



THE RAP SEMINAR SERIES

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Evaluating Effects of Climate Change and Other Stressors on Freshwater Ecosystem Goods and Services of the San Francisco Bay Watershed

by

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Ecosystem goods and services are processes and attributes of ecosystems that help sustain and fulfill human life. Freshwater aquatic ecosystem services include flood and drought alleviation, waste assimilation and purification capacity, and recreational opportunities. Goods include water for irrigation and domestic use, and harvestable aquatic species. The San Francisco Bay Watershed (SFBW) provides a broad array of these and other ecosystem services, and many of these are affected by stressors such as invasive species, habitat destruction, contaminants, and by current patterns of water use. Little "slack" remains in the water system, and any further changes in water supply or quality are likely to affect these services. The important ecological resources of the San Francisco Bay Watershed, the diversity of its stressors, and the tension between supply and demand make this watershed an ideal "laboratory" for developing methodologies that can integrate the effects of climate and "traditional" stressors for evaluating their impacts on ecosystem goods and services.

This seminar will present the four broad goals of this new project, which are: 1) to understand the relationships between ecosystem services and the ecological processes that support them in the SFBW; 2) to use this information, along with water resource models, climate change scenarios and assumptions about the future intensities of existing stressors to project effects on the future functioning of these services; 3) to provide stakeholders with information on how valued ecosystem services are likely to be affected, so that they can make informed decisions; and 4) to develop a methodology that may be transferable to other large watersheds.