

DEPARTMENT OF FISH AND GAME

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Mr. David W. Patterson
Biologist
U.S. Soil Conservation Service
P.O. Box 668
Red Bluff, California 96080

Dear Dave:

Ron Curtis and I have reviewed your report summarizing the October 1976 fisheries sampling survey on the Golden Gate National Recreation Area, and we have no editorial comments nor corrections.

I know you are aware that Upper Rodeo Lake was in our catchable trout stocking program until about two years ago. This program was very popular with local and San Francisco anglers. The Department terminated trout stocking because of water quality problems and the public health hazard associated with sewage contamination.

Since this contamination has now been eliminated, it may be possible to reinstate the stocking program. This action, however, may depend upon the need for lake restoration efforts, such as silt removal and aquatic vegetation control, etc. In addition, Tennessee Valley Lagoon (fresh) may be suitable for periodic trout stocking.

Such catchable trout stocking programs would provide considerable angling recreational opportunity that could not be matched by dependence on self-sustaining warmwater fishery resources. You may want to consider these potential fishery management alternatives in your report.

Sincerely,

COPY ORIG. SIGNED BY
K. R. ANDERSON

Keith R. Anderson
Associate Fishery Biologist
Region 3

cc: Mr. E. Vestal, FMS, Region 3, Yountville Office

Mr. Ron Curtis, Menlo Park Office

Summary of Observations and Comments Concerning Fisheries Potential

at

Golden Gate National Recreation Area (GGNRA)

During October 18 and 19, 1976, Mr. David W. Patterson, of the U.S.D.A., Soil Conservation Service, with the assistance of California Department of Fish and Game personnel, conducted an investigation of the fisheries potential of fresh water impoundments in the Golden Gate NRA. Several ponds were seined and streams investigated. This brief investigation was of a pilot nature only. Only a few recommendations can be made toward applied management.

We learned through discussion with park personnel that an overall management plan for the GGNRA is in a very formative stage of development. The GGNRA contains estuaries, and both brackish and fresh water lagoons associated with the estuaries, that are unique and deserving of attention and a management priority.

A fairly good study of Rodeo Lagoon has been made by Miles and van Rijn in an unpublished academic paper written in 1972 and held in the GGNRA files.

Observations

Rodeo Impoundment and Tributary System

Rodeo Lake (larger fresh water pond);

This fresh water pond is approximately 2 surface acres when full and is very shallow and eutrophic. The pond is dominated by willow, cattail, Ceratophyllum and Hydrocotyle. The aquatic vegetation is too rank to allow sample seining of the pond and makes the pond unfishable. At present the pond best serves as a desilting basin for Rodeo Lagoon. The drop structure between Rodeo Lake and Rodeo Lagoon is antiquated and could possibly fall during high runoff. If the structure fails, a large amount of silt and debris would wash into and damage Rodeo Lagoon. The lake was stocked with trout in the past and may contain other warm-water and nongame fish.

Rodeo Pond (smaller fresh water pond);

This small pond is located just east of the larger Rodeo fresh water lake. This small pond is extremely eutrophic and its present value is wildlife habitat. The rank aquatic vegetation precluded seining. This small pond serves as a silt trap for the larger fresh water pond and Rodeo Lagoon.

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Rodeo Watershed:

The stream network feeding the ponds and lagoon ranges all the way from a heavily overgrown stream to a silt filled gully with riparian vegetation removed in some of the upper watershed.

There are three alternatives for management of the Rodeo system.

1. Re-establishment of an anadromous fishery. Replacement of the existing drop structure at Rodeo Bridge with a drop structure designed to allow upstream passage of anadromous fish. The two ponds would require deepening and clearing to allow upstream migration. The stream would require some opening up to allow upstream migration. Some revegetation of the stream, in the upper watershed, would enhance water temperatures for fish.
2. Creation of a recreational pond fishery. Replacement of the antiquated drop structure at Rodeo Bridge with a like structure. The height of the structure could be raised to increase the depth of the fresh water lake. Deepen and enlarge the fresh water pond by removal of the levee between the two fresh water ponds and excavating and cleaning the ponds out. Stock with bass and bluegill for self-sustaining warmwater fishery.
3. Maintain existing wildlife ponds and desilting basin. Replacement of the antiquated drop structure only. The fresh water ponds will slowly become fresh water marshes over a period of many years. Reduced activity and improved vegetative cover in the watershed would hopefully reduce the rate of siltation in the ponds.

Additional opportunity for self-sustaining warmwater fisheries exists. One or two additional ponds could be constructed in the drainage of the Gerbode preserve area. Two ponds, five surface acres or less in size, would provide fishing with good access by footpath from GGNRA headquarters. The ponds would also provide wildlife habitat diversity in the upper Rodeo watershed. Soil Conservation Service has conducted preliminary investigations for dam locations for a previous landowner. The information is still on file and could be made available to GGNRA.

Rodeo Lagoon (Brackish):

The report by Miles and van Rijn did not include an inventory of fishes inhabiting the lagoon. An in-depth survey should be made to document the fish population of the lagoon.

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Hay Press Pond (in Tennessee Valley):

This is a relatively small impoundment, but could provide a limited self-sustaining warmwater bass and bluegill fishery. Presently there is only a stunted bluegill population in the pond. Introduction of approximately 20 brood stock largemouth bass should be made. The pond should then be closed to fishing for one year to allow the bass to establish themselves. Warmwater game fish are presently found in the Tennessee Valley watershed which could possibly be re-established as an anadromous fishery. Lacking biological data on the watershed, it is believed that the warmwater game fish would not seriously interfere with an anadromous steelhead fishery.

Tennessee Valley Ranger Office Pond (in Tennessee Valley):

This is again a relatively small impoundment, but control of the existing pond weed, Elodea, would allow creation of a self sustaining warmwater fishery* A more intense survey of the existing fish population is needed before recommendations for fisheries management can be made. The pond was too choked with aquatic vegetation to seine.

Tennessee Lagoon (fresh):

Tennessee Lagoon is adjacent to Tennessee estuary. However, the spillway of the dam was not constructed to provide passage for anadromous fish. Tennessee Lagoon serves as a desilting basin for the estuary. The Lagoon also provides habitat for waterfowl and could provide needed summer habitat for juvenile salmonids if the run was re-established. The spillway on the Lagoon dam needs to be reconstructed to provide a longer and more gradual drop into the Tennessee estuary. The dam itself is badly in need of repair. SCS could provide a design for repair of the dam and reconstruction of the spillway. No exotic fish should be introduced into Tennessee Lagoon until the feasibility of providing access for anadromous fish to the Lagoon and watershed is determined. If feasible, a self-sustaining warmwater bass and bluegill fishery could be established.

We strongly recommend against removal of the Tennessee Valley dam. Its removal would create a visual blight, and require removal and placement at some other location of a great amount of soil from the existing dam fill. The Lagoon would no longer serve as a desilting basin and the silt now trapped behind the dam would severely damage the Tennessee Valley estuary. Waterfowl habitat would also be lost. The Lagoon could serve as valuable nursery habitat for juvenile anadromous fish. The Lagoon now contains a large population of 3-spine stickleback.

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Specific Recommendations

1. The existing ponds, streams, estuaries and associated aquatic organisms should be recognized as a park resource in future management plans. Fishing in park ponds could be a popular form of recreation. Rodeo Lagoon and Tennessee Lagoon are unique and can provide one of the major attractions on the NRA, especially if the anadromous fisheries are re-established as recommended.
2. More comprehensive surveys should be made to document the diversity of fish life in Golden Gate NRA ponds, streams, lagoons and estuaries.
3. Consider replacement and alteration of the drop structure at Rodeo Lagoon Bridge to either recreate an anadromous fishery, or improve and expand a recreational pond fishery in the existing fresh water pond and at selected sites in the watershed.
4. Adult largemouth bass should be introduced into Hay Press Pond. Fishing should be deferred one year after stocking the bass to establish a self-sustaining bass and bluegill fishery.
5. Consider control of existing weeds in Tennessee Valley Ranger Office pond. Safe herbicides registered for aquatic use are available for control of Elodea. Remedial fish stocking may be needed to establish a self-sustaining bass and bluegill fishery.
6. Repair Tennessee Valley dam and investigate feasibility for access of anadromous fish up the spillway to Tennessee Lagoon and watershed. If access for anadromous fish is infeasible, stock largemouth bass and bluegill to create a self-sustaining warmwater fishery. At any rate, maintain the Tennessee Valley dam.
7. Selected park personnel should receive training in fish pond management and fish population evaluation techniques. SCS could provide training based on practical demonstration of methods. The attached booklet "Warmwater Fish Pond Management in California" provides basic guidelines for management of warmwater ponds.