

**5. PLAN FORMULATION APPROACH**

The NODOS Investigation is a joint state-federal study. All elements of the FS Report are being prepared to conform to the federal P&Gs (WRC, 1983). This section presents the plan formulation process and the identified planning criteria (Section 5.1), objectives (Section 5.2), constraints (Section 5.3.1), and principles (Section 5.3.2) used to guide the investigation.

This NODOS IAIR is the first of three documents to be developed for the federal planning process. The next phase of the investigation is the PFR followed by the FS. All of these documents detail the plan formulation process for the NODOS Investigation.

**5.1 PLAN FORMULATION PROCESS**

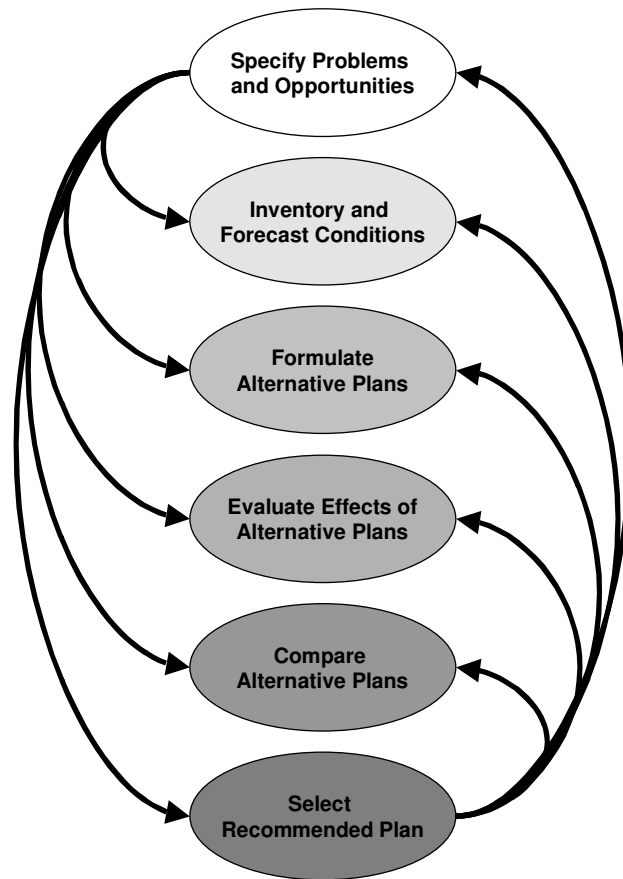
The following subsections identify the federal and state planning processes. It should be noted that the plan formulation process is iterative and its steps can be revisited during any stage of the planning process. This IAIR does not represent all steps of the planning process; for example, the federal formulation criteria and accounts will be utilized in subsequent planning stages and documents.

**5.1.1 Federal Planning Process**

The plan formulation process for federal water resources investigations and projects is defined in the P&Gs. The P&Gs include a six-step process. This process is a structured approach to problem solving that provides a rational framework for sound decision-making (Figure 5-1).

- Step 1 Identifying existing and projected future resource conditions without implementation of a project;*
- Step 2 Defining water resources problems and needs to be addressed;*
- Step 3 Developing planning objectives, constraints, and criteria and an overarching Mission Statement;*
- Step 4 Identifying resource management measures and formulating potential alternative plans to meet planning objectives;*
- Step 5 Comparing and evaluating alternative plans; and*
- Step 6 Selecting a plan for recommended implementation.*

<b>Planning Objectives</b>	
<b>Primary Objectives</b>	
❖	Increasing water supplies, water supply reliability, and Sacramento Valley water management flexibility for agricultural, M&I, and environmental purposes, including CALFED programs, such as Delta water quality, EWA and ERP, to help meet California’s current and future water demands, with a focus on offstream storage; and
❖	Increasing the survival of anadromous fish populations in the Sacramento River, as well as the health and survivability of other aquatic species.
<b>Secondary Objectives</b>	
❖	Providing ancillary hydropower generation benefits to the statewide power grid;
❖	Developing additional recreational opportunities in the study area; and
❖	Providing incremental flood control storage opportunities in support of major northern California flood control reservoirs.



**Figure 5-1. Federal Planning Process**

*Source: United States Army Corps of Engineers*

The completed investigation will include an FS and supporting environmental documents consistent with the P&Gs, Reclamation directives, DWR guidance, and applicable environmental laws. To facilitate coordination with other agencies, preparation of the FS will include two interim planning documents: this IAIR and a subsequent PFR. The PFR will present the results of the initial alternatives evaluation and further refine the alternatives. The draft FS will evaluate and compare the final alternatives and identify a recommended plan. A draft EIS/EIR will be included with the draft FS. After the receipt of public comments, the final FS/EIS/EIR will be prepared.

#### **5.1.1.1 Formulation Criteria**

Each alternative plan must be formulated with consideration of the following four criteria described in the P&Gs.

- ❖ **Completeness** – Completeness is the extent to which the alternative plans provide and account for all necessary investments or other actions to ensure the realization of the planning objectives, including actions by other federal and non-federal entities.
- ❖ **Efficiency** – Efficiency is the extent to which an alternative plan is the most cost-effective means of achieving the planning objectives.

- ❖ **Effectiveness** – Effectiveness is the extent to which the alternative plans contribute to achieving the planning objectives.
- ❖ **Acceptability** – Acceptability is the extent to which the alternative plans meet the requirements of applicable laws, regulations, and public policies.

### ***5.1.1.2 Accounts***

Four accounts are established to facilitate the evaluation and display of the effects of alternative plans. The national economic development account is required. Other information that is required by law or that will have a material bearing on the federal decision-making process should be included in the other accounts, or in some other appropriate format used to organize information on effects. Following are the four accounts.

- ❖ **National Economic Development** – The national economic development (NED) account displays changes in the economic value of national output of goods and services.
- ❖ **Environmental Quality** – The environmental quality (EQ) account displays non-monetary effects on significant natural and cultural resources.
- ❖ **Regional Economic Development** – The regional economic development (RED) account registers changes in the distribution of regional economic activity that result from each alternative plan. Evaluations of regional effects are to be carried out using nationally consistent projections of income, employment, output, and population.
- ❖ **Other Social Effects** – The other social effects (OSE) account registers plan effects from perspectives that are relevant to the planning process but are not reflected in the other three accounts.

The accounts are applied to screen initial alternatives later in the planning process, during Plan Formulation.

### **5.1.2 State Planning Process**

In contrast to the federal process, the State of California's objective for the FS is to provide technical and financial information to implementing agencies. Key factors necessary for agencies to consider are whether the project could be implemented to assure public health and safety and whether the project could provide benefits (e.g., water supply reliability, water quality, ecosystem restoration) at a reasonable cost. In the state process, a state FS is followed by an EIR illustrating project environmental compliance under CEQA, detailed economic evaluations, beneficiary designations, and permitting.

### **5.1.3 Scoping**

As part of the NEPA/CEQA process, federal and state agencies conduct scoping meetings to solicit public comment and input on the range of actions, alternatives, and significant environmental effects, methods of assessment, and mitigation measures to be analyzed in depth in the environmental documents.

In 2002, the Study Team held four scoping meetings and received 57 comments that addressed program alternatives. Scoping comments were incorporated into the NODOS planning process.

## **5.2 PLANNING OBJECTIVES**

On the basis of the previously identified and defined problems and needs in the study area, and with guidance from study authorities, several planning objectives were developed. These objectives are to be used to help guide the formulation of alternatives to address the problems and needs and are separated into primary and secondary objectives as described hereafter. Specific alternatives would be formulated to address the primary objectives. Secondary objectives are opportunities that should be considered in the plan formulation process, but only to the extent possible through the pursuit of the primary planning objectives.

### **5.2.1 Primary Objectives**

Formulate alternatives specifically to address the following.

- ❖ Increasing water supplies, water supply reliability, and Sacramento Valley water management flexibility for agricultural, M&I, and environmental purposes, including CALFED programs such as Delta water quality, EWA and ERP, to help meet California's current and future water demands, with a focus on offstream storage; and
- ❖ Increasing the survival of anadromous fish populations in the Sacramento River, as well as the health and survivability of other aquatic species.

### **5.2.2 Secondary Objectives**

To the extent possible, through the pursuit of the primary planning objectives, include opportunities to help accomplish the following secondary objectives.

- ❖ Providing ancillary hydropower generation benefits to the statewide power grid;
- ❖ Developing additional recreational opportunities in the study area; and
- ❖ Providing incremental flood control storage to support major northern California flood control reservoirs (i.e., those major, multipurpose reservoirs that include flood control storage).

## **5.3 PLANNING CONSTRAINTS AND GUIDING PRINCIPLES**

Planning constraints and guiding principles for the NODOS Investigation are described in the following subsections.

### **5.3.1 Constraints**

Planning constraints guide the direction of the NODOS Investigation and FS. These constraints include Congressional direction (i.e., study authorizations) and existing water resources projects and programs. Planning constraints, such as biological, cultural, and socioeconomic resources; hydrology; and topography, can also be specific to proposed project locations. Specific planning constraints identified for the NODOS Investigation include the following.

- ❖ **Study Authorizations** – Study authorizations provide for feasibility and environmental investigations of offstream storage from the Delta that would provide storage and flood control benefits in an environmentally sensitive and cost-effective manner. In addition, subsequent

federal and state authorizations have specifically provided for continuing feasibility studies for Sites Reservoir.

- ❖ **Laws, Regulations, and Policies** – Laws, regulations, and policies that must be considered include, but are not limited to, NEPA, Fish and Wildlife Coordination Act, Clean Air Act, Clean Water Act, National Historic Preservation Act, federal and state ESAs, CEQA, and the CVPIA.
- ❖ **CALFED ROD** – The CALFED ROD is a general framework for addressing the CALFED Bay-Delta Program and it includes program goals, objectives, and projects intended primarily to benefit the Bay-Delta system, its tributaries, and areas that receive water supplies exported from the Delta. In addition to the NODOS Investigation, the CALFED Programmatic EIS/EIR PPA includes four other surface water and various groundwater storage projects to help meet water supply needs, improve water quality, stabilize Delta levees, and improve ecosystem functions of the Bay-Delta system. Developed plans should incorporate the goals, objectives, and programs/projects of the CALFED ROD.
- ❖ **Reallocation of Contract Water Supplies** – As described in Section 2, the CVP is the largest surface water storage and delivery system in California, and it operates under the CVPIA. Federal authorization for the NODOS Investigation focuses on the development of additional water supplies and the management of new and existing supplies to support CALFED objectives. It does not provide authorization to reallocate water supplies to long-term contractual commitments. The IAIR will evaluate approaches to managing existing supplies in conjunction with developing new supplies; however, reallocation of existing supplies will not be included in the plan formulation process. Water operations evaluations that involve the development and management of water supplies for additional releases to the San Joaquin River, will demonstrate that without-project delivery quantities are maintained.

### **5.3.2 Guiding Principles**

Guiding principles used during the plan formulation of the NODOS Investigation and FS can help establish the preferred alternative for addressing the planning objectives. Guiding principles include the planning principles and guidelines identified in the P&Gs, other federal planning regulations, and state and local policies. Specific guiding principles identified for the NODOS Investigation include the following.

- ❖ Alternatives are to be consistent with the identified planning constraints.
- ❖ A direct and significant geographical, operational, and physical dependency must exist between major components of alternatives.
- ❖ Alternatives should address, at a minimum, each of the identified primary planning objectives and, to the extent possible, the secondary planning objectives.
- ❖ Measures to address secondary objectives should be either directly or indirectly related to the primary objectives (i.e., plan features should not be independent increments).
- ❖ Primary consideration should be given to recommendations in the CALFED ROD.
- ❖ Alternatives should either avoid potential adverse impacts on environmental resources or include features to mitigate unavoidable impacts through enhanced designs, construction methods, and/or facilities operations.
- ❖ Alternatives should avoid potential adverse impacts on present or historical cultural resources or include features to mitigate unavoidable impacts.

- ❖ Alternatives are to be formulated and evaluated based on a 100-year analysis period.
- ❖ First costs for alternatives are to reflect current prices and price levels, and annual costs are to include the current federal discount rate and an allowance for interest during construction.
- ❖ Alternatives are to be formulated to neither preclude nor enhance the development and implementation of other elements of the CALFED program or other water resources programs and projects in the Central Valley.
- ❖ Alternatives should have a high certainty for achieving the intended benefits and not depend significantly on long-term actions for success.
- ❖ Alternatives should not result in a significant adverse impact on existing water supplies, recreation facilities, hydropower generation, and related water resource conditions.
- ❖ Alternatives are to reflect the purposes, operations, and limitations of existing and without-project future projects and programs.

**Definitions of Common Planning Terms:**

*Problems and Needs* – Problems and needs can be financial, environmental, technical or legislative constraints or desires of an affected local, state, or federal entity or system. Water and related land resources project plans are formulated to alleviate problems and accommodate needs.

*Opportunities* – While alleviating problems and meeting needs, opportunities represent a chance for advancement or development in other areas that may benefit from a particular project plan. Water and related land resources project plans are evaluated with respect to their ability to realize opportunities.

*Measures* – Measures refer to a modification in public policy, an alteration in management practice, a regulatory change, or a new project or program that provides a complete or partial alternative to address water resources problems, needs, and opportunities.

*Alternatives* – Alternatives are developed by combining measures, either structural or non-structural, to address water resources problems and opportunities to the maximum practicable extent.