which are being considered for adoption shall be verified through means such as comparative examination of multiple proposals concerning environmental mitigation measures and examination of whether a feasible and better technology is employed etc., and the proceedings of these examinations shall be compiled for clarification. In this case, if the said examination is conducted on a step-by-step basis, specific contents of environmental*

mitigation measures shall be compiled for clarification for each step of examination. In addition, in cases where multiple plans concerning location etc. have been compared, the details of the process of decision-making on the location etc. relating to the target project from multiple plans shall be compiled so as to clarify how environmental impact is avoided or reduced in the course of such decision-making.
(Basic Matters Section 5-2(5): Basic Matters concerning the Guidelines for Environmental Mitigation Measures)

- Verifying the adequacy of environmental mitigation measures basically involves comparing multiple proposals and looking into whether feasible and better technologies are being employed. These considerations involve several perspectives, including how effective the measures are at avoiding/reducing impacts, uncertainty level, and the potential for impacts affecting other environmental components.
- Comparing multiple proposals means first looking at how well the different environmental mitigation measures address the forecasted environmental impacts. For each measure, consider factors like effectiveness, level of uncertainty, and impact on other environmental components. Compare the results and the adopt the environmental mitigation measures deemed to have the proper and sufficient effects.
- In determining whether feasible and better technologies are being employed, it is necessary to objectively indicate the effects of the environmental mitigation measures as far as possible. This is done by referencing the latest research outcomes and similar case examples, taking direction from experts, and in some cases conducting preliminary experiments. If project proponents decide in the course of doing so that the effects of the environmental mitigation measures they have decided to adopt are unreliable or uncertain, they need to also make the level of that uncertainty clear.
- Project proponents must use the results of the above examinations of adequacy to decide whether to adopt environmental mitigation measures. The Environmental Impact Assessment Act stipulates that details on the process and results of decision-making be included with as much specificity as possible in the Draft Environmental Impact Statement and the Environmental Impact Statement so that the results of these examinations are clear during the evaluation process.
- Note that if project proponents plan to adopt environmental mitigation measures that lack established technologies or without sufficient insight as to their effects, project proponents will need to carry out their project while confirming the effects of whatever measures project proponents adopt during follow-up surveys.
- Note also that if project proponents adopt environmental mitigation measures without sufficient insight, project proponents must consider the possibility that they will affect other environmental components and look into implementing a relevant follow-up survey as needed.

5.4 Determination of the necessity of a follow-up survey

Follow-up surveys are designed to compensate for forecast uncertainties and other limitations of the environmental impact assessment. The Basic Matters outline consideration of the necessity of follow-up surveys as follows.

In the case where forecast uncertainty relating to the selected items is significant, or where environmental mitigation measures whose effect is not sufficiently confirmed by expert knowledge are being taken, or where

the contents of environmental conservation measures will be made more detailed during construction or after the launch of the service, then, according to the degree of seriousness of environmental impact, and in the case where compensating measures will be taken, then based on the degree of uncertainty of the effect expected from the said compensating measures as well as the degree of sufficiency of expert knowledge concerning the said compensating measures and according to the seriousness of environmental impact caused by the said project, necessity of a survey to comprehend the environmental condition etc. during construction or after the service begins (hereinafter referred to as "follow-up survey") shall be considered. At the same time, the intention shall be made known to publish the items for the follow-up survey and details of its method, the results of the follow-up survey and a policy regarding measures to be taken when the seriousness of environmental impact becomes apparent by the results of the follow-up survey.
(Basic Matters Section 5-2(6): Basic Matters concerning the Guidelines for Environmental Mitigation Measures)

- When selecting a forecast method for environmental impact assessments, project proponents should use one whose degree of accuracy project proponents sufficiently understand and ideally select a method that allows them to quantitatively arrive at the most probable results. Keep in mind, however, that every forecast involves some level of uncertainty.
- The environmental mitigation measures project proponents implement will be in line with the project's degree of impact while taking project and regional characteristics into account, but that doesn't mean project proponents will always have sufficient knowledge of their effects. Therefore, if project proponents determine that there is a significant degree of uncertainty in the forecasts or that project proponents are taking environmental mitigation measures whose effects are not sufficiently understood (making these determinations based on the degree of impact that uncertainty or lack of knowledge has on the forecast results), then project proponents will need to decide, based on the severity of potential environmental impacts, whether project proponents need to use a follow-up survey to identify post-project environmental conditions.
- For longer projects, it can be nearly a decade between the time project proponents consider environmental mitigation measures for the environmental impact assessment and the time actually carry those measures out. In many cases, project proponents will need to conduct another survey during construction or once the project is in service in order to hammer out the details of their environmental mitigation measures. Surveys like these are also considered to be follow-up surveys.
- If project proponents are implementing compensation measures, consider them in light of the degree of uncertainty associated with their effects and in terms of how well those compensation measures are understood. Depending on the severity of the environmental impacts, follow-up surveys may be necessary as well.

5.4.1 Forecast error and uncertainty

When implementing forecasts, project proponents need to do everything possible to reduce the level of uncertainty stemming from various factors—keeping in mind that there is no way to completely eliminate uncertainty from the forecast results. Considering conducting follow-up surveys in a way that accounts for the level of uncertainty in the forecasts, the severity of environmental impacts, and so on.

- When conducting follow-up surveys, project proponents of course need to understand the impacts that the target project has on the environment. Ideally, however, they will also consider an effective follow-up survey method for revealing the status of factors that project proponents think have a high degree of forecast uncertainty during construction or at the start of service (examples include traffic volume used to forecast noise or precipitation levels used to forecast water turbidity).
- Project proponents also need to select a follow-up survey method (survey items, survey sites, survey period, etc.) in order to fully understand which factors involve forecast uncertainty and to make it possible to compare the results of the follow-up survey with the results of the environmental impact assessment.

5.4.2 Environmental mitigation measures whose effects are not sufficiently understood

Environmental measures whose effects are not sufficiently understood (confirmed by experts) are those for which there is little insight into their effects due to the use of new technologies, for example. There may also be a lack of understanding due to forecast conditions or differences in survey equipment standards or other methodological variations, with the result that their effects cannot be anticipated with accuracy.

- Consider conducting a follow-up survey that takes into account the degree of uncertainty in the effects of the environmental mitigation measures (due to insufficient insight) as well as the severity of environmental impacts.
- In conducting the follow-up survey, project proponents need list up the aspects of the anticipated environmental mitigation measure effects for which project proponents lack insight and then use this information to select a specific follow-up survey method.

5.4.3 Severity of environmental impacts

When selecting follow-up survey methods, project proponents need to consider the severity of environmental impacts based on project and regional characteristics. Note that even if there is forecast uncertainty or a lack of insight regarding the environmental mitigation measures, project proponents do not necessarily need to conduct a follow-up survey in cases where they do not anticipate any major environmental impacts.

- Making a definitive decision as to forecast uncertainty and how sufficiently environmental mitigation measures are understood is not an easy task. Project proponents should therefore make their determination based on either the general level of uncertainty or on the degree of impact that the lack of understanding has on the forecast and/or evaluation results.

6. Evaluations

The Basic Matters include the following stipulations on evaluation methods.

A. Evaluation relating to avoidance or reduction of environmental impact
An evaluation shall be conducted on whether environmental impact caused by the implementation of the target project on the environmental components relating to the selected items has been avoided or reduced, using the measures such as chronological or simultaneous examination and comparison of multiple plans concerning a wide range of environmental conservation measures including those related to the structure and site of buildings, environmental conservation facilities, and construction method, etc. and examination of whether a feasible and better technology is employed. In this case, efforts shall be made to clarify the grounds for the evaluation and background of the examination.
These evaluations shall be conducted by the project proponent within practicable bounds.
B. Examination of whether consistency with environmental mitigation measures by the national or local government is maintained
In conducting an evaluation, in cases where standards or targets concerning environmental components relating to the selected items have been established through environmental mitigation measures including environmental quality standards, the Basic Environment Plan and other such measures taken by the national or local government, then the said evaluation shall also include examination on the status of achievement of the said standards, etc. as well as on whether consistency is maintained between the targets and contents of the Basic Environment Plan, etc. and the results of surveys and forecasts, while making efforts to establish the view that the said standards or targets are referred to in the said evaluation.
Moreover, regarding the environmental components that are likely to be affected for an extended period by the implementation of construction activities and for which the environmental standards relating to the said environmental components have been established, an examination shall also be conducted on whether consistency with the said standards is maintained.
C. Other points for consideration
In cases where the effect of the environmental mitigation measures etc. implemented by persons other than the project proponent are included in the evaluation, the contents of the said measures, etc. shall be clarified.
(Basic Matters Section 4-5(3): Basic Matters concerning the Guidelines for the Selection of the Items for Environmental Impact Assessment etc.)

6.1 Concepts

Evaluations during the project implementation stage include assessments on avoidance/reduction of environmental impacts and assessments of how consistent environmental mitigation measures are with national or local government initiatives. In evaluating the avoidance/reduction of environmental impacts, note that while it is impossible for a project to have zero environmental impact, project proponents should ideally demonstrate the extent to which the project plan avoids or reduces those impacts as well as how thoroughly and repeatedly project proponents engaged in considerations towards that end.

6.2 Methods

6.2.1 Evaluating avoidance/reduction of environmental impacts

Evaluating the avoidance or reduction of environmental impacts means determining whether the environmental impacts generated by the project have been avoided or reduced as a result of environmental mitigation measures. It involves detailing the efforts that the project proponent makes to avoid/reduce impacts

and looking at whether the environmental mitigation measures incorporated into the project are demonstrably adequate in terms of effects and technologies from an objective standpoint.

- Relative evaluation methods provide a clear summary describing (the form of an opinion) avoidance/reduction efforts, and include things like comparative evaluations of a broad range of environmental mitigation proposals or looking at whether feasible and better technologies were incorporated. Comparisons of multiple proposals can be demonstrated by providing a timeline of environmental mitigation measure considerations, while documentation on the effects of multiple environmental mitigation measures can be used to determine whether feasible and better technologies were used.
- When incorporating this information on whether the implemented environmental mitigation measures were effective for the project as part of the avoidance/reduction evaluation, project proponents need to clearly indicate that the environmental mitigation measures are equivalent to those adopted for projects with similar characteristics, scope, and other features and that they have demonstrable effects.
- The most important consideration in evaluating avoidance/reduction in cases where consistency with the environmental mitigation policies of national or local government agencies (e.g. in regions where environmental standards are not currently achieved) cannot be devised is to first consider measures that will result in even greater avoidance/reduction and then evaluate comprehensively with both sides' assessments taken into consideration. In this case, provide details on how and why consistency cannot be achieved in terms of existing standards and the like and on the extent to which the avoidance/reduction measures will lessen the additional impacts brought by project implementation (e.g. reduction rate). Finally, use this information to consider whether feasible and better technologies can be incorporated as part of the evaluation.

Points for consideration: The "feasible and better technology" concept

The Basic Matters give "examination of whether a feasible and better technology is employed" as an example of a way to evaluate avoidance/reduction.

"Feasible and better technology" is a concept introduced in US and European permits and one that also has precedence in Japanese environmental impact assessments for power plant projects. It involves evaluating the functionality of the various technologies adopted by the target project in terms of environmental conservation, identifying various types of technologies considered to be of a high standard, and adopting the ones that are within practicable bounds for the project proponent while considering regional and project characteristics. If we look at US/European example, feasibility is determined primarily by looking at the technological side first and then adding in a consideration of economic and other features while gathering feedback from a variety of stakeholders—including industry representatives and NGOs.

With Japanese environmental impact assessments—in the case of a new thermal power plant site, for example—evaluations have been done using the guideline of whether technologies of a high standard have been employed from the perspective of environmental conservation. These technologies, which are primarily combustion technologies and technologies to counteract emissions, are understood by looking at those that have been adopted or are scheduled to be adopted in similar case examples and by reviewing academic research on the subject and the status of technical development, while also making sure that they can be adopted by the time project construction work starts.

Avoidance/reduction evaluations within environmental impact assessments essentially evaluate the specific efforts that project proponents make towards environmental conservation. Even when the introduction of "feasible and better technology" is assessed, what is critical is whether the project proponent has worked to employ them or has considered (is considering) them and the process of soliciting feedback from residence and local government bodies once the effects of their introduction have been clarified. This evaluation method can be applied not only to power plant projects, but to any type of project—and it is expected that project proponents will take an active role in doing so.

When considering whether feasible and better technologies can be introduced, project proponents need to present information on the kinds of technologies that can be introduced in line with project implementation and what has been adopted for the project in order to objectively determine the adequacy of those evaluations. It is also considered necessary to quantitatively demonstrate the effects of those technologies as far as possible, and if there are any technologies that could not be adopted, giving clear reasons for it.

6.2.2 Evaluating consistency with standards and/or targets

Although the basic evaluation is on the avoidance/reduction of environmental impacts, if environmental standards have been set or if there are specific standards or clear targets in environmental basic plans, environmental management plans, and the like as part of "environmental mitigation measures by the national or local government", project proponents need to consider the details of these measures and whether they are maintaining consistency with them alongside the evaluation of avoidance/reduction of environmental impacts.

- Evaluations of consistency with standards and targets evaluate whether environmental mitigation measures and other target project initiatives are in line with the environmental mitigation measures formulated by the national or local government. Once project proponents understand how reference standards and/or targets are positioned as environmental mitigation measures, they need to clarify the concepts used to evaluate those standards and targets.
- For example, if regional environmental basic plans or environmental management plans indicate targets that take regional characteristics into consideration, project proponents need to evaluate consistency between the two sets of targets by listing the concepts used to compare them based on the positioning of the government targets within environmental mitigation measures, the background on how the targets were set, and similar factors.
- When comparing standards or targets with forecasted effects, it is important to look not only at whether the forecasted effects satisfy the standards or targets, but also to compare the standards and targets to evaluate them in terms of whether the degree of impact generated by the target project is at risk of presenting obstacles to environmental conservation.

6.2.3 Other points for consideration

If environmental mitigation measures are being taken by someone other than the project proponent, then the project proponent cannot take responsibility for their implementation. Evaluations that count on those types of environmental mitigation measures must at least evaluate the scope of responsibility involved in intending to use them and outline the specific details of those measures.

- Project proponents must demonstrate, based on objective data and documentation, that the details,

effects, and implementation period of environmental mitigation measures implemented outside the project plan and by someone other than the project proponent are highly consistent and that there are goals set for hammering out specific budgetary measures and the like.

7. Follow-up surveys

The Basic Matters include the following stipulations on follow-up surveys.

> *In cases where forecast uncertainty relating to the selected items is significant, or where environmental mitigation measures whose effect is not sufficiently confirmed by expert knowledge are being taken, or where the contents of environmental mitigation measures will be made more detailed during construction or after the launch of the service, then, according to the degree of seriousness of environmental impact, and in cases where compensating measures will be taken, then based on the degree of uncertainty of the effect expected from the said compensating measures as well as the degree of sufficiency of expert knowledge concerning the said compensating measures and according to the seriousness of environmental impact caused by the said project, the necessity of a survey to comprehend the environmental conditions, etc. during construction or after the service begins (hereinafter referred to as a "follow-up survey") shall be considered. At the same time, the intention shall be made known to publish the items for the follow-up survey and details of its method, the results of the follow-up survey and a policy regarding measures to be taken when the seriousness of environmental impact becomes apparent by the results of the follow-up survey.*
>
> *Moreover, in cases where a follow-up survey is conducted, attention shall be paid to the following matters:*
>
> *A. Items for a follow-up survey and its method shall be established so as to make them adequate according to the degree of necessity of the follow-up survey, the characteristics of the items on which such follow-up survey will be conducted, and the regional characteristics etc. and based on objective and scientific grounds secured by means of obtaining advice, etc. from experts as necessary, and also to enable comparative examination of the results of the follow-up survey and those of the Environmental Impact Assessment;*
>
> *B. A method of follow-up survey with least environmental impact to avoid or reduce the environmental impact caused by the implementation of the follow-up survey itself shall be selected and adopted to the extent possible;*
>
> *C. In conducting a follow-up survey, in cases where environmental monitoring, etc. conducted by local governments or others will be utilized and where facilities, etc. relating to the said target project will be apparently transferred to another entity, etc., a method and details of cooperation with or making requests to the other entity shall be made known;*
>
> *D. Objective and scientific examination shall be conducted by means of obtaining advice, etc. from experts as necessary when determining the completion of a follow-up survey and the implementation and completion of environmental mitigation measures based on the results of the follow-up survey.*
>
> (Basic Matters Section 5-2(6): Basic Matters concerning the Guidelines for Environmental Mitigation Measures)

7.1 Concepts

Because environmental impact assessments are carried out before projects are implemented, follow-up surveys are used to compensate for the uncertainty of their results. In cases where there is a large degree of uncertainty in forecasts or where environmental mitigation measures are carried out without sufficient understanding of their effects, consider whether a follow-up survey is needed based on the severity of environmental impacts. Project proponents must also look at adding or revising environmental mitigation measures as needed based on the results of the follow-up survey.

Within the environmental impact evaluation procedures, plans for follow-up surveys (detailed items and methods) are to be included in the Environmental Impact Statement. In addition, if it is clear from follow-up survey results that environmental impacts are significant, the approach to countermeasures should also be descried. Note that the results of follow-up surveys are to be included in Reports.

7.2 Items and methods

7.2.1 Selecting follow-up survey items

Follow-up surveys are designed to compensate for uncertainties in the forecasts and effects of environmental mitigation measures presented in environmental impact assessments. The Environmental Impact Assessment Act stipulates that follow-up surveys be conducted in line with the severity of environmental impacts in cases where there is a high degree of forecast uncertainty or when there is insufficient knowledge about the effects of environmental mitigation measures.

For these reasons, when considering follow-up survey items, project proponents need to first organize each item they selected for the environmental impact assessment in a way that clearly specifies the uncertainty associated with forecasts and with the effects of environmental mitigation measures project proponents intend to carry out.

7.2.2 Follow-up survey methods

Follow-up surveys identify the environmental impacts associated with actual project implementation, and their basic premise is creating a comparison against the results of surveys and forecasts carried out during environmental impact assessments. When conducting follow-up surveys, it is important to consider the appropriate methods based on the characteristics of environmental impact assessment items, regional characteristics, and so on.

Follow-up survey methods ideally generate results that make it possible to do a comparison with current status surveys. They should also utilize methods that allow project proponents to be as specific as possible with each follow-up survey item.

- There are often official methods for measuring things like atmospheric pollutants or noise, so in most cases project proponents should adopt the established methods.
- After the Environmental Impact Statement has been released,
- Project proponents should consider changing or adding follow-up survey methods in order to ensure that project proponents have properly considered environmental conservation in implementing the target project, based on changes in environmental conditions in the target project implementation region and its surrounding area as well as on the status of other environmental characteristics.
- An objective, scientific rationale must be used to determine follow-up survey methods, so make sure to seek the advice of experts as needed.
- Consider making effective use of applicable results from surveys not conducted by the project proponent, such as results from national or local government environmental surveys (these may include results from continuous monitoring of air pollution, traffic censuses, water quality measurements from public bodies of water, observation data on the location of underground water, and so on).
- Note that in some cases, project proponents elect to voluntarily conduct environmental monitoring surveys separately from follow-up surveys and provide the results to local residents after environmental

impact assessments have been implemented.

7.2.3 Follow-up survey areas and sites

Follow-up survey sites should basically be the same sites where current status surveys and forecasts were carried out. Ideally, these should be sites that have not been impacted by other projects and that are not influenced by surrounding features.

For this reason, it is important to select the right sites when conducting surveys and forecasts for environmental impact assessments (for example, by selecting survey/forecast sites away from prevailing winds that might bring in atmospheric pollutants from other projects).

Note that if areas requiring follow-up surveys emerge after the Environmental Impact Statement is published, it is appropriate to consider adding them as follow-up survey sites as needed.

7.2.4 Follow-up survey period and timing

Ideally, project proponents should set a follow-up survey period that allows them to make a comparison with the results of the environmental impact assessment. Basically, project proponents should conduct the follow-up survey during the forecast target period they set for the environmental impact assessment. If project proponents carried out forecasts/evaluations anticipating a static state period for post-service project activities, conduct the follow-up survey during the stage once the forecast conditions have been established.

If there is a long period leading up to the forecast timing, project proponents still need to carry out the follow-up survey during an appropriate period given the progress of the project so that project proponents can understand its progression—even if project proponents are still waiting for the forecast timing to arrive.

When project proponents are conducting follow-up surveys for environmental conservation measures whose effects are not sufficiently understood, project proponents need to do so at a timing that will allow them to properly understand the effects of those measures.

7.3 Consideration of additional environmental mitigation measures

If the results of the follow-up survey confirm significant environmental impacts beyond the forecast results, add or reconsider that environmental mitigation measures as needed. Follow-up surveys are designed to compensate for forecast uncertainties and other limitations of the environmental impact assessment, so the most important thing about them is using their results to consider additional environmental mitigation measures.

- If it is possible to consider additional environmental mitigation measures, project proponents need to create a follow-up survey action plan that allows them to do this.
- Note that if discrepancies with forecast results arise, looking into their causes is a useful way to improve the accuracy of future forecast methods as well as provide additional insight into environmental

mitigation measures.

The decision to terminate a follow-up survey needs to be made based on an objective and scientific rationale, so make sure to seek expert opinions on the matter when required. For example, if project proponents are at a stage where certain countermeasures have been implemented and follow-up survey results are well within the bounds of preliminary forecasts, project proponents may be able to stop the environmental mitigation measures.

Reference: Follow-up surveys conducted by local governments

Local governments may stipulate their own environmental impact assessment frameworks in their local ordinances, guidelines, and so on, and every prefecture in Japan has guidelines for follow-up surveys. The follow-up surveys defined in local government frameworks may include stipulations that target a broader range of environmental impact assessment items for follow-up than the Environmental Impact Assessment Act, or define specific methods and specific timing guidelines for each environmental component subject to follow-up surveys. These frameworks are designed to ensure that the environment is properly considered according to actual conditions in individual regions.

8. Reports

The Basic Matters include the following stipulations regarding the preparation of reports and similar documents.

(1) A report relating to a target project shall be prepared based on the provisions of Article 38-2, paragraph (2) of the Act in accordance with the Guidelines for Preparation of the Report.
(2) A report in principle shall be prepared once when the construction relating to the target project has been completed, and in this case, the effect of the environmental mitigation measures taken when the said construction was implemented shall be confirmed, and the results of such confirmation shall be included in the report.
(3) The results, etc. of a follow-up survey or environmental mitigation measures shall be published as necessary during construction or after the launch of the service.
(Basic Matters Section 6-1. Basic Matters concerning the Guidelines for Preparation of the Report)

8.1 Preparation of reports and similar documents

The process of preparing reports involves making the effects of environmental mitigation measures and the results of follow-up surveys publicly available, which is an effective strategy not only for enhancing environmental considerations during construction and after the start of service, but also for securing trust from residents and others stakeholders while maintaining transparency and objectivity.

Reports should include information on a variety of measures as well as on follow-up surveys with an eye to compensating for the uncertainties anticipated in forecast and environmental mitigation measure effects in the environmental impact assessments conducted prior to project implementation. These include environmental mitigation measures in environments recognized as requiring special conservation measures due to the difficult of restoring them but whose effects are not certain (more specifically, when effects are uncertain for measures related to habitats for endangered plant and animal species, measures required to protect endangered plant and animal species, and measures taken in situations where conservation is deemed particularly important in the surrounding area due to the difficulty of restoring the natural environment there) as well as additional environmental mitigation measures taken based on follow-up survey results.

Items recorded in reports should be those listed in the Draft Environmental Impact Statement and the Environmental Impact Statement, so specific details on environmental mitigation measures and their effects, items targeted for follow-up surveys, follow-up survey methods, and so on should ideally be compiled as early as possible so that project proponents can take steps to widely distribute them to residents and other stakeholders as well as seek advice from experts as needed in order to maintain objectivity and transparency.

8.2 Report preparation timing

In general, reports are prepared once in the period after construction is complete. The prepared report is made publicly available and copies are also forwarded to those who issued permits and licenses. There are special cases for certain project types where making reports publicly available is sufficient; for example, if a power plant is built according to the regulations in the Electricity Business Act after project implementation.

Note that in addition to preparing reports, project proponents should disclose the effects of their environmental mitigation measures and results of follow-up surveys during construction and/or after the start of service as needed.

- When environmental mitigation measures target plant and animal species, it is often unclear whether the effects are apparent immediately after the measures are taken, so reports should ideally be prepared once the relevant effects have been confirmed.
- Project proponents may also voluntarily disclose the results of follow-up surveys or environmental mitigation measures carried out during the construction stage or service stage. In this case, project proponents should ideally find a way to properly compare the disclosed details against forecast results.

8.3 Items to include in reports

The Basic Matters include the following stipulations regarding items to include in reports.

> *(1) Matters to be stated in the report shall be as follows:*
> *A. basic information regarding the target project such as the name and address of the project proponent (in the case of a corporation, its name, the name of its representative, and the location of its principal office), the name, type, and scale of a target project, the area in which the target project was implemented;*
> *B. items, method, and results of the follow-up survey;*
> *C. details, effects, and degree of uncertainty of the environmental mitigation measures;*
> *D. details etc. of expert opinions, if such opinions were received;*
> *E. in cases where a follow-up survey will be conducted or environmental mitigation measures will be taken after the preparation of the report, then its schedule and intention to publish its results.*
> *(2) In cases where business operation is transferred to another person during construction relating to the target project, or where the business operator and the entity in charge of operation and management after the launch of the service are not the same entity, the method and details of cooperation with or making request to the other entity shall be included in the report.*
> (Basic Matters Section 6-2. Basic Matters concerning the Guidelines for Preparation of the Report)

Items included in reports should basically be in line with the details of environmental mitigation measures listed in the Environmental Impact Statement and follow-up survey plans. However, when the information in the Environmental Impact Statement includes details finalized after construction is complete or the results of environmental mitigation measures or follow-up surveys—or when ongoing environmental conservation measures or follow-up surveys are necessary, be as specific as possible in including information on relevant plans and the like.

- If the project details specified in the project plan included in the Environmental Impact Statement differ from actual implementation content, reports need to include details on the changes as well as on the process leading up to them. Also make sure to sufficiently consider the degree of resulting environmental impact and review the details of environmental mitigation measures and follow-up surveys as necessary.

This will allow project proponents to avoid/reduce environmental impacts due to project implementation as much as possible, which should in turn lead to proper environmental consideration.

- When it comes to follow-up survey details and results, project proponents must show a comparison against the environmental impact assessment results; and if they differ, it is important to consider why. Also note that if follow-up survey items or methods were added or changed after the Environmental Impact Statement was published, reports must include details as well as information on the examination process leading up to them and the reasons behind those changes.
- Also include in the report additional environmental mitigation measures taken in response to environmental conditions that came to light during follow-up surveys. If there were any additions or changes to environmental mitigation measures after the Environmental Impact Statement was published, reports must include details as well as information on the examination process leading up to them and the reasons behind those changes.
- The report should include the effects of environmental mitigation measures as well as the confirmation status of those effects after the measures were implemented.
- The process of determining follow-up survey items/methods, deciding to terminate follow-up surveys, and reflecting results in environmental mitigation measures should have involved seeking advice from experts. Include in reports a description of that advance as well as their consultants' fields of expertise. Project proponents should also include a basic profile of their experts, such as the organizations to which they belong.
- When follow-up surveys or environmental mitigation measures will be carried out after the report has been prepared, include information on those plans, how the results will be disclosed, and future approaches to the situation based on the results of follow-up survey results already conducted. Reports should ideally also contain the means of disclosure as well as the period during which the information will be publicly available.
- If follow-up surveys will be conducted after the start of service, or if the results of environmental mitigation measures will become clear once service begins, information must continue to be disclosed appropriate—particularly if the project proponent and the operator during the service stage are different.

8.4 Making reports publicly available

Making reports publicly available means publishing environmental impact assessments and making them available for inspection in the target region. Thirty days is generally considered an appropriate period for keeping written documents out for display.

If reports are made available online, they should ideally be continuously published on a website so that insights on the effects of the implemented environmental mitigation measures, results from follow-up surveys, and so on ca be widely utilized by the general public. Accumulated information, including comparisons between forecast results and follow-up survey results, effects of environmental mitigation measures, and so on can be used to improve environmental impact assessment techniques (e.g. establishing appropriate survey methods and better forecasting techniques) and will hopefully contribute to the establishment of more effective environmental

mitigation measures in the future.

Reference: Follow-up survey results and other reports issued by local government bodies

Local governments may stipulate their own environmental impact assessment frameworks in their local ordinances, guidelines, and so on, and projects subject to the Environmental Impact Assessment Act must take these into consideration if they are required to address procedures (e.g. report creation) other than those based on the Environmental Impact Assessment Act.

For example, the environmental impact assessment framework of a local government may call for the creation and publication of follow-up survey results as part of procedures to be carried out once the project starts. In that case, it may also stipulate specific timing for these reports (such as once the project is in service as well as during construction, once a year, and so on) and may also call for specific publication and inspection procedures. These frameworks are designed to ensure that the environment is properly considered according to actual conditions in individual regions.