

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

RESOLUTION NO. 77-1

POLICY AND GUIDELINES ON
THE USE OF WASTEWATER TO
CREATE, RESTORE, MAINTAIN,
AND/OR ENHANCE MARSHLANDS

- I. WHEREAS, the Water Quality Control Plan for the San Francisco Bay Basin prohibits the discharge of wastewater which has particular characteristics of concern to beneficial uses at any point where the wastewater does not receive a minimum initial dilution of at least 10:1 and into any nontidal water or dead-end slough or similiar confined water area, and;
- II. WHEREAS, the Water Quality Control Plan provides for exceptions for the above prohibitions where the discharge is approved as a part of a reclamation project or where it can be demonstrated that environmental benefits will be derived as a result of the discharge, and;
- III. WHEREAS, proposals have been made for exceptions to the above prohibitions involving the use of wastewater to create new marshlands and/or maintain existing marshlands, and;
- IV. WHEREAS, this Regional Board has not previously formulated a policy on this matter, and;
- V. WHEREAS, on January 18, 1977, this Board held a public hearing and heard and considered all comments pertaining to this matter;
- VI. THEREFORE, BE IT RESOLVED that this Regional Board adopts the policies and guidelines set forth in the attached document entitled "Policy and Guidelines on the Use of Wastewater to Create Marshlands", except as otherwise prohibited by the Water Quality Control Plan for the San Francisco Bay Basin or State Water Resources Control Board Plans or Policies.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on February 15, 1977.

FRED H. DIERKER
Executive Officer

POLICY AND GUIDELINES ON THE USE
OF WASTEWATER TO CREATE, RESTORE,
MAINTAIN, AND/OR ENHANCE MARSHLANDS

Background

On April 8, 1975 the Regional Board adopted a Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan). The Basin Plan contains the following waste discharge prohibitions:

"It shall be prohibited to discharge:

1. Any wastewater which has particular characteristics of concern to beneficial uses:
 - b. At any point at which the wastewater does not receive a minimum initial dilution of at least 10:1.
 - c. Into any nontidal water, or dead end slough or similar confined water areas or their immediate tributaries."

These prohibitions are subject to the following exception:

Exceptions to b and c above will be considered for certain wet weather discharges and other discharges having a high initial dilution where an inordinate burden would be placed on the discharger relative to beneficial uses protected and when an equivalent level of environmental protection can be achieved by alternate means. Exceptions will also be considered where a discharge is approved as part of a reclamation project or where it can be demonstrated that environmental benefits will be derived as a result of the discharge.

Exception Provisions

Proposals have been made for exceptions to one or both of the above prohibitions for "marsh reclamation" or "marsh enhancement" projects. These projects involve the use of wastewater to either create new marshlands or to maintain and/or enhance existing marshlands. The exception clause provides two cases under which these projects might be considered.

1. The discharge is approved as a part of a reclamation program.
2. Where it can be demonstrated that environmental benefits will be derived as a result of a discharge.

Preamble

The policies which follow are intended to provide Regional Board policy on the implementation of the exception provisions of the Basin Plan prohibitions. It is not the intent of the policies to either encourage or discourage the use of wastewaters to create, maintain, or enhance marshlands.

Inherent in the policies is the recognition of the beneficial aspects of marshlands. When the policies call for the demonstration of environmental benefits from a discharge to a marsh, they are not calling for a demonstration that marshlands are beneficial. What is being called for is a demonstration to the satisfaction of the Regional Board that the proposed discharge will be of such quality and managed in such a manner so that a beneficial marshland is in fact created. The principal form of such demonstration will be a management plan which provides detailed information on how compliance with the policies will be achieved.

For the purposes of this policy a marshland is defined as an area of land where the soil is saturated at least seasonally and which supports hydrophylic (water-loving) plant life including submergent, floating, emergent, and shoreline form. This definition is intended for guidance only and is not assumed to be either limiting or all inclusive.

POLICY

The following policies will be followed by the Regional Board in determining whether or not to approve projects involving the use of wastewaters to create, enhance, or maintain marshlands.

POLICY NO. 1 In order to be granted an exception to the Water Quality Control Plan discharge prohibition lb or lc, it will be necessary for the discharger applying for the exception to demonstrate that environmental benefits will be derived as a result of the discharge.

Rationale: The Water Quality Control Plan provides two cases under which exceptions to prohibition lb or lc may be granted:

1. The discharge is approved as part of a reclamation project.
2. The discharge is approved based upon the demonstration that environmental benefits will be derived as a result of the discharge.

Under case 2 it is clear that the demonstration of environmental benefits will be the guiding criteria.

The definition of reclamation will provide the guiding criteria under Case 1. When this prohibition was adopted by the Board the typical reclamation project involved the use of reclaimed water to replace the use of freshwater or better quality water. Typical uses under this definition include agricultural or landscape irrigation or industrial use as process water or cooling water.

Another type of use for reclaimed water is its use to preserve, restore, or enhance instream beneficial uses, particularly fish and wildlife uses. It is implied in this definition of reclamation that a net environmental benefit will result from the discharge. Therefore, if the use of wastewater to create new marshlands is considered to be a reclamation project, it is still subject to the test of demonstration of environmental benefits.

POLICY NO. 2

In order to demonstrate environmental benefits, it will be necessary for the applicant to demonstrate that (1) full and uninterrupted protection will be given to all beneficial uses which could be made of the receiving water, including groundwater, in the absence of point source discharges and (2) that there will be a creation of new beneficial uses or fuller realization of existing uses beyond that which would occur in the absence of point source discharges.

Rationale: Environmental benefit is interpreted to be synonymous with environmental enhancement. The above requirements necessary to demonstrate environmental benefits (enhancement) are set forth in letter from Bill B. Dendy, Executive Officer, State Water Resources Control Board to David Joseph, Executive Officer, North Coast Regional Board, regarding the definition of enhancement as used in the State Board's Bays and Estuaries Policy. The Bays and Estuaries Policy is pertinent to this policy in that it also allows the demonstration of enhancement as a means of gaining an exception to a waste discharge prohibition.

POLICY NO. 3

Marshlands created using wastewater shall be fully protected as waters of the State, and waste discharge requirements and/or NPDES permits will be established for the discharge before it enters the marsh.

Rationale: Full protection of the marshland will be necessary in order to maintain the environmental benefit and to continue the exception to the waste discharge prohibition. The best regulatory tool available to the Regional Board to assure that full protection is provided is the establishment of waste discharge requirements on the discharge prior to discharge to the marsh.

POLICY NO. 4

Prior to granting an exception to the Water Quality Control Plan waste discharge prohibitions, the Regional Board will require that the maximum benefit be derived from the quantity and quality of water that is available.

Rationale: The Water Quality Control Plan prohibitions 1b and 1c were both developed to lower the risk involved with waste discharges. Inherent in the granting of an exception to these prohibitions is a trade-off between the environmental benefit gained and the additional risk involved with discharge due to the lowered assimilative capacity and generally greater ecological sensitivity of the shallow waters, inter-tidal zones, and marshlands of the Bay system. Maximizing the benefits derived will make this trade-off as favorable as possible. The final determination as to what

constitutes maximum benefit will be made by the Regional Board at the time the exception request is considered and after full public hearing and consideration of the comments of all interested parties.

POLICY NO. 5

Prior to granting an exception to the Water Quality Control Plan waste discharge prohibitions, the Regional Board will require the applicant to demonstrate (1) a commitment, for the life of the project, of an adequate amount of land to make optimum use of the water to be committed to marsh creation and or enhancement; (2) a commitment for the life of the project, to manage the marsh to provide for maximum environmental benefit with a minimum of adverse conditions, and (3) acceptable reclamation or disposal facilities are available for any wastewaters not committed to marsh creation, maintenance or enhancement.

Rationale: Marsh creation projects are being proposed in many cases as an alternative to joining a subregional wastewater system and/or constructing a deepwater outfall. Long term commitments are necessary in order to assure that the conditions necessary to obtain an exception to the waste discharge prohibition are maintained throughout the life of the project. The intent of this policy is to assure that adequate land and management resources are available for as long as the wastewater is intended to be used for marsh purposes. The commitment to provide the land and management resources may come from a person or persons other than the discharger but the commitment must be such that the land or management resources cannot be withdrawn without sufficient advance notice to provide for acceptable disposal or reclamation facilities for the wastewater.

POLICY NO. 6

Prior to granting an exception to the Water Quality Control Plan waste discharge prohibitions, the Regional Board will require the applicant to demonstrate that the marsh will be managed so as not to create vector problems, nuisance and so as to minimize the occurrence of botulism.

Rationale: As most sewage treatment plants are in or near urban areas, it is likely that most areas considered for marsh creation will also be near urban areas. Control of vectors and other nuisance factors is essential in all cases and is critical near urban areas.

POLICY NO. 7

Prior to granting an exception to the Water Quality Control Plan waste discharge prohibitions, the Regional Board will require the applicant to provide a management plan which provides detailed information on how compliance with Policies 1 through 6 is to be achieved.

Rationale: A management plan, in addition to providing the necessary information to the Regional Board, will provide an "operations manual" for the dischargers use in managing the marsh.

POLICY NO. 8

Pilot investigations will be required to determine the information necessary to develop a management plan unless the applicant can provide the information without such investigations. The necessity for pilot work, however, will not be allowed to interfere with the implementation of necessary wastewater facilities programs. In those cases where pilot work would unduly delay a facilities planning effort, marsh creation must be considered as a "second phase" and work must proceed on disposal alternatives as the first phase. In all cases where pilot work is being performed, options for disposal must be kept open in case the marsh creation project is not approved. The information to be provided will be determined by the Executive Officer of the Regional Board in cooperation with the State Department of Fish and Game, the local vector control agency, and the State Department of Health.

Rationale: Pilot work will probably be necessary in most cases to determine the optimum land area and management techniques and to provide data to assess the impacts of discharge from the proposed marsh on adjacent waters. Such pilot work may require several years for completion. In many cases such delays cannot be allowed due to the immediacy of the water quality control problem.

GUIDELINES

The following guidelines are provided for the use of the Regional Board staff, dischargers, and the public in developing and evaluating proposals for the use of wastewaters to create, enhance, or maintain marshlands.

1. The direct discharge of freshwater to saltwater marshlands normally should not be allowed.

Rationale: Such a discharge would only serve to alter the saltwater marsh habitat to a fresh or brackish water habitat. Such an alteration of habitats should not be considered an environmental benefit as a saltwater marsh is very valuable in its own right.

2. The marshland should be created and managed so as to provide the maximum possible benefit for wildlife within the marsh. The marshland should be managed to provide vegetation of high value as habitat and food for wildlife including puddle ducks.

Rationale: The Dept. of Fish and Game has shown a strong preference for the creation of marshlands capable of supporting wildlife, especially puddle ducks. The type of vegetation favorable to this type of waterfowl has been identified by the Department of Fish and Game.

3. Management plans should be prepared in consultation with the staff of the Regional Board, the State Department of Fish and Game, the State Department of Health, local vector control agencies, and the Soil Conservation Service.
4. A management plan should contain at least the following information:
 - A. A facilities plan including the treatment works prior to discharge to the marsh; description of physical facilities to be provided in the marsh area; the physical layout of the marsh including all points of discharge to and from the marsh; a description of adjacent waters; a description of available disposal alternatives (if any); and a description of how the land is to be committed to this use for the life of the project.
 - B. An operational plan including flooding and drying cycles, weed control, or any other management techniques to be used to achieve the desired vegetative growth. The plan should also provide a proposed monitoring program and a detailed vector control program and a commitment of resources necessary to carry out the programs for the life of the project.
 - C. A description of the anticipated water quality impacts of the proposed project including the anticipated quality of the discharge to the marsh; the anticipated quality of water in the marsh; the anticipated quantity and quality of water discharged from the marsh; and the anticipated impact of that discharge on adjacent waters.

- D. A complete description of pilot work or other data on which the proposal is based.
5. When proposals involve discharges to existing marshlands, extreme caution should be used.

Rationale: The consequences of error are much more severe when dealing an existing marshland. Discharges to existing marshlands may disrupt the habitat of valuable or rare or endangered species or may adversely alter the distribution of vegetation. Damage to existing marshlands would constitute a net loss to the Bay system while failure to create a new marshland would simply constitute an opportunity foregone.