

PERFORMANCE EVALUATION OF FCAAP

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CONTENTS

INTRODUCTION	1
STATUTORY/REGULATORY FRAMEWORK FOR FLOOD PLAIN MANAGEMENT	2
Current Statutory Authority	2
CHAPTER 86.16 RCW	3
1. Full Regulatory Control Assigned to DOE	3
2. Flood Control Permits Required	3
3. 1987 and 89 Amendments Refocus State Role	5
CHAPTER 86.26 RCW	5
1. 1951 Program	5
2. 1984-86 Program Changes	6
3. Flood Plain Management Activities	6
4. Maintenance Projects	7
a. Type of Project Eligible for Funding	7
b. Municipal Eligibility Requirements.	8
5. Comprehensive Flood Control Management Plan (CFCMP)	8
a. Plan Contents	8
b. Plan Deadlines	9
c. Who Must Prepare a Plan	10
6. 1991 Amendments	10
State vs. Local Control	11

ADMINISTRATION of FCAAP	13
Interagency Coordination	13
FCAAP Fund Allocation	14
Fund Recipients	15
Eligibility Criteria.....	15
REVIEW OF PLANS AND PROJECTS.....	15
Maintenance Projects.....	16
1. 1985-87 Biennium	16
2. 1987-89 Biennium	17
3. 1989-91 Biennium	17
Comprehensive Flood Control Management Plans.....	18
RECOMMENDATIONS	30
Interim Management Actions for FCAAP	31
Statutory	31
Regulatory	32
APPENDICES	
1. Chapter 86.16 RCW plus amendments Chapter 197 - 158 WAC	
2. Chapter 86.26 RCW plus amendments Chapter 197 -145 WAC.....	
3. FCAAP Program Description and Application Form ..	

INTRODUCTION

This report is narrowly focused on the State Flood Control Assistance Account Program (FCAAP) and is divided into four parts. First, both the statutory and regulatory framework for State flood control activities is reviewed. Second, the operating procedures are compared with this framework. Third, fund allocations in the 1985-87, 1987-89 and 1989-91 bienniums are described and evaluated. Finally, certain recommendations are offered to clarify and focus the legislative framework as well as management suggestions which should be considered pending clarification of the legal framework for FCAAP.

STATUTORY/REGULATORY FRAMEWORK FOR FLOOD PLAIN MANAGEMENT

CURRENT STATUTORY AUTHORITY

Two state statutes relate directly to state flood control activities: Chapter 86.16 RCW, Flood Plain Management and Chapter 86.26 RCW, State Participation in Flood Control Maintenance. Implementing regulations have been promulgated for both statutes. Both statutes implementing regulations and all statutory amendments can be found in Appendices A and B.

Several additional state statutes affect local government flood control activities. Chapter 86.12 RCW assigns flood control responsibility to local government. Chapter 86.15 RCW allows for the creation of flood control zone districts. In addition to flood control zone districts, flood control districts may be established pursuant to Chapters 86.05 and 86.09 RCW. Further, drainage, drainage improvement and drainage and diking districts may be established under Title 85, RCW.

A number of additional state statutes bear indirectly on flood control, i.e., Chapter 75.20 RCW, Hydraulics Project Approval, Chapter 90.58 RCW, Shoreline Management, Chapter 90.48 RCW, Water Quality Control and Chapter 36.70A RCW Growth Management Act. Overlaying this statutory scheme are Federal flood control responsibilities of the Corps of Engineers and last but not least the National Flood Insurance Program.

This report focuses on one of these measures, Chapter 86.26 RCW and,

in a more limited manner, highlights the provisions of Chapter 86.16 RCW that identify or establish the role of the state.

CHAPTER 86.16 RCW

1. Full Regulatory Control Assigned to DOE.

In 1935, through Chapter 86.16 RCW the State assumed "full regulatory control" of both navigable and nonnavigable waters of the State to alleviate recurring flood damage. (RCW 86.16.010.) The State (now the Department of Ecology (DOE)) was assigned responsibility to approve all structures, whether they may be public or private, that affect flood conditions in the floodway. RCW 86.16.025. This authority was upheld as a valid exercise of the police power in Maple Leaf v. DOE 88 Wn.2d 726, 565 P.2d 1162 (1977).

2. **Flood Control Permits Required.** When first enacted in 1935, Chapter 86.16 RCW authorized the creation of flood control zones. Within these zones, flood control permits were required for all structures or works that affected flood waters. (RCW 86.16.060 and 080.) Improvements made without a permit were deemed to be a public nuisance and prosecuting attorneys were authorized to initiate abatement proceedings. (RCW 86.16.090.) These provisions allowing for the establishment of zones and a requiring state permit were abolished in 1987.

3. 1987 and 89 Amendments Refocus State Role. Chapter

86.16 RCW went essentially unchanged for fifty plus years until 1987 when Chapter 523 Laws of 1987 was enacted. While the assignment authority to DOE remained essentially unchanged, (RCW 86.16.025), the method of exercising this authority was altered radically (compare RCW 86.16.020 now and as it was enacted in 1935). State-wide floodplain management replaced State regulatory control through local government administration of the national flood insurance program substituting for the old state permit system.

The 1987 amendments still allowed the state to establish minimum standards. In 1989 with the enactment of Chapter 64, Laws of 1989, this authority was limited even further. Except in limited situations, state standards cannot now exceed federal national flood insurance requirements and the role of DOE is further altered to one of providing, on request, technical assistance. (RCW 86.16.031.) Under the 1987 amendment DOE approval is required of any new local flood plain management ordinance. However, approval is automatic unless DOE acts to disapprove the ordinance within thirty days of its receipt. (RCW 86.16.041.)

As mentioned above, state standards or requirements may exceed the federal flood insurance program for specific flood plains when certain procedures are followed. (RCW 86.16.031 and 041.) Further, section 041 specifies the standards to be used by DOE in its review of local ordinances. These standards require a prohibition on construction of residential structures in the floodway and authorization of only limited maintenance and repair of existing residential buildings. In 1987, DOE was authorized

to establish standards for nonresidential structures as well. This authorization was deleted in 1989.

CHAPTER 86.26 RCW

1. 1951 Program.

State participation in the maintenance of flood control facilities was formalized in 1951 with the enactment of Chapter 86.26 RCW. In the early years, state funding was significant and predictable with the state share of a project capped at 50%. However, as the years went by, legislative attention declined until the program was devoted mostly to emergencies.

FCAAP, as the program became known, established a significant new state grant program for all municipal entities be they counties, cities or special districts (RCW 86.26.020.) When first enacted, construction of all improvements were supervised by the municipal engineer for each entity receiving a grant, but projects required both county and state approval. This role of the municipal engineer was changed in 1984.

2. 1984-86 Program Changes.

In 1984 the maintenance program was amended to allow completion of comprehensive flood control management plans (CFCMP) and a biannual funding level of \$4 million was established. (RCW 86.26.001 and 105.) These amendments transformed the program from emergency maintenance assistance to a predictable program of annual grant funding. In addition to a maintenance program, with the 1984 amendments, FCAAP became a comprehensive flood plain planning program.

The plan requirement is a significant new addition to FCAAP. While plans are not mandatory, if commenced, the plan must be completed within three years to maintain eligibility for non-emergency maintenance funds. (RCW 86.26.105.) With the 1984 amendments, DOE must approve the plans in consultation with the Departments of Fisheries and Wildlife. The 1984 amendments also expanded the role of local county engineer. All plans now must be both approved by the county and the county engineer becomes responsible for supervision of all work funded by FCAAP.

3. Flood Plain Management Activities.

With the 1984 amendments, RCW 86.26.050 requires that state participation in maintenance cannot occur unless to county, city or town with planning jurisdiction has received state approval of its flood plain management activities. The 84-86 amendments do not define flood plain management activities nor is the relationship of these activities to the plan established. DOE is authorized to adopt rules to ensure that these "activities" are adequate to protect or preclude flood damage, including restricting land uses to flood compatible activities.

Chapter 173-145 WAC was adopted in 1985 and revised in 1987 to carry out FCAAP. The regulations specific contents of a comprehensive plan, the FCAAP project application requirements, approval process and project approval criteria. Flood plain management activities, under the regulations, must include participation in the National Flood Insurance Program and restriction of land uses within the floodway to only flood compatible uses. A Shoreline Master Program is considered a minimum regulation. In a circular fashion flood compatible uses are defined as uses that comply

with minimum state, federal and local flood plain regulation requirements. It can be questioned whether these regulations exercise fully the mandate of Chapter 86.26 RCW regarding the definition of flood plain management activities.

As mentioned previously, Chapter 173-145 WAC implements the FCAAP program. Chapter 86.26 RCW does not clearly authorize these rules beyond those needed to define "flood plain" management activities. Compare RCW 86.26.050 with RCW 86.16.061.

4. Maintenance Projects.

a. Type of Project Eligible for Funding.

Chapter 86.26 RCW provides a very general description of the type projects eligible for FCAAP funding. Two tests are established to determine whether a project may use FCAAP funds. First, the project must be in the general public and state interest and second it must be likely that the project's public benefits are commensurate with the level of state funding. (RCW 86.26.050.) RCW 86.26.090 provides further definition for maintenance projects by limiting the scope of maintenance to maintaining and restoring normal and reasonably stable river and stream channel alignment and capacity. Maintenance of structures or works which prevent damage by the sea or other bodies of water are also eligible for funds. WAC 173-145-020 limits projects to using only in-kind replacement materials or acceptable alternatives.

b. Municipal Eligibility Requirements.

As stated previously, state FCAAP grants can be given only after DOE

has approved the flood plain management activities of the county, city or town for the area in which the project is located. Further, a comprehensive flood plan must be adopted or under preparation for the area in which the project is located. (RCW 86.26.050.)

Chapter 86.26 RCW imposes two additional eligibility requirements. The county engineer must approve all plans for the specific project and an annual budget report establishing the applicants flood control budget must be submitted to the county engineer and filed by the county with DOE.

5. Comprehensive Flood Control Management Plan (CFCMP).

a. Plan Contents.

As mentioned previously, the 1984 Amendments established a new planning requirement. RCW 86.26.105 sets forth four matters that must be considered in a plan:

1. the need for flood control work;
2. alternatives to stream work;
3. potential impact of in-stream work on in-stream resources; and
4. identify river meander belt or floodway. (RCW 86.26.105.)

WAC 173-145-040 expands on these requirements.

b. Plan Deadlines.

These plans are mandatory if maintenance funds are desired. The 1984 amendments allow a three year period to prepare a plan, with the three year period commencing with certification by the county that the plan is being prepared.

A careful reading of Chapter 86.26 RCW is needed to determine when, in fact, the three year period actually begins. RCW 86.26.105 must be harmonized with RCW 86.26.050 and RCW 86.26.001. Section 050, as noted previously, prohibits state participation in projects unless a plan has been completed or is being prepared. This amendment was adopted in 1984 but account funds were not available until June 30, 1985. (RCW 86.26.007.) Though unclear, the only reasonable reading of these sections that can be made is that the plan requirements became effective with 1986 grants. Therefore a strict statutory construction would commence the three year period for all non-emergency maintenance fund recipients with the 1986 grants.

WAC 173-145-080 establishes general allocation criteria and establishes specific allocation criteria when the plan is being developed or has not been commenced. It can be questioned whether FCAAP funds can be granted for projects in areas where a plan has not been started due to the certification requirement of RCW 86.26.050. It also can be questioned whether FCAAP funds can be allocated after 1988 to areas where the plan is in progress but not yet adopted.

c. Who Must Prepare a Plan.

RCW 86.26.105 provides that plans must be completed and adopted by the "... appropriate local authority." These same words are also used in RCW 86.26.050. The statute does not define this reference directly. Further, the statute expressly provides for plan grants to counties but makes no similar reference to any other local authority. Chapter 86.26 RCW uses the terms county, city, town and municipal cooperation unambiguously. The plain language of the statute does not

make clear who must prepare a plan.

WAC 173-145-020 defines appropriate local authority as a county, city or town having planning and land use jurisdiction. While this seems quite logical, Chapter 86.26 RCW does not clearly authorize this limitation. Clearly, a special district could prepare a plan that meets both statutory and regulatory requirements. Further, can cities or towns receive plan grants when the statute provides only for grants to counties.

6. 1991 Amendments.

Engrossed Substitute Senate Bill 5411 was adopted in the 1991 Legislative Session. SB 5411 amends numerous state statutes relating to flood plain management including Chapters 86.16 and 86.26 RCW. While the amendments to Chapter 86.16 RCW are minor in nature, RCW 86.26.050, 090 and 100 are each amended.

With the 1991 amendments, FCAAP funds can now be used for three new activities. In addition to the comprehensive flood control management plans provided for in Chapter 86.26 RCW, SB 5411 amends Chapter 86.12 RCW authorizing counties to adopt comprehensive flood control management plans for drainage basins. These plans are eligible for FCAAP funding. Though not stated expressly, presumable these new plans also qualify as an FCAAP plan. FCAAP funds can also be expended for cost sharing feasibility studies and pilot projects streamline permitting of flood protection structures or works. These pilot projects must occur in each of the counties declared a federal disaster area as a result of the 1990 floods.

The 1991 amendments give DOE a new review standard for FCAAP grants. The department must find that a recipient of FCAAP funds is making a "good faith effort" to take advantage of or comply with federal and state flood control programs. Further, for rivers and streams, the FCAAP funds are now not limited to just maintenance. Enhancement of flood control facilities for rivers and streams is also an allowed use of FCAAP funds. Arguably this should now allow non-structural as well as structural projects.

STATE VS. LOCAL CONTROL

State legislative goals regarding flood damage have been stated with certainty for over 55 years. However, the legislative path defined to achieve these goals has not been nearly as certain - vacillating between local and state control. In 1935 Washington began with a full state regulatory system administered by the state, but allowed local governments to plan and construct all flood control structures.

In the 80's local and state roles were altered significantly. The State resolatory role was eliminated, deferring to local implementation of the National Flood Insurance Program. Concurrent with this change local "appropriate authorities" were assigned responsibility to prepare comprehensive flood control plans. However, these plans are necessary only if an agency wants state maintenance funds.

The legislative history for Chapters 86.16 and 86.26 RCW reflect tension between local and State control. Amendments to Chapter 86.16 reduced DOE from a permit regulator to a role of review and technical assistance. Contemporaneous amendments to Chapter 86.26 RCW imposed a new requirement for a comprehensive flood control management plan to be prepared at the local level with approval by DOE required.

BSSB/5411, enacted in 1991, authorizes counties to prepare a new interjurisdictional comprehensive flood control plan for drainage basins. While, as mentioned previously, the 1991 amendments do not clarify the relationship between this new plan and the FCMP, the legislature intent reflects a continuing commitment to

assign primary flood control responsibility to local government. No provision is made directly for the approval of these plans by DOE. These provisions are in contrast with the new responsibility assigned to DOE to determine whether good faith efforts have been made by FCAAP maintenance fund recipients.

ADMINISTRATION OF FCAAP

Since the enactment of the 1984 FCAAP amendments, DOE has administered the program in three bienniums: 1985-87, 1987-89, and 1989-91. Both the current program description and application form are included as Appendix C.

INTERAGENCY COORDINATION

An orderly and simple application process has been established by DOE for FCAAP. All program personnel are given uniformly strong compliments by those local agency participants who were interviewed. Both WSDOF and WSDOW expressed satisfaction with interagency coordination, observing that consultation has improved substantially in the last few years. Presumably, this is not due to the 1984 amendments but should be attributed to an obvious extra effort by DOE staff.

Concern has been expressed that Fisheries and Wildlife consultation comes too late to affect local maintenance projects meaningfully. While variation occurs due to developed working relationships at the local level, earlier consultation by applicants would be beneficial. Possibly some of the friction which occurs because of late review will be alleviated with the adoption of FCAAP Plans.

Interjurisdictional coordination of flood plain management activities and projects at a local government level is a "hit or miss" process. Until BSSB 5411, it has not clearly been required by statute, regulation or administrative practice. Chapter

86.26 RCW defines a broad role for counties. Some have exercised this authority. Some have not. DOE actions do not appear to have been directed in a manner that reinforces the county intergovernmental coordination role.

FCAAP FUND ALLOCATION

RCW 86.26.060 and RCW 86.26.100 establish the statutory restrictions on fund allocations. Section 060 requires that a portion of the biennial allocation be reserved for emergencies. No amount is specified. RCW 86.26.100 limits the state share of projects and plans to fifty percent and seventy-five percent respectively.

Chapter 173-145 WAC extends these limitations. Under WAC 173-145-090 no more than one-half million dollars can be allocated to any one county and the cities within the county and a \$100,000 ceiling is placed on grants to entities created under Chapter 86.13 RCW. The project description (Appendix B) states that emergency grants are limited to eighty percent of project cost. This limitation is not found in either the WAC or RCW. Though they may be defensible in practice, it can be questioned whether these restrictions are consistent with Chapter 86.26. RCW. As mentioned previously, RCW 86.26.050 authorizes DOE rules, but only for a limited subject - flood management activities. Contrast with RCW 86.16.061 which provides DOE rulemaking authority to carry-out the provisions of Chapter 86.16 RCW.

FUND RECIPIENTS

To date, through the 1989-91 biennium, with the exception of drainage and diking districts in Skagit County, only counties have received FCAAP maintenance funds. However, both cities and counties have received FCAAP funding for

comprehensive plan development.

ELIGIBILITY CRITERIA

As discussed previously, Chapter 86.26 RCW established two basic eligibility criteria; 1) approval by DOE of "flood plain management activities" and 2) completion or commencement of a CFCMP. DOE's activities under #1 have not been evaluated. Regarding #2, arguably, all plans must be completed by the end of 1988 to remain eligible for FCAAP funding. By its actions, obviously DOE does not consider the deadline to be 1988.

REVIEW OF PLANS AND PROJECTS

A summary of nonemergency funding by county classified by project type for each of the three biennial time periods can be found in Tables 1-3. These expenditures have not been reconciled with the concurrent fiscal audit FCAAP and are included here for purposes of comparison only.

MAINTENANCE PROJECTS

1. 1985-87 Biennium.

Nineteen Counties received funding in the 1985-87 biennium. Over 90 projects received grant awards, with the average maintenance grant just exceeding \$26,000. Projects were diverse in character, with most of the funding going to King and Skagit Counties.

2. 1987-89 Biennium.

Fifteen counties received funding in the 1988-89 biennium. Five counties receiving funds in 1985-87 did not continue to participate and two counties were added, Benton and Okanogan. Total projects also declined to slightly over fifty, with a slight reduction in the average grant size. Most of the funds in the biennium were awarded for preparation of comprehensive plans; twenty grants in total with King and Cowlitz counties receiving the largest grants for plan development.

3. 1989-91 Biennium.

The 1989-91 biennium saw an increase in the number of county participants by five to twenty. Total projects increased to over eighty and average maintenance grant size continued to be about \$26,000.

COMPREHENSIVE FLOOD CONTROL MANAGEMENT PLANS

Six county and two city comprehensive plans were reviewed. A comparative analysis is presented in Table 4. With the exception of Cowlitz County, all the County plans focused on river basins. The plans for Cowlitz and the two cities were essentially storm drainage or surface water management plans. All of the river plans were weak on specifics, portraying both limited analysis and comparison of alternatives. No plan looked at the life cycle cost of project alternatives and there was little discussion of secondary or downstream impacts. With the exception of the storm drainage plans, it is difficult to understand how DOE will be able to use these documents to determine maintenance project consistency. It is also questionable whether storm drainage or surface water management are appropriate topics for a CFCMP.

RECOMMENDATIONS

The overriding flood plan management goal of the state was articulated clearly in 1935 -- "alleviate recurring flood damage." (RCW 86.16.010.) This Statement has remained unchanged for over fifty-five years. How to achieve this goal can best be characterized as confused. The issue has been local vs. state control. With ESSB 5411, that issue appears to be finally and clearly settled, though more legislation will be helpful and needed.

ESSB 5411 establishes principle planning responsibility by flood control management and protection with counties. This assignment is made unambiguously for the first time. Though not yet drawn clearly legislatively, it appears that the shoreline management model is desired for flood plain management.

The role of DOE is not yet precisely defined but the building blocks are there, namely the approval authority for flood plain management ordinances (RCW 86.16.041); flood plain management activities and plans, if state maintenance funds are desired (RCW 86.26.050); and with ESSB 5411, the new responsibility to determine that "good faith efforts" at compliance are being made. Now is the time to bring these pieces together. With this context in mind, recommendations are suggested for both management and legislation.

INTERIM MANAGEMENT ACTIONS FOR FCAAP

FCAAP management should focus on maximizing flood damage reduction and prevention (arguably the goal of Chapter 86.16. RCW). State funding is predictable but limited. It cannot be spread uniformly across the state and be used effectively. FCAAP funds must be channeled to maximize damage reduction in those counties that are making a bona fide effort at addressing plan development. Further, it goes without saying that management must stay within its statutory authority.

The changes in management are interim in nature (until regs and/or statutory changes are adopted).

1. Redirect CFCMP funding for cities into the county plan required by ESSB 5411.
2. Stop funding non-emergency maintenance projects in areas for which a CFCMP has not yet been adopted.

STATUTORY

Statutory changes are needed to ensure that FCAAP funds achieve the state goal.

1. Make the ESSB 5411 plan mandatory for high damage potential river basins.
2. Clearly define state and county roles using the Shoreline Management Act model.
3. Provide sanctions (using the GMA model) to ensure compliance

with statutory requirements.

4. Grant DOE authority to adapt rules under Chapter 86.26 RCW to guide FCAAP administration.
5. Focus FCAAP on high damage potential river systems exclusively.
6. Clarify that enhancement as used in ESSB 5411 includes structural as well as nonstructural projects.

REGULATORY

1. Regulatory changes 1 through 3 are possible regardless of whether statutory amendments are adopted. Four and five require statutory authorization ____ broader DOE rule making.
2. Remove county caps on funding of non-emergency projects in high damage potential river basins.
3. Establish priority high damage potential river basins for use of FCAAP funds, based on the dollar cost of recurring flood damage.
4. Define minimum state guidelines for "floor plain management activities" and "flood compatible" uses.
5. Require that flood control management plan actions be established:
 - a. based on life cycle cost analysis;
 - b. after downstream as well as instream impacts are analyzed;
and
 - c. based on objective evaluation of structural and non-

structural alternatives.

6. Establish that FCAAP funds are available for only projects that:
 - a. maximize flood damage reduction;
 - b. are the least cost alternative over the project's projected life.

TABLE 1
FCAAP FUND ALLOCATION
NON-EMERGENCY PROJECTS
1985-1987 BIENNIUM

COUNTY & CITIES WITHIN COUNTY	PLAN	GRAVEL REMOVAL	DIKE MAINT	RIP RAP	DREDGE	DEBRIS REMOVAL	ROAD REPAIR	OTHER**	DRAINAGE FACILITY	UNKNOWN***
CLALLAM				2,078 (1)*						67,221 (4)
CLARK										56,879 (1)
COWLITZ				10,000 (1)	9,722 (1)					93,201 (2)
GRAYS HARBOR										10,614 (1)
ISLAND										41,400 (1)
JEFFERSON										28,393 (1)
KING										555,080 (9)
KLICKITAT										15,559 (2)

* = Number Of Projects

** = Projects include but not limited to vegetation control, channel improvement, cleaning, channel maintenance and channel rehabilitation.

*** = No documentation provided for what project grant money was spent on.

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COUNTY & CITIES WITHIN COUNTY	PLAN	GRAVEL REMOVAL	DIKE MAINT	RIP RAP	DREDGE	DEBRIS REMOVAL	ROAD REPAIR	OTHER**	DRAINAGE FACILITY	UNKNOWN***
LEWIS				20,049 (1)						22,183 (3)
MASON										8,012 (1)
PACIFIC										50,827 (3)
PIERCE		185,689 (2)			50,000 (1)	25,000 (1)				87,224 (3)
SKAGIT			21,820 (1)							462,648 (12)
SNOHOMISH			28,769 (2)						8,520 (1)	199,232 (9)
SPOKANE	30,116 (1)				5,805 (1)	1,617 (1)			14,711 (1)	
THURSTON										2,793 (1)
WAHIAKUM									6,574 (1)	25,271 (2)
WALLA WALLA										11,912 (1)
WHATCOM		67,741 (3)	79,774 (2)		8,177 (1)					121,333 (15)

* = Number Of Projects

** = Projects include but not limited to vegetation control, channel improvement, cleaning, channel maintenance and channel rehabilitation.

*** = No documentation provided for what project grant money was spent on.

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TABLE 2

**FCAAP FUND ALLOCATION
NON-EMERGENCY PROJECTS
1987-1989 BIENNIUM**

COUNTY & CITIES WITHIN COUNTY	PLAN	GRAVEL REMOVAL	DIKE MAINT	RIP RAP	DREDGE	DEBRIS REMOVAL	ROAD REPAIR	OTHER**	DRAINAGE FACILITY	UNKNOWN***
BENTON	21,000 (1)*								1,350 (1)	
CLALLAM	64,800 (7)	50,000 (1)	5,000 (1)				95,000 (2)		8,000 (1)	
CLARK	106,602 (1)				43,000 (1)					
COWLITZ	\$200,000 (1)									
GRAYS HARBOR	\$40,500 (1)					23,160 (2)		6,000 (1)		
JEFFERSON	24,000 (1)									
KING	275,900 (2)									
KLICKITAT	38,472 (1)									

* = Number Of Projects

** = Projects include but not limited to vegetation control, channel improvement, cleaning, channel maintenance and channel rehabilitation.

*** = No documentation provided for what project grant money was spent on.

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COUNTY & CITIES WITHIN COUNTY	PLAN	GRAVEL REMOVAL	DIKE MAINT	RIP RAP	DREDGE	DEBRIS REMOVAL	ROAD REPAIR	OTHER**	DRAINAGE FACILITY	UNKNOWN***
MASON	37,500 (1)	15,000 (1)		35,637 (1)						
OKANOGAN	10,050 (1)									
PIERCE	23,000 (1)				120,000 (3)	35,000 (2)		40,000 (1)	25,000 (1)	
SKAGIT	27,235 (1)			58,466 (2)				26,300 (1)	19,500 (1)	89,069 (2)
SNOHOMISH	92,640 (1)				3,000 (1)	4991 (2)			1,070 (1)	47,170 (2)
THURSTON	150,000 (1)									
WHATCOM	68,670 (1)									

* = Number Of Projects

** = Projects include but not limited to vegetation control, channel improvement, cleaning, channel maintenance and channel rehabilitation.

*** = No documentation provided for what project grant money was spent on.

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TABLE 3

**FCAAP FUND ALLOCATION
NON-EMERGENCY PROJECTS
1989-1991 BIENNIUM**

COUNTY & CITIES WITHIN COUNTY	PLAN	GRAVEL REMOVAL	DIKE MAINT	RIP RAP	DREDGE	DEBRIS REMOVAL	ROAD REP/PROT.	OTHER**	DRAINAGE FACILITY	UNKNOWN***
CLALLAM	174,563 (2)*	124,000 (1)		3,500 (1)						
CLARK	64,940 (1)							189,425 (1)		
COWLITZ				6,000 (1)		12,500 (2)	37,500 (3)	149,050 (7)		
DOUGLAS	45,000 (1)									
GRANT	14,250 (1)									
GRAYS HARBOR	18,000 (1)									
ISLAND				11,672 (1)						
JEFFERSON	12,000 (1)									

* = Number Of Projects

** = Projects include but not limited to vegetation control, channel improvement, cleaning, channel maintenance and channel rehabilitation.

*** = No documentation provided for what project grant money was spent on.

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COUNTY & CITIES WITHIN COUNTY	PLAN	GRAVEL REMOVAL	DIKE MAINT	RIP RAP	DREDGE	DEBRIS REMOVAL	ROAD REP/PROT.	OTHER**	DRAINAGE FACILITY	UNKNOWN***
KING	419,969 (3)		5,953 (1)	13,175 (1)				76,429 (7)		
KITTITAS	54,262 (1)									
KLICKITAT	22,009 (1)									
LEWIS	30,750 (1)									
PACIFIC	62,231 (1)									
PIERCE (INTER- COUNTY)								100,000 (1)		
PIERCE	208,250 (2)					24,000 (2)		267,750 (3)		
SKAGIT			202,000 (9)	10,000 (1)						
SNOHOMISH	336,145 (5)		34,776 (2)					109,650 (3)	19,028 (1)	
THURSTON	53,313 (1)									
WAHKIAKUM			9,352 (1)							

* = Number Of Projects

** = Projects include but not limited to vegetation control, channel improvement, cleaning, channel maintenance and channel rehabilitation.

*** = No documentation provided for what project grant money was spent on.

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COUNTY & CITIES WITHIN COUNTY	PLAN	GRAVEL REMOVAL	DIKE MAINT	RIP RAP	DREDGE	DEBRIS REMOVAL	ROAD REP/PROT.	OTHER**	DRAINAGE FACILITY	UNKNOWN***
WHITMAN			6,750 (1)							
WHATCOM	89,250 (3)	12,500 (1)	62,500 (4)					15,000 (2)		

* = Number Of Projects

** = Projects include but not limited to vegetation control, channel improvement, cleaning, channel maintenance and channel rehabilitation.

*** = No documentation provided for what project grant money was spent on.

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** = Projects include but not limited to vegetation control, channel improvement, cleaning, channel maintenance and channel rehabilitation.

*** = No documentation provided for what project grant money was spent on.

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**TABLE 4
COMPARISON**

COMPREHENSIVE FLOOD CONTROL MANAGEMENT PLANS

	CLALLAM COUNTY	COWLITZ COUNTY	EDMONDS	LYNNWOOD	PIERCE COUNTY	SKAGIT COUNTY	SNOHOMISH COUNTY	WHATCOM COUNTY
I. SCOPE OF PLAN								
A. COMPREHENSIVE OR LIMITED AREA	LIMITED AREA - RIVER	LIMITED AREA - STORM DRAINAGE	COMPREHENSIVE - STORM DRAINAGE	COMPREHENSIVE - STORM DRAINAGE	COMPREHENSIVE - RIVER	COMPREHENSIVE - RIVER	LIMITED AREA - RIVER	COMPREHENSIVE - RIVER
B. FOCUS	Plan addresses lower Dungeness River 100-year flood plain.	Focus of report is on the flooding and other stormwater related problems associated with the interior drainage system rather than flooding on the major rivers. Divided Lower Cowlitz River 60 sq mile study area into 14 sub-areas.	Purpose of plan is to complete a comprehensive examination of the <u>existing surface water management system</u> with primary focus on water quantity and quality control.	Purpose of plan is to predict existing and future runoff patterns and recommend improvements to existing conveyance systems and help alleviate surface water flooding. Evaluated every site in community that experiences flooding.	Covers entire Puyallup River Basin which includes Puyallup, White and Carbon rivers.	Covers entire Skagit River floodplain.	Limited discussion to Snohomish River area downriver from Monroe.	Study focus on 100 year floodplain of Nooksack River, Sumas River and Lake Whatcom watershed.
II. ALTERNATIVES								
A. STRUCTURAL	BOTH	STRUCTURAL	BOTH	BOTH	BOTH	BOTH	BOTH	BOTH
B. NON-STRUCTURAL	Plan recommends immediate structural alternatives including bank restoration and set back levees. Also recommends non-structural measures including public education and modifications to existing regulations.	Plan only addresses structural alternatives.	Discusses both structural and non-structural alternatives.	Discusses both structural and non-structural alternatives and recommends some structural and non-structural solutions.	Several pages devoted to discussion of structural and non-structural alternatives however none are site specific. (ie dams, levees, diversion channels, early warning systems)	Non-structural alternative were limited to formation of new drainage and dike districts, public information programs and permanent evacuations (not defined). Structural alternatives were confined to continuing existing policy of levee maintenance and enhancement.	No discussion of non-structural alternatives other than a buy out of dike district 6 in order to allow area to flood. Structural alternative discussion was limited primarily to levee construction of a unified level of protection to the 5 year flood.	Lengthy discussion of different types of flood control structures. However none site specific. Non-structural discussion was also lacking in site specific information.
III. EVALUATION								

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	CLALLAM COUNTY	COWLITZ COUNTY	EDMONDS	LYNNWOOD	PIERCE COUNTY	SKAGIT COUNTY	SNOHOMISH COUNTY	WHATCOM COUNTY
A. QUALITATIVE	<p>Contains good qualitative discussion on what might be done however lacks quantitative discussion on cost involved.</p> <p>No discussion of life cycle of projects.</p> <p>No discussion of secondary impacts of any of the proposals however, does state at 8.1 "Analyses would be needed to ensure flow conditions are not worsened upstream or downstream."</p> <p>Devotes chapter 5 to identifying other Dungeness Basin Regulatory Programs however does not discuss how implementation of any part of the Plan will be effected by the various programs except to the extent of what permits will be required from what agencies on Figure 8.1.</p> <p>No comparison of benefits between structural vs non-structural.</p>	<p>Both qualitative and quantitative discussions regarding explanation of alternatives for each recommendation.</p> <p>No project discussion in re life cycle of project.</p> <p>No discussion of secondary impacts.</p> <p>Analysis of existing stormwater regulations including Federal Clean Water Act, DOE Dam Safety requirements, SMA, etc. and each alternative identifies what permits are required.</p>	<p>Both qualitative and quantitative discussions regarding explanation of alternatives for each recommendation.</p> <p>No discussion as to life cycle of project.</p> <p>No discussion of secondary impacts.</p> <p>Analysis of existing stormwater regulations. Does not identify permits required for each proposal.</p>	<p>Qualitative discussion of alternatives, however quantitative discussion is limited to final recommendations.</p> <p>No discussion as to life cycle of projects.</p> <p>No secondary impact discussion other then an admission that increasing conveyance will increase downstream flow rates.</p> <p>No analysis of permits required for any of the projects.</p>	<p>Qualitative discussion of alternatives for site specific projects, however lacks any quantitative discussion for any project.</p> <p>No discussion as to life cycle of projects.</p> <p>No secondary impact discussion other then a statement to the effect that before implementation of any of the conceptual recommendations a detailed site specific analyses would be required to ensure that implementation of alternatives does not aggravate existing upstream or downstream conditions.</p> <p>Thorough discussion of related regulatory programs, however, no analysis of permits required for any of the site specific projects.</p>	<p>Limited qualitative and no quantitative discussion of projects.</p> <p>No discussion of life cycle of existing projects either current or enhanced.</p> <p>No discussion as to secondary impacts of existing projects to property owners however impacts were addressed as to fish and wildlife resources in some degree.</p> <p>Discussion on regulatory actions which effect flood control projects.</p>	<p>Qualitative analysis of alternatives however quantitative analysis was limited to levee construction cost.</p> <p>No discussion on life cycle of existing projects.</p> <p>No discussion on secondary impacts, except to state that Title 27 authorizes dike construction so long as applicant can show that construction will not result in increased floodwater depths and velocities on adjacent properties.</p> <p>Discussion on regulatory actions.</p>	<p>Qualitative analysis of alternatives, however no quantitative analysis.</p> <p>No discussion re life cycle of projects.</p> <p>No discussion re secondary impacts to existing projects to property owners however impacts were addressed as to fish and wildlife resources in some degree.</p> <p>Only plan to include in regulatory action section on individual communities within the flood plain.</p>
B. QUANTITATIVE								
C. LIFE CYCLE								
D. SECONDARY IMPACTS								
E. RELATIONSHIP TO OTHER PLANNING AUTHORITIES								

	CLALLAM COUNTY	COWLITZ COUNTY	EDMONDS	LYNNWOOD	PIERCE COUNTY	SKAGIT COUNTY	SNOHOMISH COUNTY	WHATCOM COUNTY
IV. IMPLEMENTATION								
A. STRATEGY	No strategy for implementation of any part of the plan.	Recommends each jurisdiction adopt master plan and prioritize projects for construction.	Plan recommends adoption however no suggestions for implementation.	Plan recommends phased approach of implementation through Capital Improvements Program as no funding is currently available.	Recommends structural and non-structural alternatives be implemented in increments during a six year period.	Recommended plan is continued maintenance of existing leveed areas.	Implementation of recommended plan is primary responsibility of diking districts.	Maintaining and enhancing existing flood control facilities was preferred alternative for each area.
B. COST ESTIMATES	Plan states it is largely conceptual in nature and that implementation of specific elements will require detailed analysis to ensure full consideration of element impacts and benefits. Cost discussion limited to Figure 8.1. No cost estimates identified for any particular project as no particular project was identified.	Cost were identified for each alternative as well as recommended plan projects.	Cost were identified for each structural alternative as well as recommended plan. Plan devoted entire chapter on possible project finance methods.	Recommends structural solutions including regional detention facilities and improvements to the conveyance system such as enlargement of culverts, raising roads. Non-structural solutions included developing ordinances for setbacks from streams, strengthening clearing and grading and on-site detention ordinances; implementing ordinances to prohibit channelizing and vegetation removal. Cost were identified for recommended structural plan and maintenance cost only.	Cost discussions were limited to levee construction cost only.	No non-structural alternatives were recommended. Determination of financial impacts and funding alternatives was identified as being beyond the scope of the plan.	Non-structural recommendation include buy out of 450 acres protected by Dike District 6. Cost of levee construction was estimated at \$6,000,000.	Non-structural alternative most preferred is the development of land use policies and regulations. Determination of financial impacts and funding alternatives was identified as being beyond the scope of the plan.
INTER-GOVERNMENTAL COOPERATION	Under objectives recommends continued role of Dungeness River Management Team which should represent regulatory agencies and other government agencies. No discussion identified as to	Plan was prepared for and was participated in its formulation by Cowlitz County, Cities of Longview and Kelso and various Diking, Drainage and Flood Control Zone Districts. Plan addresses urban &	Plan was developed through FCAAP funding and an interlocal agreement with Snohomish County. Plan preparation included contacts with several jurisdictions and	Plan preparation included contacts with PSWQA, DOE, DOF and DOW. Scriber Creek portion of plan was developed under interlocal agreement between cities of Brier, Lynnwood and	Plan included involvement of Intergovernmental Coordinating Committee (IGC) which included all cities, major utilities, county government, COE, USGS, DOW DOF, DOE, Indian Tribes,	No intergovernmental cooperation was identified in either the formulation or execution of the plan.	Plan was developed with close coordination with diking districts, Tulalip Tribes, cities of Snohomish, Marysville and Everett and inter-county departments. Through interlocal	No intergovernmental cooperation was identified in either the formulation or execution of the plan.

	CLALLAM COUNTY	COWLITZ COUNTY	EDMONDS	LYNNWOOD	PIERCE COUNTY	SKAGIT COUNTY	SNOHOMISH COUNTY	WHATCOM COUNTY
	cooperative efforts with cities and towns.	rural aspects of flooding. Plan is intended to be used by planning and engineering staffs of all participants for the future budgeting and scheduling of flood control projects.	agencies to obtain input on recommendations or alternatives including DOE, DOF, DOW, DOT, PSWQA, Snohomish County, City of Lynnwood, Port or Edmonds & Burlington Northern Railroad.	Snohomish County.	FEMA, Drainage Districts, and citizen groups. Objectives state IGC should include Pierce and King Counties.		agreement all diking districts formed Snohomish County Coordinated Diking Council (CDC).	
NOTES:	DOE uses this plan as an example of good comprehensive planning. (See letter dated 12/3/90 signed by R. Mack.) Plan self described as "not an action plan".	DOE did not like lack of discussion of long term solutions vs short term nor the lack of nonstructural solutions over structural solutions.	This was strictly a drainage plan dealing with surface water management.	This is another drainage plan dealing with surface water management. Through approach as to identifying each specific area of flooding within the community and recommended courses of action. However no discussion of how implementation of one aspect will/could affect another area.	Plan is largely modeled after the Clallam County Plan. Same discussion re cabling trees, in stream boulders, etc. Same executive summary as Clallam County Plan.	This plan does nothing more then authorize the county to continue what it has been doing, ie continue maintenance and enhancement of existing flood control structures. DOE commented that plan "just minimally" met requirements of FCAAP rules.	This plan was only one to address to any degree, flood fighting policies with primary goal of equitable flood protection for all areas of the valley. Allows for levee overtopping.	Plan is most comparable to the Skagit County plan, same consultant.
CONSULTANT	Kramer, Chin & Mayo, Inc.	James M. Montgomery, Consulting Engineers Inc.	R. W. Beck & Associates	R. W. Beck & Associates	James M. Montgomery, Consulting Engineers Inc.	Brown & Caldwell Consultants	Snohomish County Public Works, Surface Water Management	Brown & Caldwell Consultants
DOE APPROVAL	YES 12/3/90	UNKNOWN	UNKNOWN	YES 5/29/91	UNKNOWN	YES 3/28/89	YES 6/20/91	UNKNOWN