Initial Drought Action Program for 1988

Presented to
Governor Booth Gardner

by the
Executive Water Emergency Committee

March 1988

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Members of the Executive Water Emergency Committee (see Appendix 1).

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Acronyms Used in this Report

BAC	Business Assistance Center
BPA	Bonneville Power Administration
CDBG	Community Development Block Grant
LDMF	Local Development Matching Fund
CSBG	Community Service Block Grant
DCD	Department of Community Development
DNR	Department of Natural Resources
DOR	Department of Revenue
DSHS	Department of Social and Health Services
DTED	Department of Trade and Economic Development
DUA	Disaster Unemployment Assistance
EWEC	Executive Water Emergency Committee
FmHA	Farmers Home Administration
JTPA	Job Training Partnership Act
PSA	Public Service Announcement
SOAC	System Operation Advisory Committee
UTC	Utilities and Transportation Commission
WDA	Washington Department of Agriculture
WDF	Washington Department of Fisheries
WDW	Washington Department of Wildlife
WSAC	Water Supply Availability Committee
WSU	Washington State University

Executive Summary

Overview

The State of Washington currently is experiencing the second consecutive year of severe drought conditions and there is no indication the situation will improve in the immediate future.

The entire state is experiencing below-normal precipitation, snowpack, soil moisture and stream flows. Weather conditions in February continued the trend with statewide precipitation averaging only 47 percent of normal. Since the current "water year" began on October 1, 1987, statewide precipitation has averaged just 70 percent of normal.

On March 7, 1988, the U.S. Bureau of Reclamation announced that a water supply shortage is likely this summer in the Yakima project area. The bureau's forecast indicates a 71 percent water supply for the "proratable" water users if normal precipitation occurs after March 1. If 50 percent of normal precipitation is received, the proratable water supply could fall to only 37 percent of normal.

All indications are that this year Washington will experience the most severe drought conditions since 1977.

Potential Drought Impacts

The drought is expected to affect virtually all types of water use in 1988 and will have a significant impact on the state's economy. Also, those dealing with water management issues will face a dilemma involving conflicting water needs. Some of the potential problems that may result are listed below.

Agriculture

- Irrigation water shortages are predicted in the Yakima Basin and north central Washington. Water cutoffs and rationing will occur in a number of irrigation districts.

- The Roza Irrigation District and the Kittitas Reclamation District will be most affected by the water shortage in the Yakima Basin. These two districts have "junior" water rights and comprise approximately one-third of the irrigated land in the basin.

- February estimates indicate crop losses could exceed $40 million in the Roza Irrigation District. This district produces 20 percent of the nation's spearmint, 18 percent of the hops and 9 percent of the cherries. If water supply conditions worsen, not only would this year's crop production be affected but perennial plants could be lost having a multi-year impact.

- 1988 crop losses in the Kittitas Reclamation District are estimated at $12 million.

- The fall (1987) wheat crop has been affected to varying degrees. The timing and amount of precipitation received in spring and early summer will determine the extent of impacts to dryland crops and livestock production.

- Concern at the state level is not limited to crop production losses. There is concern regarding the impacts on people in the agricultural community including family stress, farm operating losses, reduction in on-farm jobs and the potential for the financial failure of long-standing farm operations.

- There also will be secondary economic impacts to employees and businesses in agriculturally dependent urban communities including farm supply, processing, packing and shipping sectors and related work forces.

Forestry

- Higher than normal fire losses are expected due to the dry conditions.

- State and private forest lands may be closed if Washington experiences extreme fire conditions. Forest closures will put thousands of forest workers out of work. The forest products industry including timber, pulp and paper mills also would be affected.

- Forest closures also will affect hikers, berry pickers, four wheelers, campers, hunters, anglers and other recreationists.

- Wildfires can cause environmental damage due to increased erosion and sedimentation.

Employment & Industry

- In addition to agricultural and forest industry impacts, the drought may adversely affect industries heavily reliant on water or low-cost electricity such as aluminum, chemicals and petroleum refining.

- Regional and national publicity about the drought could have an adverse impact on the state's image as a tourist destination.

Drinking Water Supplies

- Voluntary and mandatory water use restrictions may be imposed in areas where water utilities are experiencing severe water shortages. (Voluntary water use restrictions are recommended throughout the state.)
- Some wells can be expected to go dry.
- Salt water intrusion could affect the quality of some drinking water wells in coastal areas.

Fish & Wildlife

- Salmon and steelhead returns for 1989 through 1992 will be reduced due to losses suffered during 1987/88 drought conditions.
- Losses of native coho, spring chinook, steelhead and sea-run cutthroat and Dolly Vardon juveniles, as well as non-migratory trout will occur if low stream flows are experienced during critical summer and fall periods.
- Salmon may not reach spawning areas on small streams and rivers due to low flows, and some prime fish spawning areas could completely dry up.
- Some river sports fisheries may be closed to protect fish populations.
- Low flows may cause conflicts between fisheries and off-stream uses.
- Extremely poor range conditions may lead to losses of a variety of game and non-game species.
- Some hunting regulations may be modified to protect game birds and big game populations.

Water Quality

- Some streams and rivers may experience poor water quality from decreased stream flows resulting in less dilution of water pollutants.
- Increased eutrophication may occur in lakes and marine waters because less fresh water is available for "flushing."
- Low stream flows will increase water temperatures and reduce dissolved oxygen levels which can affect fish and other aquatic organisms.

State Action Plan

Because of concern for the potential adverse effects of the drought, Governor Booth Gardner formed the Executive Water Emergency Committee. The committee was established to provide a coordinated response by state government to the problems created by the drought.

The committee established several task forces to determine the potential drought effects and recommend ways to deal with those impacts. The areas examined include agriculture, domestic and municipal water supply, employment and community impacts, economic and industrial activities, fish and wildlife resources, forestry and public information.

A state and federal Water Supply Availability Committee also was formed to collect and assess information on water supply conditions. This information is used by the Executive Water Emergency Committee to plan state actions and contingencies.

The Executive Water Emergency Committee has developed an action plan with a comprehensive list of steps the state will take to reduce drought impacts on the state's citizens and resources. Among those steps, the state will:

- Monitor drought conditions and the effect on the state's economy.
- Assist irrigators with water transfers and provide technical and financial assistance.
- Provide quick review of applications for supplemental irrigation wells.
- Identify all financial, technical and physical resources available to respond to the drought and conduct workshops for local governments on strategies for managing the drought.
- Encourage industries, water suppliers, irrigators, local governments and individuals to initiate immediate voluntary water conservation efforts and stop any wasteful practices.
- Provide drought-related information to water suppliers including engineering and water quality technical assistance.
- Promote drought emergency response planning by water utilities and local governments.
- Provide relevant information to the state's economic development community, trade organizations, industry associations, small businesses, local governments, community organizations and citizens.
- Work cooperatively with affected parties such as cities, tribes, industries, irrigators and governmental agencies to best meet the needs of all water users including fish and wildlife.

- Disseminate timely information on the drought to the public and provide a "clearinghouse" for specific drought information.

The actions listed above and the full state action plan represent an initial "plan of attack." A specific plan to carry out these activities is being developed, but it is likely some actions will need modification as the drought develops.

The Executive Water Emergency Committee will continue to serve as the focal point for all drought response activities and will be responsible for policy-related decisions that may be required. The committee also will coordinate state activities with Oregon, Idaho, California and British Columbia.

Public Perception and Immediate Action

Winter rains and snow fall have alleviated some of the short-term effects of the drought and have led to a false sense of security in some people. In fact, the situation is deteriorating and serious water shortage problems are likely to occur this year.

The severity and duration of the drought is not yet known. However, every citizen can begin now to help by conserving water. Saving water now will help make our water supplies last longer.

Furthermore, the regional reliance on hydroelectric power means that every citizen should take steps to conserve electrical energy. Saving electricity translates into saving water and, in some cases, saving jobs dependent upon either the electrical supply or the water supply.

The 1987-88 drought is very serious. Now is the time, not this summer, to begin conserving our valuable water resources. Failure to take action now will cause more severe problems later in the year. If each of us takes very reasonable steps available to use water wisely right now, we can make a difference in the overall impacts of the drought.

Initial Drought Action Program for 1988

Introduction

The State of Washington currently is experiencing the second consecutive year of severe drought conditions and there is no indication the situation will improve in the immediate future.

The entire state is experiencing below-normal precipitation, snowpack, soil moisture, and stream flows. Weather conditions in February continued the trend with statewide precipitation averaging only 47 percent of normal.

According to National Weather Service records, the wettest months in Washington are December, January, November, and February. When precipitation is significantly below normal during these months, there is little likelihood of overcoming the water deficit.

Current precipitation levels for the major geographic areas of the state are:

	Feb. 1988	Water Year (Oct. 1987-Present)
Western Washington lowlands	53%	61%
Western Washington mountains	72%	69%
Eastern Washington lowlands	16%	77%
Eastern Washington mountains	45%	73%

For the water year to date, statewide precipitation has averaged only 70 percent of normal. Stream flows throughout the state have been very low. Flows in Western Washington range from 30 to 70 percent of normal while Eastern Washington streams have generally been about 40 percent of normal. The following illustrates the situation in several Western Washington rivers in flow--cubic feet per second (cfs)--and percent of normal for January:

	Flow	% of Normal
Green River	679 cfs	32%
Cedar River	106 cfs	34%
Nisqually River	452 cfs	52%
Naselle River	459 cfs	53%
Chehalis River	3,610 cfs	56%
Cowlitz River	824 cfs	57%
N.F. Nooksack River	340 cfs	70 %

With the exception of the Olympic Peninsula, snowpack ranges from 64 to 90 percent of normal across the state. Precipitation at those sites ranges from 47 to 80 percent of normal for the water year.

Due to the precipitation and snowpack deficits, stream flows for the summer period (April-September) are expected to be well below normal for the water year again in 1988. If the state receives 75 percent of normal precipitation until September, the following stream flows are forecast:

	April – September Forecast
Okanogan River	54% of normal
Yakima River	55% of normal
Columbia River	61% of normal
Skagit River	64% of normal
Cowlitz River	67% of normal
Chelan River	68% of normal

Reservoir levels continue to be a major concern for the irrigation season. For example, Yakima Basin reservoirs currently have a deficit of approximately 510,000 acre-feet and water rationing is likely this summer. The U.S. Bureau of Reclamation is forecasting a 71 percent supply for the proratable water users if normal precipitation occurs after March 1. If 50 percent of normal precipitation is received, the proratable supply could fall to only 37 percent of normal.

All indications are that this year Washington will experience the most severe drought conditions since 1977.

At this time, drought-related impacts are expected to affect virtually all categories of water use. In general terms, the drought may have a significant impact on the economy of the state because of the critical role that water plays in virtually all activities. For example, agricultural impacts are expected to occur in various parts of the state, with potentially severe impacts in the Yakima Basin and elsewhere. Fish and wildlife are also expected to incur losses due to low streamflows and the continued lack of precipitation. The dry weather is expected to result in increased wild fire losses and may result in forest closures. Some domestic and municipal water supply systems are expected to experience problems with their water supplies. Water quality will likely be a problem in some areas due to decreased flows for dilution of effluents, higher water temperatures, increased salinity of estuaries, and increased euthrophication of lakes and ponds. Industrial water supplies may also be threatened. This can result in the loss of jobs or industrial production. The cost and availability of electrical energy may also become a concern if the drought continues. Recreational activities also may be affected by lower stream flows, forest closures, and potential water supply and water quality problems.

Because of the concern for these drought impacts, the following actions are being taken as a means of attempting to identify problems, alleviate their impacts, and plan for water contingencies.

An Ad Hoc Executive Water Emergency Committee (EWEC) was formed in the fall of 1987 to identify and address the problems created by the drought and to establish policies which would ensure a coordinated response by the state government to the problems created by the drought. (See Appendix 1 for the membership of this committee.)

State Actions to Date

The committee established several state level task forces to examine drought impacts on particular activities, to identify impacts expected if the drought continues, and to recommend ways to deal with the drought impacts. Some of the areas specifically examined by the task forces are: agriculture, forest fire control, fish and wildlife, domestic and municipal supply, economic and industrial activities, employment and community impacts, and the need for public information and education. (A list of the task forces and those involved in them is included in Appendix 2.)

The continuing water supply problems and related concerns also resulted in the formation of the Water Supply Availability Committee (WSAC) by the Department of Ecology in August of 1987. The purpose of this committee is to collect, evaluate, and assess water availability data, identify areas of water shortage, assess the actual and expected impacts of shortages, examine short- and long-term forecasts of water supply conditions, and report findings to the Ad Hoc Executive Water Emergency Committee.

The WSAC consists of state and federal agencies and has met monthly since August 1987 to discuss water supply conditions, impacts, and the prognosis for the future. It has prepared water supply update reports which are distributed to the Governor's Executive Water Emergency Committee, the Governor's Office, the Legislature, other agencies, the media, and members of the public. These reports provide information on water supply conditions including precipitation, streamflow, and snowpack data, as well as examining the forecasts for weather and streamflow runoff. (A list of the members of the Water Supply Availability Committee also is included in Appendix 1.)

Federal/ State/Local Responsibilities

The Executive Water Emergency Committee has identified the roles of federal, state, and local levels of government as they apply to drought conditions. The following discussion explains the types of authority and responsibilities that exist at these three levels.

(1) **Federal Level** – There are a number of federal programs which are related to drought. Most of these programs are administered by the U.S. Department of Agriculture and are intended to assist farmers affected by droughts. The Federal Emergency Management Agency (FEMA) was effectively taken out of the drought assistance activities by legislation which passed in 1977. Federal drought-relief programs are currently administered by the following agencies within the U.S. Department of Agriculture:

Soil Conservation Service

Farmers Home Administration

Agricultural Stabilization and Conservation Service

In addition to the above programs, the Department of Commerce (National Weather Service), the Department of Defense (Corps of Engineers), Department of Health and Human Services (Food and Drug Administration, Center for Disease Control), the Department of the Interior (U.S. Geological Survey), the American Red Cross, and the Small Business Administration each have programs that can provide information or assistance during droughts. (Details of these programs are available in Appendix 3, "Federal Drought Assistance Authorities".)

There are four types of requests for federal assistance which the Governor could make. They are:

(a) Federal drought assistance programs (as discussed above);

(b) Emergency authority from the Corps of Engineers;

(c) An agreement with the Bonneville Power Administration to provide necessary power to allow some industries to continue operation; and

(d) requests for new federal legislation to address issues not covered by any other federal program. The process for making such requests is discussed below under state authorities.

(2) **State Level** – In the event the drought causes emergency situations to arise, the Department of Community Development (DCD) has specific responsibility to coordinate state responses to the drought situation. The state's response to emergency conditions will include the following:

In conjunction with state and local agencies, all local, state, and federal financial, technical and physical (equipment) resources available to respond to the full range of drought-related emergencies will be identified, located, or obtained;

All actions which may need to be implemented in response to drought-related emergencies will be identified, responsibility for implementing actions will be assigned and, as warranted and available, resources will be distributed to the responsible state and local agencies;

In consultation with other responsible state and local agencies, actions designed to reduce the occurrence of emergencies will be clarified and implemented. Such actions include provision of public information and education, decisions to curtail water use, hunting, camping, burning, fireworks, management of migrant worker programs, and identification of alternative water sources.

The Division of Emergency Management has general authority (not drought specific) under RCW 38.52. In addition, the departments of Social and Health Services and Ecology currently have authority to administer drought-relief funds primarily for the improvement of water supply facilities. These funds and this authority were provided by state referenda.

The Governor has the power to make two types of proclamations. He may declare a state of emergency under state law or he may declare a disaster under Federal law. Specifics of these two proclamations are discussed below:

The Governor has the power to proclaim a state of emergency when a public disorder, disaster, energy emergency, or riot exists that affects life, health, property, or public peace. This state of emergency can be for all or part of the state and is effective only within the area described in the proclamation.

The first response to disaster situations is at the local level. State assistance is supplemental to local efforts. Similarly, federal assistance is supplemental to state efforts.

The Governor's proclamation describes:

- The disaster or situation
- The affected area(s)
- That an emergency exists
- Activation of the state Disaster Preparedness Plan
- Authorization of resources of the state of Washington to assist the affected political subdivisions
- Authorization of the Department of Community Development, Division of Emergency Management, or another state agency, depending on the situation, to coordinate the assistance and analyze damages or impacts.

A declaration of disaster is used to request federal assistance. Such assistance is only available after substantial impacts meeting federal criteria have occurred; and after certifying that adequate response to the situation is beyond the capability of local and state government.

The Executive Water Emergency Committee will continue to serve as the body responsible for making drought-related policy decisions at the state level. The Emergency Management Division of DCD will coordinate state agency resources to support the needs of local governments and of other state agencies charged with responding to drought-related emergencies. The staffs of those other agencies will form the body of experts that can be assigned to deal with solutions to specific drought-related problems and issues.

(3) **Local Level** – The local level of government derives it's drought-related authority from RCWs 38.52, 35.33, 36.40, and 43.88. The effects of a drought will be experienced first at the local level. Local government officials, and community and business leaders are often the first to need to implement action plans designed to minimize the impacts of a drought. If local capability to respond to a drought is inadequate or overwhelmed, the state and federal governments will need to provide appropriate assistance.

In addition, U.S. Department of Agriculture Emergency Boards have authority to request a variety of emergency programs through USDA.

State Drought Action Program for 1988

The state's goals in developing a drought action program are to:

(1) Effectively monitor the drought conditions;

(2) Initiate actions to conserve water now to help alleviate water supply shortages;

(3) Provide assistance to mitigate some of the economic losses;

(4) Prepare for shortages through planning and development of alternative supplies where possible;

(5) Coordinate the actions of the state with those of federal and local governments.

This section of the report identifies the state's proposed activities in each of the subject areas for the short-term (spring and summer) and the longer term (fall and beyond). This report is the initial report of the Executive Water Emergency Committee and will be further refined as the drought conditions develop during the next few months. The activities within each task force area are listed in order of their general priority.

State Government Actions

PROBLEM

The drought affects all organizations and all users of water, including state government. The state needs to take the lead in reducing its own water use and encouraging similar actions by others.

SHORT-TERM ACTIONS

(1) Each state agency and other facilities should reduce their water use by specified amounts. The following savings are recommended as goals for the initial phase of the conservation effort:

Office Buildings	5%
Grounds	25%
Universities and Colleges	10%
Correctional Facilities	5%
Ferry System	5%

(2) In addition, each of the above should submit a report to the Department of General Administration providing cost estimates of what it would cost to achieve savings of an additional five percent through the purchase of water saving devices or the modification of existing facilities. This report should also identify fund sources for making such changes.

(3) The Department of General Administration should coordinate this effort and should be specifically charged with the responsibility of developing a methodology to measure the actual water savings in each facility.

PROBLEM

Local levels of government and the citizens of the state should be provided information about the drought and should also be encouraged to conserve water.

SHORT-TERM ACTIONS

(1) The Governor should encourage other levels of government to enact a conservation program similar to that proposed above for state government activities and institutions.

(2) The Governor should convene a meeting of major businesses and industrial users of water to recommend that they develop and implement water conservation programs tailored to their specific activities.

(3) The Governor should state his support for Ecology's effort to develop new water transfer policies and guidelines to facilitate the temporary transfer of water rights as a drought-relief measure.

(4) The Governor should ask the Executive Water Emergency Committee to determine a list of potential assistance that could be provided to the state by the Federal government and should be prepared to request such assistance if the drought continues.

(5) Because of the potential for high fire danger later this year, the Governor should emphasize the potential for forest closures and should caution by all forest users. He should also ask the Washington State Patrol to increase its emphasis on enforcement of existing laws regarding the disposal of burning material from vehicles.

Agriculture

Governmental agencies at various levels have some responsibility to respond to agricultural drought conditions. At the federal level, these include the Farmers Home Administration, Soil Conservation Service, Agricultural Conservation and Stabilization Service (ASCS), Washington Agricultural Statistics Reporting Service, the Bureau of Reclamation, Bureau of Indian Affairs, and the National Weather Service. Each agency has some role or program that can be of assistance to a sector of the agricultural community.

There are several local governmental agencies which play very key roles. These include irrigation districts, local conservations districts, local ASCS boards, and boards of county commissioners.

At the state level, there are three agencies which play key roles:

(1) WSU Cooperative Extension with it's education and information role and network of county extension agents and agricultural research stations;

(2) the Department of Ecology, as administrator of both the agricultural water supply program and the water rights program; and

(3) the Department of Agriculture with it's particular knowledge of conditions and needs with the agricultural community. The following action program primarily encompasses those activities which are under the stewardship or influence of state-level agencies.

PROBLEM

There is a need to obtain authority and funding for emergency drought relief activities and implement the drought-relief programs.

SHORT-TERM ACTIONS

(1) Re-enact emergency drought relief legislation with authorities to respond to emergencies and provide cost share funds primarily to agricultural areas where irrigated water supply conditions are most severe. (March 1988)

(2) Adopt guidelines and procedures to implement the legislation. (March 1988)

(3) Develop and disseminate information about the irrigation-related emergency drought relief programs available under the legislation, and conduct meetings or workshops with affected groups. (March - April 1988)

(4) Develop a list of proposed drought-related construction projects and priorities which will reduce current and future drought impacts. (March - April, 1988)

LONG-TERM ACTIONS

(1) Develop a long-term agricultural drought contingency plan for the state.

(2) Continue to vigorously pursue measures to increase the reliability of water supplies in the Yakima Basin through the Yakima River Basin Water Enhancement Project.

(3) Develop a water use efficiency program with incentives for water conservation and efficient use.

PROBLEM

A large variety of crops are grown in various climatic regions in both irrigated and dryland farming areas of the state. There is a need to improve the process for assessing agricultural drought-related impacts in regions across the state to be able to better anticipate drought-related problems and target drought-relief activities.

SHORT-TERM ACTIONS

(1) Improve the existing Crop Weather Report to provide expanded information from the county level on impacts of drought on agriculture. (March 1988)

(2) The Department of Ecology shall enlist the assistance of the Department of Agriculture, Cooperative Extension, the Bureau of Reclamation, and others in the development and implementation of a monitoring and reporting process to assess, on at least a monthly basis, the water supply-related irrigated agricultural conditions within the state. Written reports will be submitted to the headquarters offices of the departments of Ecology and Agriculture. (April 1988)

(3) Maintain direct communications with drought-prone irrigation districts and agricultural organizations to obtain information and suggestions about drought-related problems and their solutions.

(4) In assessing the drought-related impacts on agriculture, the economic impact of this sector on the state's and the nation's economy must be considered. This will involve several state agencies as well as Cooperative Extension and will need to be updated monthly as water supply and precipitation patterns change.

PROBLEM

There is a need for timely decisions on the large increase in water right applications for supplemental ground water supplies to allow irrigators enough time to consider all their options for the upcoming irrigation season.

SHORT-TERM ACTIONS

(1) Ecology should assess the need to extend existing internal reassignments of staff to handle the increased workload in a timely manner. (ongoing)

(2) Provide information on the status of applications for ground water rights to individual applicants as soon as possible so decisions on available options can be made. (ongoing)

(3) Utilize new guidelines to facilitate the processing of new ground water applications. (April)

(4) Respond to complaints of well-interference and take action as necessary. (Ecology - ongoing)

PROBLEM

There is a need to facilitate the temporary transfer of waters and water rights during drought years to allow maximum flexibility while minimizing the economic disruption and losses that accompany a drought. The concept is to allow farmers to realize the potential economic savings that exist in transferring water from a low value to a higher value use. For example, transferring water from 6,000 acres of low value crops with a $300 per acre gross value to 6,000 acres of high value perennial crop with a $2,000 per acre gross value would create an economic saving of $10 million.

SHORT-TERM ACTIONS

(1) Adopt guidelines for:

(a) Temporary transfers of water between willing parties who are not within irrigation districts, and

(b) Water spreading to allow the same amount of water to be consumptively used on a greater number of acres. (March 1988)

(2) Adopt guidelines for temporary water transfers for willing parties located in different irrigation districts which require approval of the Department of Ecology. (March 1988)

(3) Maintain communications with irrigation districts wishing to make temporary transfers in basins which require court approval, and provide technical assistance when requested and when appropriate.

(4) Assist in cost-sharing arrangements associated with water transfers between public bodies as needed. (April 1988)

LONG-TERM ACTIONS

(1) Conduct the water use efficiency study which will include development of recommendations for permanent policies, procedures, and guidelines for temporary and permanent water right transfers between willing parties, as well as activities such as water banking and water marketing.

PROBLEM

There is a need to provide up-to-date information to the agricultural community on drought-related topics such as: alternative cropping patterns, water requirements of various crops, information on federal programs such as crop insurance and federal farm programs, information on water conservation methods, and other measures to assist farmers in managing their operations during drought conditions.

SHORT-TERM ACTIONS

(1) The Drought Task Force formed by WSU Cooperative Extension will continue to prepare and disseminate information to the agricultural community and will conduct workshops as needed. (ongoing)

PROBLEM

There is a need to encourage efficient water use by irrigated agricultural water users as a means of maximizing benefits from available supplies (and minimizing impacts) during a drought.

SHORT-TERM ACTIONS

(1) Initiate an irrigation water scheduling program in conjunction with Cooperative Extension to assist irrigators in meeting their water needs by applying new water management practices. (April - May 1988)

(2) Monitor the level of demand by farmers for this service and be prepared to expand the program if required.

LONG-TERM ACTIONS

(1) Provide incentives to water conservation and efficient water use and eliminate disincentives which currently exist under state laws and regulations and current irrigation district policies (based on the results of the water use efficiency study).

(2) Develop a program to provide cost-share funds for irrigation district conveyance and distribution system improvements which result in the conservation of water.

(3) Ecology should continue to administer and, where possible, improve the ongoing Agricultural Water Supply Program as a means of improving water use efficiency in irrigated agriculture.

PROBLEM

Various federal agencies have responsibilities and capabilities to help respond to drought impacts affecting agriculture. Some programs are available by a decision of the Secretary of the appropriate federal agency and others through a sequential process that includes a declaration of disaster by the Governor.

SHORT-TERM ACTIONS

(1) The Division of Emergency Management of the Department of Community Development and the state Department of Agriculture coordinate with the Agricultural Stabilization and Conservation Service and local Emergency Boards regarding accessing the Emergency Livestock Feed Program.

(2) A written inquiry will be made by the State of Washington to the Secretary of the U.S. Department of Agriculture regarding availability and implementation of the Emergency Conservation Program for 1988. In 1977, this program provides cost share funds to irrigated farmers for such things as drilling wells and installing water saving devices.

(3) The Executive Water Emergency Committee will work with the Governor's Office to develop a written inquiry to the U.S. Department of Interior regarding drought-response programs or assistance that can be made available to irrigation districts, farmers, and water right holders who are within federal irrigation projects.

(4) The Emergency Management Division and the Department of Agriculture jointly communicate with the Farmers Home Administration (FHA) to assess the need for a declaration of disaster by the Governor after the extent of physical property damages and/or severe production losses has been determined.

PROBLEM

There is a need to provide timely responses to numerous requests made of public agencies by agricultural constituents. Such requests increase the workload on existing staff.

SHORT-TERM ACTIONS

(1) Assess the need for, and availability of, Conservation Corps personnel and other staff resources to assist various public agencies to better respond to drought response requests.

(2) Assess the need for, and availability of, other state assistance that may be available.

Domestic & Municipal Supply

The Department of Social and Health Services (DSHS) chaired a Task Force which published the 1988 Drinking Water Drought Response Plan. The following problems and recommended actions are taken from that plan. (See Appendix 4 for a discussion of the major issues and problems related to municipal/domestic water supply.)

Public Education

PROBLEM

Public water supplies may experience severe water shortages this year. Water users need to be made aware of the problems and actions that can be taken now to help alleviate problems later. Educational materials on efficient water use and conservation should be identified.

SHORT-TERM ACTIONS

(1) Develop and disseminate a drought information letter which identifies the severity of the drought, explains what state assistance is available to water suppliers, and provides guidance on the development of a utility drought response plan. (DSHS in April 1988)

(2) Develop a list of conservation materials available to the public and water supply utilities. (DSHS in April 1988)

(3) Develop a bibliography of publications and contact persons concerned with water conservation. (DSHS in April 1988)

(4) Conduct conservation workshops across the state to discuss current drought status, knowledge gained from the 1987-88 drought to date, short-term resource curtailment activities, long-term resource management planning techniques, and record keeping. (DSHS, Select Utilities, Ecology in April - June, 1988)

(5) Develop drought related news releases for radio and newspapers. (DSHS, ongoing)

(6) Develop drought/conservation/resource management bulletin for persons interested in drinking water. This would serve as a communication device between DSHS and utilities. (DSHS, Appropriate State Agencies, Select Utilities, ongoing)

(7) Conduct an educational seminar for reporters interested in tracking the drought situation. (DSHS, Ecology, April 1988)

(8) Develop and distribute a list of organizations that could assist DSHS and others in promoting water conservation and other short-term curtailment and long-term resource management programs. (DSHS, May 1988)

LONG-TERM ACTIONS

(1) Develop a model conservation program to include detailed guidelines (related to short-term curtailment and resource management) to be incorporated into the DSHS water system plan handbook. (DSHS, October 1988)

(2) Continue to work with the Department of Ecology in its development and implementation of the state water resources program, including a conservation component. (DSHS, ongoing)

(3) Promote emergency response planning by utilities statewide. This includes promoting DSHS' emergency water utility planning guidelines statewide and included both general procedures for use in an emergency and long-term response planning. (DSHS, ongoing)

(4) Compile a statewide water utility resource inventory, including information on utility water consumption, resource needs, and an identification of available resources. (DSHS, Select Utilities, Ecology, December 1988)

Technical Assistance

PROBLEM

Water utilities will have to respond to problems caused by the drought, but many will need technical assistance to determine the most appropriate response.

SHORT-TERM ACTIONS

(1) Continue to provide engineering and water quality technical assistance to utilities seeking assistance. (DSHS, ongoing)

(2) Develop procedures for coordinating of state agency efforts where more than one user group and more than one state agency is involved in water resource issues. (State Agencies, June 1988)

(3) Develop a list of emergency equipment available to water utilities with water shortage problems. (DSHS, DCD, March 1988)

(4) Develop DSHS emergency drought response procedure to ensure consistent response by DSHS staff. (DSHS, March 1988)

(5) Update 1977 emergency treatment and handling procedures for use by DSHS staff. (DSHS, March 1988)

(6) Develop local health department drought assistance program to provide guidance to local health departments regarding services that could be rendered to small water systems in a drought. (DSHS, Local Health Departments, July 1988)

LONG-TERM ACTIONS

(1) Review statewide water utility regulations such as DSHS State Board of Health, Utilities and Transportation Commission (UTC), and Ecology water right requirements to determine if they can be amended to be more effective during a drought. (Appropriate State Agencies, ongoing)

Financial Assistance

Problem

Water utilities may need financial assistance to alleviate their drought-related problems.

SHORT-TERM ACTIONS

(1) Identify state and federal funding sources available for utility drought-related projects and impacts and make funding available as appropriate. (DSHS, March 1988)

(2) Develop a list of drought-related improvement projects that could be funded if grant money were available. (DSHS, March 1988)

(3) Develop a list of drought-related water utility emergency equipment that could be funded if grant money were available. (DSHS, DCD, March 1988)

Resource Monitoring

PROBLEM

In order to fully understand the full impact of a drought and effectively plan for future water supply development, resource monitoring is needed to provide a good data base for such decisions.

SHORT-TERM ACTIONS

(1) Coastal salt water intrusion may occur in wells due to reduced groundwater tables. Ecology's Water Quality and Water Resources programs will monitor wells and identify problem areas.

LONG-TERM ACTIONS

(1) Develop a resource monitoring program for tracking both supply resource levels and water utility consumption. (DSHS, Selected Utilities, December 1988)

Tracking of Impacts

PROBLEM

With more than 11,000 public water supply systems in Washington State, there is a need for an effective means of tracking drought impacts on such systems.

SHORT-TERM ACTIONS

(1) Compile a list of utilities experiencing problems as a result of the drought. (DSHS, March 1988)

(2) Develop a questionnaire that will identify the impact of the drought on water supply systems and mail it to all systems with more than 100 service connections. (DSHS, June 1988)

Fish and Wildlife

PROBLEM

There is a need to assess the impacts of the drought and identify problems needing resolution.

SHORT-TERM ACTIONS

(1) The Washington Department of Fisheries (WDF) and the Washington Department of Wildlife (WDW) instituted regional drought monitoring/action reporting systems in 1987. These will be reinstituted in the spring of 1988 and continue in operation as long as necessary.

Wildlife

PROBLEM

Virtually all of the state's wildlife populations will be impacted by a continuation of the drought. Animals which live in water during some portion of their life cycle will be directly impacted by the lack of water. Others will be impacted indirectly by a reduced food supply. Survival of young born this spring will be reduced because of a decrease in vegetative growth for food and cover. Animals will be in poorer condition for next winter and some mortality is expected due to the poorer health of the mothers.

SHORT-TERM ACTIONS

(1) Artificial watering facilities for upland birds will be installed and maintained.

LONG-TERM ACTIONS

(1) WDW will implement existing emergency feeding programs for upland birds and big game next winter. This program will be expanded to the extent that funds are available.

(2) Upon determination that emergency winter conditions will exist that will seriously impact wildlife, big game, and upland game, authentication of these conditions and a request for assistance will be forwarded through the U.S. Fish and Wildlife Service for assistance. Upon approval, the Commodity Credit Corporation (quasi-federal) will provide Commodity Credit Corporation certificates transferring ownership of specified lots of surplus grain to the Department of Wildlife for use for emergency winter feeding program support.

(3) Hunting regulations will be modified as appropriate to respond to impacted populations of game birds and animals.

Fisheries on Regulated Streams

PROBLEM

Resident fish, anadromous trout and salmon will suffer various impacts due to reduced stream flows. These include: higher water temperatures, limited access to spawning areas, crowding, and lack of water on spawning beds allowing the eggs to dry up.

SHORT-TERM ACTIONS ON REGULATED STREAMS

(1) There are many streams throughout the state that are controlled to varying degrees by water storage projects. The management of these projects generally involves an existing forum of varying formality consisting of the affected entities. The problems and objectives are somewhat generic at each of these, but the specific details and solutions to the problems are unique to each. On such regulated streams, meetings will be held during the spring and early summer to discuss specific drought problems and the management of these projects to minimize the water use conflicts and impacts on the resources. At the present time, such actions are anticipated for the Columbia, Green, Cedar/Tolt, Okanogan, Yakima, Elwha, and Wynoochee rivers. (See Appendix 5 for details of the issues involved in each of these rivers.)

Hatcheries

PROBLEM

If current weather conditions persist, water supply shortages can be anticipated for many hatcheries, especially those located on small surface water and ground water supplies. Most of these hatcheries are located in western Washington. Peak salmon loading occurs from April 15 through May 30. For trout hatcheries, the peak is about one month earlier. Critical loading situations will occur in the late summer and fall where yearling fish are being held. Low flows in the fall when adult salmon return to the hatcheries may inhibit or preclude access to some hatcheries.

Many hatcheries are now experiencing higher than normal fry loss in incubators and early rearing stages. Extreme low flow conditions last fall and less than average rainfall this winter are causing a higher than normal infestation of ectoparasites in the hatchery water supplies. Other fish disease problems are exacerbated by high water temperatures which usually occur with lowered flows. (Hatchery programs that could be affected by drought conditions during the spring and summer are listed in Appendix 6.)

SHORT-TERM ACTIONS

(1) Shortages of water for juvenile fish can be met by reducing fish density, aerating existing water, or providing emergency water supplies. Hatchery managers and supervisors at each hatchery will monitor the situation and respond with measures best suited to the individual situation. Early releases result in reduced survival but in most cases will be the only practical solution.

(2) Agency fish pathology experts will, in consultation with individual hatchery personnel, respond to disease problems. Such problems are expected to increase. This will continue from the spring and summer into the fall.

LONG-TERM ACTIONS

(1) Hatchery personnel will capture adult fish and transport them to the hatcheries this fall as needed and as resources allow.

Other Fishery Activities and Problems

PROBLEM

Additional problems are anticipated which will require the direct assistance of people to minimize drought impacts. These problems include inhibited fish passage, insufficient water to keep the eggs covered with water, people driving through spawning beds, or poaching on concentrated fish populations, etc.

SHORT-AND LONG-TERM ACTIONS

(1) Specific actions will depend on the nature of the problems. Actions might include: excavation of stream channels or sandbagging to concentrate flow to facilitate passage, capturing and hauling of fish upstream past problem areas, "berming" spawning nests to keep the eggs wet, increased enforcement activities where increased poaching is likely to result from the concentration of fish, etc. These activities could be carried out by staff of state and federal fish and wildlife agencies, and well as by volunteers, inmate crews, and members of the Washington Conservation Corps and the Washington Service Corps.

(2) Commercial and recreational fishing regulations will be modified as necessary to protect vulnerable fishery resources.

(3) Develop a program to provide cost-share funds for fisheries-related improvements which result in the conservation of water and the reduction of drought-related impacts.

PROBLEM

Because of reduced streamflow, higher water temperatures and reduced water quality (including reduced oxygen and increased ammonia and chlorine toxicity) may pose a threat to fishery resources. Estuaries may also be impacted by increased salinity due to reduced freshwater flows.

SHORT-TERM ACTIONS

(1) Municipal and industrial discharges may need higher levels of control and/or water quality variances because of lack of water for adequate dilution.

(2) Ecology's Water Quality Program will increase it's monitoring of drought-related water quality impacts as a means of identifying potential problems before they become critical.

PROBLEM

Increased eutrophication may occur in lakes, ponds, and embayments because less fresh water will be available to flush those systems. Lakes and ponds are expected to experience lowered water levels due to lower stream flows and some wetlands will dry up because of the lack of water. Fish in ponds and lakes will be subject to higher water temperatures, less space, and less food production.

SHORT-TERM ACTIONS

(1) Ecology's Water Quality Program will monitor the conditions of such water bodies to identify areas of concern.

(2) The departments of Fisheries and Wildlife also will identify such problem areas and will assess whether any relief actions such as trapping and hauling fish to another location would help alleviate the problems.

(3) A determination will be made in late summer whether to conduct a relocation of Kokanee from Rimrock Lake. If it is decided to conduct such a "rescue operation," specific support needs will be identified and requested from the U.S. Fish and Wildlife Service.

Economic Impact Monitoring

The effects of a drought will be felt throughout the economy of the state. Economic monitoring will provide essential information to design and prioritize drought relief activities and justify access to selected drought- relief assistance programs.

PROBLEM

Currently, there is no integrated process for monitoring the diverse impacts of the drought on the state's economy.

SHORT-TERM ACTIONS

(1) Monitor the economic impacts of the drought on industries heavily reliant on available water, adequate electric power, or supplies of materials that are directly affected by the drought. This includes industries such as agriculture, forest products, food processing, aluminum, chemicals, petroleum refining, tourism, etc. (Econ. Imp. Task Force, March-April)

(2) Monitor the economic impacts of the drought on other activities that may be impacted by the drought such as recreation. For example, forest closures could preclude recreational opportunities, state and private parks could experience water supply problems, lower stream flows could impact river rafting and whitewater recreation, lower lake levels could cause problems of access to water, water quality could become a problem, etc.

(3) Share information with federal and private sector organizations that are monitoring drought impacts (Econ. Imp. Task Force, March-April)

(4) Coordinate monitoring efforts and share information with Oregon, Idaho, California, and British Columbia (DTED, June)

Employment, Business & Community Assistance

Washington's businesses, communities, local governments, and citizens will need a variety of assistance during the drought. First, strategies for reducing the effects of the drought need to be made available to businesses, communities, and individuals immediately. Second, when drought-related impacts occur, specific actions must occur to assist those affected. The types of assistance available to communities, businesses, and individuals are described below.

Local Government and Community Assistance

PROBLEM

Local government officials, as well as local education, business, and community leaders need accurate information about drought conditions, actions they can take to alleviate the impacts, and the assistance available from others.

SHORT-TERM ACTIONS

(1) In conjunction with the EWEC, prepare and disseminate information packets aimed at local governments (county, city, special purpose districts) and community organizations (Community Based Organizations, volunteer centers by end of April 1988)

(2) In conjunction with the EWEC, identify essential actions to be carried out by local governments and community organizations. Identify training, equipment, and/or financial requirements to enable local entities to carry out their responsibilities. (April 1988)

(3) Develop and conduct a series of regional workshops to be hosted jointly by the state and local governments. The purpose of the workshops will be to share information, identify emerging needs, assess local capabilities, and enlist local leaders in the statewide effort to conserve water and prudently manage drought-related impacts. (May 1988)

(4) Collaborate on the production of statewide public information for radio/television. (ongoing)

(5) Determine what technical and financial assistance resources can be targeted specifically at drought-related impacts. (April - May 1988) (See Appendix 7 for a list of potential assistance programs available from the Department of Community Development.)

Business Assistance

Washington's businesses can play a vital role in helping conserve water now. In addition, with assistance, it may be possible to reduce drought-related impacts on production and employment. (The state agencies and their appropriate divisions which will work together to assist Washington businesses, are listed in Appendix 8.)

PROBLEM

There is a need to ensure that Washington businesses are prepared to manage water and electric power usage in ways which preserve production capability, and employment, as well as the investment climate.

SHORT-TERM ACTIONS

(1) Provide drought-related information to the state's economic development community, trade-oriented organizations, and business and industry associations. (DTED from March forward)

(2) Provide drought-related information to small businesses on the Business Assistance Center's electronic bulletin board. (DTED/BAC from March forward)

(3) Develop a strategy to counteract the drought's potential negative impact on the state's image as a tourist destination. (DTED in April)

(4) Develop a strategy to counteract the drought's potential negative impact on the state's image as an investment location. (DTED in April)

(5) Identify strategies for conserving water in specific water dependent industries, including sources of financing for improvements to plants and equipment, and disseminate information to businesses. (April)

(6) Conduct a series of seminars for selected industries. Provide education and information designed to help these industries decrease water or energy consumption, while preserving production and employment. (May)

Employment Assistance

PROBLEM

The drought is expected to cause some unemployment in hard-hit areas. Efforts must be made to meet the needs of the unemployed and to minimize job losses where possible.

SHORT-TERM ACTIONS

(1) Use Employment Security Department programs to help mitigate some of the negative impacts of the drought from April through November 1988, and thereafter, including:

Regular Unemployment Insurance Compensation for workers laid-off as the result of the drought.

Labor exchange services for workers laid-off as the result of drought. This service includes the placing of qualified workers with public and private employers involved with drought mitigation activities, including staffing for fire patrols, public information, fire fighting, emergency measures to augment water supply, drought-related water utility projects, etc.

Dislocated Worker Program (Title III JTPA) providing retraining and relocation assistance to persons forced out of business like farmers and ranchers, or other businesses that were forced to close as a result of the drought.

Shared Work allows employers who have to curtail their operation because of cuts in their access to water or energy as the result of the drought, to choose a systematic reduction in the hours by their staff, thereby preventing the layoff of trained employees.

Commissioner Approved Training may be appropriate for some workers displaced from employment as the result of the drought, if their reemployment depends on their gaining additional skills in demand in the local labor market area.

(2) Obtain additional employment and training resources from the U.S. Department of Labor or other relevant federal agencies should the severity of the drought require the Governor to declare a disaster in part or all of the state, including:

If there is significant unemployment in the Governor's declaration and request to the President, Disaster Unemployment Assistance (DUA) may be sought for additional compensation for workers laid-off as a result of a drought disaster, for farm workers not covered by unemployment insurance, and for self-employed individuals such as farmers, who are unemployed by the drought. This program is requested through FEMA for the U.S. Department of Labor.

Fire Control

The Department of Natural Resources (DNR) is responsible for fire prevention and control on state-owned forest and wild lands. DCD's Fire Protection Service Division is responsible for fire prevention and fire control coordination throughout the state except for state and private forest lands. The DCD Emergency Management and Fire Protection Services divisions will coordinate with DNR to prepare for drought-related emergencies.

PROBLEM

The Fire Protection Services Division, in conjunction with the Department of Natural Resources, must ensure that fire fighting capacity is at the proper level to deal with the increased fire danger and likelihood of losses due to fire during the drought.

SHORT-TERM ACTIONS

(1) In consultation with the Department of Natural Resources and the Emergency Management Division, implement a comprehensive fire-fighting strategy for forest lands, wild lands, rural, and urban areas.

(2) All potential methods of reducing fire danger will be identified. Appropriate curtailments and restrictions will be implemented.

(3) Conduct a comprehensive analysis of alternative water sources and access to these sources and disseminate the information to fire-fighting organizations.

(4) A program to monitor water pressure necessary for fire protection, including sprinklered facilities, will be implemented.

(5) A program to reduce water needs for inspected facilities will be developed and, as warranted, implemented.

Human Resources

PROBLEM

Some emergencies may require significant human resources to ensure the preservation of public health and safety.

SHORT-TERM ACTIONS

(1) The Emergency Management Division will work with appropriate state agencies to identify the available human resources which could be directed at such emergencies. Inmate crews for fire fighting and other specific drought management activities may be used in areas under the jurisdictions of the departments of Natural Resources and Corrections.

(2) The State Center for Voluntary Action can help identify volunteers throughout the state to assist in both emergency and drought relief efforts.

(3) The Employment Security Department can provide ten to fifteen community service positions through the Washington Service Corps to be utilized in issues related to the upcoming drought.

The Washington Service Corps is a state program designed to give young adults, 18-25 years of age, meaningful work experience and training in community service positions which address unmet community needs.

Some examples of how the Washington Service Corps positions might be utilized with cities, counties, or water districts in the possible drought this summer are as follows:

- Monitoring of water consumption by businesses and neighborhoods, including installation of monitoring equipment.

- Assisting in water conservation efforts through education or the distribution of flow restricters for showers.

- Providing support to water districts in measuring the decline in aquifer levels or identifying possible leakage in water distribution systems.

- Work on specific projects in hard-hit areas.

Additional Washington Conservation Corps crews, managed by Employment Security, could also be made available if additional funding is identified.

Public Information and Education

PROBLEM

There is a need to elevate the public's perception that a serious water supply situation exists throughout the state.

SHORT-TERM ACTIONS

(1) Develop joint public service announcements (PSAs) regarding the drought. Funding for the PSAs would be from contributions by various agencies.

(2) Consider the use of paid advertising to supplement and expand the efforts to present the drought message. Funding mechanisms need to be explored.

(3) Identify an appropriate event to start the state's drought public information campaign.

PROBLEM

There is a need to build public understanding of the drought and its impacts and actions which can be taken now to help alleviate the situation.

SHORT-TERM ACTIONS

(1) Establish a toll-free (1-800) telephone hotline to provide a single contact point for the public to call about the drought. Callers will be provided with information on who to contact for more specific information. (A list of initial agency contacts is included in Appendix 9.)

(2) Prepare and distribute drought information fact sheets and news releases to provide information on a variety of subjects, from precipitation levels to water conservation tips.

(3) Identify specific groups that want to receive drought information on a regular basis. These groups will be mailed "Drought Updates" as they are developed.

(4) Conduct and coordinate workshops and meetings to keep the public informed about the state's response to the drought.

PROBLEM

There is a need for an "umbrella group" to conduct and coordinate the various drought-related public information and education activities.

SHORT-TERM ACTIONS

(1) Expand the membership of the Public Information and Education Task Force to include other state and federal agencies.

(2) Conduct monthly meetings (or more often if needed) of the Public Information and Education Task Force to evaluate the effectiveness of the public information campaign and make adjustments as needed.

(3) Exchange information between all task force members and other interested public officials to ensure that everyone is kept up-to-date on the drought and the state's response to it.

(4) Make information materials available for use by other agencies or organizations.

(5) Develop a list of "drought experts" that can be contacted regarding various aspects of the drought. The list would include specialists in agriculture, fisheries, wildlife, water quality, water rights, forestry, water supply, etc.

(6) Coordinate and assist with the implementation of the public information and education activities contained in the various areas of this report.

PROBLEM

There is a need to assist and educate the news media regarding the drought and provide information on who reporters can contact for specific information.

SHORT-TERM ACTIONS

(1) Identify "drought" and "weather" reporters as contacts in the media for drought-related information.

(2) Develop a news media drought information packet to include fact sheets on various aspects of the drought.

(3) Conduct "drought workshops" for reporters to provide additional information about the drought.

(4) Prepare and distribute "Drought Updates" and news releases as needed or when reports are issued by the Water Supply Availability Committee.

(5) Conduct editorial board briefings and include local officials whenever possible.

PROBLEM

There is a need for a single source of drought-related information to make it easier for the media and the public to get the information they need.

SHORT-TERM ACTIONS

(1) Establish a toll-free hotline (as discussed previously).

(2) Compile information materials from various agencies involved in the drought effort. The Department of Ecology will serve as the repository for this information.

Where do we go from here?

Now that an Action Program has been developed to respond to drought conditions, steps need to be taken to ensure that the necessary actions take place and that they take place in a coordinated and consistent way.

To this end, the Department of Community Development, Emergency Management Division and the Department of Ecology will take the lead in developing an implementation plan for the activities identified in this Program. This will include development of a list of tasks to be undertaken, a time schedule for their implementation, and an analysis of resource requirements (staffing and funding) necessary to accomplish the tasks.

The Executive Water Emergency Committee (which is chaired by Ecology) will continue to serve as the focal point for all drought response activities and will be responsible for the policy-related decisions which will be required. It will continue to meet periodically to ensure that efforts are being coordinated and to assess whether the responses being taken are adequate.

In addition, the EWEC will work to establish a process for coordinating the state of Washington's activities with those of Oregon, Idaho, northern California, and British Columbia. This will enable us to take advantage of information and experience from those areas and will allow a better understanding of the regional nature of the current situation.

DCD will be responsible for the coordination of the staff resources involved in the drought relief actions and will be able to utilize many of the arrangements which already exist for this purpose. The other agencies will provide the technical staff needed to address specific drought-related problems.

It must be emphasized that this document is the initial document prepared by the EWEC. It describes the "plan of attack" for responding to the drought as it is currently seen. It is likely that the actions necessary for responding to the drought will need some modification as the drought develops and anticipated problems turn out to be less or more severe than expected or unforeseen problems occur which require some immediate actions. If current weather conditions continue and the severity of the drought increases, it is possible that much more extreme measures might be necessary. For example, the Governor could call out the National Guard to assist in drought-related emergencies, mandatory water rationing could be required, etc. While such measures are not considered necessary at this time, changes in the drought situation are expected to necessitate changes in the response as well.

Appendix 1

Executive Water Emergency Committee

State Agencies

Department of Ecology

Department of Community Development

Department of Social and Health Services

Washington State Energy Office

Department of Natural Resources

Department of Trade and Economic Development

Department of Agriculture

Department of Fisheries

Department of Wildlife

Employment Security Department

Governor's Office

Others

Cooperative Extension Service

U.S. Army Corps of Engineers

U.S. Bureau of Reclamation

Water Supply Availability Committee

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Appendix 2

Task Forces

Agriculture

Included the Department of Agriculture and Ecology and a number of individuals and agricultural organizations that attended meetings in Yakima to discuss the drought and water transfer-related topics.

Economic Impacts

Alan Harger, Chair, Bob Chase and Dan Inveen (DTED), Bob Lee (WDA), Sandi Benbrook (DCD), Jeff Jaksich (ESD), Ed McGuire (WSEO), Glenn Yeary (DNR), John Hansen (DOR), Jim Bucknell (Ecology).

Fish and Wildlife

Duane Phinney, Chair, and Chuck Johnson (WDF), Rich Poelker (WDW).

Forest Closures

Bill Boyes, Chair, Howard Thronson, and Rob Harper (DNR), Dave Shultz (WDW), Stan Humann (Pack Forest), Al Brown (U.S. Forest Service), Bob Dick (Washington Forest Protection Association).

Municipal/Domestic Supply

Richard Siffert, Chair (DSHS), Don Leaf (Thurston County Health Department), David Rider (DCD), Rod Sakrison (Ecology), Allan Dietemann (Seattle Water Department), John Bjork (Spokane Water Department), John Kirner (Tacoma Water Department), and John Robischon (South Sound Utility Company).

Public Information and Education

Fred Olson, Chair (Ecology), Mary Beth Lang (WDA), Judi Gladstone (Seattle Water Department), Charlie Kirry (Washington Farm Bureau), and Terence Day (WSU Cooperative Extension). Task force will be expanded.

Business, Employment, and Community Assistance

To be established.

Appendix 3

Federal Drought Assistance Authorities

(Provided by the Federal Emergency Management Agency)

Background

During the time frames June 17, 1976, through September 6, 1977, the President declared emergency situations existed as a result of drought conditions on 33 occasions. Such emergency declarations authorized disaster assistance under Public Law 93-288, the Disaster Relief Act of 1974, be provided to alleviate conditions caused by the drought. Such assistance included implementation of The Hay Transportation Assistance Program, the Livestock Transportation Assistance Program, and the Emergency Livestock Feed Program. Approximately $103,395,854 was provided from the President's fund for these programs. However, there were widespread allegations of fraud and abuse and the programs were discontinued.

Discussion

The Federal Emergency Management Agency (FEMA) was effectively taken out of the drought assistance in 1977, when Congress passed legislation that enabled the U.S. Department of Agriculture to acquire more program response capabilities to assist farmers affected by droughts. One such program was the Emergency Feed Program, authorized by the Act of 1977, and implemented at the discretion of the Secretary of Agriculture. This program provides for necessary feed, including hay, on a cost-sharing basis, after stringent criteria have been met.

Additional Federal Drought Assistance

While primary responsibility in water shortage situations rests with State and local authorities, some additional Federal assistance, primarily of an advisory nature, may be available to supplement these efforts.

Department of Agriculture (USDA)

(OMB Cat. 10.054, 10.062, 10.063, 10.068, 10.404, 10.414, 10.416, 10.418, 10.419, 10.423, 10.900, 10.901, 10.902, 10.906, 10.907, and 10.908)

Soil Conservation Service (SCS)

SCS provides technical assistance through local conservation districts to farmers, ranchers, and local governments under various authorities. In drought-stricken areas, technical assistance emphasis is shifted to drought-related activities.

Farmers and ranchers in drought-stricken counties should contact local SCS or conservation offices to find out the specific technical and financial assistance available to them under SCS programs.

The Resources Inventory Division of the National Headquarters of SCS compiles reports of short-duration natural phenomena including droughts.

Programs and legislative authorities authorizing these programs are described in the following paragraphs:

Inventory and Monitoring

Authority: PL 74-76; PL 92-419, Title II, Section 302; PL 95-192.

Inventory and Monitoring objectives are to provide for the field collection, interpretation, and publication of natural and related resource data. These data and interpretations serve many agency and department needs as well as those of individuals, groups, and units of government. They permit users to examine the relations and

Red Cross will provide its normal mass care services and individual assistance to the fire victims.

Red Cross does not provide assistance to commercial, industrial, or agricultural corporations with drought or water-shortage caused losses.

Department of Commerce (DOC)

National Weather Service

The National Weather Service (NWS) provides information on current weather and river conditions, forecasts, and outlooks.

Every second and fourth Wednesday of each month the NWS provides drought/ water resources information to the public and water management agencies on the Susquehanna, Delaware, and Hudson Rivers. The information provided includes forecasts that cover a two-week period.

Department of Defense (DOD)

(OMB Cat. 12.110 and 12.111)

The Secretary of the Army, acting through the Chief of Engineers, has the authority to drill wells or transport water for farmers, ranchers, and political subdivisions in an area determined by the Secretary of the Army to be drought-distressed. The water is provided for human and livestock consumption only.

Both types of assistance are only provided after it is determined that the applicant cannot obtain the water (for reasons other than lack of financial resources) from the private sector within a reasonable time. The cost of well drilling will be paid by the applicant. If the applicant cannot obtain financing from commercial or other sources, the applicant may pay the reasonable cost over a number of years, not to exceed 30, and at an interest rate which would apply pursuant to Section 7(b)(2) of the Small Business Act (P.L. 85-536). Reasonable cost is the lesser of the cost to the Corps of Engineers to construct the well or the cost of a private business to construct the well.

The transportation of water by vehicle, small-diameter pipeline or other means will be at 100 percent Federal cost. The purchase, loading, unloading, and storage of the water will be at the applicant's expense.

(NOTE: This authority has not been utilized since it was added to P.L. 84-99 in 1977, and it probably never will be used. The reason is that there will probably never be a situation where the private sector has no resources.)

The Corps of Engineers has also developed policy and guidance for the preparation of drought contingency plans as an integral part of the overall water-control management system for Corps operated and maintained projects. Technical expertise and guidance on specific water and related land resource problems may be available from the nearest District Engineers.

Department of Health and Human Services (HHS)

(OMB Cat. 13.808)

Public Health Service personnel from the Food and Drug Administration, the Center for Disease Control, and the Health Resources and Services Administration are prepared to assist State health officials and other Federal officials with health-related problems. The officials are located in the HHS Regional Offices or in the States and can provide advice, guidance, and technical engineering assistance related to the assessment of actual or potential health problems and provision of appropriate medical care.

Social Security Administration district offices are also located throughout the States and officials work closely with State agencies in providing whatever financial assistance and other human services may be available under existing programs.

The Older American Act authorizes the Secretary to "pay for part or all of the costs of developing model projects which show promise of relieving older individuals of the excessive burdens of high utility service and home heating costs. Special consideration is given to projects under which a business concern engages in providing utility services to low income, older individuals at a cost which is substantially lower than providing utility service to other individuals."

Department of the Interior (DOI)

Geological Survey

(OMB Cat. 15.804)

The Geological Survey's Water Resources Division has the principal responsibility within the Federal Government for providing hydrologic information and appraising the Nation's water resources. The legislative authority for this mission in an outreach of the act of March 3, 1879 (43 U.S.C.

interactions of natural and related resources to determine how they are used and how they are managed, to define resources problems, and to identify resources potentials.

Resources Appraisals and Program Development (Resources Conservation Act) (RCA)

Authority: PL 95-152, Soil and Water Resources Conservation Act of 1977.

The objective of RCA is to ensure that USDA Soil and Water Conservation programs administered by the Secretary of Agriculture are responsive to the long-term needs of the Nation, and will further conserve, protect, and enhance the Nation's soil, water, and related resources.

Snow Survey and Water Supply Forecasting

Authority: PL 74-76, Soil Conservation and Domestic Allotment Act

The program objectives are to provide information on forthcoming seasonal water supplies from streams that derive most of their run-off from snowmelt; help farm operators, rural communities, and municipalities use water-supply forecasts in managing water resources; and provide hydrometerological data for regulating reservoir storage and managing streamflow.

Great Plains Conservation Program

Authority: PL 74-76, Soil Conservation and Domestic Allotment Act, as amended by the Great Plains Act of August 7, 1956; PL 84-1021 and other amendments.

The Great Plains Conservation Program objective is to conserve and develop the soil and water of the Great Plains area by providing technical and financial assistance to farmers, ranchers, and others in planning and implementing conservation practices.

Soil and Water Conservation

Authority: PL 74-76, 89-560, and Appropriation Acts prior to 1935.

The Soil Survey program objective is to provide published soil interpretations for widespread use by interested agencies, organizations, and individuals.

Watershed Protection and Flood Prevention (Small Watershed/PL 566 Program)

Authority: PL 83-566, Watershed Protection and Flood Prevention, amended.

The objective of the PL 566 program is to provide technical and financial assistance to local organizations for planning and carrying out watershed projects. Project purposes include watershed protection, flood prevention, agricultural water management, recreation, municipal and industrial water supply, and fish and wildlife development to properly utilize water and related land resources in small watersheds.

River Basin Surveys and Investigations (River Basin Program)

Authority: Section 6, PL 83-566, as amended.

The objective of the river basin program is to assist State and local agencies in collecting decision-making information and developing a plan of action regarding water and related land resources for economic development and environmental and quality.

Farmers Home Administration (FmHA)

Authorities: Consolidated Farm and Rural Development Act of 1972, as amended, and Title II of the Agricultural Credit Act of 1978, as amended.

FmHA has several programs which can help alleviate drought and water shortage conditions in rural areas. The Agency's Emergency, Soil and Water, Farm Ownership, Watershed, and Operating loan programs permit loan funds to be used to enable farmers to establish wells. These programs can also be used to help farmers overcome financial difficulties.

FmHA can make emergency (EM) loans in counties (parishes) where physical property damages and/or severe production losses occur as a result of a natural disaster that substantially affects farming, ranching, or aquaculture operations. There are three ways by which EM loans are made available:

1. Under a major disaster or emergency declaration by the President. EM loans will be made available to applicants having qualifying severe physical and/or production losses within a county named by FEMA as eligible for Federal assistance (i.e., Individual and/or Public Assistance);

2. Under a natural disaster designation by the Secretary of Agriculture, EM loans will be made available to applicants having qualifying severe physical and/or production losses within a county named by the Secretary.

3. Under a natural disaster designation by the FmHA administrator, EM loans will be made available to applicants having qualifying severe physical losses only, prior to action by the President or the Secretary.

The Agency's Water and Sewer; Irrigation, Drainage and Soil Conservation; Business and Industry; and Community Facility loan programs may permit groups, including governmental bodies under some of these programs, to obtain loans for purposes which could contribute to alleviating water shortages in rural areas.

The Agency provides financial guidance to applicants. Technical advice is limited to accessing the feasibility and technical compliance requirements associated with a proposed loan. The Agency provides no technical guidance to the general public or governmental bodies, and does not have sufficient resources to provide significant help in the area.

Agricultural Stabilization and Conservation Service (ASCS)

ASCS provides assistance to farmers and ranchers for drought-related disasters by two types of programs: those that address loss of livestock feed production, and those that address the prevention or rehabilitation of damages to farmland caused by drought.

The Emergency Feed Program provides for farmers to purchase the necessary feed (including hay) on a cost-share basis.

The Emergency Feed Assistance Programs (EFAP) makes lower grade CCC-owned feed grains and wheat available for sale at reduced prices to eligible livestock producers in counties designated by the Secretary as disaster

areas due to drought. This program is administered under Section 407 of the Agricultural Act of 1949.

Cropland acreages are reduced under production adjustment programs and placed in an acreage conservation reserve (ACR) for an entire growing season. Haying and grazing of eligible cover crops is permitted in drought emergencies. Authority to implement haying and grazing of ACR designated under the Agriculture and Food Act of 1981 is vested in the Deputy Administrator, State and County Operations, but may be delegated to State Committees of ASCS.

The Emergency Conservation Program may provide cost-sharing funds during a drought emergency to develop water supplies for grazing livestock, and may also assist in preventing wind-erosion damage to farmland caused by drought. The Agricultural Conservation Program (ACP) allows cost-sharing with agricultural producers for a wide range of measures that conserve and protect water resources as well as provide soil conservation and environmental protection benefits. Authority to approve cost-share assistance rests with the County Committees of ASCS.

Details of all ASCS programs can be obtained from any county ASCS office.

American Red Cross (ARC)

Authority: American Red Cross Charter: U.S. Congress, Act of January 5, 1905, as amended, 36 U.S.C.

The disaster services of the Red Cross during a drought or water shortage will be in support of, and in cooperation with, general community-based response efforts initiated to reduce suffering or meet basic human needs. Depending on a community's need, Red Cross activities may include:

1. Providing technical consultation and guidance to local and State government agencies or officials when planning for the distribution of water from central sites to community residents.

2. Establishing and staffing first aid stations at community sites designated for the distribution of water to residents.

3. Coordinating voluntary agency activities designed to support local community response efforts.

4. Providing voluntary personnel to assist local government response actions.

If drought conditions should lead to the lack of hydrant pressure or sufficient water for fighting residential fires in a community, the

31) establishing the Geological Survey, and subsequent laws including the annual appropriation acts (Public Law 98-473 for fiscal year 1985). The Geological Survey has neither regulatory nor developmental authority.

A major part of the work of the Survey's Water Resources Division is accomplished through cooperation with State and local agencies, the "Federal-State Cooperative Program" (OMB Cat. 15.804). These water-resources investigations by the Geological Survey are jointly funded, at least 50 percent of the financial support coming to the Survey from the cooperating State and local agency. The objectives are to provide water information for economic development and best use of water resources, and to carry on research in hydrology. The technical information produced in the above investigations provides the physical basis for effective planning of programs for development and management of water resources and efficient operation of interrelated projects at Federal, State, and local levels.

Small Business Administration (SBA)

(OMB Cat. 59.002 and 59.008)

Disaster loans to homeowners and businesses to restore or replace their real and/or personal property damaged or destroyed in a physical disaster when declared by the President, the Administrator of SBA, or in certain limited circumstances, by the Secretary of Agriculture.

In the event of a declaration by the President, SBA assistance would be limited to providing funds for the drilling of replacement wells (or the redrilling of existing wells) in non-agriculture situations. This would include assistance to private, not public, water companies, provided that eligibility criteria are met. By statute, SBA can no longer provide disaster assistance to agricultural enterprises.

Under SBA's Economic Injury Disaster Loan authority, assistance could be rendered to small businesses without credit elsewhere available to cover additional expenses incurred as a result of the adverse affect on farmers/ranchers in the area, provided the applicant business can make a showing of substantial economic injury as a result of the disaster declared by the President or the Secretary of Agriculture.

The SBA does not have the means to provide any technical assistance to the States to assist them in coping with this situation. SBA does not provide financial assistance to restore or replace municipal or other public water facilities.

Federal Emergency Management Agency (FEMA)

While the Disaster Relief Act of 1974 provides the President with the latitude to provide assistance in those circumstances that are warranted, implementation of PL 93-288 at this time is not envisioned. Congress has expanded the programs of other Federal agencies, primarily those of USDA, that the President need not enact the provisions of PL 93-288.

Appendix 4

Municipal/ Domestic Supply

Major Issues and Problems

There are presently more than 11,000 public water systems (two or more connections) in Washington State. Of this total, approximately five percent have more than 99 connections. However, this five percent serves more than 90 percent of the population receiving drinking water from public water systems. More than 60 percent of the larger systems are municipally owned; however, less than ten percent of the more than 10,000 smaller systems are municipally owned.

The vast majority of public water systems in Washington utilize ground water as a source of supply; however, surface water supplies serve approximately 50 percent of the people. This is because several large cities, such as Seattle and Tacoma, are largely dependent upon surface supplies to meet their drinking water needs.

There are also thousands of individual wells located throughout the state that could be affected by the current drought, but because they are not regulated by DSHS, statistical information is lacking. Nonetheless, it is important to emphasize that the drought could affect many people having their own well supply.

This statistical portrayal of the makeup of water systems is included to give the reader a better indication of the kinds of concerns that might occur in a drought. For example, during drought conditions, surface water supplies are usually affected first. As a result, a large section of the state's population could be affected, depending on which surface water supplies are involved.

Following are a number of issues which either are now confronting water systems, or will be if drought conditions persist:

1. **Metering Consumption:** Most small water systems (less than 1,000 connections) and several of the larger ones do not have adequate programs for metering water consumption. Either the meters are not installed or they are installed but not read. In many cases, no one records the information over time and, therefore, important historical information is nonexistent.

2. **Source Metering:** Again, but in spite of obvious benefits, most small water systems do not meter their source of supply on a regular basis. Historical source quantity information is not available.

3. **Backup Supply Sources:** Relatively few of the smaller water systems have alternate or secondary water supply sources. This has led utilities to solicit outside assistance (interties) to resolve water shortage problems.

4. **Shallow Aquifers and Springs:** Many systems depend upon shallow aquifers and springs which are regularly recharged by precipitation. Water level data indicates lowering of water tables because of the lack of recharge.

5. **Impounding Reservoirs:** A number of systems rely on large rain-fed impoundments to store water during the winter months for use later on during the summer and early fall. Some of these impoundments are at very low levels (February 1988) instead of being nearly full.

6. **Streams/Snowpack:** The snowpack situation in the Cascade mountains ranges in eastern Washington and Idaho, as of February, 1988, has been extremely light compared to normal years. This situation led to drastically reduced summer and fall flows in 1987 in streams which depend on snowmelt flow during warm weather. The outlook for 1988 does not appear to be any better. Also, the timing of when the snow melts is important. In 1987, the snowpack melted early, resulting in diminished supplies for several systems such as Seattle.

7. **Rainfall:** A number of Western Washington communities have water supply intakes on streams which normally have sustained flows due to precipitation. Low rainfall as of February 1988 has resulted in low-flows and the potential for water shortage problems.

8. **Competition for Water:** As water sources become scarce, competition for the available water has become a serious issue. Agricultural, industrial, fisheries, and municipal interests have and will all be striving to satisfy their needs.

9. **Emergency Sources:** Some utilities may be forced to utilize emergency water sources on a temporary basis. These activities have the potential of presenting serious health hazards unless the water is properly treated and water quality is carefully monitored.

10. **Emergency Planning:** Many utilities are single-source dependent and have done little in regards to emergency planning. The problem is to identify which of these may have a source problem and then ascertain the options which may include alternate source development, interties with other utilities or water conservation.

11. **Water Conservation:** Water conservation programs that stress both short-term curtailment and long-term resource management have not been stressed in the past by many of Washington's water utilities. Most small and even several large utilities do not have comprehensive water conservation programs.

Appendix 5

Anticipated Fisheries Activities on Selected Streams

Columbia River juvenile fish passage

Success of the downstream passage of Columbia River salmon and steelhead is directly related to the flow in the river during the spring migration period. The Fish Passage Advisory Committee of the Columbia Basin Fish and Wildlife Authority will work with other involved entities to maximize the benefits to be derived from the water budget and to recommend dam operational procedures and methods to maximize survival of migrating fish. The departments of Fisheries and Wildlife will be involved in these discussions, along with the Columbia Basin Indian tribes, the BPA, the Corps of Engineers, and various Public Utility Districts.

Green River

This river is affected by the operation of the Corps of Engineers' Howard Hansen Dam and the City of Tacoma's water diversion. Decisions need to be made in the spring on water management for the remainder of the year. Reservoir operation and stream flows must be managed to provide needed conditions for the steelhead and coho migration downstream in April. Flow is also needed to assure adequate water for incubating steelhead redds. During the summer, flows are needed for coho and steelhead juveniles from the 1987 spawning. In late summer and fall, flows are needed for adult chinook upstream migration, spawning and egg incubation. These discussions will include the City of Tacoma, Corps of Engineers, Muckleshoot Indian Tribe, and the state departments of Fisheries, Wildlife, and Ecology and are scheduled to begin in early March, 1988. An additional topic may be the pumping of Eagle Lake as a supplemental source of water. This is dependent upon snow pack conditions. A meeting of state agencies (Ecology, WDF, WDW) is scheduled for March to discuss this situation.

Cedar River/Tolt River

Depending on the storage levels achieved in the Cedar and Tolt River reservoirs (Seattle water supply dams), WDF, WDW, Ecology, Indian tribes, and the Corps of Engineers may negotiate a deviation from the established summer critical year flow schedule to save water for Cedar River sockeye spawning and incubation in the fall. Management of water in both systems needs to be considered and coordinated to maximize the use of available water for all beneficial uses. Meetings will occur on a regular basis, beginning in the early summer and continuing through the fall.

Okanogan River/Lake Osoyoos

Lake Osoyoos has been drafted below the normal level to accommodate dredging in the forebay of Zosel Dam and the Canadian's reduced flow out of Okanogan Lake through the winter to maintain the lake level. This was needed to protect the abnormally high number of Kokanee that spawned on the beaches of Lake Osoyoos. Flows out of Lake Osoyoos must be maintained to keep summer chinook redds wet below the dam. The Canadians had informally agreed to release enough water to allow refilling of Lake Osoyoos, but now appear to be backing away from that commitment. As a result, the likelihood of refilling Lake Osoyoos is decreasing.

The lack of water in storage in Lake Osoyoos is critical for the adult sockeye run in late summer. These fish are often delayed by high water temperatures. Flow releases are often needed to help alleviate this problem. Delays in this migration can cause low to severe losses of adult fish and reduced egg survival, depending on the extent of the delay. WDF, WDW, and Ecology will meet on March 10 to assure a common state position before meeting with the government of British Columbia and the International Joint Commission to discuss water management in this system for 1988.

Yakima River

Yakima River water is important for irrigation and for the migration, spawning, incubation, and rearing of fish (including spring chinook, steelhead, and resident fishes). Even with normal water supplies, these needs often conflict. With reduced flows, conflicts will increase. The existing forum for dealing with Yakima River water management is the System Operating Advisory Committee (SOAC) which is comprised of the Bureau of Reclamation, the Yakima Indian Nation, WDF, U.S. Fish and Wildlife Service, and the irrigation interests. This group has already started its meetings to discuss water management in for 1988 and will continue to do so throughout the spring and summer and into the fall, if necessary. At this time, it is expected that Rimrock Lake will again be drained to provide supplemental water for irrigation. The WDW will again institute a program in the summer to salvage as many Kokanee as possible.

Elwha River

In 1987, high water temperatures in the lower Elwha River caused extensive mortality to juvenile and adult salmon in the river and the WDF and Elwha tribal hatcheries. The Elwha tribe, WDF, and the dam owners (the James River Company) cooperatively managed the project to minimize the problems. The same situation is anticipated for 1988.

Wynoochee River

The Wynoochee River reservoir was nearly drained by the fall of 1987. The potential exists for this to happen again in 1988. WDF is monitoring this situation and will again meet with Ecology and the Corps of Engineers to deal with this situation.

Appendix 6

Hatchery Programs

Hatcheries Programs Expected to Experience Drought-Related Problems

Departments of Fisheries and Wildlife

WDF Hatcheries	Species Reared
George Adams	Fall Chinook, Coho, Chum
McKernan	Chum, Fall Chinook
Samish	Fall Chinook
Nooksack	Fall Chinook, Coho
Skagit	Fall Chinook, Coho
Hood Canal	Chum, Fall Chinook, Coho
Willapa	Fall Chinook, Coho
Nemah	Chum, Coho
Green River	Fall Chinook, Coho
Skykomish	Summer/Fall Chinook, Coho
Dungeness	Coho
Skookumchuck	Coho
Lower Kalama	Fall Chinook
Elokomin	Fall Chinook, Coho
Kalama Falls	Fall Chinook, Coho
Washougal	Fall Chinook, Coho
Lower Kalama	Fall Chinook, Coho, Chum

WDW Hatcheries	Species Reared
Lake Whatcom	Kokanee, Rainbow, Steelhead
Whitehorse	Steelhead
Arlington	Trout (primarily Rainbow)
Mossyrock	Rainbow, Brown Trout
Vancouver	Steelhead, Rainbow, Brown Trout
Skamania	Steelhead
Beaver Creek	Steelhead
Naches	Rainbow, Kokanee
Yakima	Rainbow, Steelhead, Brook Trout

Appendix 7

Available Assistance Programs

from the Department of Community Development

Potential Technical Assistance (lists program/clientele):

Circuit Rider/Local Governments
Build local capacity to manage the drought in hard hit areas using roving specialist in water management and drought relief.

Short Course/Local Governments
Deliver specialized short course designed to inform local governments about preparing for and managing during a drought period. Could be delivered via the televideo project (see below).

Impact Assistance/Local Governments
In highly impacted areas, staff could work directly with local governments to manage drought efforts, while identifying critical needs and policy considerations.

State Center for Voluntary Action/Volunteer Organizations
Through its clearinghouse mechanism, information could be disseminated to all volunteer organizations regarding critical drought-relief activities. Volunteer organization could be source of relief-workers.

Washington Inter-Governmental Review Program/Local Governments
This bi-weekly publication announces all public grant activities being undertaken by local governments throughout the state to all other public entities. This eliminates the duplication of efforts and increases awareness of innovative approaches crucial to receiving federal funding, since most federal programs require this kind of intergovernmental review.

Televideo Project/Local Governments
This demonstration project will show how televideo capabilities can be used to transmit critical public information to targeted audiences and the public. Drought information programs could be made available to local officials or the public through this demonstration program.

Reemployment Support Centers/Distressed Areas

These centers serve the special needs of persons who have exhausted their unemployment insurance benefits prior to returning to work. This pilot project might be expanded to assist in hard hit drought areas.

Community Development Finance/Private Sector Business

This program provides loan packaging assistance to firms seeking loans through the Small Business Administration, state and local loan program. Could assist businesses needing to capitalize water conservation improvements or to identify alternative water sources.

Community Revitalization Team/Distressed Areas

Helps distressed communities build local capacity to revitalize their economies. Might be able to assist distressed communities needing to take special actions related to the drought.

Fire Training Center/Fire Fighters

Provides training to fire fighters. Can provide specialized information and training on fire fighting under drought conditions. Can alert the fire fighting community to drought-related issues (i.e. importance of monitoring water pressure in sprinklered facilities, ability to provide emergency interties between water systems).

Potential Sources of Financial Assistance

Community Services Block Grant (CSBG)/Agencies

The block grant funds agency programs which reduce the impacts of poverty. If drought conditions generated particular needs for those in poverty, some CSBG funds could be targeted at these efforts.

Emergency Food and Shelter/Agencies

Agencies providing emergency food and shelter services receive funding assistance from the state. Drought conditions may alter the areas of greatest need for both emergency food and shelter services.

Energy Assistance/Low-Income Persons

If power rates increased due to water shortages, a variety of energy assistance programs may assist those low-income persons who would be the most hard hit.

Community Development Block Grant (CDBG)/Cities, Counties

This federal program makes funds available for projects which assist low and moderate income people through a variety of activities. Projects resolving urgent public health and safety needs receive priority consideration. CDBG funds can be used to construct public works, including water supply systems. This is a competitive program with an annual cycle. Applications will be due in October for funding in April, 1989. There is an Imminent Threat portion of this program which can fund urgent projects at any time. Approximately $300,000 is available between now and October 1988 in this fund.

Development Loan Fund/Businesses

The state-administered revolving and float loan programs make leveraged loans to creditworthy businesses creating or saving jobs. The business must agree to hire low and moderate income workers. Loans from this program could assist eligible businesses needing to capitalize water conservation improvements or alternative water source projects.

Local Development Matching Fund (LDMF)/Agencies

This state-funded economic development program assists public and private nonprofit entities carry out critically needed economic development activities. To the extent that drought conditions inhibit economic development, LDMF grants might be directed at some drought-relief projects. There is an Urgent Need set aside for this program which can fund urgently needed projects which occur outside the competitive grant cycle.

Public Works Trust Fund/Local Governments

The Public Works Trust Fund can be used for drought-relief activities to the extent that eligible applicants are conducting activities which constitute a repair, replacement, rehabilitation, or improvement of an existing public works system to meet current standards and needs of existing service populations. Repairs, replacements, rehabilitations, or improvements required because of the drought in existing public water supply systems to serve existing users would be an eligible activity under this program.

The Public Works Trust Fund is a revolving loan fund designed to help local governments finance critical public works projects. The program provides low-interest loans and technical assistance to eligible local governments. The application cycle is annual, with applications usually due in the month of July. Currently, the loan ceiling is $1,500,000 and $25 million is expected to be available in the 1989 round of lending. Final decisions are made by November 1, 1988 and must be approved by the Legislature early in January 1989.

Potential Sources of Regulatory Assistance

State Building Code Council

This council maintains six statewide codes which establish uniform construction standards for building, plumbing, fire safety, mechanical features, energy conservation, and handicapped accessibility. The council could consider various requirements which would conserve water in housing and buildings. Special emphasis on new construction of water-conserving bathroom and rest room facilities could be undertaken. Implementing changes to the building codes may take up to two years to complete.

Fire Services Master Plan

The Fire Services Master Plan is being developed now. This document will address major issues in fire fighting and will focus attention on the importance of alternative water sources for fire fighting.

Appendix 8

Agencies Involved in State Economic Assistance Programs

Department of Trade and Economic Development

Business Assistance Center

Tourism Development Group

Economic Development Assistance Group

Department of Community Development

Local Development and Housing Division

Local Government Services Division

Employment Security Department

Employment Services

Training Program Services

Information Services

State Energy Office

Jointly, the departments listed above will provide technical assistance to Washington businesses during the drought.

In addition to the above, the following agencies also administer drought relief funds:

Department of Social and Health Services – Office of Environmental Health Programs
Department of Ecology – Water Resources Program

Appendix 9

Initial Agency Contacts for Drought-Related Information

AGENCY	NAME/OFFICE	PHONE
Department of Ecology	Ron Holcomb(PIO)*	(206) 459-6149
Department of Fisheries	Tony Floor(PIO)	(206) 753-6583
Department of Wildlife	Information Office	(206) 753-5707
Department of Agriculture	Mary Beth Lang	(206) 586-6108
	Bob Lee	(206) 586-3668
Department of Community Development	Jean Amelexun(PIO)	(206) 753-2227
Department of Trade and Economic Development	Bruce Botka(PIO)	(206) 753-7426
Department of Social and Health Services	Office of Environmental Health Programs	(206) 753-3466
Employment Security Department	Jeff Jaksich	(206) 438-4816
Department of Natural Resources	Robert Harper(PIO)	(206) 753-5836
Washington State Energy Office	Julie Burman	(206) 586-5042
Cooperative Extension (WSU)	Jim Barron	(509) 335-2811
U.S. Bureau of Reclamation Yakima Project Office	Ray Nelson	(509) 575-5848
U.S. Army Corps of Engineers	Paul Komoroski	(206) 764-3406

*Public Information Office