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# Improvement of River Technologies through Practice of Channel Management (Study period: from FY2006)

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## 1. Channel Management Workshop

In channel management, not only the knowledge of river engineering but comprehensive river technologies, such as biology, landscape and maintenance cost, are required. In addition, in order to perform proper channel management, channel design considering changes after development is required.

In order to upgrade the river technology required for such channel management, the channel management workshop has been held about 3 times per year jointly with the Kyushu Regional Development Bureau and the Tohoku Regional Development Bureau. Continuous implementation of this workshop is expected to lead to acquisition of knowledge and sharing of findings among employees who are engaged in channel management and to improvement of young engineers' skills, and thereby to human resource development and transfer of skills.

## 2. Activities of each Channel Management Workshop

The Kyushu Channel Management Workshop aims to research and develop maintenance technology for preventive maintenance type, which detects signs of changes in channels, such as bed scour, sediment deposition, and overgrowth of trees, to implement countermeasures in appropriate timing and channel excavation technology to control recurrence of deposition and overgrowth. The Kyushu Channel Management Workshop consists of members from academic experts, Kyushu Regional Development Bureau, NILIM, and the seven prefectures of Kyushu, and held a total of 26 meetings to date and conducted on-site inspections during the decade from March 2006 to 2016.

We devised and tried "Channel Management Basic Sheet" jointly with the Kyushu Channel Management Workshop as a management tool for grasping discharge capacity, sediment deposition, overgrowth of trees, and bed scour in channels to ensure inspections and countermeasures. The Sheet has been used practically for channel management. We also organized the patterns and types of channel management practice with focus on data collection, computerization, and judgment and published the collection of cases, organizing findings by pattern obtained from the practice of the channel management in Kyushu and "Guide to Practice of Channel Management," consisting of basic information for analyzing channel characteristics, which are both used on sites.



Photo: On-site inspection of junction of the Sendai River and its branch river, Hatsuki River

We expect improvement in channel management technologies across the country by accumulating and sharing the knowledge of channel management through the aforementioned activities.

Tohoku Regional Development Bureau has been holding "Channel Management and Survey Working" internally since fiscal 2016 in order to strengthen cooperation between Tohoku Regional Development Bureau, river counselor, Tohoku River Management Technology Workshop, and River Division of NILIM.

Since channel excavation is also scheduled in the rivers under control of the Tohoku Regional Development Bureau, this Working is exchanging opinions and making discussions mainly on channel excavation methods and monitoring methods after excavation while confirming changes etc. that occurred on the sites, in order to control re-deposition, overgrowth of trees, etc. after channel excavation.

## 3. Future plan

The place where a wide range of employees including young and executive employees get together and exchange opinions is helpful in upgrading skills for executive employees as well as young personnel and NILIM employees participating in the Workshop, where they can share problem consciousness and know countermeasures for problems, and in developing human resources.

At present, Channel Management Workshop has been held in Tohoku and Kyushu, and we are going to continue activities for Channel Management Workshop and intend to implement activities while considering the possibility of application to other regions and sharing the knowledge obtained in each Channel Management Workshop.