

Subject: Research Program - Introduced Species

Background: The Sacramento-San Joaquin Bay-Delta Estuary has been described by aquatic scientists as a heavily invaded ecosystem, the result both of accidental and intentional introductions of exotic, non-native aquatic species. The species range from microscopic plankton to macro faunal fishes, from macrophytes to rooted aquatic plants to terrestrial flora. Collectively, introduced species have been associated with both adverse and beneficial social, economic and environmental effects.

Proposed Action: Fund a research program to (a) develop an inventory report, (b) determine the ecological effects, and (c) develop and implement permanent control measures for introduced species within the Bay Delta Estuary. Research shall be conducted on both aquatic and terrestrial introduced species.

The inventory and ecological effects section should include (1) a description of the specific region(s) inhabited by each introduced species, including past, present and anticipated future distribution, (2) a history of the introduction (i.e. date, source and, if applicable, purpose of introduction) of each exotic species, (3) the past, present and anticipated future environmental consequence (in terms of predation, competition, disease, hybridization, etc.) of each species introduction on specific native species and/or species guilds, (4) the past, present and anticipated future economic and social consequence of each introduced species

The research program should also include the development of an overall strategy that addresses a range of responses to the current and anticipated future presence of introduced species, and which will: identify specific introductions which warrant remedial control measures, provide justification for taking action, describe remedial control measure(s) in terms of specific actions, staff and special equipment required, duration of activity, cost of the measure(s), the probability of accomplishing the intended goal of each measure, and a prioritized sequential implementation of control measures. Specific control measures will also be funded.

Geographic Area: The primary emphasis of this proposal is directed at the Sacramento-San Joaquin Bay-Delta Estuary. Introduced species in the Sacramento and San Joaquin River mainstems and their tributary streams may also be addressed, but to a lesser degree.

Recommended Funding: \$1,250,000

Coordination: This will be an open solicitation for proposals. The Principal Investigators should utilize existing information from standard scientific publications and from non-standard published and unpublished documents, including administrative reports, manuscripts, agency/educational institution report series, file material, etc. Personnel involved as managers, regulators, users and investigators of aquatic resources and who have access to relevant data on

introduced species should be enlisted for coordination in the preparation of the proposal report. Candidate entities include DFG, DWR, USFWS, Reclamation, SFEI, ACOE, EPA, SWRCB, RWQCBs, University of California, California state colleges, private colleges, water districts, etc. The Exotic Species group shall also be consulted.

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