

## **International Conference**

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### Session1: Rethinking Human Disturbance

In this session, we focused on “Human Disturbance” which changes an undisturbed ecosystem into an altered ecosystem. A different perception of nature will change institutions and management, which will then additionally change the ways of human disturbance and thus make a different altered ecosystem. We have raised two questions thinking terms of thinking about human disturbances, they are; How do environmental differences relate to the perception of nature? How does the traditional way of management differ from modern and intensive management? Dr. Ryoji Soda presented a history of river improvement in Japan, where the communities used to accept floods as an inevitable natural disturbance and developed a riverine culture so as to live/deal with floods. Problems arose when the Japanese river administration introduced a modern European system which fails in the examination of the different environments between two regions. This case study shows that management should be pursued based on the human-nature relationship in the region. Dr. Katsue Fukamachi reviewed land-use change in the Satoyama landscape in Japan and insisted that the traditional management style has a higher plant biodiversity compared to that of modern management. On the other hand, Dr. Sara Cousins showed changes in grassland land-use in Sweden, from low-intensive management with high biodiversity to intensive agriculture with low biodiversity. Both of the two cases indicated that for biodiversity conservation, an appropriate disturbance is necessary rather than leaving the ecosystem as it is without utilization. In other words, a novel way of management should be developed, as traditional management is difficult to continue in a modern society. Dr. Eben Kirksey then followed up with a look at changes in land-use in Costa Rica, from cattle ranch to national park, where, as a result, the unintended flourishing of certain plants has prevented huge amount of organisms from surviving. In conclusion, to think of organisms as an agent in human disturbance might be a key issue in evaluating the

human-nature relationship, whether it is either traditional or modern management.