



Séminaire

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Amphi 306

École Nationale du Génie de
l'Eau et de l'Environnement
de Strasbourg

1 quai Koch, Strasbourg

Accès

Tram C, E, F – Arrêt Gallia

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Restoring Rivers and Floodplains for Habitat and Flood Risk Reduction: Experiences in Multi-Benefit Floodplain Management from California and Germany

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Conventional flood control has emphasized structural measures such as levees, reservoirs, and engineered channels—measures that typically simplify river channels and cut them off from their floodplain, both with adverse environmental consequences. Structural measures tend to be rigid and not easily adapted to increased flooding regimes resulting from environmental change. Such actions also limit the natural hydrologic benefits of floodplains such as storing floodwaters, improving water quality, providing habitat for invertebrates and fish during periods of inundation, and supporting a multitude of cultural services. As these benefits are more widely recognized, policies are being adopted to encourage projects that reduce flood risks and restore floodplain ecosystems, while acknowledging the social-ecological context. The number of such projects, however, remains small. We assessed four multi-benefit floodplain projects (two in California, United States, and two in Germany) and characterized their drivers, history, and measures implemented. In both United States cases, the dominant driver behind the project was flood risk reduction, and ecosystem restoration followed, in one case inadvertently, in the other as a requirement to receive a subsidy for a flood risk reduction project. One German case was motivated by ecosystem restoration, but it was more widely accepted because it also offered flood management benefits. The fourth case was conceived in terms of balanced goals of flood risk reduction, ecosystem restoration, and recreation. We conclude that projects that both reduce flood risk and restore ecosystems are clearly possible and often cost-effective, and that they could be more widely implemented. The principal barriers are often institutional and regulatory, rather than technical.

