Biological factors

Biological invasions by exotic organisms pose serious threats, namely, ecological risks, on the biodiversity and ecosystems comprising native organisms. Upon biodiversity conservation planning, adequate controls of invasions and expansions of exotic species are of particular importance. However, resources available to the control, such as budget allocations and human resources, are usually limited. Instead, we have to consider effectiveness and efficiency, and strategically control exotic species by monitoring and eradication programs against adequate targets. Management plans of exotic species can be potentially based on various aims; conservation of native and/or endangered species, preservation of ecosystems services, and social health and well-beings. Moreover, macro-scale and hierarchical perspectives and strategies are also essential for managements at regional and national scales, and thus limited budgets and human resources must be effectively allocated to provide optimal or, at least, better solutions. The same practice can be applied for wildlife managements of certain native organisms that have potentially negative impacts on the biodiversity, ecosystems and human societies. For example, Sika deer (Cervus nippon), wild boar (Sus scrofa), or Japanese macaque (Macaca fuscata) are growing and expanding their populations causing severe economic damages on agriculture and silviculture across Japan. Likewise, expansion of black bear (Ursus thibetanus) distribution range raises the potential of human-bear conflicts. As ecological risks, wildlife managements of these native species need to be paid attention as exotic species do so.

In J-BMP, therefore, we prepared distribution maps of alien vascular plants and vertebrates as well as maps of habitat suitability for native mammals which have been regarded as a nuisance wildlife.

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