

August 30, 1991

**Summary and Recommendations:
Clean Water Act Section 404
Discharge of Dredged and Fill Materials
and Section 401 Water Quality
Certification Programs in Arizona**

By:

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in Arizona**

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Preparation of this report was aided through a contract with the ADEQ, and as such is not copyrightable. It may be reprinted with customary crediting of the source. However, any opinions, findings, conclusions, or recommendations expressed are those of the authors and do not necessarily reflect the views of the State of Arizona.

Consistent with Arizona Executive Orders No. 89-16 ("Streams and Riparian Resources") and No. 91-6 ("Protection of Riparian Areas"), this project was initiated to determine whether ADEQ's role in wetlands and riparian area protection could be strengthened and improved, specifically through Clean Water Act (CWA) Section 401 certification and 404 permitting programs. A three-phase project was designed. The first phase is a nationwide inventory and analysis of state wetlands and riparian programs. ADEQ, Office of Water Quality, contracted with Arizona State University (ASU) Department of Planning to conduct the inventory and analysis. In many cases, the state programs are a response to federal laws, especially clean water legislation. The second phase is a summary of existing CWA Section 401 and Section 404 programs in Arizona and recommended improvements. This report is the final product of the second phase of the project. The final phase is development of a guidebook to better explain these programs in Arizona.

Rich & Associates has been a partner with ASU for the second and third phases of the project. We appreciate the cooperation of Frederick Steiner, Scott Picart, and Edward Cook, all from ASU, throughout this project. We are also grateful for the support, guidance, and critical reviews of Su Monroe, Carol Russell, Edwin Swanson, and Jack Bale of ADEQ; David Castenon and Arizona field office staff of the Army Corps of Engineers; and Mary Butterwick of EPA.

We acknowledge and appreciate the participation of professionals from the agencies and organizations listed in Appendix B for their time, expertise, and insights which were used as the basis of this report and its recommendations. We also appreciate the extensive review that was made of the initial draft of this document by many of these same individuals.

1.0 INTRODUCTION

1.0 Introduction

1.1 Background

This project is designed to analyze two sections of the Clean Water Act (CWA) that can have a significant impact on wetlands and riparian areas in Arizona: Section 401 certification and Section 404 permitting programs. Section 404 of the CWA is the U.S. Army Corps of Engineers' permitting process for the discharges of dredged or fill material into the waters of the United States. Section 401 of the CWA establishes a certification process by which ADEQ affirms that federally permitted and licensed activities meet state water quality requirements.

The objective of this project is to provide recommendations to strengthen ADEQ's role in the Section 404 permitting process and to improve ADEQ's CWA Section 401 certification process.

This project was conducted in three phases:

PHASE 1: Inventory and summary of out-of-state CWA Section 401, Section 404, wetlands and riparian area programs.

PHASE 2: Preparation of a written evaluation and chart of Arizona's current and optimal future CWA Section 401 and 404 processes

- Definition of CWA Section 401 and Section 404 related laws, guidance, policies, and interview of Arizona Section 401 and Section 404 regulatory agencies, private and public permit and certificate applicants, and interested parties.
- Development of optimal criteria for CWA Section 401 and Section 404 programs in Arizona.
- Development of recommendations for creating an optimal CWA Section 401 and Section 404 program in Arizona.

PHASE 3: Preparation of a guide for the Arizona CWA Section 404 and Section 401 processes.

This report completes Phase 2 of the project.

1.2 Method

This summary of the CWA Section 404 and Section 401 programs in Arizona is based upon an extensive review of the laws, regulations, policies, and literature pertaining to these programs and how they are administered in Arizona. Systematic in-person and telephone interviews of more than 50 individuals representing 26 federal, state, and local government agencies, private businesses, and citizen organizations provided additional information for this study. At the conclusion of this report is a listing of the laws,

regulations, and policies that were collected for this study and a list of the agencies and organizations that were interviewed. Interviewees were selected based upon recommendations from the Corps and the ADEQ, and additional suggestions offered by the initial interviewees.

Three distinct questionnaires were used to interview what was originally perceived as three distinct groups of individuals involved with these two programs: the regulatory agencies, the applicants, and interested parties. However, the use of these questionnaires was modified in the actual interviews because of the difference in the levels of experience and expertise of those interviewed; the amount of time that those who were interviewed had available for the interview; additional questions raised by ADEQ, the Corps, and others who were interviewed; and the different responsibilities and authorities of the public agencies interviewed, which necessitated the development of questions tailored to individual agencies.

Individuals who were considered to be applicants included public agencies and private businesses who had obtained CWA Section 404 permits and Section 401 certifications, and consultants who had worked for applicants seeking to obtain these approvals for their projects. The combined experience of this applicant population represented involvement in more than fifty Section 404 permit applications in Arizona.

The questionnaires were designed to provide a baseline of information about how the CWA Section 404 and Section 401 programs were perceived to work in Arizona. The deviations from the original questionnaire instruments were not considered to be a problem since the questionnaires were not intended to produce statistical results, only to collect information. Thus, the issue descriptions in this report (Chapter 7) are intended to document the perceptions of those who work with the CWA Section 404 and Section 401 programs.

Statistical information discussed in Chapter 5 was derived from the computerized data bases of the Corps and ADEQ. This data reflects the scope and depth of information that is available from these sources.

The two case studies included in Chapter 6 were identified through suggestions by those interviewed and researched through interviews, analysis of public information related to the cases that are maintained by the regulatory agencies, the applicant, and other interested parties.

Optimal criteria were developed in a workshop held at the Arizona State University Department of Planning on March 8, 1991, and attended by representatives from key regulatory and review agencies involved in the CWA Section 404 and Section 401 processes, and a variety of public and private applicants and interested parties. This is described in greater detail in Chapter 8.

The recommendations included in Chapter 9 were developed by Rich & Associates as a beginning point for discussions between ADEQ and the other agencies who might be involved in implementation actions. These recommendations were based upon an analysis of the existing laws and regulations, the results of the interviews, identified strengths and weaknesses of the existing CWA Section 401 and Section 404 programs, the optimal program as defined in the March 8 workshop, and an analysis of the out-of-state programs summarized in phase one of this project. They have been modified at the consultant's discretion based upon comments received from the involved agencies and interested parties.

2.0 FEDERAL AND ARIZONA LAWS, REGULATIONS, AND POLICY

2. Federal and Arizona Laws, Regulations, and Policy

2.1 Current Federal Legal Framework

The major legal basis for the discharge of dredged and fill material permit program and the water quality certification program is the federal CWA. The U.S. Congress enacted the CWA (33 U.S.C. 1251) to "restore and maintain the chemical, physical and biological integrity of the Nation's Waters." Section 301 of this Act prohibits the discharge of any pollutant into the water of the United States except in compliance with certain sections of the act. Included in this list of applicable sections is CWA Section 404, which allows the discharge of dredged or fill material into waters of the United States only after a permit has been obtained from the Corps. Section 404 establishes this permit program to ensure that such discharges comply with environmental requirements.

The CWA also authorizes the states to assume certain responsibilities that can directly affect the issuance of Section 404 permits. Section 401 of the Act requires applicants for federal permits or licenses to obtain water quality certification or waivers of certification from the state where the proposed discharge would originate.

Another law that provides federal authority in waterways is the 1899 Rivers and Harbors Act (RHA), administered by the Corps. Section 10 of the RHA prohibits dredging or discharging materials in navigable waters of the United States without a permit from the Corps. In Arizona, Section 10 only applies to the Colorado River. Section 404 of the CWA applies to a broader geographic area.

2.1.1 CWA Section 404

Waters of the United States protected by the CWA, and therefore included in the scope of the Section 404 permit program, are defined in 33 CFR § 328.3 and include rivers, streams, estuaries, the territorial seas, and most ponds, lakes, playas, wet meadows, and adjacent wetlands. The term wetlands as used in the Section 404 program is:

Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (40 CFR 230.3).

The CWA Section 404 program is broadly recognized as the most significant federal regulatory program affecting wetlands. However, it is not a comprehensive wetlands protection program; it does not regulate

all activities that harm or affect wetlands such as draining or dredging (EPA 1989a), nor does it provide for the protection of riparian areas in arid regions.

In determining waters that are within the scope of the CWA, Congress intended to assert federal jurisdiction to the broadest extent permissible under the commerce clause of the Constitution (EPA 1989a). In Arizona, any navigable waterway or tributary of the Colorado River including washes or isolated waters with an interstate commerce connection (such as Dry Lake, Mormon Lake, Willcox Playa, and Stoneman Lake which are isolated waters used by migratory waterfowl) are included as waters of the United States.

"Discharge of dredged material" is the addition of excavated or dredged materials from waters of the United States back into such waters (33 CFR § 323.2(1)). "Fill material" is any material used for the primary purpose of replacing an aquatic area with dry land or changing the bottom elevation (33 CFR §323.2(m)). Thus, the discharge of fill materials means the addition of that material to the waters of the United States (33 CFR 323.2 (f)). Regulated activities therefore include road construction, discharges associated with sand and gravel extraction, and dam construction, among others.

Several sets of federal regulations are used to implement and define the Section 404 program. The Corps' responsibilities are included in 33 CFR § 320 through 330. Provisions included in these regulations include general regulatory policies (§320); permits for dams and dikes in navigable waters of the United States (§321); permits for structures or work in or affecting navigable waters of the United States (§322); permits for discharges of dredged or fill material into waters of the United States (§323); permits for ocean dumping of dredged material (§324); processing of Department of the Army permits (§325); enforcement (§326); public hearings (§327); definition of waters of the United States (§328); definition of navigable waters of the United States (§329); and nationwide permits (§330).

The Corps also has a series of regulatory guidance letters (also known as RGLs) that further expound upon how to conduct certain activities that are not clearly established in the regulations. Examples of subjects include: accounting, agricultural conversion, bonds, bridges and causeways, categorical exclusions, contracts, dispute resolution, documentation, dredging in Section 404 waters, endangered species, enforcement, exemptions to CWA, general permits, Section 404(b)(1) guidelines, highways, interagency agreements, jurisdiction, mitigation, nationwide permits, National Environmental Policy Act (NEPA), permit coordination, public notices, special conditions, state and local decisions, superfund projects, water quality certification, wetlands, and landclearing. These expire two years after they are issued, but are generally followed by staff in Arizona until they are superseded by other regulatory or guidance direction. The Corps' district office has the authority to issue regional guidance similar to the RGLs called Office

Memorandum, but has not done so to date in Arizona. An example of one such Office Memorandum was issued by the Sacramento district office and covers the procedures to handle irrigated wetlands.

2.1.1.1 CWA Section 404(b)(1) Guidelines

Section 404(b)(1) of the Clean Water Act requires that the Corps exercise its Section 404 authority "through the application of guidelines developed by the Administrator (of EPA), in conjunction with the Secretary (of the Army)." The CWA Section 404(b)(1) Guidelines, found at 40 CFR Part 230, establish mandatory environmental criteria to be used by the Corps in evaluating Section 404 permit applications. The Corps applies the Section 404(b)(1) Guidelines rather than simply deferring to EPA's views on their application. (See RGL No. 86-5, "Implementation of Section 404(q) MOA w/DOI, EPA, and DOC.")

The most important aspect of the EPA guidelines is that they establish a presumption against issuing a permit to fill "special aquatic sites" for non-water dependent purposes. Special aquatic sites include wetlands, sanctuaries, pools and riffle complexes, refuges, mud flats, and vegetated shallows. Specifically, the guidelines create a presumption against filling special aquatic areas by prohibiting the discharge of dredge or fill material into waters "if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem." Where the discharge is proposed for wetlands or another special aquatic site and is not water dependent, "practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise." The practicable alternatives concept takes costs into account, but also includes the use of sites not presently owned by the applicant if they could be reasonably obtained. As the EPA guidelines continue to be applied more stringently in permit decisions, permit applicants are producing more sophisticated practical alternative studies (Want 1990). EPA has established guidance for preparation of 404(b)(1) alternatives analysis (EPA 1989c).

Under the 404(b)(1) Guidelines, discharges are restricted under the following conditions:

- There is a practicable alternative to the proposed discharge with less adverse impact on the aquatic ecosystem and that does not have other significant adverse environmental consequences. Practical alternatives are assumed for non-water dependent projects.
- It causes or contributes to violations of any applicable State water quality standard.
- It violates an applicable toxic effluent standard or prohibition under Section 307 of the CWA.
- It jeopardizes the continued existence of a species listed as endangered or threatened under the Endangered Species Act of 1973 or results in the destruction of critical habitat as defined in the 1973 Act.
- It causes or contributes to (either individually or cumulatively) significant degradation of the waters of the United States, including adverse effects on public health and welfare, life stages of aquatic

life and other wildlife dependent on aquatic ecosystem diversity, productivity and stability, or recreational, aesthetic, and economic values, and special aquatic sites.

- Until appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the ecosystem (40 CFR §230.10).

2.1.1.2 Exemptions

Some activities are exempt from the Section 404 regulatory provisions (CWA, Section 404 (f)(1) and 33 CFR 323.4 and 40 CFR Part 232). Among these activities which are described in Section 404(f) of the CWA are:

- normal ongoing agriculture, forestry, or ranching;
- maintenance or emergency reconstruction of currently serviceable structures that continue to be put to their original uses, including dikes, dams, breakwaters, causeways, or bridge abutments;
- construction or maintenance of farm or stock ponds, or irrigation ditches, or the maintenance of drainage ditches;
- construction or maintenance of farm or forest roads, or temporary roads for moving mining equipment where best management practices are implemented; and

Section 404(r) also exempts Congressionally approved projects if an environmental impact statement has been filed which includes a CWA Section 401(b)(1) Guidelines analysis (Blumm and Zaleha 1989).

2.1.1.3 General Permits

General permits are issued by the Corps on a nationwide or regional basis for a category or categories of activities when:

- those activities are substantially similar in nature and cause only minimal individual and cumulative environmental impacts; or
- the general permit would result in avoiding unnecessary duplication of the regulatory control exercised by another federal, state, or local agency, providing it has been determined that the environmental consequences of the action are individually and cumulatively minimal (33 CFR 322.2(f)).

The Corps has defined 26 of these general permits; listed in Table 1, that are applicable on a nationwide basis in their regulations (33 CFR §330.5). These permits are known as nationwide permits. It is not necessary for the landowner to inform the Corps of the activity under a nationwide permit except for 7, 17, 21 and 26. Rather, as long as the landowner meets the conditions and management practices applicable, he can proceed with the activity. Under a Memorandum of Agreement (MOA) between the Corps and the EPA

on enforcement procedures regarding applicability of previously issued Corps' permits, it is generally the Corps that determines applicability of nationwide permits (Want 1990).

In Arizona, the nationwide permit that is most often used is nationwide permit 26, which applies to all activities under one acre that lie above the "headwaters" and meet fourteen special conditions, and, at the Corps' discretion, may apply to activities between one and ten acres above headwaters that also meet these special conditions. Nationwide 26 is the most important and controversial general permit because large amounts of wetlands losses can occur under it (Want 1990). The location of the headwaters demarcation on a watercourse is important in determining whether it might qualify for nationwide 26 (33 CFR Part 330).

Headwaters in Arizona were initially established by a public notice issued August 15, 1978. Additional public notices were issued throughout the next twelve years. Original headwaters determinations had many Arizona streams being above headwaters. Currently, headwaters in Arizona are being revised for some watercourses and many more rivers are now considered below headwaters demarcations.

The determination of headwaters is made by each Corps' district engineer (DE) According to regulations (33 CFR §330.2(b)), "headwaters" is defined as the point on a non-tidal stream above which the average annual flow is less than five cubic feet per second, or for streams that are dry for long periods of the year, the headwaters may be established as that point on the stream where a flow of five cubic feet per second is equalled or exceeded 50 percent of the time. Headwaters determinations were recently revised in Arizona by the Los Angeles District Corps' Commander.

Division engineers, on their own initiative or upon recommendation of a DE are authorized to modify nationwide permits by adding regional conditions or to override nationwide permits by requiring individual permit applications on a case-by case basis for a category of activities or in specific geographic areas. This discretionary authority should be based on concerns for the aquatic environment as expressed in the guidelines published by EPA pursuant to CWA Section 404(b)(1) (see 33 CFR §330.8).

The Corps can also issue regional general permits for specific categories of activities in specific geographic locations (33 CFR §325). To date, none have been issued for activities in Arizona. Others have existed in the past (e.g. Colorado River boat docks).

TABLE 1.
NATIONWIDE PERMITS*

1. Aids to Navigation
2. Structures in Artificial Canals
3. Repair and Replacement Activities
4. Fish and Wildlife Harvesting Devices
5. Scientific Testing Devices
6. Survey Activities
7. Outfall Structures with National Pollutant Discharge Elimination System (CWA Section 402) Permits and Approved Intakes
8. Oil and Gas Exploration Structures
9. Structures in U.S. Coast Guard Approved Anchorages
10. Individual Mooring Buoys
11. Temporary Buoys
12. Utility Line Crossing
13. Bank Stabilization Activities
14. Minor Road Crossing
15. Fill Associated with U.S. Coast Guard Approved Bridges
16. Return Water from Hydraulic Dredging
17. Fills for Small Hydro Power Projects
18. Discharges less than 10 cubic yards
19. Dredging less than 10 cubic yards
20. Discharges to Clean up Oil Spills
21. Surface Mining Control and Reclamation Act Approved Actions
22. Removal of Obstructions to Navigation
23. Council of Environmental Quality Adopted Categorical Exclusions for Federal Agency Activities
24. CWA Section 404(g) Programs
25. Discharges of Concrete in Sealed Coils
26. Discharges into Headwaters, Isolated or Intermittent Waters

* 33 CFR Part 330, November 1986

2.1.1.4 Jurisdictional Delineation

As previously indicated, the CWA requires a permit for the discharge of dredge or fill materials to waters of the United States. These waters, as defined by regulation, include wetlands (including "adjacent" wetlands), and other waters (including intermittent streams) to the ordinary high water (OHW) in freshwater areas or mean highwater mark in tidal areas. The Corps and EPA must delineate these areas in order to determine jurisdiction of CWA Section 404 permitting authorities.

Under Corps' and EPA regulations, much more stringent criteria are invoked in the permit process if the area is a wetland or special aquatic area rather than another area of jurisdictional coverage. If it is a wetland or special aquatic area, there is a presumption against granting the permit for a non-water-dependent fill, whereas if it is one of the other areas, there is no such presumption (Want 1990).

Corps' regulations provide that the district offices are responsible for determining whether an area is subject to wetlands and /or OHW jurisdiction and therefore subject to the CWA Section 404 permit requirement.

The Corps, EPA, U.S. Fish and Wildlife Service (USFWS) and Soil Conservation Service all use the same manual for identifying wetlands (Federal Manual 1989). The federal manual has three criteria for making a wetlands determination: wetlands hydrology, hydrophytic vegetation and hydric soils.

The Corps' regulations actively encourage landowners to provide a preliminary wetlands jurisdictional determination (PJD) (RGL No. 88-3 "Wetlands Jurisdictional Determination"). Because the Corps' regulatory staff are generally overloaded with work, a landowner who simply submits a request for wetlands determination without a PJD may not get a timely Corps' final determination. A growing number of consultants make wetlands determinations, some in small speciality firms. In non-complex, non-controversial wetlands determinations, the Corps' district offices often approve the private consultant's PJD without making a site visit. In other circumstances, the Corps' district office staff will undertake independent site assessment (Want 1990).

For the jurisdictional determination, no requirement exists for input from other federal agencies, state agencies, the landowner, or the public. The Corps' district typically will make the determination without conferring with anyone other than the applicant. Sometimes, in controversial situations, the Corps either unilaterally or in agreement with the landowner seeks input from others, particularly the USFWS and EPA. The jurisdictional determination is final with the DE (Want 1990).

The Corps' jurisdiction over waters reaches laterally to the mean high water mark (MHW) in tidal areas, and the ordinary high water mark (OHW) in freshwater areas (33 CFR Part 329.11). MHW is "established by (ground) survey with reference to the available tidal datum, preferably averaged over a period of 18.6 years." The OHW is the "line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank." The Corps makes the OHW demarcation determinations in Arizona. In Arizona the OHW mark is, as in most arid areas, the outermost boundary of jurisdiction, where in states where the climate is wetter, wetlands are the outermost boundary.

2.1.1.5 Mitigation

Mitigation includes replacement of ecological resources lost as a result of development, and lessening adverse environmental impacts of development. As a part of the Corps' Section 404 program, it is a controversial subject because the Corps and EPA have had divergent views on the subject. Nationally, the Corps' position had been that it is appropriate to use mitigation as a basis for granting a permit that otherwise would be contrary to the public interest or not meet legal requirements. EPA has taken the position that mitigation should not be considered in the permit decision, but rather used to lessen the adverse impacts of a project that warrants a permit without consideration of mitigation (Want 1990).

As a result of this difference, the Corps and EPA entered into a MOA on Mitigation on February 7, 1990. The MOA adopts the mitigation sequencing approach EPA has used for a number of years, where mitigation cannot be considered as a factor in favor of issuing a permit, but rather mitigation is required after the permit proposal is determined to meet minimum decision criteria independently of mitigation. The mitigation sequencing is to be taken in order: avoidance, minimization, and compensation. "Compensatory mitigation may not be used as a method to reduce environmental impacts in the evaluation of the least environmentally damaging practicable alternatives for the purposes of requirements under Section 230.10(a)" (Want 1990).

The MOA also sets up a "no overall net loss" policy. The overall standard under the MOA as to the amount of mitigation required is that functions and values of wetlands must be replaced consistent with the policy of no net loss. Specifically, the MOA provides: "(F)or wetlands, such mitigation should provide, at a minimum, one for one functional replacement (i.e., no net loss of values), with an adequate margin of safety to reflect the expected degree of success associated with the mitigation plan, recognizing that this may not be appropriate and practicable, and thus may not be relevant in all cases..." While the MOA recognizes that no net loss of wetland functions and values may not be achieved in each and every permit

action, "it remains a goal of the Section 404 regulatory program to contribute to the national goal of no overall net loss of the nation's remaining wetlands base."

In accomplishing the goal of no net loss, the MOA establishes a preference for in-kind compensatory mitigation over out-of-kind. Preference is also given to wetlands restoration over wetlands creation because of the latter's lesser certainty of success. The MOA states a preference for on-site mitigation, which by definition must be adjacent or contiguous to the discharge site. The view of uncertainty with respect to mitigation led to the implementation of two other concepts: mitigation banking and mitigation monitoring as a permit condition. Mitigation banking creates or restores the wetlands in advance of their serving as credit for development. The MOA accepts the mitigation banking concept and states that the agencies will provide additional guidance on mitigation banking in the future. The MOA states that monitoring of mitigation should be imposed as a permit condition, particularly where there are high levels of scientific uncertainty. The agencies should use the monitoring requirement as a means of enforcing the mitigation conditions. In the past, these were often forgotten once the permit was issued (Want 1990).

2.1.1.6 Assumption of 404 Programs by States

EPA has the sole authority to approve CWA Section 404 program assumption by states and maintains oversight of state-assumed programs (CWA, Section 404 (g)-(1)). State assumption of the CWA Section 404 program is governed for the most part by 40 CFR § 233. The State program must be at least as stringent as the federal program. ADEQ has indicated that it will seek assumption/primacy for all federal programs that affect its mission. Therefore, ADEQ may, in the future, seek State program assumption for the CWA Section 404 program.

2.1.1.7 Program Authorities of the Corps and EPA

The Section 404 program is administered at the federal level by the Corps and EPA. The Corps has the primary responsibility for the permit program and is authorized to issue permits, but EPA has oversight responsibility for the program. For example, while the Corps issues permits, it must follow environmental guidelines set and monitored by EPA.

The Clean Water Act created a complex scheme for authorities for Section 404 permit regulation in both the Corps and the EPA. The Corps administers the permit program but the decisions are to be based on the Section 404(b)(1) Guidelines developed by EPA. Section 404(c) gives EPA veto authority over issuance of permits. CWA Section 404(a) and 40 CFR Part 231 allow for elevation of disputes between EPA and the Corps.

While the Attorney General of the United States interpreted the CWA to vest EPA with the ultimate authority to make a wetlands determination (Civiletti opinion), the Corps in fact routinely makes jurisdictional determinations in administering the permit program. As a result of the Civiletti opinion, the agency entered into a memorandum of understanding on "Geographical Jurisdiction of the Section 404 Program" in April 1980. A revised memorandum of agreement (MOA) on geographical jurisdiction was signed on January 19, 1989. Through the MOA, EPA has the authority to designate in an area a special case, and then make the jurisdictional determination rather than the Corps. Special cases may be designated in generic or project-specific situations where significant issues or technical difficulties are anticipated or exist as to jurisdiction. The revised MOA makes it clear that it is the Corps that will routinely make the wetlands determination. If EPA has not designated an area a special case, the Corps makes the determination without a requirement for prior consultation with EPA. The Corps' determination, which must be in writing, once made is final and cannot be overruled by EPA (Want 1990).

Another important aspect of the agencies' respective authorities as to jurisdictional determinations is included in a separate January 19, 1989 MOA between the Corps and EPA concerning federal enforcement of Section 404 ("Memorandum of Agreement Between the Department of the Army and the Environmental Protection Agency Concerning Federal Enforcement for the Section 404 Program of the Clean Water Act"). That memorandum provides that the geographic determination for a specific enforcement case will be made by the particular agency investing the case. The memorandum also provides EPA the authority to enforce CWA provisions against those unpermitted discharges of dredged or fill materials into waters of the United State and the Corps' authority to enforce the law against those that violate the terms of the permit (Want 1990).

Despite the confusing array of authorities provided the agencies by the Clean Water Act, as a matter of practice, the Corps administers the Act's Section 404 program. The Corps is the agency from which one seeks a wetlands determination and to which one submits a permit application. EPA has exercised its authorities principally by reviewing the Corps' actions and policies (Want 1990).

2.1.1.8 Other Agencies' Involvement

The USFWS has a great deal of expertise in many aspects of mitigation. For this reason, and because of USFWS commenting authority, the Corps often gives a lot of weight to USFWS comments on mitigation (Want 1990). The USFWS and the state game and fish agency also are involved in mitigation evaluation through the federal Fish and Wildlife Coordination Act. In Arizona, that State agency is the Arizona Game and Fish Department (AGFD). Both AGFD and USFWS have mitigation policies that they follow.

The USFWS also has a national MOA with the Corps (CWA Section 404 (q) MOA) which establishes a practice of resolving differences at the field level and establish an informal process for consultation. The MOA allows a local dispute to be elevated to higher levels for resolution (RGL No. 86-5).

Other federal agencies that have management responsibilities in waterways have laws, regulations, and policies that affect their actions and can indirectly impact the Section 404 program. These include the wetland and/or riparian protection policies, strategies, etc. of the U.S. Bureau of Reclamation, U.S. Bureau of Land Management, and U.S. Forest Service. EPA has adopted a goal of no overall net loss of the nation's remaining wetland base, as defined by acreage and function, and restoration and creation of wetlands, where feasible, to increase the quality and quantity of the nation's wetlands resource base (EPA 1989b).

To qualify for Section 404 permit, an activity must not violate certain other state and federal laws and policies. The Corps has a Regulatory Guidance Letter instructing Corps' districts to discontinue processing a permit if the activity violates any of numerous such laws or policies. (RGL No. 88-12, "Regulatory Thresholds"). Prerequisites for a Section 404 permit include: state water quality certification under the Clean Water Act, state determination of consistency with the State Coastal Zone Management Plan, and compliance with the National Environmental Policy Act, the Endangered Species Act, the National Historic Preservation Act, and Wild and Scenic Rivers Act. Complying with these prerequisites often necessitates use of consultants to provide essential information. The Corps has issued a Regulatory Guidance Letter setting forth acceptable criteria for use of such information (RGL No. 88-15, "Third Party Contracting").

2.1.2 CWA Section 401 Program

Section 401 of the Clean Water Act (also, 33 CFR 320.4(d)) requires that any applicant for a federal permit or license for an activity which may discharge to waters must obtain a certification from the state that the discharge will comply with water quality requirements and effluent limits. This applies to general permits (regional or nationwide) as well as individual Section 404 permits.

Federal permits and licenses requiring CWA Section 401 certification include permits for point source discharges under Section 402 and discharge of dredged and fill material under Section 404 of the Clean Water Act; permits for activities in navigable waters which may affect navigation under Sections 9 and 10 of the RHA; and licenses required for hydroelectric projects issued under the Federal Power Act. There are likely other federal permits and licenses, such as permits for activities on public lands, and Nuclear Regulatory Commission licenses, which may result in a discharge and thus require CWA Section 401 certification (EPA, 1989c).

Section 401 provides that the state certification requirement is waived if the state fails to act within a reasonable time (which shall not exceed one year) of receipt of the request for certification. Implicit in this regulation is that the original request for certification provides adequate information. The Corps' regulations define that reasonable time to be 60 days, but allow DEs to extend the time up to one year (33 CFR 325.2(b)(1)(ii), and RGL No. 87-3, "Water Quality Certification"). Neither the Corps nor federal courts can review the state's certification decision; judicial review is in the state courts (Want 1990). If the State denies certification, the federal permitting or licensing agency is prohibited from issuing a permit or license (EPA 1989c).

EPA can also become involved in water quality certification. EPA can advise the Corps' District Engineer (DE) that it disagrees with the state's certification or can raise water quality concerns beyond the state's certification scope; i.e. identifies "other water quality aspects." "Other water quality aspects" can include water quality concerns outside the scope of the state's Section 401 certification review, indirect impacts on water quality aspects that the state certification does not address, and matters addressed in the state certification with which EPA has a different viewpoint. In these cases, although the state certification still satisfies the CWA Section 401 requirement, the DE must determine compliance with 40 CFR 230.10(b)(1) and the consideration of water quality issues in the public interest review process. In exercising his judgement, the DE must coordinate his actions with the state certifying agency and EPA (RGL No. 90-4, "Water Quality Considerations" (33 CFR Part 320.4(d))).

2.1.2.1 CWA Section 401 Certification Criteria

In CWA, Section 401(d), Congress has given the states the authority to place any conditions on a water quality certification that are necessary to assure that the applicant will comply with: effluent limitations, water quality standards, standards of performance or pretreatment standards, any state law provisions or regulations more stringent than those sections, and "any other appropriate requirement of state law."

Legislative history indicates that the Congress meant for the states to impose whatever conditions on the certification that are necessary to ensure that an applicant complies with all state requirements that are related to water quality concerns. Also, because the states' certification of a construction permit or license also operates as certification for an operating permit, it is imperative for a state review to consider all potential water quality impacts of the project, both direct and indirect, over the life of the project (EPA 1989c).

Under 33 CFR 330.9, CWA Section 401 water quality certificates are required for nationwide permits that may result in a discharge into waters of the United States. These nationwide permits are subject to the

CWA Section 401 certification requirement when they are first proposed or proposed for reissuance. At that time, the state has the opportunity to either issue Section 401 certification, deny Section 401 certification, or issue Section 401 certification with special conditions for particular nationwide permits. If a state fails to act (as Arizona did in 1986, when the nationwide permits were most recently considered), it waives Section 401 certification.

Federal regulations pertaining to the CWA Section 401 program identify the contents of the certification and application, provisions for determining the impacts on other states, and situations in which EPA must provide the certification and the manner in which this should be done (see 40 CFR §121: State Certification of Activities Requiring a Federal License or Permit).

States are directed to establish water quality standards under Section 303 of the CWA. This requirement is further defined in 40 CFR §131: Water Quality Standards. When setting standards, the states must take into consideration the waters' use and value for "public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial and other purposes" (33 U.S.C.A. 1313(c)(2)(A)). EPA has the authority to review and approve or disapprove of the state's standards, and the states are required to review and, as appropriate, revise their standards every three years (known as a triennial review). If EPA believes that a state's water quality standards are inconsistent with the CWA or if the state does not make changes requested by EPA, EPA must promulgate standards for the state. This was the case for nutrient standards in Arizona (40 CFR §131.31).

EPA has issued national guidance on water quality standards for wetlands to enable the states to meet the priority established in the FY 1991 Agency Operating Guidance to develop water quality standards for wetlands during the 1991-1993 triennial review of water quality standards. Water quality standards are necessary to ensure that the provisions of the CWA applied to other surface waters are also applied to wetlands. By the end of FY 1993, the minimum requirements for states are to include wetlands in the definition of "state waters," establish beneficial uses for wetlands, adopt existing narrative and numeric criteria for wetlands, adopt narrative biological criteria for wetlands, and apply anti-degradation policies to wetlands (EPA 1990a).

2.1.3 Executive Policies on Wetlands

Wetlands protection have been a periodic presidential concern over the past two decades. Executive Order 11990 requires the consideration of impacts on wetlands by federal agencies. More recently, President George Bush has stated a goal of no net loss of wetlands. This goal and its implementation is being clarified at the national level.

Executive Order 11988 on floodplain management also requires that each agency shall consider alternatives to avoid adverse impacts and incompatible development on floodplains.

2.2 Anticipated Changes to Federal Legal Framework

2.2.1 Clean Water Act Revisions

The CWA will be considered for reauthorization in 1992. Discussions currently underway as to the nature of the changes that would be included in proposed revisions to the Act. No proposals to change CWA Sections 404 or 401 are currently being made due to the pending CWA reauthorization.

2.2.2 Comprehensive Wetlands Legislation

Comprehensive wetlands legislation providing for a new wetlands program to substitute for the CWA Section 404 program and dealing with a range of issues that were raised in response to the 1989 Wetland's Delineation Manual will be introduced in 1991. Based upon the review and reactions of business and environmental groups, it appears that the legislation would seriously weaken the wetlands program and provide compensation to landowners for government restrictions on privately owned wetlands (Environmental Reporter 1990).

2.2.3 Nationwide Permit Reauthorization

Nationwide permits expire November 1991. Suggested revisions were published in the Federal Register on April 10, 1991. Table 2 lists the proposed revisions.

2.2.4 CWA Section 404 Permit Fees

The regulations pertaining to fees for a CWA Section 404 permit (33 CFR 325.1(f)) have been proposed for modification. The current fee structure is \$10.00 for permits for non-commercial activities, \$100 for commercial or industrial activities, and no charge for activities undertaken by government agencies. These fees are payable at the time a permit is issued. There is no fee assessed when property ownership is transferred, nor for time extensions, general permits, or letters of permission (letters of permission are discussed in greater detail in Chapter 3).

TABLE 2.

PROPOSED ADDITIONS TO THE NATIONWIDE PERMITS*

27. Wetland Restoration Activities
28. Modifications of Existing Marinas
29. Reserved for a future unspecified nationwide permit
30. Dewatering construction sites
31. Small Docks and Piers
32. Completed Enforcement Actions
33. Temporary Construction and Access
34. Cranberry production activities
35. Maintenance dredging of existing basins
36. Boat ramps
37. Emergency watershed protection
38. Cleanup of hazardous and toxic waste
39. Agricultural discharges
40. Farm buildings

* 33 CFR Part 330, April 10, 1991 (Proposed Rule)

As proposed, the fees would increase dramatically. The proposed revisions would increase fees for permit evaluations, add fees for making wetlands jurisdictional delineations, holding public hearings, and preparing environmental impact statements when required for specific permit applications. The proposed fees would be nonrefundable, and would reflect costs associated with a typical permit application, including the issuance of a public notice, coordination of the permit application with other agencies and the general public, the evaluation and documentation of an activity's impacts, and the preparation and issuance of documents authorizing or denying a proposed activity.

The proposed application fees would include a minimum \$100 application fee to accompany each application for a permit. The Corps would then review the application and determine the additional fee (if any) for the evaluation process. In general, a standard fee for a commercial project would be \$2,000, for a noncommercial project, \$500. A letter of permission for a commercial project would cost \$300, for a noncommercial project, \$100. For an after the fact permits, these fees would be increased by 30 percent. General permits would cost \$100 for commercial and noncommercial applicants.

Additional charges would include (1) wetlands jurisdictional delineation fees, which would range from \$150 to \$1,500 plus actual costs which exceed this amount, depending upon the size of the tract and whether on-site visits by the Corps or some other entity would be required; (2) public hearing fee of \$1,000 per hearing; (3) Environmental Impact Statement (EIS) fee, which would be based upon the Corps' costs if the Corps prepares the EIS, or \$5,000 if the applicant prepares or pays for the preparation of the EIS or supplemental EIS.

The comment period for these proposed fee changes closed in December 1990, and it is not known when the final ruling will be announced. According to a representative of the Corps, the approval of the proposed changes to the permit fees has been indefinitely postponed.

2.2.5 Wetlands Jurisdictional Manual Revisions

Delineation of wetlands is carried out according to the provisions in a joint manual prepared by EPA, the Corps, USFWS and the Soil Conservation Service. The joint manual, called the Federal Manual for Identifying and Delineating Jurisdictional Wetlands, relies on three criteria to delineate wetlands: hydrophytic vegetation, hydric soils, and wetlands hydrology. The wetlands jurisdictional manual is currently being revised.

2.3 Current State Legal Framework

Arizona does not have a state permit program or a water quality certification program to regulate activities in floodplains that parallels or complements the CWA Section 404 and Section 401 programs, nor does the state have its own legislatively mandated riparian protection program to supplement the protection given to wetlands by these CWA programs. Thus, the CWA Section 404 permit program and the Section 401 certification program occupy a unique niche in Arizona's regulatory setting. They are programs of great interest to those who believe them to be of great importance as well as to those who believe them to be unnecessary.

Arizona does have a number of laws, regulations, and programs that can influence, to some degree, the implementation of the CWA Section 404 and 401 programs. These are described in the following sections.

2.3.1 Environmental Quality Act

Under the Environmental Quality Act, passed in 1986, ADEQ is designated by A.R.S. §49-202.A as the agency for all purposes of the CWA. The statute authorizes the department to take all actions necessary to administer and enforce the CWA (and others), including entering into contracts, grants, and agreements, adopting, modifying, or repealing rules, and initiating administrative and judicial actions to secure to this state the benefits, rights and remedies of such acts.

A.R.S. §49-221 requires that the director of ADEQ adopt by rule water quality standards for all navigable waters and waters in all aquifers. Navigable waters is defined in the statute as the waters of the United States as defined by Section 502 of the CWA (ARS §49-201.17). Under A.R.S. §49-221, ADEQ may also establish standards for other waters of the state. "Waters of the state" is defined as "all waters within the jurisdiction of this state including all perennial or intermittent streams, lakes, ponds, impounding reservoirs, marshes, watercourses, waterways, wells, aquifers, springs, irrigation systems, drainage systems and all other bodies or accumulations of surface, underground, natural, artificial, public or private water situated wholly or partly in or bordering on the state" (ARS §49-201.31).

The director is also authorized to enter into contracts or agreements with the federal government to implement federal environmental statutes and programs (A.R.S. §49-202.B.5), and enter into intergovernmental agreements (A.R.S. §49-202.B.6). The Water Quality Advisory Council is established in A.R.S. §49-205, and is authorized to advise and make recommendations to the director regarding water quality standards among other topics.

A.R.S. §49-221 through 223 addresses water quality standards. Under A.R.S. §49-221.C, the director is required to consider a number of factors in setting standards, including: the protection of the public health and the environment; the provisions and requirements of the CWA and the Safe Drinking Water Act and the regulations adopted pursuant to those acts; guidelines, action levels, or numerical criteria adopted or recommended by the EPA or any other federal agency; and any unique biological, physical, or chemical properties of the waters. Water quality standards are to be expressed in terms of the uses to be protected, and inadequate information exists to do so, numerical limitations or parameters, in addition to any narrative standards which the director deems appropriate.

Enforcement is addressed in A.R.S. §49-261 through 265. This article provides for civil penalties for a number of offenses, including the violation of water quality standards not to exceed \$25,000 per day per violation. It is specifically stated that it is unlawful to violate a water quality standard, and provides for criminal penalties ranging from class 6 felonies to class 2 misdemeanors. The attorney general is authorized to provide enforcement for criminal violations (A.R.S. §49-263). Enforcement may also be addressed through citizen suits by any persons having an interest which is or may be adversely affected (A.R.S. §49-264).

2.3.2 State Water Quality Standards

Water quality standards are established by rule under Title 18, Chapter 11 of the Arizona Official Compilation of Administrative Rules and Regulations. The standards include an anti-degradation policy (R18-11-202) which requires the maintenance and protection of existing surface water uses and the level of water quality necessary to protect them. Surface waters with quality exceeding levels necessary to support fish, shellfish, wildlife, and recreation shall be maintained and protected unless the Water Quality Advisory Council determines that allowing lower water quality is necessary to accommodate important economic or social development (R18-11-202.B). Degradation is not allowed in high quality waters which constitute an outstanding public resources or in waters of exceptional recreational or ecological significance (also considered to be "unique waters"- Article 3 provides for the designation of these unique waters under R18-11-303); nor in any stream or lake which would destroy the critical habitat for a threatened or endangered species which is historically or presently known to be associated with such waters (R18-11-202.C. and D.).

The current water quality standards include general standards (R18-11-204) and specific standards (R18-11-205) applicable to all surface waters, nutrient standards (R18-11-206), salinity of the Colorado River (R18-11-214), and fecal coliform, pH, trace substance, temperature, turbidity, and dissolved oxygen standards for the protected uses of the state (in Appendix B of the regulations, and referred to in R18-11-209).

2.3.3 State Flood Control Statutes

A.R.S. §45-1401 through 1501 pertains to flood control. The statutes empower the boards of supervisors of the counties to cooperate with the United States in the construction of a flood control project or projects for flood control protection. The counties are further allowed to acquire and provide land, easements, and rights of way necessary for the construction of these federally funded flood control projects, to maintain and operate such works, and to establish and enforce flood-channel limits and regulations, if any, satisfactory to the secretary of the army (A.R.S. §45-1403).

2.3.4 Ownership of Streambeds

In 1987, Arizona passed a law regarding ownership of streambeds (ARS § 37-1101 to § 37-1108). Through this statute, the state gives up, to those claiming ownership, any interests and rights the state has in the lands that were outside the riverbed as it existed on January 1, 1987. "Anyone can apply to the state land commissioner for a deed to lands in or near the present riverbed which are subject to (or exempt from) property taxation" (Hyde, Tabor, Thornburg 1990) The land under a river as it existed on January 1, 1987 cannot be held in private ownership. For the purpose of the statute, the bed of the river is defined as the land between the ordinary high water marks (Hyde, Tabor, Thornburg 1990). This statute has been challenged in court by the Arizona Center for Law in the Public Interest and is currently under judicial review.

2.3.5 Arizona Heritage Fund

The Arizona Heritage Fund, which was established in the fall of 1990 as a result of passage of a citizen initiative, provides funding of \$20 million through the state lottery to be split between AGFD and Arizona State Parks Board (ASPB). AGFD is authorized to use the funds for a number of purposes, including habitat inventory, acquisition, and management, and habitat evaluation and protection. ASPB is authorized to use the funds for the development and acquisition of parks and natural areas and for matching grants to local groups for parks, trails, environmental education and cultural resources.

2.3.6 Riparian Protection Executive Order

On February 14, 1991, Governor Rose Mofford signed Executive Order No. 91-6, "Protection of Riparian Areas." This executive order establishes the policy of the Arizona to be:

- (a) To recognize that the protection and restoration of riparian areas are of critical importance to the State;
- (b) To actively encourage and develop management practices that will result in maintenance of existing riparian areas and restoration of degraded riparian areas;
- (c) To promote public awareness through the development of educational programs of the benefits and values of riparian areas and the need for their protection and careful management;
- (d) To seek and support cooperative efforts and local group and citizen involvement in the protection, maintenance and restoration of riparian areas;
- (e) To actively encourage the preservation, maintenance and restoration of instream flows throughout the State;

- (f) That any loss or degradation of riparian areas will be balanced by restoration or enhancement of other riparian areas of equal values and functions. (Executive Order 91-6)

The definition of a riparian area in the executive order is "an aquatic or terrestrial ecosystem that is associated with bodies of water, such as streams, lakes, or wetlands, or is dependent upon the existence of perennial, intermittent, or ephemeral surface or subsurface water drainage."

The executive order requires that all state agencies rigorously enforce their existing authorities to assure riparian protection, maintenance and restoration. It specifically directs ADEQ to "consider the protection of riparian areas in its decision making regarding certification, conditioning, or denial of water quality certifications under Section 401 of the Federal Clean Water Act, other applicable rules, and approved state and regional water quality planning and management programs."

In addition, it creates an eleven-member interagency Riparian Areas Coordinating Council which consists of the directors or designees of a number of different state agencies including ADEQ, AGFD, ASPB, Arizona Department of Transportation (ADOT). This Council has a number of responsibilities, including recommending to the Governor a statewide riparian management plan (the coordination for drafting this plan is the responsibility of AGFD), and developing recommendations for future actions and legislation as needed. ADEQ is responsible for coordinating with other state agencies to develop legislation mandating state riparian area protection for submittal to the Council. Under the executive order, AGFD is also responsible for conducting a statewide inventory and classification of riparian areas.

2.3.7 Other Agency Policies and Management Direction

In response to Executive Order 91-6 and its predecessor, Executive Order 89-16, "Streams and Riparian Resources," several agencies have developed policies or other management direction to provide for the protection of riparian resources. AGFD has several policies that allow for benefits to riparian areas including the National Environmental Policy Program Act Compliance Policy, Riparian Habitat Policy, Water Conservation and Recreation Development Policy, and Wildlife and Wildlife Compensation Procedure and Policy. The Arizona State Land Department has a "Riparian Ecosystem Strategic Plan," which sets out goals and strategies for the management of riparian ecosystems in the State Trust inventory. ADOT has a wetland preservation policy which provides direction within the Highways Division to ensure the protection, preservation, and enhancement of Arizona's wetlands to the fullest extent practicable. These and other state and federal agencies policies, plans, and programs affecting riparian resources are described in "Agency Authorities, Programs and Activities Impacting Riparian Resources," prepared for the Arizona Governor's Riparian Habitat Task Force (ADEQ 1991).

ADEQ utilizes a policy for Construction and Related Activities in Water for their CWA Section 401 certification review. This policy was adopted in 1977 by the Water Quality Control Council (the predecessor to the Director of ADEQ for major water quality management decisions). It includes a list of specific procedures for preventing water pollution, and requires turbidity monitoring by the responsible entity every day there is a disturbance of the bed of the waterway, with weekly reports of turbidity measurements to the water quality control agency.

2.4 Anticipated Changes to State Legal Framework

2.4.1 Water Quality Standards

ADEQ is in the process of revising the water quality standards. Features of the proposed changes include an implementation policy for the antidegradation standard. It is anticipated that the revised standards may be adopted in early 1992.

2.4.2 Legislation

Two 1991 legislative initiatives could indirectly affect the CWA Section 401 and Section 404 programs in Arizona. The first is an effort to establish an environmental review and analysis process for state actions that would seek to achieve similar goals to the National Environmental Policy Act. At least 18 other states have adopted similar comprehensive environmental review laws, including western states such as California and Washington. The second is a riparian protection act which would include riparian habitat as a recognized use of water in Arizona for the purpose of instream flow protection.

3.0 PROCESS

3. Process

3.1 CWA Section 404 Permit Process

3.1.1 CWA Section 404 Process as Defined in Laws and Regulations

Figure 1 indicates a Corps' diagram showing a generalized application evaluation process for CWA Section 404 permits. This diagram is similar to those used to explain the process to potential applicants. When compared to diagrams of how the process actually occurs in Arizona (Figures 2,3, and 4), this diagram appears simplistic.

The process for obtaining a CWA Section 404 permit is specified in 33 CFR §325. Highlights from these regulations are included here. Sections that do not pertain to Arizona (for example, that pertain to ocean dumping) have been left out.

3.1.1.1 Pre-application

As discussed in 33 CFR §325.1(b) a pre-application consultation is suggested for all major applicants. This should be a brief but thorough meeting so the applicant may begin to assess the viability of some of the more obvious potential alternatives in the application. A single point of contact is established by the Corps for the applicant. The regulations specify that the DE is responsible for establishing local procedures and policies and district staff should be available for advising potential applicants of information and studies necessary for the permit.

3.1.1.2 Application

Applicants are required to use a standard application form (ENG Form 4345) or some local variation modified for the purposes of coordinating with federal, state and local agencies. The application must include:

- A complete description of the proposed activity including necessary drawings, sketches, or plans necessary for public notice and other specific information required by the district or division engineers on a case-by-case basis. All activities which the applicant plans to undertake which are reasonably related to the same project and for which a Corps' permit would be required should be included in the same application.

- If the activity would include discharge of dredged and fill material into the waters of the United States, the application must include the source of the material, the purpose of the discharge, a description of the type, composition and quantity of the material, the method of transportation and disposal of the material and the location of the disposal site. There are also specific information requirements for activities that would involve dredging in navigable waters, the construction of a filled area or pile or float-supported platform, the construction or placement of an artificial reef, and the construction of an impoundment structure.
- The applicant's signature.
- Additional information that the DE deems essential to making a public interest determination, including a determination of compliance with CWA Section 404(b)(1) guidelines.

The application is determined to be complete when sufficient information is received to issue a public notice.

The regulations provide standard procedures for processing of applications (33 CFR §325.2). When an application is received, the DE shall immediately assign an identification number, advise the applicant of the number, and review the application for completeness. If the application is incomplete, the Corps should request from the applicant within 15 days of receipt of the application any additional information necessary for further processing. If the application is complete, the DE has 15 days to issue a public notice.

3.1.1.3 Public Notice

According to the regulations (33 CFR §325.3), the public notice should include the following items:

- applicable statutory authority or authorities;
- name and address of the applicants;
- name or title, address and telephone number of the Corps' employee from whom additional information concerning the application can be obtained;
- the location of the proposed activity;
- a brief description of the proposed activity, its purpose and intended use, including a description of the type of structures, if any;
- a plan and elevation drawing showing the general and specific site location and character of all proposed activities;
- a list of other governmental authorizations obtained or requested by the applicants, including required certifications relative to water quality;
- statements concerning the DE 's current knowledge on historic properties, endangered species;
- a statement pertaining to any categorical exclusions from NEPA;

- a statement pertaining to evaluation factors used by the Corps;
- other available information that may assist interested parties in evaluating the likely impact of the proposed activity on public interest factors;
- the comment period (not more than 30 days nor less than 15 days from the date of the notice according to §325.2(d)(2); and
- information about how to request a public hearing.

For general permits, public notices must be published within their areas of jurisdiction.

The regulations (33 CFR §325.3(d)(1)) state that public notices will be distributed for posting in public places in the vicinity of the site of the proposed work and sent to the applicant; to appropriate city and county officials; to adjoining property owners; to appropriate state agencies; to appropriate Indian tribes or tribal representatives; to concerned federal agencies; to local, regional, and national shipping and other concerned business and conservation organizations; to appropriate river basin commissions; to state and areawide clearing houses; to local news media; and to any other interested parties. Copies should also be sent to all parties who have specifically requested copies of public notices, to U.S. Senators and Congressmen in the area where the project is to take place, and to numerous agencies, including the USFWS, EPA, National Park Service, state fish and game agency, state Historic Preservation Officer, and the District Commander of the U.S. Coast Guard.

It is presumed that all interested parties will respond to the public notices, and a lack of response should be interpreted as meaning there is no objection to the proposed project. The DE will consider all comments received and include them in the administrative record of the decision.

3.1.1.4 Conflict Resolution

Comments on a permit are to be furnished to the applicant who may voluntarily attempt to resolve conflicts with the objectors. The importance of this provision allowing the applicant to attempt to resolve conflicts was underscored in the case of *Mall Properties, Inc. v. Marsh*. In this case, the Corps denied a permit to Mall properties to develop property in North Haven, Connecticut for a shopping mall. The developer sued to reverse this decision on the basis that it had not been informed of a meeting between the Corps and the governor of Connecticut at which the governor recommended against issuance of the permit on the basis that the mall project in North Haven would jeopardize the fragile economy in nearby New Haven. The court agreed with the developer that the Corps' regulations require that it give the applicant an opportunity to rebut objections made to the project. Hence, the court required the Corps to follow this requirement before making a determination (Want 1990).

3.1.1.5 Permit Decision

The Corps must use the following criteria to determine whether to grant or deny permits and also to determine necessary conditions:

- Public interest review (33 CFR §320.4(a)). Permits are granted only if they are determined to be in the public interest. The impact of the project is balanced against the intended use and all relevant factors considered, including conservation, economics, aesthetics, environmental concerns, fish and wildlife, flood prevention, land use, navigation, recreation, water supply, flood prevention, land use, navigation, energy needs, safety, food production, and the needs and welfare of the people.
- Impacts on wetlands (33 CFR §320.4(b)). Permits will not be issued for projects that will unnecessarily alter or destroy wetlands, and practicable steps must be taken to minimize adverse impacts on the aquatic ecosystem (40 CFR§ 230.1(d)).
- Fish and Wildlife (33 CFR §320.4(c)). Applicants will be urged to modify their proposals to eliminate or mitigate damage to wildlife resources. EPA may veto a CWA Section 404 permit based on fish and wildlife considerations (CWA Section 404(c)).
- Endangered Species Act. Section 7 of the act commands all federal agencies to insure that actions authorized, funded or carried out by them do not jeopardize the continued existence of an endangered species or result in the destruction or modification of the species' critical habitat.
- Water quality. A state or EPA CWA Section 401 certificate or waiver must be received within certain time limits for a Section 404 permit to be issued.
- Alternatives and EPA's Section 404(b)(1) guidelines. These guidelines prohibit a discharge if a "practicable" alternative is available and would be less harmful. The guidelines also presume that special aquatic sites should not be filled for activities that are not water dependent (See 40 CFR §230).

In addition, the following acts must be addressed in the CWA Section 404 process (33 CFR §320.4):

- Wild and Scenic Rivers Act;
- National Historic Preservation Act;
- National landmarks, Wilderness Areas, Seashores, Monuments;
- Coastal Zone Management Act;
- Marine Protection Research and Sanctuaries Act;
- NEPA

In accordance with NEPA, either an environmental assessment (EA) should be prepared by the Corps or an environmental impact statement (EIS) should be prepared either by the Corps or by a consultant paid by the applicant and overseen by the Corps.

The Corps issued an interpretation of NEPA regulations on February 3, 1988, limiting the scope of review in evaluating permit applications, including CWA Section 404 permits. This interpretation provides that the Corps should establish the scope of the NEPA document (e.g., the EA or EIS) to address the impacts of the specific activity requiring a Corps' permit and address those portions of the entire project over which the DE has "sufficient control and responsibility" to warrant federal review. Control and responsibility seem to be limited to those portions that are within the Corps' jurisdiction and the extent of cumulative federal control and responsibility (RGL No. 88-13, "NEPA Scope of Analysis and Alternatives").

Once the DE has performed the above tasks and reviewed the project, a determination is made as to whether to issue a permit. The determination is based upon a public interest review, an alternatives analysis as required under CWA Section 404(b)(1), and the results of an EA or EIS. A statement of findings or, if an environmental impact statement has been prepared, a record of decision must be prepared for all permit decisions. The permit may be approved, approved with conditions, or denied. District engineers will decide on all applications not later than 60 days after receipt of a complete application, unless it is precluded by law or procedures, it is referred to a higher authority, the comment period is extended, information is not received in a timely fashion, the processing is suspended at the request of the applicant, or information needed by the DE cannot be reasonably obtained within the 60-day period. Once the cause of the delay has been satisfied or eliminated, the 60-day clock starts running again from when it was suspended (33 CFR §325.2(3)).

Once a DE has sufficient information to make his public interest determination, he should decide the permit application even though other agencies which may have regulatory jurisdiction have not yet given their authorizations except where these authorizations are, by federal law, a prerequisite to making the decision. Permits should be granted with conditions to allow for other authorities to undertake their review without the applicant biasing such review by making substantial resource commitments on the basis of his receipt of the permit.

No permit will be granted until the required CWA Section 401 certification from the state has been obtained or waived (33 CFR §325.2(b)(1)(ii)). A waiver may be explicit or will be deemed to occur if the certifying agency fails or refuses to act on a valid request for certification within 60 days of receipt of such a request unless the DE determines a shorter or longer period is reasonable for the state to act. At ADEQ, a valid request is considered to be one that contains complete information, and thus, the 60-day time period begins upon receipt of complete information by ADEQ. If it appears the circumstances warrant a longer period of time, the DE can determine a longer reasonable period of time, not to exceed one year, at which time a

waiver will be deemed to occur. If the state water quality agency denies certification, the permit is denied by the Corps.

If the DE has additional requests to make of the applicant, the applicant will be given a reasonable time, not to exceed 30 days, to respond to the request. If the applicant does not respond with the requested information or a justification why additional time is necessary, then his application will be considered withdrawn or a final decision will be made.

Based upon any modifications made by the applicant to the proposed action, the Corps conducts an EA or requires the applicant to carryout an EIS under the supervision of staff at the district office of the Corps.

If the final decision is to deny the permit, the applicant will be advised in writing of the reason(s) for denial. If the permit is approved, the issuing official will sign the permit and send it to the applicant for his signature. The fee for the permit will also be assessed at this time. The DE will publish on a monthly basis a list of the permits issued or denied during the previous month.

3.1.1.6 Appeals

If the Corps decides to not include either EPA's or USFWS' comments in the CWA Section 404 permit, these agencies must be notified. EPA and USFWS have the option to elevate the permit decision to higher levels within the Corps' administrative structure. USFWS ultimately must abide by the Corps' determination, however, EPA has "veto" authority to override the Corps' determination to issue a permit (CWA Section 404(c)).

3.1.1.7 Mitigation

The MOA between EPA and the Corps specifies the approach to mitigation to be included in the development of conditions for a CWA Section 404 permit and is discussed in a previous section. These conditions are included in the permit when it is issued.

3.1.1.8 Enforcement

Both the Corps and EPA can enforce the provisions of the CWA Section 404 program. Criminal penalties are defined in CWA Section 312 are available for knowing violations - up to \$50,000/day per violation and/or three years imprisonment. Civil penalties are defined in CWA Section 313, and are up to \$25,000/day. Administrative penalties are defined in CWA Section 314 and are available up to \$10,000/day and a maximum of \$125,000.

The Corps has specific steps to take in the initiation and follow through of enforcement as defined its regulations (33 CFR §323 - Enforcement). These include initial investigation, formal notifications to parties responsible for violations, initial corrective measures, and after-the-fact permits (described in the next section).

EPA and the Corps have joined forces in a Wetlands Enforcement Initiative (RGL no. 90-9 "Wetlands Enforcement Initiative"). However, according to EPA Region IX staff, no actions are planned to be taken in Arizona as part of this initiative.

3.1.1.9 After-the-Fact Permits

After-the-fact permits are retroactive permits for illegal discharges that are made without a CWA Section 404 permit and are guided by 33 CFR § 326.3(c)(1) (1988). "Upon discovering an illegal discharge, the District Engineer must conduct an investigation and, if the activity is still in progress, issue a cease and desist order. After consulting with other federal agencies, the District Engineer may either recommend legal action against the discharger or request that the discharger apply for an 'after the fact' permit" (Blumm and Zaleha 1989). After-the-fact permits are accepted only after the completion of any required initial corrective measures, and only under certain conditions specified under 33 CFR §326.3(e).

3.1.1.10 Extensions of Time

An authorization automatically expires if the permittee fails to request and receive an extension of time. These extensions may be granted by the DE (33 CFR §325.6(d)). In addition, permits may be modified, suspended, or revoked (33 CFR §325.7).

3.1.1.11 Letters of Permission

Letters of permission (LOP) are a type of permit issued through an abbreviated processing procedure which includes coordination with federal and state fish and wildlife agencies and a public interest evaluation, but does not include publishing a public notice. These LOPs may be used in the CWA Section 404 program only after the DE in consultation with federal and state fish and wildlife agencies, EPA, and the state water quality certifying agency develop a list of categories of activities proposed for authorization under the LOP procedures. This list must be publicized in a public notice and may be followed by a public hearing. For each project wishing a LOP, a CWA Section 401 certification must have already been issued or waived. A complete discussion is in 33 CFR §325.2(e)(1).

3.1.1.12 General Permits

At this time, the only general permits in Arizona are nationwide permits. Nationwide permits are issued, reissued or modified through a national process that includes the solicitation of public comments through a notice in the Federal Register, and an opportunity for a public hearing.

Under the regulations (33 CFR 330.8), division engineers can, on their own initiative or at the recommendation of a district engineer, modify nationwide permits by adding regional conditions or override nationwide permits by requiring individual permit applications on a case-by-case basis, for a category of activities, or in specific geographic area. Discretionary authority must be based upon concerns of the aquatic environment as expressed in the EPA Section 404(b)(1) guidelines.

Only nationwide permits for four types of nationwide permits (7, 17, 21, and 26 require notification to agencies prior to initiating discharge (33 CFR §330.7).

3.1.1.13 Nationwide 26 permit

Under the regulations (33 CFR §330.7(c)), if the DE determines that the proposed activity under a nationwide 26 permit falls within a class of discharges or will occur in a category of waters which has been previously identified by the EPA, USFWS or the heads of state natural resource agencies as being of particular interest to those agencies, or the discharge may be of interest to these agencies, the DE will forward the notification to the division engineer and to those agencies to consider the notification and express their views concerning whether an individual permit should be required.

According to the regulations (33 CFR §330.7), a nationwide 26 permittee shall not begin discharging until notified by the DE that the work may proceed under a nationwide permit. The applicant is required to provide the Corps with a written notification concerning their proposed work, including the name, address, and phone number of the general permittee, the location of the planned work, a brief description of the proposed work, its purpose, and the approximate size of the waters, including wetlands, which could be lost or substantially adversely modified as a result of the work, and any specific information required by the nationwide permits, and any other information the permittee believes is appropriate.

3.1.1.14 Special Circumstances

Division and district engineers are authorized and encouraged to develop joint procedures with states and other federal agencies with ongoing permit programs for activities also regulated by the Corps. Division engineers are also authorized to approve special processing procedures in emergency situations. Even in an

emergency, reasonable efforts will be made to receive comments from interested federal, state, and local agencies and the affected public. Notice of any special procedures and their rationale is to be appropriately published as soon as practicable.

3.1.2 How the CWA Section 404 Process Occurs in Arizona

Most of the activity pertaining to any action on a permit application or a permit is carried out by the Corps field office in Phoenix. This field office is part of the Regulatory Branch in the district office in Los Angeles. The Los Angeles district is one of three districts which are part of the Corps' South Pacific Division. This organization structure is worth noting because certain activities and authority is invested in the different administrative levels of the Corps.

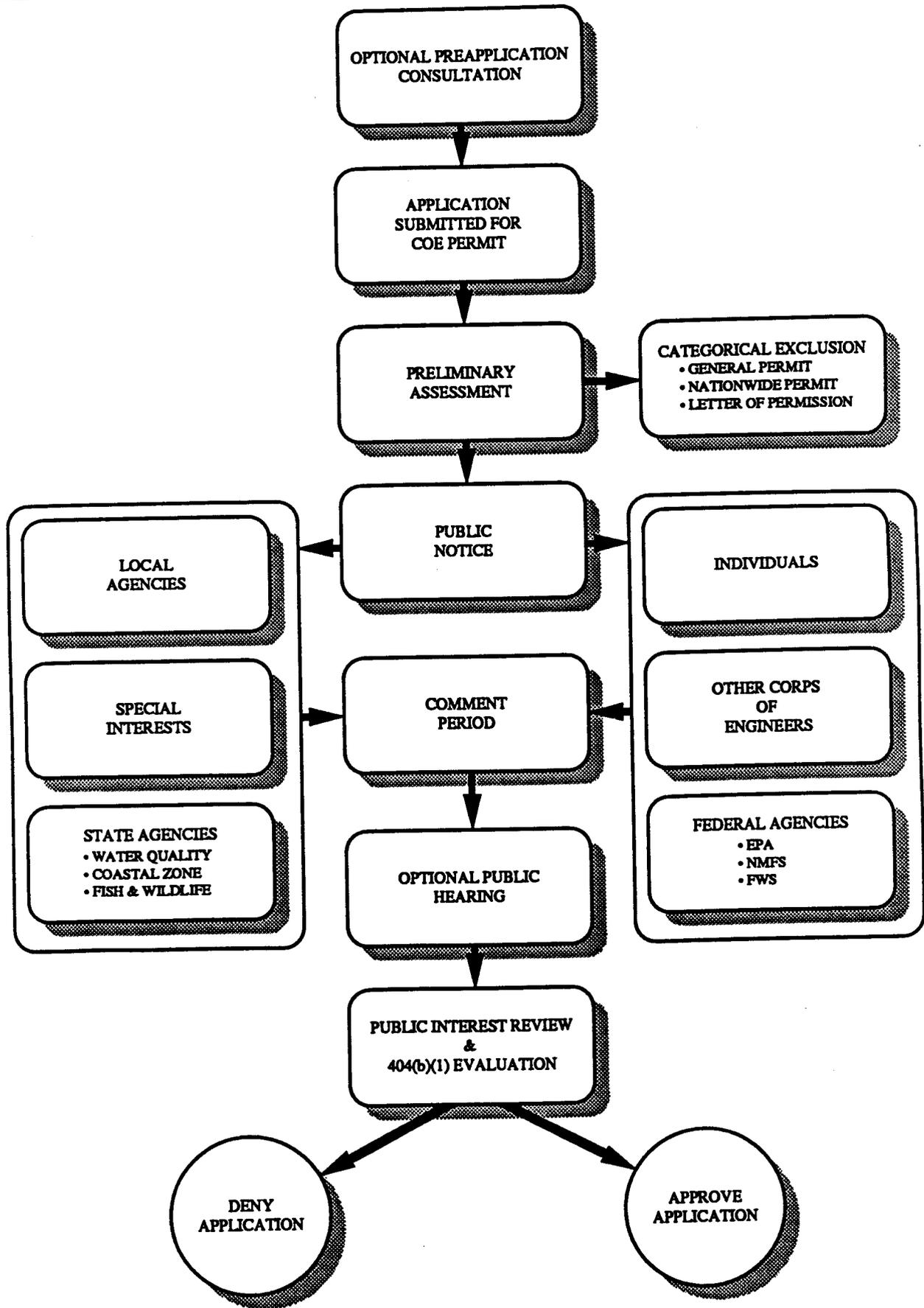
The permit process as it occurs in Arizona can be broken into four stages: pre-application, application, application review and decision, and post-permit follow-up. Figure 2 shows this process as it is believed to take place in Arizona, based upon interviews with more than 50 participants in the CWA Section 404 and Section 401 process. However, Figure 2 is limited because it begins only when the Corps is contacted by a potential applicant. In reality, substantial activities may occur prior to the contact by the potential applicant.

3.1.2.1 Pre-application

The pre-application phase is initiated when an individual or corporation decides they wish to carry out a project of some type within the waters of the United States. At this point, many private entities are unaware of any of the federal regulations pertaining to development in waterways; most public entities are familiar with the need to obtain a CWA Section 404 permit. The anticipated use is subject to local (municipal or county) planning and zoning and building permits requirements.

The private entity (called developer for the purposes of this discussion) designs a project and takes it to the applicable local government for its review. Part of that review generally includes the local flood control district who will identify the need for a floodplain use permit. A common condition of the flood plain use permit is that the developer obtain other necessary approvals and permits which would include a CWA Section 404 permit in some instances. In some parts of Arizona, the CWA Section 404 permit is required before a floodplain use permit can be obtained; in other locations, the flood plain use permit can be obtained with the stipulation that the developer also obtain other necessary approvals which could include a Section 404 permit. Thus, a project may already be designed, and, in some cases, under construction, before the developer contacts the Corps to obtain a Section 404 permit.

Figure 1. The U.S. Army Corps of Engineers' Permitting Process



Once the developer or other entity contacts the Corps for information about a CWA Section 404 permit, that entity is referred to in this discussion as an applicant. The applicant gives the Corps sufficient information about the project and its location that the Corps can make a determination as to whether the project would fall within the jurisdiction of the Corps and the CWA Section 404 program and whether any of the existing nationwide permits would apply to the project. This jurisdictional determination may include a site visit and determination of the ordinary high water mark or a review of evidence and documentation provided by the applicant. The Corps has designated one individual within the Phoenix field office to make this jurisdictional determination. The Corps sends the applicant an application and, when it is available, the results of the Corps' jurisdictional determination.

Information sent to the applicant generally includes the application and an explanatory pamphlet about the program, "Regulatory Program Applicant Information" (Corps of Engineers 1985). There may be additional follow-up phone inquiries by the applicant concerning the application and, if a pre-application meeting takes place (which is at the request of the applicant), it usually includes the Corps' project manager and the applicant, and the discussion centers around whether the application is complete.

3.1.2.2 Application

The application is then submitted to the Corps, who reviews the document for completeness. Once the Corps receives the application and it appears that it will require an individual permit, they send a letter to the applicant notifying them that they may need a CWA Section 401 certificate and the ADEQ should be contacted. A copy of this letter is sent to ADEQ. (Further information about the CWA Section 401 certification process is included in a separate section in this chapter.)

The application form is one that is used nationally except for states where the Corps and the state both have permit programs and a joint application has been developed. The application requires the inclusion of the following:

- Name and address of applicant(s), and authorized agent (if any);
- Detailed description of proposed activity, including a narrative and drawings depicting the proposed activity, the purpose of the activity, the type and quantity of the discharge, and the mode of transportation to the discharge site;
- Names and addresses of adjoining property owners, lessees, etc. whose property adjoins the waterbody;
- Waterbody and location on the water body where activity exists or is proposed;
- Location and land where activity exists or is proposed;

- Information about parts of the activity that have been completed;
- Information about approvals or denials by other government agencies; and
- Signature of applicant or agent.

If the Corps determines that the completed application falls far short of what is required, they send the materials back to the applicant with a list of what additional materials should be included. If the application is substantially complete, a file number is assigned and the applicant is contacted requesting the additional information. The Corps considers the time frame for the processing of the application to begin once the file number has been assigned and the application is determined to be complete.

3.1.2.3 Application Review and Decision: Individual Permits

The application review and decision process is different for individual permits and for general permits. For an individual permit, once the application is deemed to be complete, the Corps' project manager prepares a public notice document which includes a map and description of the project. At the same time, the Corps determines whether an EA or an EIS will be necessary as a decision-making document for the permit.

A package containing the public notice document and the list of adjacent landowners is sent to the Los Angeles district office where the materials are reproduced and the mailing is sent to the landowners and other interested individuals and agencies who are already on the Corps' mailing list. This mailing generally takes a month.

As of August 1990, 130 persons representing government agencies, businesses, interest groups, and themselves were on the Corps' public notice mailing list for the review of applications in all or some portion of Arizona. A breakdown of these persons by categories is as follows: 34 persons at federal agencies; 19 at Arizona state agencies; 13 at local governments in Arizona; 6 at other states' agencies; 12 at local governments in other states; 18 at consulting firms (including engineers and attorneys); 12 at businesses; 3 at newspapers or other publications (none based in Arizona); 7 affiliated with an interest group of some kind; and 6 individuals with no noted affiliations. In some cases, more than one individual from an organization or agency were included in the mailing list. Thus, substantially less than 130 different organizations and agencies are on the public notification list.

The public and the agencies who receive the notices have a month to review the public notice document and to submit their comments to the Corps. The Department of Interior agencies submit their comments to the USFWS who compiles them, coordinates the agencies' concerns, and submits them to the Corps. At this time, the U.S. Forest Service is not on the mailing list for reviewing the Corps' applications that could

affect their lands but has requested to be added. Extensions of the comment time up to an additional 30 days may be requested by the agencies or the public.

Each agency that participates in the review of the public notice does so on the basis of their own priorities and jurisdictional perspective. USFWS and AGFD have similar review orientations because of their parallel concerns about wildlife and wildlife habitat. Both consider the protection of wetlands and riparian areas, wildlife habitat, and endangered species. USFWS uses the CWA Section 404(b)(1) guideline and the USFWS mitigation policy as the basis for their evaluations and actions. AGFD uses an environmental checklist modeled after the Bureau of Reclamation's scoping process for NEPA, and guidance established by the Arizona Game and Fish Commission in their wildlife compensation policy. ADEQ reviews the notice based upon water quality management concerns. EPA reviews the notices using the CWA Section 404(b)(1) criteria. Land management agencies such as the U.S. Bureau of Land Management (BLM) and Arizona State Land Department (ASLD) review the notices for potential impacts to their lands. Other than those noted, none of the agencies have established written criteria that they use for their evaluations.

ADEQ must contact the Corps during the public notice comment period if they will be unable to comment on a CWA Section 404 application but they do not wish to waive their opportunity to issue a Section 401 certificate.

Once the review period has been completed, the Corps transmits the comments received to the applicant. The applicant can change his project to incorporate the comments, present an argument as to why these comments should not be addressed, ignore the comments and ask the Corps to make its decision without additional feedback from the applicant, or withdraw the application. The applicant has 30 days to determine which course he wishes to take and to work out any changes to his application with the agencies.

The Corps then makes a decision based upon the comments received and their own evaluation of the project. The Corps' evaluation is based upon the legal requirements and includes a public interest review, an analysis using the Section 404(b)(1) guidelines, and the results of the EA or EIS. The permit may be approved, denied, approved with conditions, or denied without prejudice if the applicant has not obtained a CWA Section 401 certificate. If there are any mitigation requirements they are included as conditions, and conditions to the CWA Section 401 permit are included by reference or listed in the permit.

3.1.2.4 Mitigation

Mitigation measures are often suggested by several different agencies, including EPA, USFWS, and AGFD. The Corps makes mitigation requirements based upon the recommendations of the review agencies and using Corps' staff professional judgement. In accordance with the EPA and Corps' MOA on mitigation,

they seek to achieve no net loss of wetlands. No mitigation ratios are used because they have been challenged in court as arbitrary. The Corps' staff is flexible about which functions and values evaluation methodology is used; generally this is left up to the resource agencies. In some cases, the permit applicant is required to provide periodic monitoring reports updating the Corps about the mitigation activities undertaken as part of the permit. No specific length of time is required for mitigation monitoring - this is left up to the judgement of the Corps' staff and the recommendations of the resource agencies.

3.1.2.5 Appeals

The only administrative form of appeal is that noted as available to the USFWS and EPA under the description of the CWA Section 404 process as described by the laws and regulations. If the applicant is dissatisfied with the permit and conditions, the only recourse is for the applicant to refuse to sign the permit or to fight the decision in court.

3.1.2.6 Post-Permit Follow-up

Once the permit has been approved, the Corps' field office staff send all records for the completed permit to the Los Angeles district office for storage. Pertinent information concerning the permit application and process is entered into a computer data bank using DataBase III.

Permits may be extended. The Corps relies upon the permit holder to notify them before the expiration of the permit. The Corps solicits information from the permit holder and various resource agencies as to whether the nature of the permit activities have changed and whether other conditions have changed which would require reconsideration or modification of the permit. If so, the applicant will have to apply for a new permit.

Monitoring by the permittee of mitigation efforts or of the impacts of construction may be required as a condition to the permit. The Corps has no formal monitoring program for approved permits, although it is in the process of establishing one. Monitoring as it is currently carried out is by interested agencies and individuals who report potential violations to the Corps for their follow-up. Under a draft MOA between the Region II of the USFWS and Region IX of the EPA, the USFWS agrees to refer suspected violations of the CWA Section 404 permit program to the Corps. AGFD has also been active in reporting potential violations to the Corps.

Monitoring capability is limited by the fact that copies of the final permit are not maintained in the Corps' Phoenix field office, nor are they distributed to any of the commenting and reviewing agencies. Thus, agency representatives must use their personal knowledge and discretion in identifying activities that appear

to be violations. Once a potential violator has been identified, Corps then inspects the potential violation and sends for necessary files from the Los Angeles office.

Enforcement of violations can be initiated by the field office staff. Voluntary compliance is usually kept to the field office level. If a cease and desist order is necessary, district and division staff must be involved. The more aggressive the enforcement action, the longer it takes to accomplish it and the more levels of the Corps' administration must be involved in the decision.

After-the-fact permits may be required for activities that were initiated without obtaining a CWA Section 404 permit. The Corps treats an after-the-fact permit the same as it would an ordinary permit, except that the public notice specifies that the permit is for an activity that is in progress. The agencies and public are asked to review the project as if it were proposed rather than actual. The process time for an after-the-fact permit is often longer because of the complications involved in a permit of this kind.

3.1.2.7 Ongoing Administrative Activities

Much of the time spent by Corps' field office staff is with potential applicants and consultants, explaining the CWA Section 404 process. In the past, there has been an effort to contact and educate business and consulting groups about the CWA Section 404 program in order to better inform potential applicants. However, because of the high turnover among consultants and the changing rules and procedures in the CWA Section 404 program, these public education efforts have not produced lasting results.

3.1.2.8 Special Permits

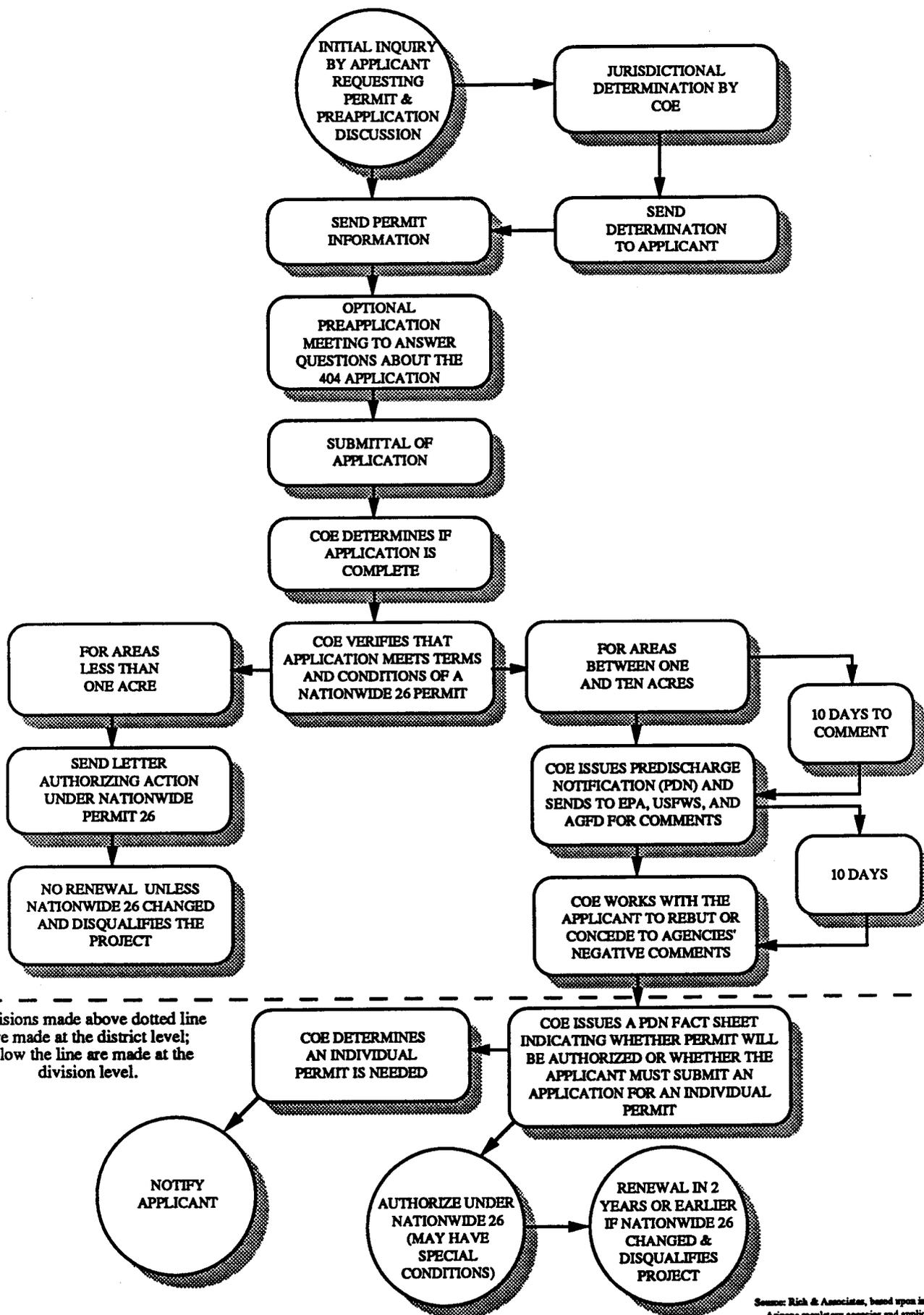
Figures 3 and 4 indicate the processes and approximate time frames for obtaining nationwide permits (in general) and nationwide 26 permits. These processes are much shorter than those for individual permits. Rapid review times by agency personnel are accomplished by faxing materials rather than mailing them. Longer processing times for nationwide permits are generally the result of the applicant failing to provide adequate information so the permit can be processed.

3.2 CWA Section 401 Certification Process

3.2.1 CWA Section 401 Process as defined in the Laws and Regulations

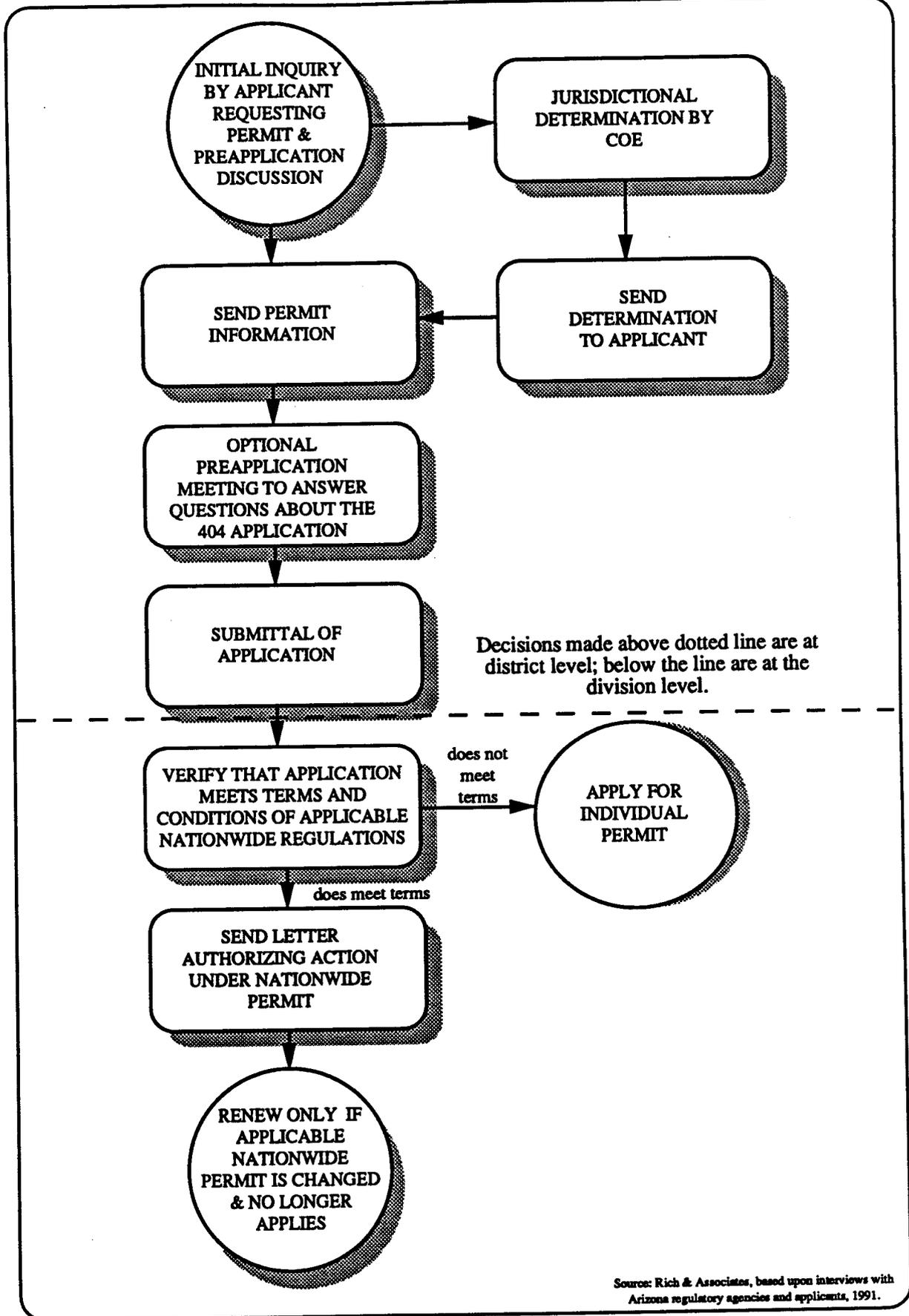
The certification process is not well defined in Section 401 of the CWA and in regulations (40 CFR §121, "State Certification of Activities Requiring a Federal License or Permit"). As a result, no diagram is included outlining the process. This section summarizes agency responsibilities and authorities

Figure 3. CWA Section 404 Process For Nationwide 26 Permits In Arizona



Decisions made above dotted line are made at the district level; below the line are made at the division level.

Figure 4. CWA Section 404 Process Chart For Nationwide Permits Other Than 26* In Arizona



Source: Rich & Associates, based upon interviews with Arizona regulatory agencies and applicants, 1991.

* Nationwide permits 7, 17, and 21 also have additional notification requirements

in the certification process. Under the law (CWA Section 401(a)(1)), any applicant for a federal license or permit to conduct any activity including but not limited to the the construction or operation of facilities, which may result in any discharge into navigable waters must provide to the licensing or permitting agency a certification assuring compliance with water quality requirements. These may be issued by the state, by an interstate agency, or by EPA.

EPA is required to issue a certification when the water quality standards that are the basis for the certification are promulgated by EPA or no state or interstate agency has the authority to give a certification (40 CFR §121.21). In Arizona, this applies primarily to Indian reservations. The regulations specify the procedures EPA should follow in the event that EPA provides the water quality certification.

3.2.1.1 Application

The contents of the application are included in 40 CFR §121.3. This section indicates that a licensing or permitting agency is responsible for requiring an applicant for a license or a permit to include in its application such information relating to water quality considerations that may be agreed upon by the licensing or permitting agency and EPA.

3.2.1.2 Review Time Frame

Under CWA Section 401(a)(1), a state will be deemed to have waived certification if it fails to act within "a reasonable period of time (which shall not exceed one year) after receipt of such request." Various federal permitting or license agencies have regulations of their own which provide a time limit for the state's certification decision. For instance, the Corps' regulations say that a waiver "will be deemed to occur if the certifying agency fails or refuses to act on a request for certification within sixty days after receipt... unless the DE determines a shorter or longer period is reasonable..." Federal Energy Regulatory Commission (FERC) rules state that a certifying agency "is deemed to have waived the certification requirements if... (it) has not denied or granted certification by one year from the date the certifying agency received the request." EPA regulations for Section 402 in non-authorized states set a limit of 60 days unless the Regional Administrator finds that unusual circumstances require a longer time (EPA 1989c). The state must receive complete information before the 60-day time period begins.

3.2.1.3 Public Notification

Section 401(a)(1) of the CWA requires the state to establish procedures for public notice in the case of all applications for certification by it and to the extent it considers appropriate, procedures for public hearings

in connection with specific applications. However, according to EPA Region IX staff, the public notices distributed by the Corps satisfy the need for public notification under the Section 401(a)(1) requirement as long as they mention the certifying agent.

3.2.1.4 Certification Process

When a permitting or licensing agency receives an application without an accompanying certification, the agency shall either send one copy of the application to the certifying agency and two copies to EPA or three copies to EPA. In the latter case, EPA will submit a copy of the application to the certifying agency. When the licensing or permitting agency receives a copy of the certification, the agency shall forward two copies of the application and certification to EPA (40 CFR §121.11).

EPA has the responsibility to review the application, certification and other supplemental information to determine whether other states' water quality would be affected by the discharge. If so, EPA shall, no later than 30 days from the date of receipt of the application and certification, notify each affected state, the licensing or permitting agency, and the applicant, and send each affected state a copy of the application and certification (40 CFR §121.15).

Some federally licensed or permitted facilities or activities that discharge into navigable waters do not need an additional federal license or permit to begin operations. In these cases, even if the facility or activity has obtained a certification, the licensee or permittee must provide an opportunity for the certifying agency to review the manner in which the facility or activity shall be operated to assure that water quality requirements will not be violated. If the certifying agency notifies the permitting or licensing agency that the water quality requirements will be violated, the federal agency may, after public hearing, suspend the license or permit. In this case, the license or permit would remain suspended until the certifying agency notifies the permitting or licensing agency that there is reasonable assurance that the water quality requirements will not be violated (CWA Section 401(a)(4)).

3.2.1.5 Certification Contents

The regulations call for the following contents in a certification (40 CFR §121.2):

- The name and address of the applicant;
- A statement that the certifying agency has either examined the application and bases its certification on an evaluation of the information contained in such application or examined other information furnished by the applicant sufficient for making its determination;
- A statement that there is reasonable assurance that the proposed activity will not violate applicable water quality standards;

- A statement of any conditions the certifying agency considers necessary or desirable with regards to the activity's discharge; and
- Other information that the certifying agency may determine to be appropriate.

The certifying agency may modify the certification as agreed upon by the certifying agency, licensing or permitting agency, and the EPA.

Certification must include any effluent limitations and other limitations and monitoring requirements necessary to assure that an applicant for a federal license or permit will comply with any applicable water quality requirements. These must become a condition on any federal license or permit (CWA Section 401(d)).

3.2.1.6 Waiver of Certification

Certification will be waived based upon written notification from the state or interstate agency expressly waiving its authority act on a certification; written notification from the licensing or permitting agency to EPA of the failure of the state to act on a request for certification within a reasonable period of time (usually six months but not to exceed one year). In the event of a waiver, EPA will consider this as a substitute for a certification and will carry out its other responsibilities defined in the regulations.

3.2.2 How the CWA Section 401 Process Occurs in Arizona

Figure 2 includes the CWA Section 401 process as it generally occurs in Arizona. This discussion elaborates upon the process in Figure 2 for individual permits and provides additional information about circumstances that could not be shown in that figure.

3.2.2.1 Pre-application Meeting

For some applications, ADEQ is involved in the CWA Section 404 permit pre-application meeting with the Corps and the applicant. In these cases, ADEQ sends a follow-up letter to the applicant, telling them about the CWA Section 401 certification requirement and additional information about the requirements of the program. The applicant is asked to contact ADEQ to set up a pre-application meeting to discuss water quality protection needs for the proposed project.

At the ADEQ/applicant's pre-application meeting, or in follow-up to a pre-application discussion with the applicant if there is no meeting, ADEQ provides a checklist of information required for the CWA Section 401 certification and a form that asks the applicant to describe the procedures, practices, an/or facilities that

will minimize potential pollution of surface waters and demonstrate compliance with water quality standards for each of the 14 individual policies included in the Arizona Water Quality Control Council's Policy for Construction and Related Activities in Water, and the policy to protect water from pollution with fuels, oil, bitumens, calcium chloride, and other harmful materials.

3.2.2.2 Application Process

If ADEQ does not participate in a pre-application meeting with the Corps, ADEQ may be contacted by the applicant in response to the Corps' notification of the applicant of the CWA Section 401 certification requirement. In other cases, the first time that ADEQ learns of a project is when a public notice is issued by the Corps and sent to ADEQ. When either of these situations occur, ADEQ sends the applicant a cover letter and the information checklist and request for response to the Arizona Water Quality Control Council's Policy for Construction and Related Activities in Water.

The information checklist consists of:

- description of the project;
- latitude/longitude and legal description at the center of the project area;
- U.S. Geologic Survey topographic and contour maps of the proposed project area;
- aerial photos and snapshots of proposed project area (if available);
- detailed design plans with contour lines if available. These should be the most recent revision and delineate specified flood recurrence intervals and locations of major features (including haul roads, equipment storage areas, mitigation areas, and the like);
- reports such as geohydrologic/soils, environmental impact/assessment;
- elevations above MSL of channel and water table at project site(s);
- description of the fill material (gradation, mineral content, potential pollutants) and its source (location of pit, quarry);
- flood plain analyses and delineations for specified recurrence intervals;
- Water Quality Control Council Policies and Mitigations used to prevent water pollution;
- other measures/practices that will be implemented to achieve state water quality standards;
- future impacts on surface water quality, channel elevations, water table elevations, upstream conditions, downstream conditions, and/or other;
- site reclamation/closure plans; and
- other specified pertinent information.

ADEQ uses the checklist to identify for the applicant those kinds of information they believe to be applicable for each individual proposed action requiring certification. If ADEQ is unable to complete its certification review and determination in time to provide certification to the Corps as their response to the public notice, the applicant and the Corps are notified by letter. This letter serves notice that no CWA Section 404 permit should be issued until an ADEQ state water quality certification is issued. The letter warns the applicant that if ADEQ does not hear from the applicant within 60 days, they will recommend denial of the permit.

3.2.2.3 Certification Review

Staff in the Phoenix and Tucson offices of ADEQ conduct the certification review for the CWA Section 404 permits. Projects in Pima, Santa Cruz, Cochise, Yuma, La Paz, and Mohave counties are reviewed by personnel in Tucson and the rest of the state is reviewed by Phoenix personnel (ADEQ 1990a). ADEQ evaluates cumulative impacts of the proposed and existing discharges on water quality parameters regulated by standards, using Geographic Information System (GIS) data and surface water quality monitoring data.

Factors considered in issuing the state water quality certification include (ADEQ 1990a):

- Will the project cause or contribute to the degradation of the quality of the waters of the state or violation of state water quality standards?
- Are there practical alternatives which have less impact on water quality and the aquatic ecosystem?
- Have steps been taken to avoid, minimize and rehabilitate potential adverse impacts on water quality and the aquatic ecosystem?
- Is the information sufficient to determine compliance?

3.2.2.4 Fee

No fee is charged at this time for the certification (ADEQ 1990a).

3.2.2.5 Certification Content

The Letter of Certification includes a description of the action that will be undertaken, a list of the documents used by ADEQ as the basis for the certification, and a list of conditions to ensure that water quality is protected (ADEQ 1990a).

3.2.2.6 Monitoring and Enforcement

ADEQ does not monitor for applicants' compliance with its certification. ADEQ believes that this is the responsibility of the Corps because the certification conditions are included in the CWA Section 404 permit as special conditions. If a water quality violation were identified, ADEQ could take enforcement action against the violation, regardless of whether the person causing the violation had a certification or whether the person was in compliance with the CWA Section 401 certification or the Section 404 permit.

3.2.2.7 Data Management

ADEQ tracks data on its CWA Section 401 certifications by computer. This is described in greater detail in Chapter 5, Program Activities.

3.2.2.8 Nationwide Permits

ADEQ does not have the authority to require certification for nationwide permits because at the time of the last reissuance of the nationwide permits, certification was waived due to lack of response by its predecessor agency, Arizona Department of Health Services. However, when the Corps brings a nationwide permit to the attention of ADEQ because of its potential water quality impacts, ADEQ sends the applicant a letter notifying the applicant that the project must still conform to applicable state Surface water quality standards. The letter also includes a copy of the Water Quality Control Council's Policy on Construction and Related Activities in Water. According to the letter, integration of this policy into the design of the proposed project should assure compliance with state standards. The letter also encourages the applicant to take all reasonable steps to avoid or minimize land disturbance within watercourses and implement policies of the Governor's Riparian Task Force, including:

- recognition that the protection and restoration of riparian areas are of critical importance to the state;
- encouragement and development of management practices to maintain existing riparian areas and restore degraded riparian areas;
- cooperative efforts and local group and citizen involvement in the protection, maintenance, and restoration of riparian areas; and
- balance of loss or degradation of riparian areas with restoration or enhancement of other riparian areas of equal values and functions.

The process for addressing activities that fall under nationwide permits will change if ADEQ does not waive its participation in the review of the nationwide permits that are being considered for reissuance in 1992.

Also, the wording pertaining to riparian protection is under revision as a result of the recently signed riparian protection executive order.

3.2.2.9 Public Outreach

At this time, the CWA Section 401 certification process does not include any public notices or public hearings. The Section 401 review is treated by ADEQ as a technical review seeking compliance with state water quality standards.

A brochure was recently completed describing the requirement for the CWA Section 401 certification. This is sent to applicants, potential applicants, and other interested parties.

4.0 CWA SECTION 401 AND SECTION 404 PROGRAM SUPPORT

4.0 CWA Section 401 and Section 404 Program Support

4.1 Agency Involvement

4.1.1 CWA Section 404 Process

There are four levels of public agency involvement in the CWA Section 404 process: as a regulator, co-regulator, reviewer, and permit applicant.

4.1.1.1 Regulators

The primary regulatory agencies in the CWA Section 404 process are the Corps and EPA. As described earlier, the Corps is the primary regulatory agency involved in the CWA Section 404 program. The Corps is responsible for determining whether a proposed project needs to apply for a CWA Section 404 permit and other jurisdictional determinations, reviewing the application for completeness, providing public notification for the review of the application, considering the comments of the various agencies, a public interest review, and the CWA Section 404(b)(1) guidelines in making a decision to issue a permit, and monitoring and enforcement.

EPA has the oversight responsibility for the CWA Section 404 program. As described earlier, EPA is responsible for: determining the criteria established under Section 404(b)(1) of the CWA, how exemptions from the permits are determined, enforcement (along with the Corps); can elevate the Corps' decisions to higher levels within the Department of the Army, and has veto power over decisions of the Corps.

Working together, EPA and the Corps can identify sites as generally unsuitable for future disposal sites through an advanced identification process.

Like EPA, the USFWS also has the ability to elevate CWA Section 404 permit decisions that it disagrees with to higher levels within the Department of the Army. However, USFWS cannot veto the ultimate decisions reached by the Corps.

4.1.1.2 Co-regulators

Municipal and county governments, flood control districts, Indian nations, Arizona State Land Department (ASLD), U.S. Bureau of Land Management (BLM), and the U.S. Forest Service (USFS) all have regulatory authorities that co-exist and in some cases overlap with the CWA Section 404 permit program.

As described under the CWA Section 404 process earlier, the design and scope of many projects that require Section 404 permits are approved by local governments before the applicants for the project seek (or may even be aware of the need for) a Section 404 permit. Flood control districts also can issue permits for a project subject to the applicant obtaining a CWA Section 404 permit. The exact procedures used varies from district to district. Similarly, Indian nations may have separate approval processes for projects that precede obtaining a CWA Section 404 permit.

Federal land management agencies and Indian nations (such as the BLM and USFS) may have requirements on lands under their jurisdiction which supplement the requirements of the CWA Section 404 program. For example, both BLM and the USFS have riparian protection requirements that could affect activities in waterways. Both these agencies closely monitor activities on their lands and often work with applicants for CWA Section 404 permits on designing their projects to meet both their requirements and those of the Section 404 program.

ASLD does not work with its lessees in the same way as the federal land management agencies. Once the land is leased, it is the applicant's responsibility to comply with all applicable federal and state laws. They do not necessarily inform the ASLD about projects they plan to undertake on State Trust Lands, nor does the ASLD always work with the applicant to assist them in complying with the CWA Section 404 requirements.

4.1.1.3 Reviewing Agencies

Federal, state, and local governments all get involved in the review of public notices for CWA Section 404 permit applications.

The USFWS is responsible for coordinating the responses of all involved Department of Interior agencies. These generally include BLM, National Park Service, Bureau of Indian Affairs, and Bureau of Reclamation. In addition, USFWS conducts reviews of applications for impacts on threatened and endangered species and wildlife habitat protection. AGFD works closely with USFWS in reviewing applications for these impacts.

ADEQ provides a review for potential impacts on water quality in accordance with its CWA Section 401 certification responsibilities. EPA reviews applications using the CWA Section 404(b)(1) criteria. Local governments review projects based upon their individual criteria.

4.1.1.4 Permit Applicants

Numerous public agencies have activities that require them to obtain CWA Section 404 permits. These include Bureau of Reclamation, ADOT, AGFD, USFWS, BLM, USFS, local governments, flood control districts, and Indian nations. Projects undertaken by public applicants are often more extensive and greater in scope than projects proposed by private applicants.

4.1.2 CWA Section 401 Process

As it is currently implemented in Arizona, ADEQ, as the designated state water pollution control agency under ARS §49-202, is the primary agency involved in the CWA Section 401 process on lands other than Indian reservations. On Indian reservations, EPA is responsible for issuing a CWA Section 401 certification. No other agencies participate in the CWA Section 401 process. Other agencies may be applicants for permits or licenses that require CWA Section 401 certification.

4.2 Resource Commitment

Resource commitments by the agencies and organizations involved in the CWA Section 401 and Section 404 processes are difficult to estimate for a number of reasons:

- no organization or agency has a separate budget for CWA Section 404 and Section 401 programs and activities; and
- only one or two agencies have staff assigned on a regular basis to either CWA Section 404 or Section 401 programs; staff at most organizations and agencies must assume CWA Section 404 and Section 401 responsibilities in addition to their other job functions.

It is important to note that the agency staff and budgets assigned to the CWA Section 404 and Section 401 programs identified here are very rough estimates, and are not accurate gauges of the costs or commitment of the agencies to these programs.

Table 3 indicates the ball park estimates of the annual resource commitments from the key state and federal regulatory agencies involved in the CWA Section 404 and Section 401 programs. The estimated number of personnel for ADEQ includes technical personnel who review CWA Section 404 public notices and prepare Section 401 certifications, and does not include any personnel involved in program development.

TABLE 3.

**1991 ANNUAL RESOURCE COMMITMENTS
TO THE CWA SECTION 404 AND SECTION 401
PROGRAMS IN ARIZONA
BY KEY FEDERAL AND STATE NATURAL RESOURCE
MANAGEMENT AGENCIES**

<u>Agency</u>	<u>Estimated Budget</u>	<u>Estimated Personnel (in full-time equivalents)</u>
ADEQ	\$44,000	.9 FTE
Corps	\$240,000	4.3 FTE
EPA	\$90,000	2 FTE
AGFD	\$75,000	no estimate
USFWS	\$50,000	.5 FTE

4.3 Anticipated Changes

In the future, it is anticipated that state funding that could be applied to the CWA Section 401 and Section 404 programs will decrease, but there may be additional federal funding through CWA Section 106 and 319 grants.

AGFD also anticipates potential budget increases through the implementation and funding of the Heritage Fund, some of which would be used to fund habitat evaluation. None of the other key agencies anticipated any changes in funding levels.

5.0 PROGRAM ACTIVITY

5. Program Activity

Data from the Corps for the CWA Section 404 program and from ADEQ for the CWA Section 401 certification program were used to generate statistics and graphics describing the programs' activities in Arizona. These data were limited. For example, there was no information available for either program concerning monitoring, mitigation requirements, and measurements of the impacts on the extent and quality of riparian areas. It is also difficult to cross-reference the Corps data and ADEQ data because of differences in the method and manner in which the information is recorded. Differences in the manner of recording dates between the two agencies also contribute to difficulties in comparing actions by year. Partially because of this, discrepancies exist between the two data sets as seen in Table 4 and Table 6. Discrepancies in the data may also be attributed to the fact that until 1990, the Corps issued CWA Section 404 permits on the condition that an applicant obtain the CWA Section 401 certification. With conditional permit in hand, the applicant may have not felt obtaining a Section 401 certification was of immediate concern. Additionally, two applications which were denied CWA Section 401 certification in the ADEQ records were not among the data provided by the Corps. The reason for this data discrepancy is unknown.

The CWA Section 404 permit information is organized in files by application number and particular information for each permit is recorded on data entry forms by the Phoenix office project managers. These files and the data forms are sent to the Los Angeles office; no files of the permit actions are regularly maintained in the Phoenix office. Information regarding these applications is maintained in and accessed from a data base in the Los Angeles district office. The data needed for this analysis was discussed over the phone with the Los Angeles office and the data was mailed to the study team.

Data for the CWA Section 401 certification program is available through a notebook and file system by public notice number and project name in the ADEQ office in Phoenix. This data is currently being computerized in spreadsheets by ADEQ personnel. The following discussion will look at these programs separately.

5.1 CWA Section 404 Program Data

The data from the Corps consisted of 40 fields of data for each application number. These fields include such information as:

- location of activity by county;
- waterway;
- type of activity;

- date application was received;
- date application was complete;
- date of final action;
- date of predischarge notification or public notice;
- issues;
- final action;
- nationwide permit number;
- special conditions (divided into endangered species, cultural resources, water quality, revegetation, and "other"); and
- comments.

Annual summaries for all of these fields were not available, therefore the study team compiled this information based upon the information recorded for each of the individual records.

It was unclear whether the 1986 data set was complete, therefore this analysis is based upon four years of data, from 1987 through 1990, based upon the year that the action was finalized. There were a total number of 336 permit actions, 4 after-the-fact permits, and 59 applications were withdrawn and 1 application denied.

Permits are classified as:

- after-the-fact permits;
- letters of permission;
- nationwide permits ;
- general permits (regional); and
- individual permits.

Of the 280 permits issued during the period 1987 to 1990, 72 percent were nationwide permits, 25 percent were individual permits, 2 percent were after-the-fact permits. Letters of permission only accounted for about one percent of the activity. Since 1987 the trend for nationwide permits has increased while the number of individual permits has declined. The breakdown of permit types by year is shown in Table 4.

Nationwide permits account for 202, or 70 percent of the 280 permits issued during this four-year time period. (This total does not include the applications withdrawn or denied.) Currently, of the possible 26 categories of nationwide permits (see Table 1), 64 percent are nationwide 26, eleven percent are nationwide

18, seven percent are nationwide 12, twelve percent are only documented as a nationwide permit (no number is recorded) and the remainder are nationwide permits 1, 3, 7, 13, 14, and 25. The data does not enable the breakdown of acres for nationwide 26.

**TABLE 4.
CWA SECTION 404 PERMIT TYPES BY YEAR**

Permit type	1987	1988	1989	1990	Total
Individual	21	17	12	19	69
Nationwide	27	56	46	73	202
After-the-Fact	1	2	2	1	6
Letter-of-Permission	0	1	2	0	3
Total Granted	49	72	62	93	280
Applications Withdrawn	13	12	16	18	59
Applications Denied	0	0	0	1	1

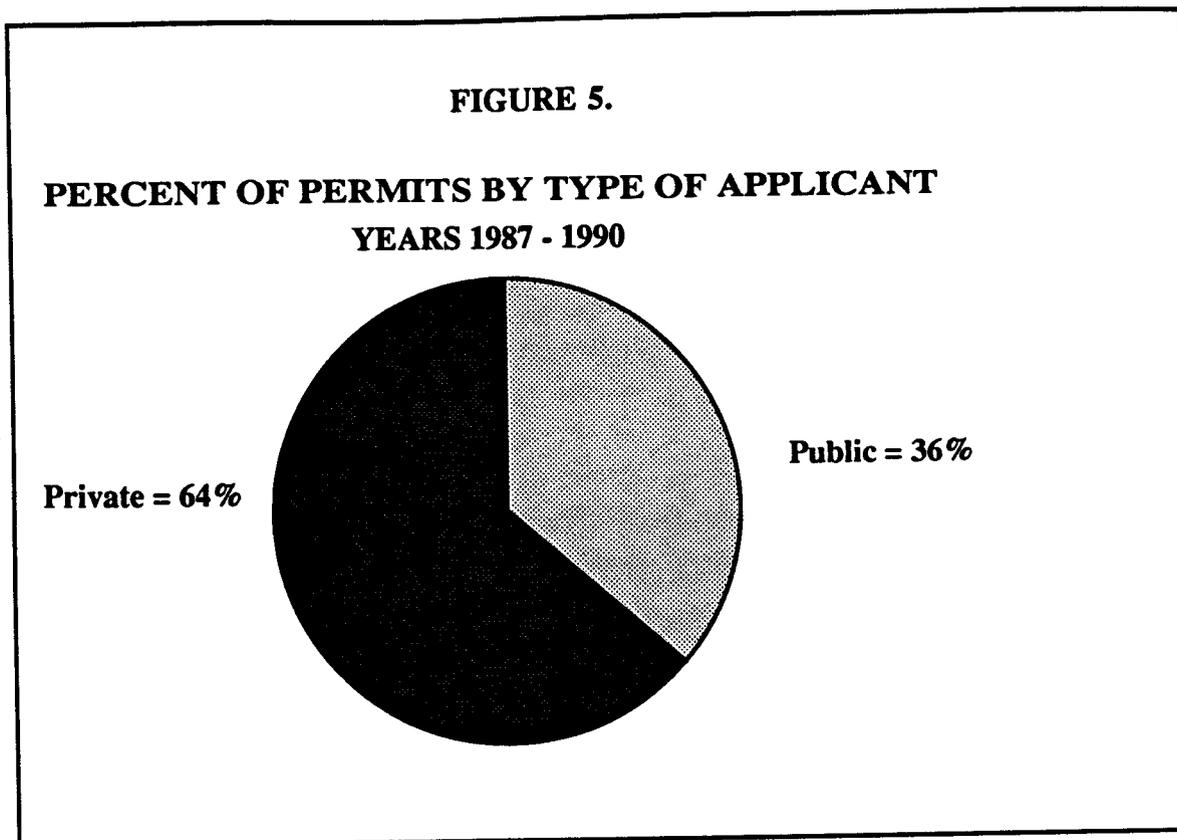
It is important to note that there were a total number of 336 applications during this time period. Of these applications, 59 were withdrawn and 1 was denied. It cannot be determined from the available data the permit type that was either denied or withdrawn. A total of 280 permit actions are counted -- four more than the actual number of permits because four of the after-the-fact permits were also recorded; one as nationwide 26 and three as individual permits.

The private sector accounts for the 64 percent of permit applications, and the public sector 36 percent as shown in Figure 5.

The majority of applications during this time period were located in Maricopa County, followed by Pima County and then Mohave County. Application activity by county is shown in Figure 6.

Review times for CWA Section 404 permits differ by permit type as indicated on Table 5. The number of days included in the review and approval time begins the count when the permit application is first received and ends when the permit is issued. These figures do not include withdrawn permits or permits for which the dates appear to be skewed. The length of time on the after-the-fact permits and letters of permission are

of limited value because the sample size is so small (total of four after-the-fact permits and three letters of permission).

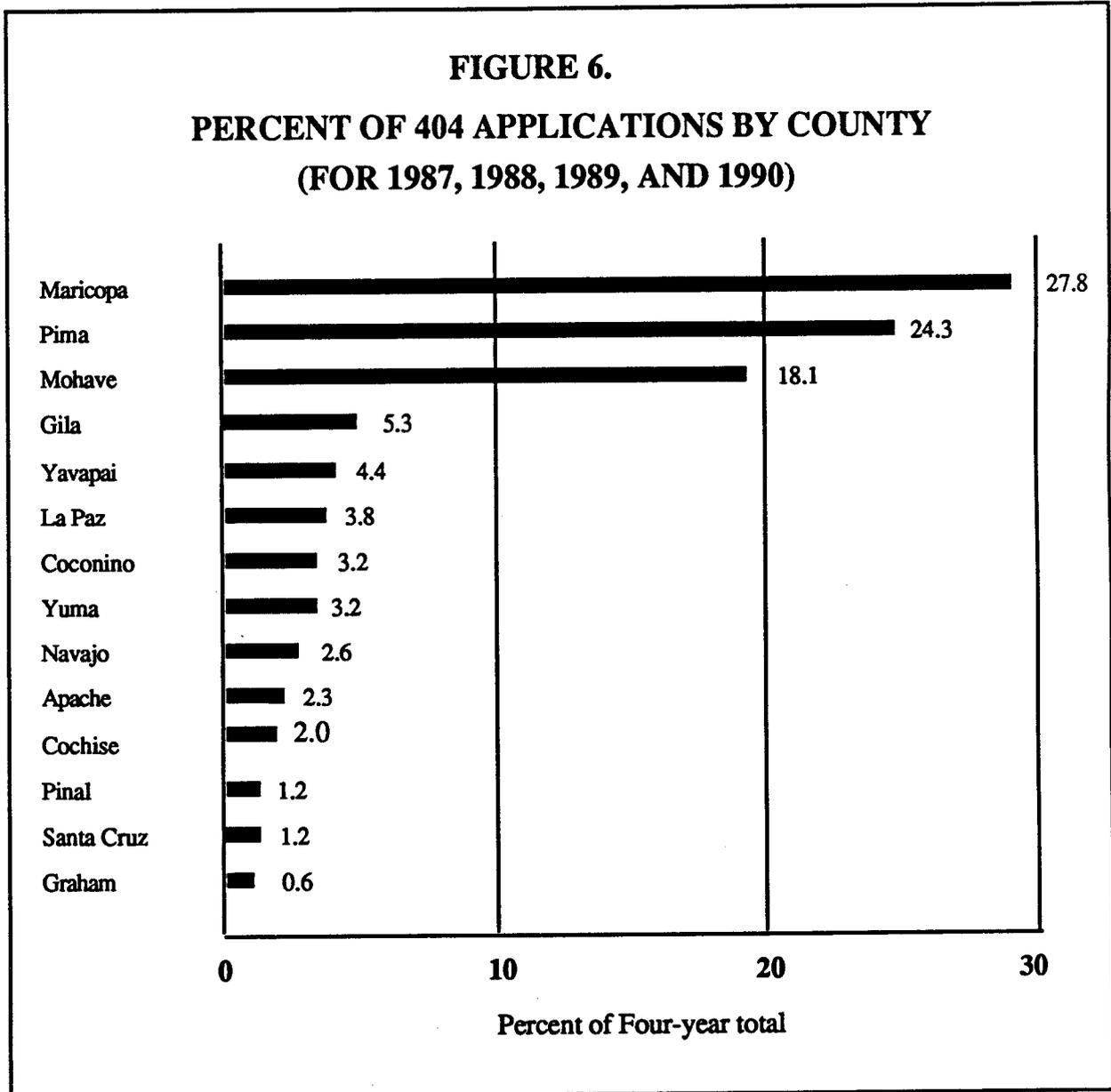


5.2 CWA Section 401 Certification Process

Data for this analysis were provided during March 1991 by ADEQ. A filing system for certification applications is maintained, cross-referenced by public notice (PN) number to a record book of application activity. The PN date is recorded in this notebook as a method of tracking ADEQ's comment period for these CWA Section 404 permit applications. In addition, data recorded by ADEQ includes the date received (date mail is opened), date certified, name of applicant, water body number, referral name (to future additional ADEQ personnel), comment due date (refers to the PN 30 day comment period), date additional information was requested, a certification memo, and file review comments. Data will be entered in a computer spreadsheet system for tracking in the future.

A proactive CWA Section 401 certification program was initiated by ADEQ in 1988; prior to this ADEQ had a passive advisory role. Therefore, complete data for 1988, 1989, and 1990 was selected for this analysis. Table 6 summarizes the certification activity for these years. Table 6 does not reflect total

certification activities by ADEQ personnel. Resources are also spent in preapplication meetings and other advisory activities.



After-the-fact permits are not normally certified by ADEQ. These are considered "uncertified" in the data base. There are no records of waived or appealed certifications, nor any court cases. Nationwide permits are not normally certified due to ADEQ's waiver of this opportunity when the nationwide permits were initially reviewed. This status may change with the pending revision of nationwide permits. No certification is

done by ADEQ on Indian Reservations, nor for out-of-state projects by in-state applicants. Sometimes it is unknown initially whether an activity qualifies under a nationwide permit, or is located within an Indian reservation. Even though these activities cannot be certified, the review of activities eventually determined to be nationwide permits, located on an Indian reservation, or found to be located out-of-state, is recorded by ADEQ as part of the activity but as separate from the certifications issued, denied, or uncertifiable as seen in Table 6. Uncertifiable applications by ADEQ usually refer to those activities that have received an after-the fact permit from the Corps.

TABLE 5.
AVERAGE TOTAL CWA SECTION 404 PERMIT REVIEW AND
APPROVAL TIME
(IN DAYS)

Permit Type	1987	1988	1989	1990
Individual	250	413	413	337
Nationwide	52	48	44	76
After-the-Fact	323	336	-	257
Letters of Permission	-	129	343	-

The primary reasons for withdrawal of an application are (1) so the application can be resubmitted as a nationwide or (2) because the project is not feasible. Reasons for denial of certification by ADEQ are based upon an applicant's refusal to provide the required information or refusal to comply with the conditions requested on the application. Certification denial may be reflected in the Corps data as the application being withdrawn for further modification or as the permit being denied. When cross-referenced, it was found that the one application denied in the Corps data (Table 3) corresponds to the ADEQ data for denial of certification for water quality standards.

Compliance monitoring of the certified activities is not currently done by ADEQ or the Corps. The need for enforcement action is identified through the receipt of complaints.

TABLE 6.

ADEQ CWA SECTION 401 PROGRAM ACTIVITY FOR 1988 - 1990

Program Activity	1988	1989	1990
Certifications issued	22	17	14
Certifications denied	1	3	0
Uncertified applications	1	0	0
Outstanding applications	3	1	3
Indian Reservation Projects	0	1	0
Nationwide Permit Projects	3	1	4
Out-of-state Applicants	2	1	3
Applications withdrawn	3	2	1
Total Applications	35	26	25

The time frames for CWA Section 401 certification were calculated using the "date received" and "date certified" data. It is important to note that the "date received" is the date the public notice (PN) for the CWA Section 404 permit application is received by ADEQ and is stamped at their office. It is possible that earlier contact with ADEQ has been made by the applicant, and is recorded by ADEQ, but the date of the PN is still used as the "date received" in their files. A trend is beginning to develop in which applicants are contacting ADEQ prior to the PN because of the Corps' practice of notifying applicants that a CWA Section 401 certification may be required for their CWA Section 404 permit and advising them to contact ADEQ early in the process.

The longest recorded time frame for CWA Section 401 certification, according to these dates, is 670 days (about 22 months) while the shortest is 1 day. The average time frame for 1988 is 198 days (about 6.5 months), for 1989 is 239 days (about 8 months) and for 1990 is 167 days (about 5.5 months). These time frames do not consider the length of time that has elapsed between application to the Corps and the receipt of the PN by ADEQ.

6.0 CASE STUDIES

6.0 Case Studies

Two examples of the CWA Section 404 permit process were selected as case studies and examined in detail. These two cases were selected for their illustration of the primary issues and concerns raised throughout the interviews conducted for this study:

- preapplication meetings/knowledge of the process;
- criteria for CWA Section 401 certification evaluation;
- criteria for CWA Section 404 permit evaluation;
- jurisdictional determination based upon the OHW mark;
- applicability of definitions and laws to arid conditions;
- mitigation requirements;
- number and availability of personnel involved (in ADEQ, Corps, and EPA); and
- timeliness of CWA Section 404 and Section 401 processes.

In addition, these cases were chosen because they represent both public and private applicants, and differing levels of scope of work. The two case studies are the City of Tempe Rio Salado Project, and the Summit West Partnership Los Altos Hills Development.

6.1 The City of Tempe Rio Salado Project

6.1.1 Background

The City of Tempe's experience in obtaining an individual CWA Section 404 permit for their Rio Salado Project is representative of some of the issues and concerns encountered by a public applicant. This case demonstrates the concerns and constraints imposed when the project is the riverbed itself (for erosion and flood control) and an alternative site is not practicable. Discussion of this case is based upon interviews with Tempe, the Corps, EPA, and a review of documents pertaining to this CWA Section 404 application, including the public notice, environmental assessment, the permit itself, and comments from AGFD, USFWS, and ASPB State Historic Preservation Officer (SHPO).

6.1.2 Location

The Rio Salado planning area is located within a 5.5 mile course of the Salt River at Tempe and vicinity, in Maricopa County, Arizona. The planning area extends from 48th Street on the west to Price Road on the east and from University Avenue on the south to Curry Road to the north. The CWA Section 404 permit application was for a portion of this area, specifically a two-mile area between the Southern Pacific Railroad Bridge (west of Mill Avenue) to McClintock Road to the east. Generally dry, the Salt River is characterized as an ephemeral river, with flows regulated by upstream releases from six dams operated by the Salt River Project and occurring from flood events and urban runoff.

6.1.3 Process

6.1.3.1 Preapplication Consultation

In preapplication meetings, Tempe consulted with representatives from ADEQ, the Corps, USFWS, and AGFD concerning the requirements of both the CWA Section 404 permit and Section 401 Certification. Tempe was advised by ADEQ in approximately December 1988 of potential problems with erosion and sedimentation. EPA was not initially contacted by Tempe because EPA did not have comments concerning the channelization of a portion of the Salt River for another applicant immediately adjacent to and downstream from this proposed project.

6.1.3.2 Jurisdictional Determination

There was an initial discrepancy among the Corps, EPA, and Tempe in the determination of jurisdictional boundaries based upon the OHW mark. This regulatory limit is normally determined by a defined bank line and/or the changes in vegetation which indicate the normal limits of flow. Recalculations by the Corps resolved these differences and established the jurisdictional area.

6.1.3.3 Initial Application Submittal and Public Notice

Tempe submitted an initial CWA Section 404 application to the Corps on May 1, 1989 to channelize the river, construct grade control structures and to construct lakes and streams within the Salt River. The public notice was circulated on November 30, 1989. In its December 29, 1989 letter to the Corps, EPA recommended denial of the application because the project did not comply with EPA guidelines (primarily because the project was not water-dependent). After consultation with the Corps, Tempe withdrew its application in January 1990 to reconsider its project design and scope.

6.1.3.4 Redesign of Project and New Application

A new application for a CWA Section 404 permit for construction of a bank-stabilized floodway and grade control features was submitted to the Corps on January 17, 1990. This date may be considered the official start date because of the change in project scope and design. The purpose of this project was for erosion and flood control and focused on a water-dependent project (the basis for the required alternatives analysis) and did not include the instream features as originally submitted. This application was for a project more limited in scope than was proposed by Tempe in its earlier application.

6.1.4 Comments and Concerns

A public notice dated February 22, 1990 was circulated to agencies, groups, and individuals for their review and comment. Of the 13 responses to the Corps on this proposed activity, 8 supported it or had no comment, while the remaining 5 (ADEQ, SHPO, AGFD, USFWS, and EPA) proposed conditions and concerns that needed to be included in the permit or resolved before the permit could be granted.

Three historic bridges are within the project area: the Ash Avenue Bridge, the Salt River Southern Pacific Railroad Bridge, and the Tempe Mill Avenue Bridge. During the public notice comment period, no actions had yet been identified which would adversely impact these structures. The City of Tempe later determined, due to its age and deteriorating condition, that the Ash Avenue Bridge posed safety and liability concerns. They proposed its demolition prior to any construction-related activity. In compliance with Section 106 of the National Historic Preservation Act, an MOA concerning the disposition of Ash Avenue Bridge was developed. It was signed by the City of Tempe, the Corps, and the Arizona State Historic Preservation Officer in August 1990 in consultation with the Advisory Council on Historic Preservation. This MOA was required before the permit would be granted and would resolve the question of the disposition of the Ash Avenue Bridge. From the investigation of the options addressed in the MOA, on October 25, 1990, it was determined that the only viable option was the demolition of the Ash Avenue Bridge. This would have to precede any construction activities.

In addition to the cultural resource, the project area also encompassed a portion of the South Indian Bend Wash Superfund Site located between Rural and Price Roads, at the eastern end of the project. Comments from EPA addressed the possibility of groundwater contamination in this area and required special conditions in the permit to address these hazards.

6.1.4.1 Wildlife Habitat Mitigation

Throughout the application process Tempe coordinated with USFWS and AGFD regarding mitigation requirements for the impacted riparian habitat. The jurisdictional delineation was an important factor in determining the amount and location of vegetation that would be removed or otherwise impacted as a result of the channelization project.

In their comments to the Corps, USFWS and AGFD initially outlined eight special conditions which needed to be incorporated into the permit. With further evaluation of the proposed project and the wildlife habitat mitigation plan submitted by Tempe, USFWS requested that Tempe address two additional concerns. The final wildlife habitat mitigation plan requires Tempe to plant a 13-acre honey mesquite bosque outside of the Salt River channel, a 20-acre riparian strand of indigenous species within the channel, and a hydroseeded area as a buffer to the riparian strand, as well as develop a maintenance and monitoring schedule.

Two letters from EPA to the Corps recommended denial of the application based on their concerns with the following: (1) the jurisdictional delineations; (2) the alternatives analysis was not considered to be complete; (3) the mitigation plan for the riparian habitat was incomplete; and (4) impacts on water quality had not been determined. They also proposed several special conditions regarding the Superfund site. Tempe resolved the first and fourth points through the submittal of additional information and the ADEQ recommendation of certification dated August 23, 1990. The two other points, concerning the alternatives analysis and the mitigation, posed continual concerns for both the applicant and EPA. In their August 19, 1990 letter to the Corps, EPA continued to recommend denial based upon the following reasons: 1) the alignment is not the least environmentally damaging practicable alternative and 2) the method of soil stabilization is not the least environmentally damaging practicable alternative. EPA concurred with the acreages for the wildlife mitigation plan and posed several conditions to be incorporated into the mitigation plan.

6.1.5 CWA Section 401 Process

ADEQ submitted an initial draft recommendation for certification to Tempe on June 19, 1990 based upon the project described in the public notice and information submitted to ADEQ by the City of Tempe. Subsequent major changes in the project, especially with regard to the mitigation requirements by EPA, required a reevaluation of its certification potential by ADEQ. Of concern to ADEQ was the mitigation plan for the creation of a riparian strand within the channel which would involve the placement of a maximum of 2,000 cubic yards of suspendable fine sediment into the flood plain. A letter from ADEQ,

dated August 23, 1990 (which superseded the draft certification of June 19, 1990), was sent to the Corps recommending certification with specific conditions. ADEQ certification review, delayed by staff position vacancies and changes in the proposed project, took approximately four months.

6.1.6 Informal Consultation and Permit Decision

EPA's continual recommendation for denial of the application led the Corps to informally elevate this project from the DE to the Director of the Water Management Division of the EPA. The Corps stated its intent of issuing this permit and enclosed a copy of the draft EA for the EPA to review and to finalize and communicate their views so that a final decision could be made. In their response, EPA considered the special conditions to be incorporated into the permit and requested some modification of the wildlife habitat mitigation. With these modifications, on August 29, 1990 the EPA stated that it did not intend to take further action.

The Corps followed through on its decision to permit this activity proposed by Tempe since EPA did not further pursue the denial of the application. The permit was issued on August 31, 1990 with general and special conditions.

6.2 The Summit West Partnership, Los Altos Hills Development

6.2.1 Background

Summit West's 500-acre Los Altos Hills development is typical of projects being proposed by a private applicant. Often under consideration for development is a large parcel of land with many dry washes running throughout it. This case was chosen to demonstrate how an applicant, from the very beginning, can design its project around the constraints imposed by the CWA Section 404 permit program. Through design considerations, the applicant was able to minimize its impacts and qualify for a nationwide 26 permit. This resulted in a much shorter process for the applicant and minimized the impact on waters of the United States. Discussion of this case is based upon interviews with the Corps and Summit West Partnership, and the review of such documents as the application, the pre-discharge notification, comments from USFWS, AGFD, and ASPB, and the letter of verification of compliance with a nationwide 26 provisions.

6.2.2 Location

Los Altos Hills development area is located south of Shea Boulevard near Fountain Hills in Maricopa County, Arizona. Within this private property are five unnamed washes which are waters of the United

States and may be impacted by the proposed project. Of these five washes, one is considered to have high value riparian vegetation and provides foraging and/or breeding habitat for resident desert species. The remaining four unnamed washes are much less significant in riparian vegetation and habitat, with shallow, narrow channels and sandy bottoms.

6.2.3 Process

6.2.3.1 Preapplication Consultation

The Corps was contacted by Summit West Partnerships in September 1990, regarding a proposed mixed-use development for the Los Altos Hills property. Summit West was aware of the potential impact to the washes and wanted to know what they needed to do to obtain a permit. The proposed plan was for 1,170 residential units, a 500-room resort, a 13-acre commercial parcel, and an 18-hole golf course with a club house and maintenance facilities. The Corps outlined the need for an alternatives analysis in their guidance to the applicant.

Prior to their actual application, Summit West superimposed the jurisdictional areas on their development plan with the intent, as outlined in the preapplication meeting, to avoid, minimize, and mitigate impacts to the washes. Impacts to the primary wash were avoided except for one culverted crossing and impacts to the remaining washes were minimized to the greatest extent possible. Their project resulted in impacting 6.2 acres of waters of the United States while preserving 5 acres. The majority of the jurisdictional wash areas occurred within the golf course boundaries and only a small portion of waters of the United States was impacted by road crossings.

In addition, Summit West contacted the SHPO regarding the possibility of cultural resources on the site. SHPO responded that the likelihood of cultural resources, particularly ground stone production sites, was fairly high considering the proximity of this site to another situated one mile west of the property and that an archaeological survey was recommended. Summit West contracted for a survey which indicated that no significant historical or archaeological resources exist on the site.

6.2.3.2 Jurisdictional Determination

Summit West requested a jurisdictional determination by the Corps on September 17, 1990 on the washes within their project site. On October 17, 1990, the areas of Corps jurisdiction were determined on a composite topographic/aerial map of the site. They encompassed 11.2 acres of waters of the United States. These washes are considered ephemeral streams that flow in direct response to precipitation and have no permanent waters or associated wetland areas.

6.2.3.3 Application

The purpose of the project, as outlined in their application, was the discharge of dredged and fill material into portions of several washes (i.e. grading) to construct roadways, residential building sites and a golf course for the proposed private development. They determined that, of the 11.2 acres of waters of the United States, 6.2 acres would be impacted, while avoiding 5 acres. Incorporated into their application were illustrations of how they designed their project to minimize the impact on the washes and a mitigation plan for the impacted vegetation. More than three acres of revegetation using native plants in their natural densities and a seed mixture was proposed as mitigation for the impacted riparian vegetation.

6.2.3.4 Pre-discharge Notification (PDN)

Because the applicant was successful in limiting the impact to waters of the United States to less than ten acres, the development qualified for application under Nationwide 26, rather than necessitating an individual permit. Under the nationwide permit process, a PDN outlining the project location, description, and impacts was sent to EPA, USFWS and AGFD on January 23, 1990 for their comments. These resource agencies strictly adhere to a ten-day comment period.

6.2.4 Comments and Issues

EPA recommended that the Corps require an individual permit for the proposed project because the applicant did not demonstrate that the least damaging practicable alternative had been selected and that mitigation was not adequately addressed. In their response the Corps supported their decision to allow the project under a nationwide 26 permit because there are no wetlands or special aquatic sites, and the applicant avoided impacts to the wash with the higher resource values and minimized impacts elsewhere. A mitigation scheme had also been developed by the applicant to offset the unavoidable impacts to the washes.

USFWS was concerned about the washes because of riparian area values for breeding and foraging habitat for bird and other wildlife species. They recommended that the nationwide permit not be authorized because of the lack of an alternatives analysis and a detailed mitigation plan. The Corps supported their decision to issue a nationwide permit by indicating that the applicant had avoided impact to the habitat of the primary wash, developed the least damaging alternative, and had provided a mitigation plan which would offset unavoidable impacts.

AGFD did not oppose the authorization of the proposed project under the nationwide permit. AGFD recommended revegetation with native plants wherever possible and required their watering and maintenance.

The Corps responded with details of the on-site mitigation areas for Summit West and the plan for watering of these areas for one year or until they were reestablished.

6.2.5 Authorization of Activity

A letter of authorization from the Corps was sent to the applicant on February 19, 1991. In it the Corps stated that the proposed project complied with the terms of nationwide permit 26 for discharge of dredged or fill material into waters of the United States.

7.0 404 AND 401 ISSUES IN ARIZONA

7.0 CWA Section 404 and Section 401 Issues in Arizona

Initially it was hoped that an analysis of the CWA Section 404 and Section 401 programs in Arizona could reveal whether these programs were meeting the water quality objectives of the CWA -- the maintenance and restoration of the biological, physical and chemical properties of the waters of the state. However, this cannot be determined. Because there are numerous distinct programs in Arizona that are designed to protect water quality (including both point and nonpoint source management programs), changes in water quality cannot be attributed to the success (or lack of success) of a single program. In addition, the current water quality sampling program is not designed to monitor the effectiveness of the CWA Section 404 and Section 401 programs.

During the interview process, ten general issue areas pertaining to the effectiveness of the CWA Section 404 and Section 401 programs in Arizona were identified. These issue areas are: scope of the law and programs, focus of the law and programs, ability of the programs to protect riparian areas, arid area considerations, process, coordination, mitigation, planning, enforcement, and staffing.

The following discussions of these ten issue areas are based upon the results of the interviews and are supplemented in many cases with information on a national scale. Most of the issues identified focused on the CWA Section 404 permit program rather than the Section 401 certification program. There are two major reasons for this. First of all, the CWA Section 404 permit process has a longer history in Arizona and, as a result, more individuals are aware of the CWA Section 404 process and have had some involvement with it. As a result, those interviewed generally had more opinions and experience with the CWA Section 404 permit process than with the Section 401 certification process. Secondly, the nature of the CWA Section 404 permit program as it is conducted in Arizona generates greater public and agency awareness than does the Section 401 certification program. The main reason for this is there is a public and agency review of CWA Section 404 permit applications but no similar review of Section 401 certification applications. This also serves to limit the number of individuals who are familiar with the CWA Section 401 certification requirements and process.

However, it is important to note that the potential effectiveness of the CWA Section 401 certification program is inexorably linked to the scope, focus, and implementation of the CWA Section 404 permit program. Almost all of the CWA Section 401 certificates issued for projects other than point source discharges (i.e. under Section 402 of the CWA) are for CWA Section 404 permitted projects. Thus, the jurisdictional determinations made under the CWA Section 404 program also determine whether a project will be subject to scrutiny under CWA Section 401 certification. Monitoring and enforcement also link the CWA Section 404 and Section 401 programs together, since the permit conditions include conditions for the Section 401 certification. Mitigation measures required under a CWA Section 404 permit can also affect water quality.

As a result, while a particular issue area may appear to be more applicable to the CWA Section 404 permit program than to the Section 401 certification program, in reality, it pertains directly or indirectly to both programs.

7.1 Scope

The scopes of the CWA Section 401 and Section 404 programs (as written in the laws and regulations and as currently administered) have been criticized as being too narrow by environmental interests and natural resource agencies and too broad by applicants and related organizations. In reality, both programs face institutional constraints that limit their use in some situations, and also institutional opportunities to use the programs in innovative manners.

7.1.1 CWA Section 401

Under the CWA, Section 401 certification applies to any activity requiring a federal license or permit if the activity would result in a discharge into navigable waters. Some believe that CWA Section 401 certification is the "sleeping giant" in protecting water quality and wetlands because it could be applied to so many different kinds of activities (Ransel and Meyers 1988). There is no question that applicants seeking CWA Section 402 (National Pollutant Discharge Elimination System) and CWA Section 404 permits must obtain state certification. In addition, applicants for FERC licenses to construct dams or reservoirs on a navigable water for the generation of hydroelectric power must obtain certification. Beyond this, there is little agreement about what other federally permitted activities should be covered by CWA Section 401 (Ransel and Meyers 1988).

One major reason for the limited application of CWA Section 401 certification to other federal licensed and permitted activities is the perception of the agencies involved in issuing these licenses and permits that Section 401 certification does not apply to the activities that they regulate. EPA has given the states no formal guidance in this area and most states have not sought out additional federally permitted or licensed activities for certification because the agencies are understaffed and under financed (Ransel and Meyers 1988).

Two permit programs which EPA should provide clarification as to whether a CWA Section 401 certification is necessary are Sections 9 and 10 of the Rivers and Harbors Act (Ransel and Meyers 1988). Some states receive requests for CWA Section 401 certification for projects under these sections. In Arizona, the Corps determines whether a particular Section 10 permit pertains to water quality and, if so, they require CWA Section 401 certification. ADEQ is also sent, as part of the Corps' public notification process, descriptions of applications for major projects seeking Section 10 permits to review. ADEQ

could recommend that the Corps require a CWA Section 401 certification for a particular project with water quality impacts. Small projects seeking Section 10 permits are issued LOPs - only the larger projects are subject to public review.

At this time, most of the CWA Section 401 certifications in Arizona are for individual CWA Section 404 permits and CWA Section 402 permits (the National Pollutant Discharge Elimination System Program). Certifications and consistency reviews under CWA Section 319 are also done by ADEQ for the Federal Aviation Authority and ADOT activities. In addition, a handful of certifications are given for U.S. Coast Guard permits, FERC permits and permits issued under Section 10 of the Rivers and Harbors Act.

Another limitation of the existing scope of the CWA Section 401 program in Arizona is that Section 401 certification of activities authorized by nationwide permits is currently waived. The inability of the state to issue certification in this area is the result of a lack of action taken by ADEQ's predecessor agency, Arizona Department of Health Services at the time that the nationwide permits were last reviewed and reissued. These nationwide permits are reviewed and reissued every five years, at which time the state water pollution control agency has the opportunity to issue a certification with or without conditions for a particular nationwide permit category, to require individual certification for each permit within a nationwide category, or to waive certification. Certification can be waived either by a failure to participate in the review and reissuance process or by an agency decision to not become involved in certification of certain kinds of activities allowed under nationwide permits. The process for reconsideration and reissuance of the nationwide permits is currently in progress.

Under the existing federal law and regulations, the CWA Section 401 certification process does not require an alternatives analysis and mitigation sequencing similar to that required by CWA Section 404 permits. The absence of alternatives analysis and mitigation sequencing requirements in Arizona limits the use of the CWA Section 401 certification process in early decision-making by the developer, and instead places CWA Section 401 certification at the end of the decision-making process. The result is that certification is used primarily to compensate for the water quality impacts of a project or to deny a project, not to help the applicant to identify less environmentally damaging alternatives and design a project that will have the least possible impacts on waters of the United States.

Since ADEQ does not have separate rules governing the issuance of CWA Section 401 certifications, the federal law and regulations are followed, and Section 401 certification has virtually no role in determining project alternatives early in the decisionmaking process. Other states do have alternatives analysis and mitigation sequencing on the front end of their Section 401 certification process.

Within the confines of this current application of CWA Section 401 certification to limited federally licensed and permitted activities, ADEQ has been favorably recognized by other regulatory agencies for its aggressive implementation of the program which includes the protection of water quality in ephemeral, intermittent and perennial watercourses throughout the state. Arizona may be a national leader in its application of CWA Section 401 certification to arid conditions. As a result, the CWA Section 401 certification requirement is believed to be increasing awareness of the water quality impacts of activities in watercourses, wetlands, and riparian areas that result from the discharge of dredged and fill materials. This awareness is increased most often among those seeking to obtain a CWA Section 404 permit.

7.1.2 CWA Section 404

Many of those interviewed believed that major asset of the CWA Section 404 program is the manner in which it is established in the CWA. The law is considered to be a strong and unassailable force in the regulation of the discharge of dredged and fill materials into the waters of the nation. The permit program triggers the requirement for environmental analysis and integrates many federal environmental protection concerns (such as the protection of endangered species, historic and prehistoric sites, among others) into the design of private projects that would otherwise have no environmental impact review.

However, from a wetlands protection perspective, the CWA has so many loopholes and exemptions that most wetlands can be legally destroyed. For example, one can legally dredge, drain, dig ditches through, or dig large holes in a wetland without a permit as long as none of the dirt, mud, or sand is deposited in the wetland (Salveson 1990). Only limited information exists about the effectiveness nationally of the Section 404 program in terms of wetlands protection. For instance, no definitive data are available to measure program impacts in terms of wetlands saved or lost. Further, permit documents do not always include the information necessary to begin compiling such data. Nevertheless, some studies have concluded that the Section 404 program has reduced wetlands losses, although the level of reduction is uncertain (National Wetlands Policy Forum 1990). One study has indicated, however, that in two states studied, there was a net loss in numbers and area of wetlands through the CWA Section 404 program (Kentula, et al. undated).

On a national level, some groups, primarily resources agencies and environmental interests, believe that the Corps has not been rigorous enough in protecting wetlands. As summarized in one report, resource agencies such as the USFWS believe that the Corps is not delineating wetland boundaries broadly enough, considering cumulative impacts of permit decisions, nor requiring permit applicants to consider practicable alternatives to development activities in wetlands (GAO 1988).

In Arizona, the scope of the CWA Section 404 permit program is also limited by the perceptions of those whose activities the program seek to regulate. For example, some individuals confuse the requirement for a CWA Section 404 permit with the requirement for a local floodplain use permit. They believe if a project obtains a local permit or is exempt from the requirement to obtain a local permit, a CWA Section 404 permit is unnecessary. While this is not an actual limitation to the scope of the program, it is a perception problem that can limit the program as much as a legal or institutional constraint.

The determination of "headwaters" is critical to defining the scope of the CWA Section 404 permit process. As defined in the regulations (33 CFR §330.2(b)), headwaters means the point on a non-tidal stream above which the average annual flow is less than five cubic feet per second. On streams that are dry for long periods, the district engineers may establish the headwaters as the point where a flow of five cubic feet per second is equalled or exceeded 50 percent of the time. The determination of headwaters is critical because it removes proposed projects above the headwaters from the requirement for an individual CWA Section 404 permit and makes them subject to the less rigorous environmental review under the nationwide permitting process (ADEQ 1989a). The Corps revised its determinations of Arizona headwaters in 1990 to include many more miles of rivers and streams below headwaters than were included in previous determinations made in 1978 and 1982.

The legal definitions of pollutant, fill, discharge, and waters of the U.S. are considered by those interviewed to be vague and often poorly understood by potential and actual permit applicants. By being general rather than specific, the definitions give the Corps greater flexibility in interpreting the terms to fit local conditions. However, this flexibility is perceived by applicants as inconsistency and is considered to be problematic. In addition, the absence of consideration of arid region factors in the application of definitions is considered by agencies to be problematic.

On a national level, these vague definitions, combined with the institutional complexity of the Section 404 permit program and the implementation flexibility given to the DEs has led to criticisms of the CWA Section 404 program for inconsistent policies and practices which contribute both to frustration within the regulated community and to uneven protection of wetlands. Areas noted for inconsistency include: wetland delineation procedures; EPA and the Corps' regulatory guidance; regulatory implementation among the various Corps' districts (some district offices tend to be more restrictive in granting permits or requiring mitigation than others); and the uneven degree of involvement of various federal and State agencies in different regions and in different cases within the same region (National Wetlands Policy Forum 1990).

The concern about CWA Section 404 program inconsistency is also reflected in the changing scope of the Section 404 permit over time. The CWA Section 404 permit requirements have been very dynamic, and modified over the years through a variety of mechanisms such as Corps' and EPA's interpretation, the outcome of lawsuits, and revisions to policy documents such as the federal wetlands jurisdictional manual, and determinations of headwaters. While some changes to the program are relatively easy to track (for example changes to the CWA or the regulations), others, which can dramatically alter the scope of the program are not so easily identified. For example, a recent RGL (RGL 90-5) substantially changes the scope of what is included under the regulatory requirements of the CWA Section 404 permit program by including landclearing activities using mechanized equipment such as backhoes or bulldozers with sheer blades as a discharge that may be subject to the CWA Section 404 permit requirement. These RGLs are issued without public review and comment and in the past have not been widely distributed. However, new RGLs are currently published in the Federal Register.

7.2 Focus

One way to maximize the effective use of resources in a program is to clearly focus the attention of the program on a limited number of goals or objectives. This focus can be the result of a legal mandate or discretionary decision; made consciously through a policy decision or unintentionally without management's involvement.

7.2.1 CWA Section 401

ADEQ's implementation of the CWA Section 401 program is believed by several of those interviewed to provide too much emphasis on turbidity and too little on other water quality standards or a broader environmental perspective. For example, for one project, ADEQ's concern about potential increases in turbidity led an applicant to believe that ADEQ opposed the creation of riparian habitat along the banks of a river. In arid environments, some turbidity in desert washes after significant storm events is unavoidable. While ADEQ regulations do not consider water quality alterations that are not caused, induced, or contributed to by the activities of a person to be a violation of water quality standards (R18-11-211G), ADEQ's emphasis on additional control of turbidity remains poorly understood by applicants.

The turbidity standard is an indication of the amount of erosion and deposition that the aquatic ecosystem can handle without adverse impacts. Turbidity serves as a measurement, although incomplete, of physical integrity of the resource. ADEQ's emphasis on turbidity is in part the result of the current water quality standards, which do not address physical or biological integrity. Thus, activities permitted under CWA

Section 404 in ephemeral, intermittent and perennial streambeds are most often numerically evaluated under the turbidity standard within the context of state rules.

7.2.2 CWA Section 404

A common perception among those interviewed is that the Corps' implementation of the CWA Section 404 permit program loses sight of the CWA goal to maintain and restore the physical, chemical and biological integrity of the waters of the United States. The complexities of the CWA Section 404 process and the requirements of the law are perceived to result in a diversion of focus, loopholes and illegal avoidance of Section 404. One reason for this perception that the Section 404 permit process does not focus on water quality protection is that the Corps does not consider water quality alone in the issuance of its permits. Under the regulations (33 CFR § 320.4(a)), the Corps is required to conduct a much broader public interest review of a proposed permit that balances numerous different impacts of the proposed project. "Assuming the district engineers possess the wisdom of Solomon, Corps regulations promise this balancing will consider public and private need for the project, alternative locations and means of accomplishing the objective where there exist unresolved resource use conflicts, effects on public and private uses, cumulative impacts and some twenty other factors" (Blumm and Zaleha 1989). According to the regulations:

All factors which may be relevant to the proposal must be considered including the cumulative effects thereof: among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people. (33 CFR § 320.4(a))

In addition, the CWA Section 404 permit requirement changes an action by a private individual into a federal action, thus triggering the application of numerous federal laws and public review by many different federal, state, and local agencies, each with its own authority and legal mandates. At the same time, it provides for the review of the proposed project by private and nonprofit groups and individuals, each with its own issues of concern. In some cases, an agency or individual will use the CWA Section 404 permit process for purposes completely unrelated to water quality protection, such as promoting parks, limiting growth, increasing property values, etc. Thus, water quality concerns are but one of many different issues that are raised and review criteria that are taken into consideration in the issuance of a CWA Section 404 permit.

Some of those interviewed believe that despite this focus on a broader range of impacts, the CWA Section 404 program is effective in protecting water quality. While few permit applications are denied, conditions are attached to many of the permits, limiting their impacts on water quality and wetlands. In addition, the complexity and cost of obtaining a CWA Section 404 permit in some cases acts as a significant deterrent to

individuals considering undertaking projects in the nation's waters. In other cases, the proposed project will be modified in order to limit the portion of the project in a regulated watercourse in order that a nationwide permit can be obtained instead of an individual permit. Other individuals who were interviewed believe the complexities of the process result in the diversion of focus, the creation of loopholes, illegal avoidance of the Section 404 requirements and degradation of water quality. However, there is virtually no data to substantiate the impacts of the CWA Section 404 program on wetlands and water quality, nationally or in Arizona.

7.3 Riparian Area Protection

Healthy riparian areas and wetlands are critical to environmental quality (EPA 1991). They help restore and maintain the chemical, physical and biological integrity of arid region watercourses, (the goal of the CWA and all of its authorized programs). Specific functions attributable to riparian areas are site specific. Their value is relative to these functions, and the potential that they have to carry out these functions. Some of the functions include: water quality protection and improvement, habitat for aquatic and terrestrial life, improved channel and bank stability, flood storage and peak flow attenuation, groundwater recharge and discharge, sources of primary production (detritus) for streams, and aesthetics (EPA 1991 and Want 1990).

Riparian areas in Arizona, as elsewhere in the United States, have diminished over the years. There is now national recognition that these areas need to be protected for all their functions, including water quality. EPA recognizes the importance of state promulgation of wetland water quality standards and encourages extension of standards to associated floodplains and riparian areas (EPA 1990). EPA Region 10 has a Riparian Area Management Policy that recognizes the important role of riparian areas in the maintenance of the nation's waters and underscores their protection and restoration through Clean Water Act programs (EPA 1991).

While the waters of the United States that are subject to regulation under CWA Section 404 include wetlands, some riparian areas, which provide the same values and functions in arid regions as wetlands perform in areas of abundant rainfall, are not included in the definition of wetlands.

Riparian areas are considered Arizona's most threatened natural communities (ASPB 1988). While the nation has lost approximately half of its wetlands (EPA 1989b), an estimated 90% of Arizona's original native riparian areas along major desert waterways have been lost.

The protection of riparian areas is of particular significance to ADEQ because riparian areas can reduce stream bank cutting, turbidity, and sediment loads of streams. Riparian areas can control floods by slowing the water flow. This allows suspended solids to settle instead of being carried downstream where they can fill reservoirs, clog rivers, and shorten the life of flood control or water storage basins and dams (Salvesen

1990). The build-up of silt in storage reservoirs is of particular concern in much of Arizona where reservoirs are a critical source of water.

7.3.1 CWA Section 401

The CWA Section 401 certification program does not protect riparian areas for two reasons. Since riparian areas are not considered to be wetlands under Section 404 of the CWA, many such areas fall outside of the jurisdiction of the CWA Section 404 permit program. As a result, ADEQ does not have the opportunity to regulate activities in these areas under CWA Section 401 certification. In addition, state law and water quality regulations do not provide protection for riparian areas.

Arizona's water quality standards as they are currently written don't apply to riparian areas. In some states, wetlands and riparian areas are considered to be waters of the state and subject to water quality standards. Arizona's water quality standards do not apply to riparian areas, nor do they recognize riparian habitat as a beneficial use of the water. The anti-degradation policy, which is in the current water quality standards, has not been actively applied, as it has in some states where it is an effective tool in wetlands protection.

While Executive Order 91-6 requires ADEQ to give consideration of the impacts on riparian habitat for projects seeking CWA Section 401 certification, there is no legislation in the state which gives additional legal support to riparian protection.

The provision in Arizona state statutes which allows individuals to own many of the streambeds in the state (ARS §37-1101 et. seq.) also limits state control of these watercourses and their associated riparian areas.

7.3.2 CWA Section 404

To qualify as a wetland under the federal Wetland Jurisdictional Manual, an area must exhibit evidence of the following three mandatory criteria (1) hydrophytic vegetation; (2) hydric soils; and (3) wetland hydrology. Riparian areas generally do not qualify as wetlands under these technical criteria because they do not possess typical hydric soil and hydrology field indicators.

The result is that wetlands but not riparian areas are included as waters of the United States, even though the two ecosystems have comparable values and functions in different regions of the country. Thus, when the Corps makes a jurisdictional delineation, riparian areas are not treated differently than a non-aquatic based ecosystem.

If a proposed CWA Section 404 permit happens to include riparian areas within the jurisdictional delineation, the Corps will seek to protect these areas whenever possible. If project is outside of the Corps' jurisdiction, however, riparian habitat is given no opportunity for protection under the CWA Section 404 program. Since

the complex nature of the CWA Section 404 permit requirement encourages applicants to conduct their projects outside of the jurisdiction of the Corps, the CWA Section 404 program may inadvertently encourage the destruction of riparian areas lying outside of the Corps' jurisdictional boundaries.

7.4 Incompatibility with Arid Conditions

The CWA was written to be applied to the entire United States, with its vast diversity in landforms, hydrology, climate, vegetation, and wildlife. If the CWA shows any geographic bias, it is for the eastern and southern states, where rainfall is abundant, watercourses are perennial, and wetlands are areas that are consistently inundated with surface water, allowing hydric soils to develop. The result is that the law is not as easily applied to arid Arizona, with its ephemeral and intermittent streams, dammed rivers, dry washes, and riparian areas that are fed as often with ground water as with surface water. Arid region watercourses are characterized by high erosion rates, soils and vegetation that are adapted to arid regions. The "natural ecosystem," which provides erosion control functions within braided and along the margins of nonbraided watercourses, is not clearly protected under the CWA. Both the CWA Section 401 and Section 404 programs have some difficulties working effectively in Arizona.

7.4.1 CWA Section 401

Because ADEQ does not have its own rules for CWA Section 401 certification, the federal law and regulations that were written to apply to areas of abundant rainfall are applied in Arizona. The result is the definitions and jurisdictional delineations of the CWA Section 404 permit program also determine where CWA Section 401 certification is required (with few exceptions, most notably point source discharges under CWA Section 402). Since these definitions and jurisdictional determinations are perceived as incompatible with arid conditions (described in section 7.4.2 below), this affects both the CWA Section 404 and Section 401 programs.

The absence of state rules that could better apply the certification requirements to arid conditions is perceived as problematic. In addition, the lack of physical and biological integrity standards that relate to arid systems is perceived to contribute to certification difficulties.

In its CWA Section 401 certification, ADEQ relies upon the use of modelling to identify potential water quality impacts that would occur as the result of a proposed CWA Section 404 permit action. However, like the CWA, most of the models currently in use are better suited to non-arid environments and may not accurately reflect the actual impacts on turbidity (erosion and sedimentation) that is likely to be encountered in arid conditions. Cumulative impacts are also difficult to evaluate in arid regions because events are episodic and steady-state system analyses are not considered to be realistic.

7.4.2 CWA Section 404

Many of the definitions in the law and regulations are vague or not easily translated to the arid environmental conditions in Arizona. Definitions that create problems in their application to arid areas are OHW, wetlands (discussed in greater detail above), and waters of the United States.

As discussed earlier, the jurisdictional delineation of the CWA Section 404 program within a streambed and is bounded by the OHW. OHW determinations in Arizona do not reflect arid region conditions. OHW is difficult to determine when no water is present in a wash or the channel is incised. The regulations require that the Corps consider physical evidence in determining the OHW mark. However, flood events in arid regions have extreme variations in water levels. The use of a debris line, cut banks, vegetation, and other physical evidence to determine ordinary high water results in inconsistent measurements that often reflect only the intensity of the most recent flooding event. Thus, the OHW delineation is a poor indication of the boundaries of the watercourse for regulatory purposes.

In Arizona, OHW determinations have ranged from the 2-year flood elevation (on the Verde River in 1990) to the 100-year flood elevation (ADEQ 1990b). The delineation of OHW and wetlands depends to a large extent upon recent flood and flow events and can vary from year to year. ADEQ, USFWS and others have documented their concern about very limited jurisdictional delineations of OHW. For example, along the Verde, the USFWS believes that components of an aquatic system above the two-year inundation zone have functions and values necessary for maintaining that system. In addition, because of this very narrow wetland delineation, the jurisdictional delineation includes less than ten percent of the mature facultative-wetland trees in some areas (USFWS 1990).

Unregulated activities can take place immediately landward of the of the OHW designations. Very limited jurisdictional delineations can actually encourage the destruction of adjacent riparian habitat by providing a cost incentive for potential applicants to avoid the CWA Section 404 permit process and place their projects outside of the Corps' jurisdiction.

ADEQ staff believes that in order for the goals of the CWA to be met, the Corps should not use the OHW in Arizona and should instead establish criteria appropriate to the arid region. If an acceptable arid region criterion is not established promptly, ADEQ staff recommends the 100-year floodplain as defined in FEMA maps should be used. This would reflect Arizona's typical high erosion rates and provide an effective tool to control accelerated erosion of the banks and beds of perennial and ephemeral watercourses. The impacts of the long-term, event related siltation would be minimized by Section 404 permitting, thereby adding years of life to the state's storage reservoirs.

While the Corps' district staff cannot change the definitions in the law and regulations that do not apply well to arid conditions, many of the definitions are worded so there is some room for interpretation to allow for regional variability. However, these definitions are sufficiently specific that some Corps staff do not believe that they can be interpreted them in such a way that they could be better applied in Arizona. Because of the restrictions of the current definitions, the Corps is also unable to develop a map showing specific jurisdictional waterways, since the physical features in the field change over time which would change the Corps' jurisdiction under the OHW definition in the regulations (Corps of Engineers 1989).

While the definition of wetlands is established in the Corps' regulations, the application for delineating wetlands is subject to interpretation. Delineation of wetlands is a complex and technical process. Sometimes the boundaries are distinct, but often they are not and the boundaries are difficult to establish. Aerial photographs may be used to make the determination. The Corps may make the determination of the OHW and wetlands delineation by a field visit, or the applicant may submit data and information and a recommendation and ask for the Corps' concurrence. Once they are made, wetland delineations and OHW are valid for three years unless there is a major flooding event in the interim. This illustrates the perception among some of those interviewed that the delineations of wetlands and OHW do not meet the objectivity of the CWA, and instead define a "moving target."

The term "waters of the United States" is not clearly understood or applied within an arid environment. Many of those interviewed expressed incredulity that seemingly insignificant and nameless dry washes could be considered a water of the United States and therefore subject to the CWA Section 404 permit requirement. However, others who were interviewed felt that dry washes were important to include in the definitions because washes are dry only intermittently or seasonally. Often when there is water flow in the wash, it is fast and furious. Dry washes are tributaries to perennial waters and sustain ecosystems that have evolved around them. Land disturbance activities in a so-called dry wash can accelerate erosion, and impact sedimentation transport on those occasions when there is water in the streambed, thus potentially affecting water quality, wetlands, and riparian habitat.

In some cases, the agencies involved in the CWA Section 404 permit process (as regulators or as review agencies) disagree on the interpretation of several of these terms within an arid context, which creates further confusion.

7.5 Process

The process for obtaining a CWA Section 401 certification is a small part of the process for obtaining a CWA Section 404 permit. In order to speed the decision-making process and to assure that each process results in sound decisions, these two processes need to be closely linked.

7.5.1 CWA Section 401

As described in Chapter 3, there is no defined process in the federal laws and regulations for obtaining CWA Section 401 certification. However, ADEQ has established a series of procedures which indicate the steps that are taken by the agency in the CWA Section 401 certification process. These procedures are not established in rule or in policy guidance.

One strength of this process as implemented by ADEQ is the use of pre-application meetings. When pre-application meetings occur early in the process of defining and developing a project, the project can be designed to minimize potentially adverse water quality impacts. This can reduce the length of time it takes to obtain CWA Section 401 certification, improve the quality of the project, and save the project initiator money that would have been spent in making design revisions or taking expensive water quality protection measures that could have been avoided.

Some of those interviewed expressed concern that the CWA Section 401 certification process lacks clear direction throughout, which contributes to the lengthy and not timely review of applications. These individuals criticized the CWA Section 401 certification process for being unreasonably long. According to ADEQ, in many cases, the length of time for the issuance is due to the applicant's failure to provide sufficient information so that a certification decision can be made.

The CWA Section 401 program does not have a public outreach element, nor does it provide for public review within its Section 401 certification process. This is responsible, according to some of those interviewed, for the lack of awareness and understanding of the CWA Section 401 certification requirement. Because of staff and funding limitations, there is very little outreach to potential applicants who need CWA Section 401 certification. Once applicants are aware of the Section 401 certification requirement, they face uncertainty about what are ADEQ's specific water quality concerns because, according to some of those interviewed, these concerns are not well-defined initially.

One reason for this uncertainty is that ADEQ views each proposed project as unique. Certification review information is therefore project specific and information needs evolve as the applicant describes the project.

Only when ADEQ has a clear understanding of the proposed project will the agency request specific information to be included for consideration in issuing the CWA Section 401 certification.

Different states have used different approaches to addressing common problems associated with lengthy review times. In some cases states can coordinate with the appropriate federal agency on timing issues. For example, Alaska negotiated joint EPA/state procedures for coastal CWA Section 402 permit review. The agreement takes into account and coordinates EPA, Coastal Zone Management, and Section 401 certification time frames (EPA 1989c).

States can adopt rules which reasonably protect against an unintended waiver due, for example, to insufficient information to make a certification decision or because project plans have changed enough to warrant a reevaluation of the impacts on water quality. Thus, after taking the federal agencies' regulations into account, the state's CWA Section 401 certification regulations could link the timing for review to what is considered receipt of a complete application (EPA 1989c).

Wisconsin, for instance, requires the applicant to submit a "complete" application for certification before the official agency review time begins. The state's regulations define the major components of a complete application, including the existing physical environment at the site, the size of the area affected, all environmental impact assessment information provided to the licensing or permitting agency, etc.. The rules state that the agency will review the application for completeness within 30 days of its receipt and notify the applicant of any additional materials reasonably necessary for review. Although the application will be deemed "Complete" for purposes of review time if the agency does not request additional materials within 40 days of information during the review process (EPA 1989c).

In the case of FERC projects, West Virginia has taken additional precautions with regard to time for review. If the project application is altered or modified during the FERC licensing process prior to FERC's final decision, the applicant must inform the Department of such changes. The Department may review such alterations or modifications and, if the changes are deemed significant by the Director, the Department may require a new application for certification. The Department has 90 days to review such changes or until the end of the year review period, whichever is longer, to determine whether to require a new application or to alter its original certification decision. If the Department requires a new application because of significant application modification, then the Department has six months to issue its certification decision from the date of submission of the application (EPA 1989c).

Public outreach has also been handled through cooperative arrangements with the appropriate federal agencies. For example, West Virginia requires applicants of FERC licenses to be responsible for this

notice. In the case of Section 404 permits, West Virginia has a joint notice process with the Corps to issue public notices for CWA Section 404 applications which also notify the public of the state certification process (EPA 1989c).

7.5.2 CWA Section 404

Concerns expressed in the interviews regarding the CWA Section 404 process include inadequate public outreach and education, length of time to obtain a permit, the cost of obtaining a permit, changes in the scope and administration of the CWA Section 404 program, the use and usefulness of the CWA Section 404(b)(1) guidelines, and integration of the Section 404 and Section 401 review processes.

It is estimated that each year roughly 2,000 projects or actions in Arizona require authorization under an individual permit or under a nationwide permit. The actual filings are considerably fewer because a significant number of floodplain administrators and the general public do not fully understand the requirements nor the magnitude of the potential penalties associated with these far-reaching regulations (Arizona Floodplain Management Association no date).

Some of Arizona's local flood control districts notify applicants for floodplain use permits about the need to seek a CWA Section 404 permit when they apply for a local permit, or otherwise include references to the Section 404 permit requirement in their guidance and public information literature. Others do not, or include the information in such a way that it is not easily noticed.

The current CWA Section 404 permit process is perceived to be lacking in its outreach to the public and to potential applicants. While there are numerous government agencies and private businesses that have personnel who are aware of and familiar with the CWA Section 404 program, including floodplain management agencies, planning agencies, consulting firms, and general contractors, an outreach program incorporating these public agencies and private businesses has not been conducted.

Very few members of the public are aware of the purpose or existence of the CWA Section 404 program, which has greatly limited their participation in the permit application review process. Since the CWA Section 404 permit program does not have an independent, active monitoring element, the public could play an important role in the informal monitoring network, by identifying potentially illegal activities in the waters of the United States.

Outreach to potential applicants is also very limited. As a result, there are many violations that have been attributed to lack of knowledge of the existence of the CWA Section 404 permit requirement. There is some disagreement on this point based on the fact that floodplain use permits require CWA Section 404 and

other applicable permits, which should alert all potential applicants to the Section 404 permit requirement. However, the widely held misconception that there are loopholes (grandfathered rights, etc.) that pertain to the CWA Section 404 permit program needs to be overcome through an applicant outreach effort.

The public notification documents have been criticized by some of those who review them as being difficult to read and understand. In particular, the diagrams, figures, and photographs are often of such a small scale that they cannot be easily understood. In addition, these visual aids do not appear to use a consistent format, so the public notification can be quickly read and interpreted. Precise location information may also be lacking. Often additional research must be done before the nature and extent of the proposed action can be understood for evaluation.

The process for obtaining a CWA Section 404 permit is considered by several of those interviewed to be cumbersome and lengthy. To the applicant, this translates directly into expense for consultants and staff time and costly delays in which the applicant has neither the ability to initiate nor to decide to terminate the project. A further area of confusion and frustration to the applicant is the changing nature of the rules and requirements of the program. During the time that the application is being reviewed and processed, the program requirements can change substantially, thus increasing the length of the process and often increasing the cost to the applicant.

On a national level, some members of the regulated community believe that too much time is required to process Section 404 permit applications, and that delays are unreasonably burdensome. Permit processing periods can be particularly long when state and local agencies are involved in approving the permit, or when the proposed alteration is particularly controversial (National Wetlands Policy Forum 1990). Within Arizona, the average length of time required to obtain an individual CWA Section 404 permit in 1990 (from the submittal of a completed application to the issuance of a permit) was approximately eleven months.

The applicants interviewed estimated the average cost to obtain a CWA Section 404 individual permit and the accompanying CWA Section 401 certification from \$10,000 to \$100,000 depending upon the size, scope, complexity and nature of the project. These estimated costs included studies, documentation, and changes in project design for a permit and certification only. They do not necessarily include an applicant's staff time (it primarily included the costs for outside consultants), nor did it include the applicant's costs associated with delays in initiating the project such as interest costs, loss of projected revenue, or additional costs for construction of modifications or mitigation measures required by the permit or certification. In some cases, the time to process an application is so lengthy that a public project may lose its funding because construction was not initiated according to schedule (Arizona Floodplain Management Association no date).

The total cost of obtaining a CWA Section 404 permit should also include the time energy and direct costs of the Corps' processing of the permit application, the preparation of comments by public agencies and private parties, ADEQ and the applicant's time and effort in developing and analyzing the information for the CWA Section 401 certification, and resolution and arbitration over areas of concern and disagreement.

Over the past three years, there have been some major changes in the CWA Section 404 and Section 401 programs. These changes include an increased emphasis on the use of the CWA Section 404(b)(1) guidelines, more stringent direction on mitigation, changes in the determination of headwaters in Arizona, and more aggressive implementation of the CWA Section 401 certification requirement. The programs are continuing to change. Among these changes are the issuance of new RGLs by the Corps which have included one addressing landclearing as an activity regulated in the CWA Section 404 permit process, revisions to the federal jurisdictional wetlands manual, proposed changes to the costs for a Section 404 permit, proposed changes to the state water quality standards, issuance of the riparian protection executive order, and proposed revisions to the nationwide permits.

It is difficult for an applicant to keep track of the changes to the programs and to understand how these changes will affect a permit that is currently under consideration. New RGLs are currently sent out to those whose permits they affect and to an established mailing list. In the future, RGLs will also be published in the Federal Register in final form (no public comment will be solicited).

The CWA Section 404(b)(1) alternatives analysis process and criteria are generally poorly understood by CWA Section 404 permit applicants. In the applicant information booklet that the Corps sends to CWA Section 404 permit applicants with the permit application, there is no mention of the CWA Section 404(b)(1) requirement. Thus, first-time permit applicants who do not discuss their project with the Corps usually are unaware that they should consider alternative projects outside of the waterway until their designs are completed and reviewed by EPA as part of the public review of the permit application.

The CWA Section 404(b)(1) guidelines, under 40 CFR 230.6, provide that the level of effort and documentation required for looking at alternatives should be commensurate with the environmental impact of the proposed action. This does not preclude the need for conducting the alternatives analysis, but it provides flexibility so that projects with minor environmental impacts are not required to perform extensive documentation. However, it is perceived that EPA does not use this flexibility in its evaluation of a proposed project, and may use the requirement for a CWA Section 404(b)(1) analysis as a punitive measure against an individual who failed to consider alternatives to undertaking a project in a waterway.

ADEQ does not receive a copy of the permit when it is issued by the Corps. In a few cases, the project design that is approved in the final permit is not the same as the design for which ADEQ has issued a certification. However, the way in which a certification is written does not always provide sufficient levels of detail to enable one to identify these discrepancies. There needs to be a feedback loop to include ADEQ in reconsidering any certification for a project that was changed subsequent to the public review process.

7.6 Coordination

While the CWA Section 401 program has few coordination implications since it is administered solely by ADEQ and does not currently incorporate any other agency or public involvement, coordination is a major function of the CWA Section 404 program. ADEQ has a strong interest in the effective coordination of the CWA Section 404 program as one of the participants whose concerns about a permit application must be coordinated and coalesced with those of other local, state, and federal agencies, public and private interests, and individuals.

7.6.1 CWA Section 401

While interagency coordination is not a major function of the CWA Section 401 program (with the exception of coordination with the Corps), coordination is of concern within the agency. While many of those interviewed believe there is no centralized source for permits within ADEQ, the agency has two individuals who act as contacts for the permits. Some projects need to obtain several approvals, permits, etc. from within ADEQ. However, there can be conflicts among ADEQ's requirements under different permit and certification programs, resulting in confusion and additional costs to the applicant and credibility problems for ADEQ.

ADEQ currently has an interagency advisory group called the Watercourse Alternation Technical Advisory Group (WATAG) that has been meeting since about September 1990 to identify and recommend to ADEQ best management practices (BMPs) to be used in watercourses. This group, which includes many of the regulatory agencies and industries that are involved with the CWA Section 401 and Section 404 programs, could provide an important coordination link and communication mechanism for feedback about these programs.

7.6.2 CWA Section 404

Coordination was identified as a major concern in the CWA Section 404 program because there are several agencies that are active in various aspects of the permit process. The roles of the agencies in the CWA

Section 404 process are not clearly delineated to the applicants or even to the other agencies. One area considered to be a problem is the dual leadership of the Corps and EPA. It is unclear to the applicants which is the lead agency and to whom the applicants should be tailoring their applications and from whom they should be taking their direction.

Every agency involved in the process is perceived as seeking to optimize its own goals and to further its own programs, making it very difficult for the applicant to please all of the agencies simultaneously. This is apparently the case, not only in Arizona, but nationwide. According to an evaluation of the CWA Section 404 permit program by the United States General Accounting Office:

The Corps and the resource agencies envision the objectives of the Section 404 program differently and consequently have different views of the program's success. The resource agencies believe, for example, that the Corps is not (1) delineating wetland boundaries broadly enough, (2) considering cumulative impacts of permit decisions, and (3) requiring permit applicants to consider practicable alternatives to development activities in wetlands. The Corps believes that it is acting within the limits of the program's jurisdiction. (GAO 1988)

Often the applicant's efforts to satisfy the goals of the different agencies results in multiple design changes which are expensive to the applicant and to the regulatory agencies in terms of time, staff resources, and money. There needs to be improved coordination of agencies' responses in the entire CWA Section 404 process, particularly in the area of mitigation. Several agencies may have mitigation concerns and recommendations for conditions that are not necessarily compatible or consistent; clear direction is needed for the applicant.

To many applicants, the requirements of the various agencies that review and comment upon their permit applications are vague. The quantification and qualification of these requirements at the beginning of the permit process could reduce the process time and the applicants' permit expenses. However, this would be difficult because projects differ greatly and there are numerous requirements that may or may not apply to a specific project.

According to Corps staff, "Disagreement is the norm in the 404 program." CWA definitions are worded such that they require judgement calls for their interpretation. As a result, the Corps finds themselves in the middle of disputes among the applicants and the environmental agencies on a regular basis. The law establishes Corps as ultimately responsible for interpreting definitions and defining the program, under the oversight of EPA.

Because of EPA's potential involvement in a project, not only as a reviewer of the CWA Section 404 permit application, but also in its other regulatory capacities, the agency can play a highly significant role

in many permit projects. It is particularly critical to the applicants that there be a focal point within EPA for addressing all of the agency's concerns about a project. The lack of a centralized process to consolidate requirements for permits can result in different EPA programs' stipulating conflicting requirements for the project.

A final coordination concern relates to integrating ADOT into the CWA Section 404 process. At this time, ADOT's procedures do not allow sufficient time for contractors to obtain a CWA Section 404 permit and other environmental compliance actions. This needs to be changed so that contractors are not penalized for following permit procedures and so that there are fewer violators of the permits.

7.7 Mitigation

7.7.1 CWA Section 401

Mitigation of wetlands and riparian areas is not required under the CWA Section 401 certification because it is not required by federal law or regulations pertaining to CWA Section 401 and as mentioned earlier, there are no state rules covering CWA Section 401 certification. However, the loss of wetlands and riparian areas and the requirement for mitigation can be significant to ADEQ because of the relationship between wetlands and riparian areas and water quality. When there is unavoidable damage to wetlands, the CWA Section 404 rules and MOAs provide opportunities for environmental enhancement through mitigation. Other states have CWA Section 401 certification program rules that contain mitigation requirements and wetland and other watercourse alternatives analysis.

7.7.2 CWA Section 404

Applicants believe that they receive inadequate direction about appropriate mitigation measures that should be taken to offset damage caused by their projects. The Corps, EPA, ADEQ and state and federal resource agencies expressed concern that mitigation is not the answer, it is the last resort option after efforts to avoid impacts requiring mitigation.

This prevents applicants from calculating the cost of the mitigation so they can make appropriate decisions about their project. Ultimately, the cost of mitigation required for a project can exceed the other costs of the project.

There is currently no way to track the impacts of CWA Section 404 permits on wetlands. However, this is changing. The Corps' office in Washington D.C. will be including the impacts on wetlands as a record keeping requirement for the district offices in a new RGL or engineering regulation to be issued in the near

future. Engineering regulations are internal administrative documents that do not affect how permits are processed. The Corps' field office is also working on developing a method for tracking and monitoring compliance with mitigation requirements.

The effectiveness of the mitigation measures required is also questioned. Some perceive that all habitat is treated as if it is of equal value. Damage or destruction of vegetative habitat of marginal value may be required to be mitigated by creating an entirely different type of habitat. In addition, there is insufficient agency monitoring compliance with mitigation requirements, so it is unknown whether the requirements are carried out or whether the techniques that were specified in the mitigation requirement were successful.

7.8 Enforcement

Enforcement of the CWA Section 401 certification and Section 404 permit programs are linked in several ways. First of all, since certification conditions are included as part of the permit, the violation of a CWA Section 404 permit may include the violation of the CWA Section 401 conditions. The failure to obtain a CWA Section 404 permit in most cases indicates that there was also a failure to obtain a CWA Section 401 certification. The effective use of enforcement as a deterrent to prevent potential permit applicants from ignoring the requirement for a CWA Section 404 permit (and subsequent requirement for a CWA Section 401 certification) is important to ADEQ in assuring that as many eligible activities as possible obtain Section 401 certification.

7.8.1 CWA Section 401

Enforcement concerns expressed among those interviewed include ADEQ's reliance on requiring the applicant to use guidelines that have neither the backing of law nor administrative rule. It is debatable to some whether these guidelines can be enforced. The responsibility for enforcement of failure to comply with conditions of ADEQ certification is considered to be unclear. While ADEQ clearly has the authority to enforce water quality violations, they believe the Corps should enforce the conditions of certification because these conditions are included in the Corps' CWA Section 404 permit. However, the Corps' field office would prefer that ADEQ enforce their certification conditions.

Some of those interviewed expressed the concern that conditions included in a CWA Section 401 certification might be difficult to enforce if the ability to comply with the conditions were beyond the control of the applicants. One example cited by an interviewee is that conditions related to turbidity restrictions within a certification might be violated in the event of a major fire on the watershed about which the applicant has no influence. However, under state regulations, an individual is not responsible for violations of water quality standards that the individual did not cause or contribute to. ADEQ staff do

not believe that they would impose a certification condition that an applicant could not effectively use to control turbidity. According to the Corps' regulations, if a condition imposed by the CWA Section 401 certification is found to be unenforceable, the permit must be denied.

ADEQ does not currently monitor CWA Section 401 certification violations, although enforcement actions are taken when violations are discovered. Operators who bear water quality compliance costs are financially disadvantaged when competing with those who disregard the requirements (ADEQ 1989b).

7.8.2 CWA Section 404

There is little monitoring or tracking of compliance with CWA Section 404 permit conditions by the Corps or by other agencies. This is generally true nationally as well as in Arizona. According to a national evaluation of the CWA Section 404 program:

Because neither the Corps nor EPA has systematic surveillance programs to detect unauthorized activities, undetected violations of Section 404 permit requirements may be occurring. Also, some suspected unauthorized activities reported to the Corps may not be investigated for months after they are reported, and many projects are not inspected by the Corps for compliance with permit conditions.

EPA, which has enforcement authority for unpermitted discharges, has used its authority sparingly even though most reported violations involve the failure to obtain permits. (GAO 1988)

Because there is little monitoring of activities with or without CWA Section 404 permits, the Corps relies primarily upon learning about violations as a result of its field office staff's site visits (which are usually unrelated to catching violators, and more likely the result of visiting sites for proposed actions), and from other agencies, non-profit groups, the public, permit holders (who notify the Corps of their compliance with mitigation requirements or request an extension of their permit), and individuals who recently learned that they might be in violation of the CWA Section 404 permit requirement. AGFD has been particularly helpful in identifying potential violators.

In many cases, those applicants who follow the monitoring and reporting requirements in their permits or who contact the Corps because they learn they should have obtained a permit earlier are more likely to be subject to additional requirements and scrutiny by the Corps than those who don't follow the conditions in their permits or otherwise operate illegally in the waterways and never notify the Corps of their activities. This gives the appearance that compliance with the CWA Section 404 penalizes the cooperative applicant or permit holder and noncompliance is a less expensive and relatively safe alternative.

This situation is exacerbated by the fact that there is very little enforcement of CWA Section 404 permit violations or failure to obtain a Section 404 permit. This is true nationally as well as locally according to the U.S. General Accounting Office:

The Corps rarely pursues civil or criminal remedies against violators of permit requirements, nor does it often suspend or revoke permits. The Corps prefers to negotiate restoration of the adverse effects or allow submission of permit applications that would then have to undergo public review. This was true in some GAO sample cases that involved repeat offenders or the failure to comply with Corps' orders to stop the unauthorized activities.

EPA, which has enforcement authority for unpermitted discharges has used its authority sparingly even though most reported violations involve the failure to obtain permits.
(GAO 1988)

According to this same study, about 2,000 alleged violations related to Section 404 permits are processed in the Corps' district offices each year. Approximately 80 percent involve unpermitted discharges and the others are for noncompliance with permit conditions. No information is available for the number of enforcement actions in Arizona, although it is generally agreed that there is minimal enforcement.

Enforcement is beginning to be emphasized more by the Corps. At the district office in Los Angeles, an Enforcement and Compliance section has been established to address violations of CWA Section 404 permits and other regulatory requirements. At this point, no funding has been allocated to hire new personnel for this section, so personnel will have to be reorganized for this section to be staffed. In addition, the Phoenix field office has one staff member who is responsible for monitoring, compliance, and enforcement, among other responsibilities.

Despite these improvements, lack of personnel continues to be the major reason for limited enforcement actions by both the Corps and EPA. In order to prosecute a case, significant staff time must be spent documenting the violation so that it can be successfully argued in court.

Monitoring for compliance is particularly difficult because completed permits are stored in the district office in Los Angeles. While the Corps' field office staff can access much of the data on the completed permits via computer, because there is no master compilation, the data system is best suited for developing lists of permits for random checks for compliance rather than a systematic check for violations. The Corps' data base will be expanding in the future to keep more information on wetlands and mitigation, which should help with some monitoring and compliance actions.

The Corps can only levy fines for violations of conditions. EPA has the authority to levy fines on unauthorized activities under 33 CFR 326.

Enforcement of CWA Section 404 violations on Indian reservations in Arizona is nonexistent, despite the presence of obvious violations. One reason for this is the complex bureaucracy involved in attempting to take any such actions. However, enforcement actions have been taken in California and these could be studied in order to facilitate any such actions in Arizona.

7.9 Planning

A major problem for wetlands with the current CWA Section 404 permit system is that it is reactive rather than proactive; both EPA and the Corps spend most of their time responding to permit requests and very little time working to avoid conflicts in advance.

Planning is widely supported among the regulatory agencies and among CWA Section 404 permit applicants as a way to reduce the uncertainties in obtaining a Section 404 permit, improve decision-making, and shorten the time required for review and processing of Section 404 permits and Section 401 certifications. In fact, advance planning is a national priority for EPA (EPA 1989c).

Lack of planning in the CWA Section 404 process has been the source for concern on a nationwide as well as statewide basis. According to a recent study by the Urban Land Institute:

The current method of processing permits on a case-by-case basis is inefficient. The rather clumsy administrative framework - where the Corps administers the program under EPA oversight - and the sheer volume of applications makes the process unwieldy for both the Corps and EPA alike.... Developers find the process unpredictable and often costly. Since the Corps and EPA have wide latitude to interpret the regulations, interpretations often vary across regions. A permit granted for a project in one area may be denied for a similar project under similar conditions in another. No hard and fast rules exist for developers to follow. They can never be sure if or when they will get a permit or how much mitigation will be required and how much it will cost. Environmentalists contend that the case-by-case process allows wetlands to be destroyed piece-by-piece, with individual projects slowly chipping away at a larger wetlands ecosystem and little thought given to cumulative impacts... (Salvesen 1990)

In response to these types of concerns, EPA and the Corps conducted a study in 1989 of four regional planning efforts and found that, in general, regional wetlands planning improved the existing permit process by providing greater predictability for developers while offering conservationists greater assurance that certain wetlands would be protected (Salvesen 1990).

The law also provides an opportunity for incorporating planning into the CWA Section 404 permitting process through the Advance Identification Program (ADID). This is considered to be an asset because it can save the applicant time and money to know in which geographic areas he should not undertake any projects, as well as save staff time and effort in the review and approval/disapproval of applications.

Under the draft MOA between Region II of the USFWS and the Region IX of the EPA, USFWS and EPA will consult with each other once a year or more often, as needed, to determine areas that are candidates for the Advance Identification program (ADID). The Advance Identification (ADID) program is established under 40 CFR § 230.8 of the EPA CWA Section 404(b)(1) guidelines. Under this section, EPA and the Corps, based on their joint identification and evaluation of wetlands, may designate certain wetlands as suitable or unsuitable for the discharge of dredged or fill material before development plans or permit requests are imminent. ADID is proactive and it can help regulators and developers avoid unnecessary and costly conflicts. The designations do not grant or deny permits in advance; in general, applicants still must obtain an individual permit. But because the Corps and EPA have agreed in advance on where fills should and should not occur, conflicts between the two agencies should be fewer. Developers may still apply for a permit to fill wetlands designated as off-limits, but their chances of obtaining a permit are slim (Salvesen 1990).

This program can make the permit process more predictable, can reduce government regulation, and can provide a framework for reaching definite regulatory results more efficiently than the case-by-case basis. Despite these advantages, there can be problems with securing agreement among parties, the resource-intensive nature of the process for the agencies involved, and the fact that the process may be objected to by the owners of land who fall into the off-limits category and environmentalists who object to the classification of some wetlands as expendable (Salvesen 1990).

The first ADID in Arizona is currently being conducted in the Verde River corridor. The goals of the ADID for the Verde River are:

- To strengthen the CWA Section 404 enforcement and permit programs through public outreach;
- To assure that future projects involving discharges of fill or dredged materials into waters of the United States consider compliance with Section 404 early in the planning process;
- To augment other federal, state and local efforts to develop a comprehensive riparian management plan that meets the CWA goals of maintaining and restoring the physical, chemical, and biological integrity of the Verde River. (EPA 1989c)

Other components of the Verde River ADID include site selection, interagency coordination, public participation, technical studies, identification of sites, public notice, and follow-up and monitoring.

Over the past two years, another local planning process has been carried out by Arizona State Parks Board (ASPB) in the Verde River that complements but does not incorporate the ADID. This is a locally directed, multi-objective planning process, with the following purposes:

- Identify and recognize all uses of the Verde River Corridor;
- Encourage protection of the Verde River and its natural and cultural resources; and
- Promote coordinated decision-making for the continued enjoyment and use of the Verde River by future generations. (ASPB 1990)

This initial plan was not undertaken in order to develop the information basis necessary to provide the Corps with the level of information necessary to issue a regional permit for the area. However, future river corridor plans could be modified to include the components necessary to assist in the development of a regional CWA Section 404 permit. With early agency participation, these plans could include in their formulation participation by ADEQ, the Corps, and other state and federal agencies to assure that their interests and concerns (particularly those pertaining to CWA Section 404 permits and Section 401 certification) could be addressed in the plan.

With an appropriate level of participation by the necessary state and federal agencies, the river corridor plans could help identify areas for mitigation, protection, and development (through the use of CWA Section 404 permits and local permits), provide valuable information toward decision-making and the evaluation of cumulative impacts, incorporate the ADID program into its data collection and evaluation, and possibly be used as the basis for regional CWA Section 404 permits.

A master plan for the Salt-Gila Rivers has been authorized and partially funded by Congress, authorized by the Arizona State Legislature, and is being undertaken by the Maricopa County Flood Control District. The environmental impact statement that will be developed as part of this plan is being overseen by the Corps. This plan, the second of its kind in the nation, could be developed to be used as the basis for a CWA Section 404 regional permit for activities within the Salt-Gila watercourses, but only if the appropriate federal and state agencies participate in the plan development. In seeking the federal authorization, the intent was to mandate that the Corps, EPA, and USFWS become players from the outset of the master planning effort. In order to be suitable to be the basis for a CWA Section 404 general permit, this plan, and others like it, need to include a CWA Section 404(b)(1) alternatives analysis as part of their planning process, and include EPA, the Corps, ADEQ, USFWS, and AGFD in the development of the plan content.

The use of small-scale special area management plans (SAMP), which have been part of coastal zone management, may also have value in planning for CWA Section 404 permits. These SAMPs are done on a watershed level, and can recommend areas for local mitigation banking, areas that are suitable for development and that should be protected.

There are several other state and local planning processes that could provide data and policy priorities to assist in the decisions pertaining to CWA Section 404 permit issuance.

Under Executive Order 91-6, AGFD is given the responsibility to coordinate the preparation of a statewide riparian management plan for submittal to the Riparian Areas Coordinating Council. AGFD is also given responsibility for conducting a statewide inventory and classification of riparian areas, and developing methodologies for determining equal functions and values of riparian areas. This plan, the inventory and classification of riparian areas, and the methodologies could be useful in developing regional permits, evaluating cumulative impacts, and identifying areas that would benefit from the ADID program. The methodologies would also be beneficial in planning for mitigation.

Section 404(c) is best known for providing EPA with their veto power over the Corps' decisions to issue a permit to fill in a wetland. However, it is worded to also provide some opportunities for advanced planning by giving the EPA Administrator the authorization to "... deny or restrict the use of any defined area for specification...as a disposal site whenever he determines ...that the discharge... will have unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas" (33 U.S.C. Section 1344(c) quoted in Salvesen 1990). Massachusetts is seeking to use this section in combination with the ADID program to identify significant wetland areas and protect them.

While the Corps does not have the capability to map CWA Section 404 permit locations, Arizona agencies have the capability to incorporate CWA Section 404 permits onto a state database system, through the ASLD Arizona Land Resources Information System or ALRIS. ASPB is initiating an Arizona Rivers Assessment, which is a statewide, compilation of existing information and evaluation of river and riparian-related resources. It is a cooperative, multi-group effort, with a steering committee consisting of numerous state agencies including ASPB, AGFD, ADEQ, and others, and numerous federal agencies, including, among others USFWS, but not, at this time, EPA or the Corps. The involved local, state, and federal agencies, tribes, organizations, and individuals are those who own or manage rivers and riparian areas, have regulatory responsibilities for those areas, or who have information about the resources and uses of those areas (ASPB and NPS 1990).

The objectives of the rivers assessment include the development of a central computerized statewide database of river and riparian resource information that is consistent, verifiable, ongoing and available to users throughout the state, and the development of a structure for the evaluation and assessment of Arizona's most important river and riparian resources (ASPB and NPS 1990). The ALRIS database system has the

capability to include along with the Arizona Rivers Assessment information, the locations of CWA Section 404 permits on a map, if the locations of the permits were converted to the Government Information System (GIS) format.

The CWA Section 404 permit process has no provisions for advance planning beyond the ADID and the creative use of regional permits based upon regional plans. In general, there is an inability to adequately consider cumulative impacts of various CWA Section 404 permits on a waterway and to allocate limitations on development within the waterway in an equitable and effective manner. The problem of cumulative impacts is particularly difficult to address under the current regulatory system which uses a permit by permit approach. In addition, many small wetland losses are allowed without any permitting, and many other losses occur outside of the Section 404 regulatory process. Even where permits are required, the impact of several conversions in an area may be much more significant when they are considered as a whole, rather than as the individual losses considered separately (National Wetlands Policy Forum 1990).

According to some of those interviewed, one result of the lack of planning is that the CWA Section 404 program doesn't focus on major environmental problems, it systematically addresses all projects that fall into certain defined categories. The emphasis of the review and analysis is on short-term impacts, not those that will occur in the long run. The program cannot modify the review time to match the significance of the environmental impact of the project; the result is that many projects are perceived to be over-evaluated or under-evaluated.

7.10 Staffing

Programs can only be as effective as the people who administer them. In order to achieve water quality protection through the CWA Section 401 program, there must be sufficient staff, resources, and expertise not only within the Section 401 program, but also within the CWA Section 404 program. This includes all the agencies involved in the CWA Section 404 process, because each is a critical player that can substantially affect the outcome of the decisions that are made.

7.10.1 CWA Section 401

The CWA Section 401 program's perceived strengths center around the way in which the program is currently being administered. It is viewed as an ambitious program that aggressively seeks to protect all surface water quality in the state, including ephemeral and intermittent streams in desert areas. The program has a forward momentum, with its staff seeking to expand the scope and effectiveness of the program, focusing on water quality requirements. Staff are considered to be knowledgeable about Arizona and water quality concerns.

However, the limited number of staff assigned to review the CWA Section 404 permits and issue CWA Section 401 certifications and staff turnover limit the effectiveness of the state program, both of which are believed by some of those interviewed to be due to the low relative priority given to the CWA Section 401 program within ADEQ. These factors limit the ability of the staff to adequately consider applications and increases the length of review time for an application. Each new staff person who becomes involved in the review of a CWA Section 404 application is perceived to bring a new vision of what should be required of the applicant in order to comply with the requirements for certification. This increases the length of time it takes to obtain a certification and reduces the consistency among certifications for similar projects under similar conditions.

In FY 1990, EPA provided funding for 25 permit and license reviews (including CWA Section 404 permits, Section 10 permits, U.S. Coast Guard Permits, and Federal Energy Regulatory Commission permits) by ADEQ. In FY 1991, ADEQ requested from EPA sufficient resources to perform 120 certification reviews and to conduct enforcement against unpermitted activities. If ADEQ begins to participate in the review of CWA Section 404 nationwide permits, the number of permits that will be submitted for certification could be as many as 78, assuming the same rate of submittals as in 1990.

7.10.2 CWA Section 404

The staff at the Corps are considered to be knowledgeable and an asset to the program. The increase in the number of staff (from one person to 4.5 people over the past two years) is viewed positively because it enables each application to be handled more effectively and in less time. The location of the field office in Phoenix is perceived very favorably because it enables applicants to meet the Corps' staff face-to-face; it facilitates the scheduling of site visits to an applicant's property, and it strengthens the staff's familiarity with Arizona's environment which increases their credibility.

Two problems were noted concerning the insufficient number and location of staff who administer the CWA Section 404 process. First, all the regulatory agencies involved in the CWA Section 404 program appear to be understaffed. This results in lengthy review and approval times for applicants, and limits the ability of the staff to effectively perform their jobs. Secondly, the absence of EPA staff in Arizona is believed to hamper EPA's ability to review projects realistically, to become familiar with most CWA Section 404 application sites prior to reviewing and commenting upon them, to coordinate with other agencies, and to participate in effective Section 404 permit decision-making.

8.0 CHARACTERISTICS OF AN OPTIMAL PROGRAM IN ARIZONA

8.0 Characteristics of an Optimal Program in Arizona

8.1 Background

Optimal criteria were developed in a workshop held at the Arizona State University Department of Planning on March 8, 1991, and attended by representatives from EPA (via speaker phone for parts of the discussion), Arizona Rock Products Association, City of Tempe, the Corps, the Arizona Mining Association, ADEQ, Arizona Floodplain Management Association, and AGFD. Representatives from Arizona Riparian Council, Center for Law in the Public Interest, and ADOT were invited but did not attend, and the representative from the USFWS left after the first ten minutes of the workshop for a personal emergency.

The purpose of the workshop was to obtain feedback from representatives of different perspectives about 401 and 404 concerns, to initiate dialogue among the participants as interested and involved agencies and organizations; and to develop criteria for the development of recommendations to improve the 404 and 401 programs and, in particular, ADEQ's role in these programs. It was considered desirable but not essential for a consensus to be reached on the criteria for an optimal program. Differences of opinion were noted and are included here as topics that need further discussion.

The workshop was conducted in three parts: (1) a background description of the 404 and 401 programs, (2) identification of strengths and weaknesses of the 404 and 401 programs, and (3) development of criteria for an optimal program in Arizona. The discussion of strengths and weaknesses began with a review of the comments received to-date by participants in the project's in-state interviews. These were modified, emphasized, disagreed with, and/or added to by the workshop participants. Criteria for optimal 404 and 401 programs in Arizona were developed in the following categories: goals, scope, components, and implementation approaches and indications of success. As with the discussion of strengths and weaknesses, the participants were asked to comment on the other ideas presented in the workshop.

The following discussion summarizes the results of the workshop. Only those areas that achieved a consensus among those present are listed here. Those ideas that met with opposition are included in the last section of this chapter, "Topics for Further Discussion."

8.2 Goals

Four goals, which include and go beyond the existing applicable federal and state authorizations, were identified for an optimal 404/401 program in Arizona:

- Maintain and restore and, where the opportunity exists, improve and enhance the chemical, physical and biological integrity of Nation's waters.
- Ensure no net loss of wetlands .
- Consider the protection of riparian areas in decision making.
- Conduct a simple, effective, realistic, equitable (fair) and enforceable program.

8.3 Scope

The geographic scope of the optimal program in Arizona should include all waters, all federal lands, and all Indian reservations. The entire aquatic ecosystem associated with a waterway should be included within the jurisdiction of the program, including riparian areas. However, there should be provisions that allow for regionally specific requirements for different ecoregions.

Activities that should be included in the scope of the optimal program would be all activities (including, among others, dredging and draining) that would affect the natural resources covered by the existing law, and all activities that cause erosion and sedimentation.

8.4 Components

Components of the optimal program in Arizona were not discussed with the exceptions of data management and public education and outreach.

Data collected pertaining to the optimal program should provide location information so that one could determine the relationships among projects and assess cumulative impacts.

Public education and outreach efforts should include programs for the Arizona Mining Association, Arizona Floodplain Managers Association, Arizona Society of Consulting Engineers, Councils of Government, County Planning Association, Arizona Rock Products Association, Association of General Contractors, and the American Planning Association, among others.

8.5 Implementation Approaches and Indications of Success

8.5.1 Process

The process for an optimal program in Arizona should include:

- Clear guidance for the applicant.
- Early inter-agency coordination with project - before application and the design is set.

- Specific, reasonable information and modelling requirements are requested by agencies of the applicants (especially with regards to turbidity, erosion and siltation).
- Structured and established comment response times.

8.5.2 Administration

Elements of the administration of the optimal program in Arizona should include:

- Administration by State government.
- Designation of a single lead agency.
- Available, accessible, sufficient, and trained personnel.
- Sufficient funds.

8.5.3 Legal Structure

The legal instrument(s) establishing an optimal program in Arizona should include the following provisions:

- Clear, written criteria and a defined role for each agency involved in the process.
- Clear requirements and process.
- Clear definition of "Waters of the U.S."
- Modifications of agency procedures so they are compatible with this program.
- Flexibility in attaining the goals for this program.

8.5.4 Elements

Elements of an optimal program in Arizona should include:

- Pilot programs.
- Assessments of cumulative impacts based upon information provided by applicants, agencies, and improved data base.
- Regional and/or industry permits.
- Advance identification of areas of critical concern.
- Waterway planning that includes ADID, floodplain master planning, provides for regional requirements, mitigation and activity restrictions, considers ecological functions and needs and public health and safety, and identifies budget and staffing needs.

- Mitigation tracking and monitoring (or mitigation accounting).
- Effective compliance and enforcement.
- Continuation of the EPA/Corps' MOA on mitigation.
- Use of a water-dependency criteria in seeking practicable alternatives for projects.

8.6 Topics for Further Discussion

Several ideas were raised but did not receive a consensus by the group. These are described below.

Within the discussion of the scope of the optimal program, an exclusion was proposed for mining and sand and gravel operations.

Within the discussion of elements of the optimal program, a recommendation was made that approval be given automatically to a permit or certification if the regulatory agency had taken no action within a specified time frame.

Within the discussion of elements of the optimal program, the term "quantifiable" was initially included in describing criteria that should be used to guide the applicant in seeking a permit or certification. This did not receive consensus support, particularly in the quantification of mitigation measures, because these measures vary so much from project to project that a single quantification guide would be inadequate.

Two additional program elements that were suggested at the workshop but did not have consensus support:

- Consideration of economic impacts to general public and industry in the issuance of permits.
- Provisions that landowners should pay for planning on private waterways.

Since these elements were not part of the consensus recommendation, they are not included as the basis for recommendations. However, these ideas should be the basis for further discussion among the regulatory agencies, the regulated community and other interested parties.

9.0 RECOMMENDATIONS

9.0 RECOMMENDATIONS

9.1 Introduction

These recommendations pertain to ADEQ and actions ADEQ could undertake in its role as Arizona's water pollution control agency through the CWA Section 401 and Section 404 processes. These recommendations are those of the consultant only. ADEQ may not concur with these recommendations, or may have difficulty implementing the recommendations because of lack of funds.

Much of the authority and responsibility for the CWA Section 404 program lies with the Corps and with EPA. However, to a large extent, the ability of ADEQ to successfully protect the quality of the waters of the state through CWA Section 401 certification depends upon the manner in which the CWA Section 404 program is implemented. Thus, it is understandable that ADEQ would have a strong interest in how the CWA Section 404 permit program is administered. These recommendations reflect this level of interest and indicate the ways in which ADEQ could seek to influence the CWA Section 404 program both formally through its participation in the CWA Section 404 process and other legal mechanisms and informally through communication and coordination.

Actions that ADEQ could take to change the CWA Section 401 and Section 404 programs fall into three categories: direct action under the existing laws, regulations, and policies; seeking increased authorization and capability to act; and coordinating with the other agencies involved in the process to achieve program improvements.

9.1.1 Direct Action

ADEQ could take direct action to change the existing CWA Section 401 and Section 404 programs by utilizing the flexibility within the existing programs and within the agency's existing legal authorities and mandates to take quick-fix measures, or to initiate actions that are within the existing legal authority of the agency. These direct actions would not necessitate any changes to existing laws, rules, or standards.

Examples of ways in which ADEQ could take direct action include:

- Establish new policies
- Develop new programs
- Develop or revise MOAs or other formal or informal written agreements with other agencies
- Initiate Intergovernmental Agreements

- Contract for or perform studies, services
- Make changes within ADEQ structure, procedures, policies, programs, etc.
- Develop public and technical information brochures
- Request ADEQ be treated differently in other agencies' processes
- Comment upon other agencies actions through public review processes

9.1.2 Seek Additional Authority/Capability to Act

ADEQ could seek to expand its authority through the passage of legislation, by seeking additional responsibility from those agencies authorized to so delegate, and by obtaining additional resources to increase the agency's ability to act. Examples include:

- Seek CWA Section 404 delegation from EPA for state program primacy
- Seek legislative changes or new legislation
- Develop a state program
- Revise Water Quality Standards
- Develop additional rules, regulations
- Seek new or additional funds

9.1.3 Coordinate

ADEQ can coordinate, cooperate, and support other agencies in ways that ADEQ believes will improve the effectiveness of the CWA Section 401 and Section 404 programs. Examples are:

- Make recommendations to other agencies
- Work cooperatively with other agencies on issues of mutual concern (informally or in task forces, and the like)

9.2 Method for Identifying Recommendations

Conceptual recommendations were initially developed by the consultant as a laundry list of ideas to address the issues raised through the analysis of the laws and regulations, the process, the interviews, and the optimal criteria described in Chapter 8. These initial recommendations were subject to minimal review, primarily to seek out additional recommendation ideas. The recommendation concepts were then reassessed

and blended together into three basic implementation approaches: quick-fix measures; incremental approaches, and a comprehensive framework.

The recommendations presented here are intended to serve as a thorough listing of options that could be taken to strengthen ADEQ's role in the CWA Section 404 and Section 401 programs. These recommendations should be used as a starting point for ADEQ's internal discussions, and discussions with other agencies and other interested parties. The selection of which recommendations to be undertaken will depend upon the availability of resources, political priorities, and other factors.

Quick-fix measures consist of steps that ADEQ could take without seeking any additional authority although funding of these measures may require a change in the allocation of existing resources. These are measures that ADEQ could take immediately to address some of the concerns and ideas included in this report. Incremental approaches are recommendations that would address specific problems and could be implemented alone or together to more thoroughly address the issues. The incremental approaches may necessitate ADEQ acquiring additional authority or resources to solve specific problems. The comprehensive framework would provide a single legal mechanism to simultaneously address as many of the issues and optimal criteria as possible.

9.3 Quick-fix Measures

Quick-fix measures that were identified generally fell into five categories: (1) increased participation in federal actions that could affect the CWA Section 404 and Section 401 programs; (2) development of a public outreach program; (3) coordination with state, federal, and local agencies, including the development of MOAs where appropriate; (4) development of state positions; (5) modifying the current CWA Section 401 procedures; and (6) addressing internal management considerations within ADEQ. These categories are explained in the following discussion.

9.3.1 Increased Participation in Federal Actions

Since many of the opportunities and constraints of the existing program are the result of decisions that are made at the national level, in order to expand the scope of the programs and improve their application in Arizona, ADEQ could become more active in seeking to influence federal policies and decisions.

Recommendations that should be considered include:

- Arizona Department of Environmental Quality (ADEQ) could participate in the current review/reissuance of the nationwide permits and determine which nationwide permits should be required to receive CWA Section 401 certification.

- ADEQ could work with EPA to identify all federal agencies that issue licenses and permits to determine how to apply the CWA Section 401 certification requirements to those federal actions.
- ADEQ could work with the Congressional delegation in revisions of CWA to include riparian areas in the definition of wetlands.
- ADEQ could seek to change the definition of wetlands in the jurisdictional wetlands manual, or seek to have a regional manual prepared that would better address arid areas.
- ADEQ and the state (through the Governor's office, the legislature, and/or the Congressional delegation) could encourage high levels of the Corps, EPA, and Office of Management and Budget to allocate additional funding and staff to support the Corps' CWA Section 404 regulatory program and the EPA CWA Section 404/wetlands program.

9.3.2 Public and Applicant Outreach

Public outreach is considered to be vital for both the CWA Section 404 permit process and for the CWA Section 401 certification process for two primary reasons: (1) the public could play a significant role in monitoring for compliance with the CWA Section 404 and Section 401 programs; and (2) greater public and applicant awareness and understanding of the programs could increase compliance, lessen the time necessary to obtain a permit and certification, thus reducing the costs for the regulatory agencies and the applicants. Thus, public outreach could make a critical contribution towards incorporating water quality protection requirements during project planning, and maintaining and improving water quality and protecting other significant natural resources.

9.3.2.1 Public Information Brochure

A recommendation that frequently was raised by the regulatory and reviewing agencies, public and private applicants, and interested parties was the development of a brochure on the CWA Section 401 and Section 404 programs and requirements that would give applicants and the public a clear and realistic idea of how these programs actually work.

The development of such a brochure is funded in Phase 3 of this project. The contents of this brochure could include:

- a discussion of the CWA Section 401 and Section 404 requirements.
- a clarification of key terms and how they are used in Arizona's CWA Section 401 and Section 404 programs, including "waters of the United States," "ordinary high waters," "wetlands," "dredged and fill materials," and "discharge," and how these terms are used in a regulatory setting. These terms should be defined in laymen's terms.

- a definition of riparian areas, the reasons for state concern, and the state riparian policy.
- a discussion of why the regulation of wetlands and waters of the U.S. (including ephemeral waters) is important.
- a discussion of the various agencies' interpretations of definitions, clarifying that the Corps is responsible for making the judgement call for the permit.
- a realistic description of what could be expected to occur in the CWA Section 404 and Section 401 processes so that the applicants could anticipate a realistic time frame for review and processing.
- a simplified flow chart of Section 401/404 processes including where an environmental assessment may be required and preference for preapplication discussions with agencies.
- a clear description of the alternatives analysis process and criteria so that it can be applied by the applicant in developing a project and project design, rather than as an evaluation tool after the project has been designed in detail.
- a description of all appropriate special aquatic sites under the CWA Section 404(b)(1) Guidelines and the presumption of available alternatives.
- a discussion of individual versus nationwide permits.
- a clear description of ADEQ's concerns.
- a clarification of the roles of EPA and the Corps.
- a clarification of the roles and requirements of all the agencies involved in the CWA Section 401 and Section 404 processes.
- a list of possible information needs for obtaining an ADEQ CWA Section 401 certification.
- clear direction about what is considered to be appropriate mitigation including a brief synopsis of the mitigation MOA between EPA and the Corps. This synopsis would emphasize that steps should be taken to avoid the need for compensatory and/or restorative mitigation and discuss the non net loss policy established by the MOA.
- a discussion of the importance of mitigation sequencing, roles in and expectations of various agencies in mitigation, and MOA requirements of equal functions and values replacement (ratio), in-kind preference and multi-year monitoring.
- encouragement for applicants to share the responsibilities in developing cost effective state-of-the-art technology for mitigation techniques.
- encouragement for applicants to get resource agencies to agree upon habitat evaluation procedures to quantify functions and values before identifying mitigation measures.

- a discussion of why it is not possible under the current laws and regulations to develop a graphic delineation/representation of jurisdictional waters, and include a discussion as to how to determine whether a site would be included within the CWA Section 404 permit jurisdiction.
- an explanation of the reasons for the emphasis on turbidity in the CWA Section 401 certification.
- the water quality goals of the CWA (to maintain and restore the physical, chemical and biological integrity of the waters of the United States).
- the goals of the various agencies involved in the review and comment of CWA Section 404 permit applications.
- a clear description of the requirements of all of the federal, state, and where applicable, local agencies involved in the CWA Section 404 and Section 401 process. This description should indicate that each proposed CWA Section 404 permit project is unique and the requirements of the agencies will reflect the specific characteristics of the project.
- presentation of what the applicant should do before applying for a permit.

ADEQ could work with the Corps, EPA, AGFD, USFWS, flood control districts, and professional organizations and interest groups (including but not limited to Arizona Mining Association, Arizona Floodplain Managers Association, Arizona Society of Consulting Engineers, Councils of Government, County Planning Association, Arizona Rock Products Association, Association of General Contractors, and the American Planning Association) to widely distribute the brochure to potential applicants for CWA Section 404 permits and Section 401 certifications and members of the public. The Corps' mailing list could be used as a starting point for developing this distribution list.

The WATAG could also assist in the development and distribution of the brochure. BMPs developed by the WATAG could be used in conjunction with the brochure to provide direction and technical assistance to applicants.

9.3.2.2 Supplementary Approaches to Public and Applicant Outreach

Additional potential actions pertaining to public and applicant outreach include:

- ADEQ could take the lead in disseminating information about the CWA Section 404 permit program and the CWA Section 401 certification requirement to other state agencies, particularly those agencies that do projects requiring CWA Section 404 permits or that work with local agencies and individuals who may require CWA Section 404 permits. Such agencies could include ADOT, Arizona Department of Commerce, Arizona Department of Water Resources, State Board of Technical Registration, among others. These agencies may also be willing to assist in disseminating the CWA Section 404/401 public information brochure.

- ADEQ could work with the Corps in establishing a public speaking program targeting community, professional, and special interest groups and planning commissions. The Corps currently receives requests that they speak about the CWA Section 404 programs before various groups. ADEQ could request the Corps inform them about any speaking opportunities that the Corps is involved in so that when the Corps talks about CWA Section 404 permits, ADEQ is present to explain the CWA Section 401 certification requirement.
- ADEQ could work with professional associations within the regulated community to assist them in educating their constituencies.
- ADEQ could implement a public notification procedure for CWA Section 401 to inform and educate the general public about the CWA Section 401 requirements and their application to specific projects, and to give the public an opportunity to comment on specific certification applications.
- ADEQ, AGFD, Arizona State Parks Board, Arizona Department of Water Resources, and other interested state agencies, with input from the Corps, EPA, USFWS and other federal agencies, could develop a public information pamphlet on state and federal requirements affecting watercourses. This could be modelled in size and format after a pamphlet issued in Montana, pertaining to permits on streams. Not only would this pamphlet assist in disseminating information about the CWA Section 404 and Section 401 programs, but it would also help to coordinate these programs with others in the state.
- ADEQ could seek assistance in their public and applicant outreach efforts from EPA. EPA has identified public information and education as components of their wetlands protection policy (EPA 1989b). As part of their actions in this area, there may be available slide shows, a citizen's guide to the CWA Section 404 program, and other information which ADEQ could use as part of its public outreach effort.
- ADEQ could work with the Corps to identify ways in which applicants, potential applicants, and members of the interested public could be kept informed of proposed and actual changes in the CWA Section 404 permit program requirements. For example, a newsletter could be used to keep applicants and members of the interested public informed of these changes, or the agencies could identify other newsletters that would be interested in carrying information about changes to the CWA Section 404 and Section 401 programs. The newsletter or news releases sent to other publications could indicate how pending applications would be treated by the proposed changes.

9.3.3 Increased Coordination with State, Federal, and Local Agencies

The effectiveness of the CWA Section 401 program is directly tied to the implementation of the CWA Section 404 permit process. Thus it is critical that ADEQ closely coordinate its CWA Section 401 program with the key agencies involved in the CWA Section 404 program, most notably the Corps and EPA. In addition, ADEQ could increase the effectiveness of its CWA Section 401 program by increasing the coordination and cooperation among other federal, state, and local agencies with issues of common

concern, and areas of overlapping or complementary authority such as AGFD, USFWS, the flood control districts, etc.

In some cases, the most effective mechanism for accomplishing this coordination and cooperation is in a MOA between two or more agencies, addressing areas of mutual concern. The director of ADEQ has the authority to enter into such agreements, and is in the process of negotiating such agreements now with some of the agencies that are involved in the CWA Section 404 permit process, most notably ADOT.

Highlighted here are recommendations pertaining to improved coordination with the key CWA Section 404 agencies (the Corps and EPA), including potential topics to be included in MOAs between each of these agencies and ADEQ.

9.3.3.1 Coordination with the Corps

A memorandum of agreement (MOA) between the Corps and ADEQ could be developed to address topics that are of mutual interest and concern to both agencies. This concept has been discussed and favored by ADEQ, the Corps and EPA since 1989, although no action has been taken to date. EPA could participate in the development of this MOA or be a signatory. A preliminary list of potential topics raised during the course of this study are:

- Increasing public awareness and notification.
- Delineating procedures to minimize and clarify processing times for permits and certifications.
- Providing advance notification of rule-making and other procedural changes by both agencies.
- Coordinating and possibly combining preapplication discussions on certification and permits with permit applicants.
- Coordinating the issuance of CWA Section 404 permits with the issuance of CWA Section 401 certifications.
- Requiring a CWA Section 404 permit and a CWA Section 401 certification for the same project to contain identical project descriptions.
- Communicating regularly to discuss changes in requirements to the CWA Section 404 permit program and CWA Section 401 certification programs and other topics of mutual concern.
- Coordinating and combining preapplication meetings for CWA Section 404 permits and CWA Section 401 certifications.
- Developing coordinated procedures for referrals by the Corps to ADEQ and by ADEQ to the Corps for related regulatory requirements.

- Developing arid region considerations in jurisdictional delineations, and wetlands and OHW determinations.
- Developing formal or informal methods for dispute resolution.
- Developing coordinated programs for inspections and monitoring including cross-training staff to learn how to document violations of CWA Section 404 permits so that these violations could be successfully prosecuted in court.
- Developing coordinated programs for compliance and enforcement procedures, including an agreement on each agency's responsibilities for monitoring and enforcement of CWA Section 401 certification compliance.
- Inventorying and entering data for a statewide inventory of active CWA Section 404 permits and CWA Section 401 certifications by geographic coordinates to enable both agencies to map permit and certification locations; and CWA Section 401/404 data base to facilitate monitoring that contains information about each current permit, specific permit conditions, and location.
- Inventorying and maintaining a database for CWA Section 404 mitigation sites.
- Organizing staff exchanges so that each agency's staff could have the benefit of understanding the position of the others in the CWA Section 404 process.
- Developing a joint CWA Section 404 permit and CWA Section 401 certification application.
- Developing a joint CWA Section 404 permit and CWA Section 401 certification public notification procedure.
- Developing a process to facilitate the development and issuance of regional permits and integrating into them CWA Section 401 certification concerns.
- Clarifying the process interface between the issuance of a CWA Section 404 permit and CWA Section 401 certification, including (1) the Corps' notification of ADEQ before issuing a permit that contains design changes not reflected in the ADEQ CWA Section 401 certification so that ADEQ can review it again and possibly alter the certification conditions; and ADEQ's receipt of notifications about permit renewals so that CWA Section 401 certification conditions could be reconsidered and updated if necessary.
- Addressing the need to have all mitigation sites maintained with water rights and dedicated in perpetuity as a permit condition, and developing a process to monitor compliance with this and other mitigation requirements. One way this could be achieved in part is through requiring deed restrictions to be filed with the county recorder to limit the uses that can be made on property containing mitigation sites.

9.3.3.2 Coordination with EPA

ADEQ works closely with EPA on a number of programs besides the CWA Section 401 program. EPA is a major source of funding for many of the programs within ADEQ and much of the coordination with EPA is formalized in contractual agreements. An MOA with EPA could be considered but may not be necessary given the already complex interrelationships between EPA and ADEQ.

Several areas were identified that ADEQ could work with EPA to address. These include:

- The presence of full-time EPA staff in Arizona is widely supported among regulatory agencies and permit applicants to facilitate EPA's involvement in CWA Section 404 permits and wetlands issues. ADEQ could develop an Intergovernmental Agreement with EPA to arrange for EPA personnel to be located in Arizona to review and comment on CWA Section 404 projects, and participate in wetlands and watercourse alteration issues.
- ADEQ could encourage EPA to seek ways to minimize conflicting requirements for the same project.
- EPA is currently developing a general assessment method to anticipate the cumulative ecological effects of wetland loss on landscape functions and to consider these impacts in the permit process. In addition, it is investigating the cumulative effects of wetland loss on water quality, using pilot studies. These studies should be useful to ADEQ and to the Corps in identifying cumulative impacts in the future.
- The ADID program is supported by representatives of the agencies and applicants as a means to provide planning for CWA Section 404 permits. EPA is a strong supporter of the ADID program and has recommended increased use of the ADID program and their participation, where possible, in wetlands planning actions across the country (EPA 1989b). EPA also has recommended the issuance of ADID guidance for EPA regions and an ADID information kit for state and local governments (EPA 1989b). ADEQ could work with EPA to identify additional locations in Arizona to promote and implement the ADID program.
- CWA Section 404(c) could also be used as a planning tool and has been used by EPA in other states to identify significant aquatic resources that should be protected. EPA has recommended that they use Section 404(c) in advance of individual permit applications to protect significant aquatic resources (EPA 1989b). ADEQ could work with EPA to use Section 404(c) in this manner in Arizona.
- EPA has been active in developing wetlands protection programs and opportunities. For example, EPA has recommended that it provide seed money to test innovative planning approaches for wetlands and provide funds for state pilot programs (EPA 1989b). In addition, EPA has recommended that they develop criteria for the design and approval of State Wetlands Conservation Plans and provide models for incorporating wetlands into geographic specific state and local plans which implement the goals of State Wetlands Conservation Plans (EPA 1989b). ADEQ could

work with EPA to develop plans and programs that would apply to riparian areas under these provisions.

- In 1989, EPA established as its policy the aggressive enforcement against violations of Section 404 by increasing the number of administrative enforcement actions and civil and criminal judicial referrals, and the encouragement of voluntary compliance with the Section 404 program through public outreach and education (EPA 1989b). ADEQ could seek ways in which they could work closely with EPA to achieve effective enforcement.

9.3.3.3 Coordination with Other State and Federal Agencies

- AGFD is a highly significant agency in the 404 permit program Arizona because of its active role in habitat management and riparian management and protection. Under Executive Order 91-6, AGFD is given numerous responsibilities, including the preparation of a statewide riparian management plan, conducting a statewide inventory and classification of riparian areas, and developing methodologies for determining equal functions and values of riparian areas. Since riparian areas have important water quality protection functions (essentially the same as wetlands in an arid region), the outcome of AGFD's work will have a major impact on water quality protection and could have an impact on the CWA Section 404 and Section 401 programs. ADEQ should work closely with AGFD to seek ways that their products can be effectively used in the CWA Section 404 and Section 401 programs. An MOA might be helpful to identify ways in which this close coordination could be undertaken.
- AGFD is also concerned about establishing monitoring of mitigation sites and may assign personnel to this task. ADEQ could include AGFD in discussions about mitigation monitoring.
- USFWS is also concerned with riparian habitat management. In their role as a reviewer of CWA Section 404 permit applications, the USFWS is particularly concerned with mitigation measures. USFWS has recommended internally that they should include bonding and monitoring requirements and other appropriate enforcement mechanisms in Service mitigation recommendations to the Corps (USFWS no date). ADEQ could support and encourage the consistent utilization of this recommendation.
- USFWS also has recommended internally that they should develop guidance on avenues for improving wetlands protection through an enforcement role, including need to network with other Service programs, state fish and game agencies, and local governments and citizen groups (USFWS no date). ADEQ could work with USFWS to assist them in the implementation of this recommendation.
- USFWS has also expressed concern over jurisdictional delineations using current OHW and wetlands delineation methodologies. USFWS has documented concerns in writing to EPA. Any discussions of these methodologies could include USFWS.
- ASPB's river corridor planning could play a very significant role in providing a planning framework for the issuance of CWA Section 404 permits and Section 401 certifications. However, this planning will be most effective if the Corps, ADEQ, EPA and other key agencies participate in this planning at an early stage in the process. An MOA between ASPB, ADEQ and the other interested agencies could specify what each agency would like to see included in the river corridor

plans and ways in which each agency could effectively contribute to the river corridor planning process.

- ADEQ is already in the process of developing an MOA with ADOT to clarify areas of mutual interest and concern. This MOA could include clarification of ADOT's procedures in notifying potential contractors about CWA Section 404 and Section 401 program requirements and ADEQ's (and possibly the Corps') procedures to review and process the applications by potential contractors. This MOA could help to assure that ADOT's materials contractors have sufficient time in their bidding process for environmental compliance.

9.3.3.4 Increased Coordination with Local Governments

Local governments have two critical roles with regards to the CWA Section 404 and Section 401 programs. It is at the local government level that most initiators of projects that need to obtain a CWA Section 404 permit receive their initial plan review and approvals. For this reason, often the applicant has invested heavily in his/her project by the time a CWA Section 404 permit is applied for. Secondly, local governments have land use planning and management responsibilities that can directly or indirectly affect the issuance of CWA Section 404 and Section 401 permits. For example, city and county governments could protect riparian areas through zoning or flood control districts could provide protection in their floodplain use permits.

This local government role was recognized by Governor Mofford in Executive Order 91-6, which included a provision requesting and encouraging local governments to make their actions consistent with the executive order and calling for the Arizona Department of Water Resources to coordinate the development of a model local government riparian protection and maintenance ordinance. In 1991, the City of Tucson adopted its own riparian protection ordinance, called the Watercourse Amenities Safety and Habitat Ordinance (Steiner, Pieart, and Cook 1991).

Coordination with local governments could highlight these two roles by addressing:

- ways in which the CWA Section 404 and Section 401 requirements could be surfaced when a proposed project is identified to a local government; and
- ways in which local governments could provide protection to riparian areas and the reasons this protection would be desirable.

9.3.4 Development of State Positions and Products

The development of consistent state positions on certain CWA Section 404 and Section 401 issues is critical for two reasons: consistent positions would speed up the CWA Section 404 and Section 401 processes by eliminating interagency conflicts; and consistent positions could assist the DE in using his/her

discretionary authority to the maximum possible extent in making the CWA Section 404 program workable in Arizona. The development of state positions could also utilize the experience and wisdom of citizen and interest groups, and take advantage of the existence of interagency groups already in place, such as the Watercourse Alteration Technical Advisory Group and the Riparian Coordinating Council established in Executive Order 91-6.

Examples of areas that ADEQ should work with the Corps, EPA, other agencies, and possibly other groups and individuals in developing statewide positions and agreements include:

- seeking additional ways to include riparian protection in the consideration of CWA Section 404 permits or Section 401 certifications.
- seeking ways to determine the CWA jurisdictional delineations so that they more accurately reflect the variability of arid areas' ephemeral and intermittent streams, and protect the physical, chemical and biological integrity of the waters of the state.
- developing regional procedures for determining when the three wetland criteria are met, in order to ensure that wetlands jurisdictions adequately consider the environmental conditions in Arizona. This has also been recommended by EPA (EPA no date).
- determining a policy on whether mitigation banking would be an attractive alternative to the current mitigation requirements.
- using performance bonds to cover the costs of the mitigation measures.
- developing a listing of effective and appropriate mitigation measures to use, which could be based upon an analysis of the success of past mitigation requirements in establishing functioning ecosystems.
- developing a functions and values methodology that could be used to determine ratios for replacing habitat. This methodology could be the same as or should be compatible with that being developed by AGFD under Executive Order 91-6.
- determining whether no net loss of wetlands is being achieved under the CWA Section 404 and Section 401 programs in Arizona.
- identifying ways that the agencies could cooperatively monitor for mitigation compliance and monitoring of CWA Section 404 permits and Section 401 certifications.
- developing a process to map all mitigation sites, CWA Section 404 permits, and Section 401 certifications.
- establishing contacts and develop working relationships with their counterparts on the Indian Reservations to further their awareness of water quality concerns and elicit their cooperation to increase compliance with the CWA Section 404 permit program and other water quality requirements.

- developing a watercourse database that would assist in the identification of cumulative impacts.
- developing priorities for riparian area protection on an ecoregion basis.

Under the existing law and regulations, existing programs can be modified and new programs added.

9.3.5 Modifications to State Certification Procedures

By modifying the current procedures it uses in the CWA Section 401 certification review process, ADEQ could address some of the concerns that were raised in the interviews. These modifications could include:

- consideration of water quality impacts of an entire project throughout its lifetime when making certification decisions.
- a review of all conditions that are part of a proposed certification to assure that all conditions can be achieved by the applicant and are not beyond the applicant's control (such as natural disasters or other actions on the watershed). ADEQ does not knowingly make any applicant responsible for an act of nature.
- a review of the hydrologic models used and required for use in the CWA Section 401 certification process and other models used in various arid states. These models could be evaluated for their applicability to and compatibility with arid conditions and modifications could be suggested that would make the models more suitable to arid conditions.
- utilization of performance standards to meet water quality standards requirements in CWA Section 401 certifications. In other words, instead of specifying precisely what an applicant should do in the certification, ADEQ could rely upon requirements as to standards of performance which the applicant would have flexibility in achieving.
- investigation of the use of general certification of certain kinds of activities (under nationwide permits) with consistent conditions for all activities in that category, and regional certification for regional permits.
- identification of specific CWA Section 401 reviews that have required lengthy review and certification times. ADEQ could then work with the applicant to identify why the certification took so long and what could be done to speed up the process (including what ADEQ could do and what the applicant could do). The outcome of this research could then be integrated into public and applicant information and procedural changes as appropriate.
- development of priorities or priority criteria for enforcement actions.
- including in the certification application a requirement that the applicant demonstrate that the project is in compliance with applicable federal and state law and regulations. A similar requirement is included in Ohio's CWA Section 401 certification implementation regulations (EPA 1989c).

9.3.5.1 Preapplication conferences

Preapplication conferences were cited by several of those interviewed as an effective way to identify and resolve potential problems early in the process, so an acceptable project could be designed before it is submitted for a permit application. This would shorten the time necessary to work problems out during the course of the permit review process, reduce the expense to the applicant and to the reviewing and regulatory agencies, and improve the quality of the projects submitted for CWA Section 404 permits. Preapplication conferences are most effective if all the interested agencies participate.

ADEQ currently has preapplication conferences for CWA Section 401 certification and this has been cited as one of the strengths of the state's CWA Section 401 certification program.

Because of the value of preapplication conferences in both the CWA Section 404 and CWA Section 401 programs, preapplication meetings could be combined. The following recommendations address this outcome:

- ADEQ could encourage the Corps to hold preapplication conferences for all CWA Section 404 permits, and attend and participate in these conferences. (ADEQ's involvement in CWA Section 404 preapplication meetings in Arizona has been limited in the past for budgetary reasons.) The Corps currently holds quarterly preapplication meetings in Pima County and in Los Angeles (for Southern California projects). In Los Angeles, all of the major agencies involved in the CWA Section 404 permit process participate in these conferences.
- ADEQ could participate in preapplication conferences for CWA Section 404 permits.

9.3.6 Modifying Existing Programs/Creating New Programs

Under the current laws and regulations, many existing ADEQ programs could be modified or new programs created to address some of the concerns raised in Chapter 7.

One issue that was raised in the interviews and subsequent discussions is how to measure the impact of the CWA Section 404 and Section 401 programs on water quality in Arizona. One way this might be addressed would be through a modification of the existing surface quality sampling program to target projects with CWA Section 404 permits and Section 401 certifications. Such a monitoring program could also provide valuable feedback as to the effectiveness of recommended mitigation measures on water quality, and on whether the water models used by applicants to obtain CWA Section 401 certification are predicting the actual impacts on water quality.

Under ARS §49-203, the ADEQ Director can develop new programs to protect water quality. This could include a state water quality program or a riparian area certification program to address point and nonpoint source discharges of pollutants. This program could include a review of state and private activities as well as those actions now covered by the CWA Section 401 certification. Such a program could include a geographic area that would extend to the 100-year/24 hour precipitation event for headwaters areas. Implementation of this program would significantly increase the scope of ADEQ review of projects and their impacts. As a result, it would probably require substantial funding and staffing to be effective.

ADEQ could also use CWA Section 319(k) to increase the scope of its review of projects. Under this provision, ADEQ can review federal assistance programs (applications, projects, management plans, best management practices (BMPs) and the like) for consistency with management practices and policies of the Arizona Nonpoint Source Water Quality Management Program (ADEQ 1989c). Upon a state consistency review determination, federal agencies are to "...accommodate...the concerns of the state regarding the consistency of such applications or projects with the State nonpoint source pollution management program" (CWA Section 319(k)).

9.3.7 Internal Management Considerations

During the course of the interviews, three concerns were raised by applicants and by regulatory and review agencies that could best be addressed by ADEQ as part of their broader management and organization of the agency.

The first concern is that staff turnover at ADEQ is perceived to be high, and this is believed to create problems in the consistent implementation of the CWA Section 401 certification program. As new staff are brought into the program, new conditions are often added to the CWA Section 401 certification, the review time for the certification increases (not only because the staff must spend time learning about the program and the project, but also because the new staff's time is added onto the previous staff's review time); and the quality of the decisions made and conditions imposed can vary considerably. In response to this concern, ADEQ could investigate to determine whether this perception has any validity in fact, and, if so, could identify reasons for staff turnover and ways in which competent staff can be retained.

The second concern is that the CWA Section 401 certification program is not allocated the personnel and resources that the program needs to be effectively implemented. This is perceived to be the case among some of those interviewed because the CWA Section 401 certification program is not given a relatively high priority for staff and funding within the agency. ADEQ could evaluate whether this perception is accurate and reallocate resources as appropriate.

The third concern is that some projects are subject to multiple program requirements and permits within ADEQ, of which the CWA Section 401 certification is but one. Some applicants interviewed indicate that they can receive conflicting guidance and direction from different staff responsible for different permits and programs within the agency. In addition, one interviewee cited an instance where an aquifer protection permit was almost in place before the applicant obtained a Section 404 permit. Had the site or design of the project changed as a result of the Section 404(b)(1) analysis, an aquifer protection permit may have become unnecessary and all the time and resources that went into developing an acceptable aquifer protection permit would have been wasted.

ADEQ already has some centralization of their review and permit function. However, according to the perceptions of those interviewed, this has not been effective in preventing the kinds of problems described above. One way to address this situation would be for ADEQ to analyze its process for the review of projects that interface with different programs within ADEQ so the applicant receives a single consistent direction from the department. The centralized review process could also provide additional visibility for the CWA Section 404 and Section 401 programs within ADEQ and help to assure that CWA Section 401 certification concerns are addressed early in the development of solutions to water quality problems.

9.4 Incremental Approaches

There are four mechanisms for the implementation of incremental approaches to modifying the CWA Section 401 and CWA Section 404 programs: (1) changing the state water quality standards; (2) adopting rules for CWA Section 401 certification in Arizona; (3) seeking increased funding for CWA Section 401 certification; and (4) making minor statutory changes.

9.4.1 Water Quality Standards

As described earlier, water quality standards are revised every three years as part of the CWA's required triennial review. The current triennial review is coming to a close and the standards should be issued within six months. In the next triennial review, the water quality standards could be revised to address some of the concerns raised in the interviews. These changes could include:

- the extension of the definitions of waters of the state and standards to apply to wetlands and riparian areas (EPA 1990a).
- Define waters of the state to include the 100-year floodplain, as is done in the state of Maryland (Steiner, Pieart, and Cook 1991).
- designating uses for all wetlands and riparian areas (EPA 1990a).

- adopting aesthetic narrative criteria and appropriate numeric criteria for wetlands and riparian areas (EPA 1990a).
- adopting narrative biological integrity criteria for wetlands and riparian areas (EPA 1990a).
- applying the state's antidegradation policy and implementation methods to wetlands and riparian areas (EPA 1990a).
- including physical integrity standards. Turbidity, which is the major water quality standard applied in CWA Section 401 certification, is considered to be a measurement of physical integrity although not a complete one.
- including wetlands or riparian areas in the unique waters designation in the water quality standards, as is done by the state of Ohio. No degradation (except temporary) of water quality is allowed in unique waters. The establishment of physical and biological integrity standards would make the unique waters designation more comprehensive.
- amending the state's classification of designated uses in the water quality standards to include the major wetland types in Arizona.
- designating wetlands as outstanding national resource waters in the water quality standards. If waters have been designated as outstanding resource waters no degradation
- including a narrative directive such as that used by Maryland: "all waters of this state shall be protected for basic uses of water contact recreation, fish, other aquatic life, wildlife, and water supply;" or by Kentucky: surface waters shall not be aesthetically or otherwise degraded by substances that... injure, are toxic to or produce adverse physiological or behavioral responses in humans, animals, fish and other aquatic life" (EPA, 1989c).

9.4.3 CWA Section 401 Certification Rules

One concern that was raised in the interviews is that ADEQ lacks state rules for the implementation of the CWA Section 401 program, and instead relies on procedural guidance (i.e. guidance on construction which was adopted by the Water Quality Control Council) which has questionable legal standing.

ADEQ could either develop rules to implement CWA Section 401 certification or develop a certification program that goes beyond the jurisdictional limitations of CWA Section 401. Under the latter scenario, a state certification program could be used to regulate water quality impacts in a larger jurisdictional area (such as the 100-year floodplains) and could include riparian areas as well as wetlands. The certification required under CWA Section 401 could be included as part of this broader state certification program.

Other states have adopted CWA Section 401 certification rules or regulations. For example, Ohio has adopted CWA Section 401 certification regulations applicable to wetlands (and other waters) that, together

with internal review guidelines, result in an approach to the CWA Section 401 certification decision similar to that of the CWA Section 404(b)(1) Guidelines. Its CWA Section 401 certification regulations first direct that no certification may be issued unless the applicant has demonstrated that activities will not: prevent or interfere with the attainment or maintenance of applicable water quality standards; or result in a violation of Sections 301, 302, 303, 306 or 307 of the CWA. Additionally, the agency may deny a request notwithstanding the applicant's demonstration of the above if it concludes that the activity "will result in adverse long or short-term impacts on water quality" (EPA, 1989c).

Ohio's internal review guidelines are similar to the federal Section 404(b)(1) Guidelines. Ohio's guidelines are structured by type of activity. For instance, for fills, their requirements are as follows:

- (a) If the project is not water dependent, certification is denied;
- (b) If the project is water dependent, certification is denied if there is a viable alternative (e.g., available upland nearby is viable alternative);
- (c) If no viable alternatives exist and impacts to wetlands cannot be made acceptable through conditions on certification (e.g., fish movement criteria, creation of floodways to bypass oxbows, flow-through criteria), certification is denied.

Ohio's internal review guidelines also call for (1) an historical overview and ecological evaluation of the site (including biota inventory and existing bioaccumulation studies); (2) a sediment physical characterization (to predict contaminant levels) and (3) a sediment analysis. Using these guidelines, Ohio frequently conditions or denies certification for projects that eliminate wetland uses (EPA, 1989c).

Certification rules could also include the following:

- a policy requiring an alternatives analysis (similar and compatible with the CWA Section 404(b)(1) process, but not duplicative) to be conducted by the certification applicant during the project design process, and reviewed by ADEQ as part of their certification review.
- including 100-year floodplains (which would include most riparian areas and washes) as waters subject to CWA Section 401 certification. This could streamline jurisdictional delineations through use of existing FEMA maps.
- mitigation sequencing (similar to that required by other states and by the CWA Section 404 permit process), which first requires that a project avoid impacts, secondly minimizes impacts, and as a last resort, calls for restoration or compensation.
- a goal statement consistent with the riparian policy goal which balances losses of riparian areas with gains or a no-net-loss goal statement.

9.4.3 Increase Funding for CWA Section 401 Certification

During the course of the interviews, it was raised several times that the review time for the CWA Section 401 certification could be reduced if there were additional funds and staff for the CWA Section 401 certification program. There are three potential sources for increased funding for the CWA Section 401 certification program: funding from the state legislature; funding from EPA; funding from certification fees.

Obtaining funding from the State Legislature is difficult in these times of budget cutbacks and austerity programs. Funding from EPA may be available through some of the innovative and pilot programs described under interagency coordination earlier in this chapter.

Certification fees are required in some other states, such as California. The State of California's Regional Water Quality Control Boards require filing fees for CWA Section 401 certification applications. The fee structure is spelled out in the California Water Code. The money collected from the fees goes into the state agency's general fund. The regional boards may recover some portion of the fees through the budget request process. The State of Ohio also has a fee structure for CWA Section 401 certification applicants. In Ohio, however, fees go into the state's general fund, rather than back to the state agency. Neither state collects fees sufficient to support the CWA Section 401 certification program fully (EPA, 1989c).

Potential drawbacks to the establishment of certification fees are (1) the bookkeeping that would be required to track the receipt of the fees (similar concerns have caused the Corps to indefinitely postpone their proposed fee increases for CWA Section 404 permits); (2) the potential that these fees would encourage illegal activities in order to avoid the certification application fee expense, similar to the use of wildcat dumping to avoid high landfill fees; (3) revenue from the fees would go into the state general fund and would not be available to support the program unless specifically stated otherwise in legislation; and (4) the institution of new fees may not be politically acceptable.

9.4.4 Minor Statutory Changes

Insufficient enforcement of CWA Section 404 and Section 401 requirements was commonly raised as a concern in the interview process. One way in which this could be addressed would be for ADEQ to seek legal authorization for AGFD to enforce violations of ADEQ rules in the field. This has been discussed within the two agencies and appears to the support of staff within each.

9.5 Comprehensive Framework

There are two basic approaches to developing a comprehensive framework for addressing CWA Section 401 and Section 404 program concerns at the state level: ADEQ could seek delegation for the CWA Section 404 program; or Arizona could adopt its own permit program that would complement and expand the CWA Section 404 permit program.

A state program would require approximately 29 personnel, according to ADEQ estimates made in December 1990. These personnel would conduct pre-application coordination, application processing, technical review, public notification and hearings, comment processing and response, permit issuance, inspection, compliance, enforcement, program assessment and updating, and data management and support (ADEQ 1990c).

9.5.1 State Assumes Primacy for CWA Section 404

If ADEQ were to seek primacy for the CWA Section 404 program, it would be required to implement the program according to federal law and regulations unless the state had in place more stringent requirements. The delegation of the CWA Section 404 program is perceived as an arduous task; to date, only Michigan has been delegated this authority. It should be noted that the state cannot be delegated authority for Section 10; this authority would remain with the Corps. Projects that fall under both CWA Section 404 and Section 10 would have to be closely coordinated with the Corps to assure that the two were consistent.

9.5.2 State Legislation

State legislation could be used to address many of the concerns expressed in the interviews about the limitations of the existing CWA Section 404 program and ways that it is ill-suited to arid environments.

A starting point for the development of state legislation could be the Model Riparian Habitat Protection Statute proposed at the First North American Riparian Conference held in Tucson, Arizona April 16-18, 1985. (Kusler 1985) This statute consists of 13 sections: title; statement of legislative finding, policy and purposes; definitions; agency powers; mapping; local government roles; permit requirements; standards for regulated activities; enhancement and restoration; tax; judicial appeal; penalties and enforcement; and appropriations. This model statute addresses many of the optimal program criteria, including a broader definition of regulated activity, inclusion of riparian habitat in the regulation of activities in watercourses, designation of a single lead state agency to conduct the program; a permit program that includes mitigation, assessment of cumulative impacts, and other specific standards for the regulated

activities; more specific definitions of areas that would be subject to the permit jurisdiction; strong provisions for enforcement; and sufficient appropriations to assure adequate implementation of the act. (Kusler 1985)

ADEQ could develop this legislation as part of its direction under Executive Order 91-6, in which ADEQ is to coordinate the development of state riparian protection and management legislation. USFWS may be of help in developing this legislation in keeping with its internal recommendation that they provide technical assistance to states and EPA regarding optimal program development for wetlands protection (USFWS no date).

Potential components of the state legislation that were raised during the course of this study include:

- defining waters of the state to include the 100-year floodplain;
- including riparian areas in its wetland definition;
- including dredging, draining, and other activities in the waterways within the regulatory scope of the law.
- including definitions for jurisdictional delineations that are more compatible with arid conditions.
- including a strong public and applicant outreach element.
- providing streamlined review and approval processes that take less time while assuring adequate and effective evaluation.
- defining, identifying and addressing major environmental problems.
- emphasizing consideration of the long-term as well as short-term impacts of a proposed project.
- incorporating clear definitions so that there are as few as possible different interpretations of them.
- including strong enforcement penalties and enforcement procedures, including the administration of fines.
- including provisions for watercourse planning prior to permit consideration or issuance.
- using definitions and methods that would enable one to develop a graphic delineation/representation of jurisdictional waters.
- providing for federal, state, and local opportunities for wetland and riparian protection.
- providing for riparian area inventory and mapping at a relatively large scale, building upon the work that has already been done.

Abbreviations and Acronyms

ADEQ	Arizona Department of Environmental Quality
ADID	Advance Identification Program
ADOT	Arizona Department of Transportation
AGFD	Arizona Game and Fish Department
ALRIS	Arizona Land Resources Information System
ARS	Arizona Revised Statutes
ASLD	Arizona State Land Department
ASPB	Arizona State Parks Board
ASU	Arizona State University
BLM	United States Bureau of Land Management
CFR	Code of Federal Regulations
the Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
DE	district engineer
EA	environmental assessment
EIS	environmental impact statement
EPA	Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
FTE	full time equivalent
FY	fiscal year
GAO	United States Government Accounting Office
GIS	Government Information System
LOP	letter of permission
MHW	mean high water
NEPA	National Environmental Policy Act
NPS	National Park Service
OHW	ordinary high water
PDN	Pre-discharge Notification
PJD	preliminary wetlands jurisdictional determination
PN	Public Notice
RGL	Regulatory Guidance Letters
RHA	Rivers and Harbors Act
SAMP	special area management plan

SHPO

State Historic Preservation Officer

USFS

United States Forest Service

GAO

United States General Accounting Office

USFWS

United States Fish and Wildlife Service

WATAG

Watercourse Alterations Technical Advisory Group

Listing of Laws, Regulations, and Policy Documents

- I. Clean Water Act, as amended 1987 (P.L. 92-500) (33 U.S.C. 1251 et seq.)
 - A. Section 301: Effluent Limitations
 - B. Section 303: Water Quality Standards and Implementation Plans
 1. Regulations
 - a. 40 CFR Part 130 - Water Quality Planning and Management (July 1, 1988)
 - b. 40 CFR Part 131 - Water Quality Standards (July 1, 1988)
 2. Related Guidance
 - a. Environmental Protection Agency. April 1990. Biological Criteria. National Program Guidance for Surface Waters. (EPA-44015-90-004). Office of Water Regulations and Standards.
 - b. Environmental Protection Agency. July 1990. Water Quality Standards for Wetlands: National Guidance. (EPA -440/S-90-011). Office of Water Regulations and Standards.
 - c. Environmental Protection Agency. December 1983. Water Quality Standards Handbook. Office of Water Regulations and Standards.
 - d. Numerous criteria documents published by EPA, subsequent to CWA, Section 304(a)(1).
 - (1) EPA. 1976. Quality Criteria for Water. ("The Redbook").
 - (2) EPA. May 1, 1986. Quality Criteria for Water, 1986. (EPA 440/5-86-001). Office of Water Regulations and Standards. ("The Goldbook").
 - (3) Various documents on ambient water quality criteria for specific parameters.
 - e. Environmental Protection Agency, Region 9. June 3, 1987. Guidance on Implementing the Antidegradation Provisions of 40 CFR 131.12.
 - f. Environmental Protection Agency. September 1988. "Antidegradation." Water Quality Standards Criteria Summaries: A Compilation of State/Federal Criteria (EPA 440/5-88/028). Office of Water Regulations and Standards.
 - g. Environmental Protection Agency. July 1990. "Designated Uses." Water Quality Standards Criteria Summaries: A Compilation of State/Federal Criteria (EPA 440/5-88/028). Office of Water Regulations and Standards.
 - h. Environmental Protection Agency. September 1988. "Definitions." Water Quality Standards Criteria Summaries: A Compilation of State/Federal Criteria (EPA 440/5-88/028). Office of Water Regulations and Standards.
 - C. Section 305(b): Water Quality Inventory
 1. Publications
 - a. Arizona Department of Environmental Quality (ADEQ). State of Arizona Water Quality Assessment Report for 1990 (Section 305(b) Report).
 - D. Section 307: Toxic and Pretreatment Effluent Standards
 - E. Section 308: Inspections, Monitoring and Entry
 - F. Section 309: Federal Enforcement
 - G. Section 319: Nonpoint Source Management Programs
 1. Related Guidance
 - a. EPA. June 1990. National Guidance: Wetlands and Nonpoint Source Control Programs. Office of Water Regulations and Standards and Office of Wetlands Protection.
 2. Publications
 - a. ADEQ. 1988 Arizona Nonpoint Source Assessment Report.
 - b. ADEQ. 1989. Arizona Nonpoint Source Water Quality Management Program.
 - H. Section 401: Certification
 1. Regulations
 - a. 40 CFR Part 121: State Certification of Activities Requiring a Federal License or Permit (July 1, 1988).
 2. Related Guidance
 - a. EPA. April 1989. Wetlands and 401 Certification: Opportunities and Guidelines for States and Eligible Indian Tribes. (A-104F). Office of Water Regulations and Standards.
 3. Other Publications

- a. Ransel, Katherine and Erik Meyers. 1988. "State Water Quality Certification and Wetland Protection: A Call to Awaken the Sleeping Giant." Virginia Journal of Natural Resources Law 7 (2): 339-379.
- I. Section 402: National Pollutant Discharge Elimination System (NPDES) Permits
 - 1. Regulations
 - a. 40 CFR Part 122: EPA Administered Programs: The National Pollutant Discharge Elimination System (July 1, 1988).
- J. Section 404: Permits for Dredged or Fill Material
 - 1. Regulations
 - a. 40 CFR Part 230: Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Materials (July 1, 1989).
 - b. 40 CFR Part 231: Section 404(c) Procedures (July 1, 1989).
 - c. 40 CFR Part 232: Clean Water Act Section 404 Program Definitions; Exempt Activities Not Requiring 404 Permits (July 1, 1989).
 - d. 40 CFR Part 233: State Program Assumption Regulations (July 1, 1989).
 - e. 33 CFR Parts 320-330: Regulatory Programs of the Corps of Engineers Final Rule (November 13, 1986).
 - 2. Related Guidance
 - a. Soil Conservation Service, U.S. Fish and Wildlife Service, Environmental Protection Agency, and Corps of Engineers; An Interagency Publication. January 1989. Federal Manual for Identifying and Delineating Jurisdictional Wetlands. Washington, D.C.: U.S. Government Printing Office.
- b. Army Corps of Engineers Regulatory Guidance Letters (RGLs):
 - 87-3 Section 401 Water Quality Certification (expires 12/31/89)
 - 88-3 Wetland Jurisdictional Determinations (expires 12/31/90)
 - 88-4 Enforcement (expires 12/31/90)
 - 88-5 Applicant Responsibility for Providing Information (expires 12/31/90)
 - 88-6 Nationwide Permit Program (expires 12/31/90)
 - 88-7 Certification of Compliance with Permit Terms and Conditions by Permittees (expires 12/31/90)
 - 88-8 Regulation of Artificial Islands, Installations, and Structures on the U.S. Outer Continental Shelf (OCS) (expires 12/31/90)
 - 88-9 Corps Civil Works Projects (expires 12/31/90)
 - 88-10 Regulation of Waste Disposal from In-Stream Placer Mining (expires 12/31/90)
 - 90-5 Landclearing Activities Subject to Section 404 Activities (expires December 31, 1992)
- c. EPA Guidance Letters
 - (1) Draft EPA Guidance Memo No. IM-88-1, Clean Water Act Section 404 Administrative Penalty Settlement Guidance. (March 8, 1988).
 - (2) EPA Guidance Document ____ Guidance on Retroactive Application of New Penalty Authorities Under the Clean Water Act.
 - (3) EPA Guidance Document ____, Guidance on Choosing Among Clean Water Act Administrative, Civil and Criminal Enforcement Remedies.
 - (4) EPA National Guidance: Water Quality Standards for Wetlands. (July 1990). (Appendix B to Chapter 2, General Program Guidance of the Water Quality Standards Handbook).
 - (5) EPA Guidance on Preparation of 404(b)(1) Alternatives Analyses Pursuant to 40 CFR 230.10(a) (April 11, 1989).
 - (6) EPA Guidance Document ____, Nonpoint Source Guidance (December 1987).
- 3. MOAS/MOUS
 - a. MOA Between Environmental Protection Agency and Army Corps of Engineers, The Determination of Mitigation Under the Clean Water Act Section 404 (b)(1) Guidelines (February 6, 1990)
 - b. Draft MOA Between U.S. Environmental Protection Agency Region IX and U.S. Fish and Wildlife Service Region II on Field Level Cooperation (December 13, 1989)
 - c. MOA Between Assistant Administrator for External Affairs and Water, Environmental Protection Agency and Assistant Secretary of the Army for Civil Works Concerning Regulation of Discharges of Solid Waste Under CWA (January 17, 1986)

- d. MOA Between Department of the Army and EPA Concerning the Determination of the Geographic Jurisdiction of the Section 404 Program and the Application of Exemptions Under Section 404(f) of the CWA (January 19, 1989)
 - e. MOA Between Department of the Army and EPA Concerning Federal Enforcement for the Section 404 Program of the CWA (January 19, 1989)
 - f. Memorandum for the Field Prepared by EPA and Department of the Army Corps of Engineers Concerning CWA Section 404 (f) Regulatory Program and Agricultural Exemptions (May 8, 1990)
 - g. MOA Between DOA (Corps of Engineers) and Department of Commerce (referenced in RGL 86-5)
Ranch State Park
 - 4. Publications (relating to Section 404)
 - a. Corps of Engineers
 - (1) "United States Army Corps of Engineers Regulatory Program Applicant Information", EP 1145-2-1 (May 1985).
 - (2) Army Corps of Engineers, Los Angeles District. "Regulatory Permit Program" pamphlet (1990).
 - (3) "Recognizing Wetlands" (Corps pamphlet for purposes of permit program).
 - b. EPA
 - (1) Office of Wetlands Protection. "Adopt A Wetland" pamphlet.
 - c. Other
 - (1) Salvesen, David. 1990. Wetlands: Mitigating and Regulating Development Impacts. Washington, D.C.: The Urban Lands Institute.
 - (2) Want, William L. 1990. Law of Wetlands Regulations. New York: Clark Boardman Company.
 - (3) U.S. General Accounting Office. July 1988. Report to Chairman, Subcommittee on Investigations and Oversight and Committee on Public Works and Transportation, U.S. House of Representatives. Wetlands: The Corps of Engineers Administration of the Section 404 Program. (GAO-RCED-88-110).
 - (4) U.S. Secretary of the Interior. October 1988. A Report to Congress: The Impact of Federal Programs on Wetlands. Volume I: The Lower Mississippi Alluvial Plain and the Prairie Pothole Region. Project Manager: Jon Goldstein, Office of Policy Analysis.
 - (5) The Conservation Foundation. 1988. The Final Report of the National Wetlands Policy Forum: Protecting America's Wetlands. An Action Agenda.
 - K. Section 518: Indian Tribes Treated as States
 - 1. Regulations
 - a. Proposed changes to 40 CFR Part 233 (November 29, 1989)
- II. Related Federal Laws, Regulations, and Executive Orders
- A. Laws and Regulations
 - 1. Rivers and Harbors Act of 1899 (33 U.S.C. 403), Sections 9 and 10.
 - 2. Marine Protection, Research, and Sanctuaries Act of 1972 as amended in 1976 (33 U.S.C. 1413) Section 103: Dumping Permit Program for Dredged Material
 - 3. National Environmental Policy Act of 1969 (42 U.S.C. 4321)
 - a. Regulations
 - (1) 40 CFR Part 1500-1508 (July 1, 1989)
 - (2) 40 CFR Part 1508.20 - Defines Mitigation (July 1, 1989)
 - 4. Federal Endangered Species Act of 1973, as amended 1982 (16 U.S.C. 1531 et seq.)
 - a. Regulations
 - (1) 50 CFR Part 402 - Interagency Cooperation Between DOI, USFWS, DOC, and NOAA. (June 3, 1986)
 - (2) 50 CFR Parts 17.11 and 17.12 - List of Endangered and Threatened Wildlife and Plants. (January 1, 1989)
 - b. Publications
 - (1) U.S. Fish and Wildlife Service. Spring 1990. Handbook of Federally Endangered, Threatened, and Candidate Plants of Arizona. Prepared by Sue Rutman.

(2) U.S. Fish and Wildlife Service. March 1990. Federally Listed Threatened and Endangered Species of Arizona. Prepared by USFWS, Phoenix.

5. Wild and Scenic Rivers Act (1968) (P.L. 90-542)
 6. Wilderness Act of 1964 (P.L. 88-577)
 7. Fish and Wildlife Coordination Act of 1934, amended 1946, 1958, 1977 (16 USC 661-667(e))
 - a. Policy: USFWS Mitigation Policy (January 23, 1981, Federal Register Vol. 46, No. 15.)
 8. Emergency Wetlands Resources Act of 1986
 9. Agricultural Credit Act of 1987 (PL 99-645)
 10. Food Security Act of 1985
- B. Federal Executive Orders and Related Publications
1. Executive Order 11988, Floodplain Management of May 24, 1977.
 2. Executive Order 11990, Protection of Wetlands of May 24, 1977.
 - a. Publication: National Wetlands Policy Forum. October 1989. Recommendations for Federal Executive Action: Revisions to Executive Order 11990, "Protection of Wetlands". The Conservation Foundation.

III. Arizona State Laws, Rules, Guidance and Executive Orders

- A. Environmental Quality Act (Title 49)
1. A.R.S. 49-202.A - Designation of ADEQ as agency of Arizona for all purposes of the CWA
 2. A.R.S. 49-221, 49-222, and 49-225 - Water Quality Standards for Navigable Waters/Monitoring
 - a. Rule: A.A.C. R18-11-201 et seq. - Surface Water Quality Standards (September 30, 1987)
 - b. Policy: Arizona Water Quality Control Council Policy for Construction and Related Activities in Water (April 13, 1977)
 3. A.R.S. 49-203.3 and 49-245 through 49-248 - Nonpoint Source Program
 - a. Rule: Attorney General certified rules for regulated agricultural activities on January 3, 1991 - yet uncodified
- B. Arizona Streambed Ownership Act
- C. A.R.S. 48-3601 through 48-3628 - County flood Control Districts: Flood Control Planning and Management
- D. Executive Order 89-16, Streams and Riparian Resources (June 10, 1989)
1. 1990 Annual Report of the Governor's Riparian Task Force (October 1990)
- E. Executive Order 91-6, Protection of Riparian Areas (February 14, 1991)
- F. Adopted Policies
1. Arizona Game and Fish Department
 - a. A2.13 Riparian Habitat (March 15, 1991)
 - b. A2.14 Flood Control Program for the Middle Gila River 91st Avenue to Gillespie Dam (March 15, 1991)
 - c. A2.15 Procedures for Implementation of the Water Conservation and Recreation Development Fund and All Water-Oriented Developments (March 15, 1991)
 - d. A2.16 Wildlife and Wildlife Compensation (March 15, 1991)
 - e. I2.2 National Environmental Policy Act Compliance (January 1, 1991)
 2. Arizona Department of Transportation
 - a. Memo 89-05 ADOT Highways Division: Preservation of Arizona's Wetlands (Issued August 1, 1989; Reviewed August 1, 1990; no expiration)
 3. Arizona State Land Department
 - a. "Riparian Ecosystem Strategic Plan 1989," A Supplement to the State Land Department Strategic Plan (November 1989)

IV. Relevant Publications

- A. Federal
1. USFWS and DOI 1990 Wetlands Action Plan
 2. USFWS National Wetland Inventory (?)

3. BLM -- The National Bureau of Land Management Riparian Area Management Policy (January 22, 1987)
 4. BLM -- Draft of Bureau of Land Management Arizona State Riparian Area Management Strategy
 5. BLM -- Wetlands-Riparian Initiatives for the 1990s
 6. Bureau of Reclamation -- Wetlands Development, Restoration and Management Initiative
- B. State
C. Other

**Organizations Interviewed
(number of persons interviewed from each group is in parentheses)**

Arizona Department of Environmental Quality (6)
Arizona Department of Transportation (3)
Arizona Department of Water Resources (2)
Arizona Floodplain Management Association (1)
Arizona Game and Fish Department (3)
Arizona Riparian Council (1)
Arizona Rock Products Association (2)
Arizona State Land Department (2)
Arizona State Parks Board (1)
ASARCO (1)
Audubon Society (1)
Center for Law in the Public Interest (1)
Citizen Activist (1)
City of Tempe (1)
Cochise County Flood Control District(1)
Entranco Engineers (1)
Flood Control District of Maricopa County (3)
Pima County Flood Control District (3)
Private Consultant (1)
The Nature Conservancy (1)
U.S. Army Corps of Engineers (5)
U.S. Bureau of Land Management (3)
U.S. Bureau of Reclamation (3)
U.S. Environmental Protection Agency (4)
U.S. Fish and Wildlife Service (1)
U.S. Forest Service (2)
U.S. Soil Conservation Service (3)
Yavapai County Flood Control District(1)

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