

## **8.0 PLAN IMPLEMENTATION, UNFORESEEN CIRCUMSTANCES**

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Implementation of the HCP will be in accordance with terms and conditions in the Implementation Agreement in Appendix B. The HCP will include incidental take permit authorization for the covered species (steelhead and red-legged frogs). The HCP may be amended if additional species are listed under State or federal Endangered Species Acts that occur in Arroyo Grande Creek and would be affected by Lopez Reservoir operations. This HCP was developed with technical assistance from the U.S. Fish and Wildlife Service and National Marine Fisheries Service regarding compliance with the Federal Endangered Species Act, and the California Department of Fish and Game regarding compliance with the California Endangered Species Act. Incidental take authorizations issued under this HCP and associated Implementation Agreement will be under the authority of State and federal resource agencies responsible for each covered species. Commitments by the District and assurances by State and federal resource agencies are included in the Implementation Agreement. Assurances incorporated in the HCP are consistent with the “No Surprises Rule,” and will be in effect for the 20-year period covered by this HCP.

### **8.1 PLAN IMPLEMENTATION - INCIDENTAL TAKE PERMIT AUTHORIZATION**

Implementation of the HCP includes authorization of incidental take associated with Lopez Project operations and maintenance. Estimates of incidental take are summarized in Table 5-1. The actual magnitude of take may vary within and among years in response to changes in population abundance over the duration of the HCP. For example, species recovery will lead to greater densities and greater estimates of the absolute number of an individual species. The proportion of the available population taken will vary in response to changes in operations among years and other biological parameters. As a result, there is no way to establish specific numerical incidental take estimates without expensive biological monitoring of regional population abundance and dynamics of each species each year, extensive field monitoring of annual indices of population abundance or reproductive success, and detailed monitoring in Arroyo Grande Creek of the numbers of each species actually taken.

The HCP includes guidelines for best management practices to avoid, minimize, and mitigate adverse impacts to covered species and their habitat. Thus, as part of the HCP it is proposed that incidental take of species protected under State and federal Endangered Species Acts be authorized under the following conditions:

- Instream flow releases from Lopez Reservoir will comply with the flow schedule and operational criteria in Section 4.1 for the proposed (preferred) action;
- The Arroyo Grande Stream gage will be removed and the channel grade restored to provide up- and downstream passage for steelhead;
- Activities authorized under this HCP do not result in levels of incidental take above those in Table 5-1;
- Operations and maintenance in Arroyo Grande Creek are consistent with best management practices, as outlined in this HCP, to avoid, minimize, and mitigate adverse impacts to steelhead and red-legged frogs and their habitat;

- Monitoring, Conservation, and Changed Circumstances accounts are fully funded by the District as identified in this HCP, and allocations from the accounts are consistent with providing protection and habitat enhancement for covered species based on recommendations of the Technical Committee.

If Lopez Reservoir operations, streamflows, habitat enhancement and protection actions, and maintenance activities in Arroyo Grande Creek conform with conditions outlined above, incidental take of covered species (steelhead and red-legged frogs) will be authorized in compliance with the terms and conditions of this HCP and the associated incidental take permit.

## **8.2 UNFORESEEN & CHANGED CIRCUMSTANCES – ASSURANCES (NO SURPRISES)**

### **8.2.1 Introduction and Summary**

**Effective Period.** This HCP is intended to be in effect for a period of 20 years. The parties recognize that changes can and will occur during that period and wish to describe the means for addressing those changes.

**Adaptive Management.** The discussion of changed circumstances in this section reflects present scientific knowledge. The parties anticipate that, as they gain greater insight into the needs of species inhabiting the area covered by this HCP, they will modify the ways in which they implement this HCP. The process of incorporating new information into management actions through the duration of the HCP is called adaptive management and is a cornerstone of the HCP.

**Non-Triggering Events.** The HCP identifies events and/or changes in populations (non-triggering events) that do not constitute changed circumstances. As described below, these events are anticipated by the HCP and do not require action by the parties.

**Changed Circumstances.** This HCP identifies two types of changed circumstances: (1) local events, which are reasonably foreseeable events in the Lopez Project service area affecting the ability to comply with HCP assumptions about District activities; and (2) regional events, which are reasonably foreseeable events affecting the viability of a covered species in the wild and generally reflecting population-wide conditions.

**Local Events.** In the case of local events, the District will take certain steps immediately to respond to the changed circumstance. After taking those steps, the District will report its actions to the Technical Committee.

**Regional Events.** In the case of regional events, the District will promptly convene the Technical Committee to determine the most appropriate response to the changed circumstance. Implementation of the response will occur as quickly as possible, given the availability of funding. Any response to changed circumstances involving modification of Lopez Project operations will only be implemented with the consent of the District.

**Unforeseen Events.** The HCP treats all other significant changes in physical or biological conditions as unforeseen circumstances, as defined by the ESA and implementing regulations. Unforeseen circumstances will generally be treated in the same way as changed

circumstances for regional events, except that responsibility for additional mitigation actions will lie with federal or state governments.

### **8.2.2 Non-Triggering Events**

**Distinction from Changed Circumstances.** The parties recognize that many different circumstances may occur during the term of the HCP. The parties designed the HCP to manage much of that variability within the range of normal operations. It is only when variability exceeds certain levels (defined as changed circumstances) that the parties will be required to take actions out of the ordinary.

#### **Normal Variability**

**Variability in District Operations.** There are a number of sources of variability associated with Lopez Project operations, including, but not limited to, varying water demands based on water year type, prolonged drought, cropping patterns, changes in urban and agricultural development and use, etc.

**Variability in Covered Species Populations.** The populations of covered species normally vary from year to year within certain ranges. It is not always possible to define the limits of normal variability for a specified population. Analysis of population data over time, however, will permit the Technical Committee to identify sharp declines or increases in a population in a short time or sustained population trends over a long period. In either case, biological data can be used to indicate that a population may be experiencing circumstances outside the normal range of variability.

**Envelope of Normal Conditions.** The HCP is based on a number of assumptions regarding District operations and status of populations of covered species. As long as District operations and populations of covered species remain within the range of normal variability (e.g., District operations remain within the envelope of previous operations described in the HCP and populations of covered species do not show noticeable trends), normal implementation of the HCP can proceed.

**Normal Implementation.** Normal implementation of the HCP involves normal operation and maintenance of the Lopez Project and implementation of the HCP adaptive management program using the \$1,000,000 fund for habitat improvements in the HCP Conservation Account.

### **8.2.3 Changed Circumstances**

#### **Triggering Events**

**Local Events.** Events may occur that interfere with the District's ability to satisfy assumptions upon which the HCP is based. Examples include natural disasters like fire, earthquakes, or flooding, or inadequate implementation of operation and maintenance procedures or best management practices.

**Earthquake.** Any earthquake causing \$100,000 or less in damages to projects implemented under the HCP will be treated as a changed circumstance.

**Flooding.** Any flooding causing \$100,000 or less in damages to projects implemented under the HCP will be treated as a changed circumstance

### **Failure to Comply with Operational Procedures or Best Management Practices**

A major portion of the implementation of this HCP is the requirement that the District comply with instream flows and reservoir releases and best management maintenance practices in Arroyo Grande Creek. Since the District will train personnel on appropriate management techniques to implement this HCP and protect covered species, it is not anticipated that District personnel will inadvertently undertake actions leading to take of listed species.

### **Regional Events**

A major category of changed circumstances involves population changes resulting from changes in geographic distribution of the species (e.g., increase or decrease in distributional range), changes in abundance (e.g., dramatic increases in population abundance and delisting, or substantial reductions in population abundance, which may or may not be reflected in a new listing or a change in listing status from threatened to endangered), or changes in factors affecting survival (e.g., epidemic disease, parasitic infestation, toxicity, substantial reduction in habitat quality and availability). Many of these changes in population status are outside the direct control of the District. A change in the status of a population affects the fundamental assumptions used to develop and evaluate appropriate levels of incidental take protection in this HCP and so is considered a changed circumstance.

**Determination of Changed Circumstances.** If one or more parties believe certain phenomena constitute a changed circumstance, those parties will provide the Technical Committee with results of monitoring and analyses that clearly demonstrate significant change in abundance, geographical distribution, or other population-level characteristic of a covered species. The Technical Committee shall meet promptly to consider the analyses (and any contrary data in the scientific literature) and determine, based on the best available scientific and commercial data and a scientific consensus, whether or not a changed circumstance exists. The Technical Committee shall not act without data and analyses clearly demonstrating a changed circumstance.

**Classes of Regional Events.** Potential regional events include natural events, disease-parasite epidemics, introduced species, and unexpected increases or decreases in species abundance.

### **Natural Events (e.g., fire, flooding, drought)**

Damage from fire adversely impacting conservation measures implemented under this HCP would be a changed circumstance within the \$100,000 limit established for the Changed Circumstances Account (see Section 7). Flood damage within the \$100,000 limit would be a changed circumstance. Drought conditions are a changed circumstance within the limits

established by the Changed Circumstance Account. Water diversions shall occur at the levels permitted under the District's water right permits, licenses, and contracts, unless otherwise agreed by the District.

### **Disease/Parasites**

Fish and wildlife populations are susceptible to epidemic disease and parasite infestation that may result in increased mortality, reduced health and condition, or reduced reproductive success. Epidemic disease, for example, may substantially impact a regional population reducing its ability to compensate for incremental mortality associated with Lopez Project operations and reduce resilience to cumulative adverse impacts affecting the species directly or indirectly through changes in prey availability or habitat conditions. Changes in population dynamics of a covered species as a consequence of disease or parasite infestation are a changed circumstance.

### **Introduced Species/Increased Competition**

Effects of species introduced in the future are a regional changed circumstance.

### **Sharp and Unexpected Declines or Increases in Populations**

The geographic distribution and abundance of covered species may change over the course of the HCP, as compared to conditions used for evaluating incidental take under the HCP. If covered species increase in abundance substantially over the period of the HCP, their population would be more able to withstand incremental mortality associated with Lopez Project operations. In addition, if a population increases in abundance, more incidental take may occur, although the population consequences of the resulting take may be reduced. In contrast, a substantial decline in abundance of a covered species on a regional basis will contribute to greater adverse impacts from incidental take. At reduced population levels a species may be less able to withstand incremental mortality, and population consequences of incidental take may be greater. Changes in distribution of a covered species can also increase or decrease their vulnerability as compared to the conditions used to estimate incidental take. Regional changes in population abundance or distribution of the covered species included in this HCP are a changed circumstance.

### **Responses**

#### ***Local Events***

**Disruption in Streamflow.** Disruption of releases from Lopez Reservoir may result from planned and unplanned activities, and represent a changed circumstance.

Planned activities resulting in flow disruption include scheduled repairs, inspections, or maintenance of valves and other components of the Lopez Reservoir outlet structure. Under these planned conditions, the District will notify the Technical Committee at least 60 days in advance of the outage, and provide information describing the schedule for the planned outage,

duration of the outage, anticipated magnitude of streamflow reduction, and mitigation actions such as (1) installation of temporary facilities to provide water from Lopez Reservoir to Arroyo Grande Creek, and (2) fish rescue operations to reduce impacts to steelhead from stranding and dewatering. The Technical Committee will have 14 days to review and comment on the proposed plan and provide recommendations to the District for modifications to the proposed activity or mitigation measures.

Disruption of releases by unplanned activities may result from blockage of valves or outlet works by debris. Throughout the HCP period, the District will conduct inspections and maintenance to reduce the risk of unplanned outages. If unplanned outages disrupt releases to Arroyo Grande Creek, the District will immediately implement emergency response measures including removal of debris, maintenance or repair of facilities, or other actions necessary to resume reservoir releases. The District will also implement a fish rescue operation in Arroyo Grande Creek to relocate steelhead vulnerable to stranding and dewatering by the unplanned outage. As part of the HCP, the District will provide a draft protocol for fish rescue operations to the Technical Committee for review and comment within six months of final approval of the HCP. The District will provide equipment and train staff in procedures to respond to disruptions in releases.

**Damage to Fish Passage Facilities.** Changed circumstances, associated with debris loading or high flows, may damage or block fish passage facilities. As part of the HCP, the District would perform inspections and remove accumulated debris from fish passage facilities such as the culverts at Cecchetti Road. Scheduled maintenance or repairs to fish passage facilities would be planned for non-migratory summer months (e.g., June - September). In the event of unscheduled disruption or impairment of fish passage operations, such as blockage by large woody debris, the District will remove the blockage and make necessary emergency repairs. Maintenance or repair of passage facilities would not occur if they resulted in jeopardy to the safety of District personnel or equipment. In the event of unplanned emergency repairs and response to changed circumstances, the District would notify the Technical Committee within five days after identification and resolution of the problem

**Fire.** Fire damage along Arroyo Grande Creek that removes riparian vegetation and increases the risk of channel erosion is a changed circumstance. Under such conditions, the District will contribute to emergency stabilization of the channel area, deploying hay bales or taking other actions to reduce erosion and sediment deposition in the creek. The District will also contribute to revegetation of the fire-damaged area by hydroseeding or planting native grasses, shrubs, and trees. The ability of the District to respond to changed circumstances affecting Arroyo Grande Creek depends on the willingness of private landowners to provide access to the creek corridor. If a changed circumstance results from fire, the Technical Committee will be consulted about actions to be implemented as part of changed circumstances.

**Flood.** Floods may cause local changed circumstances, affecting debris load, damaging outlet structures, valves, and fish passage facilities, and altering habitat in the creek. If floods damage habitat enhancement constructed in Arroyo Grande Creek under this HCP (e.g., spawning gravels, new pools, additional cover habitat) flood damage to these structural elements of the HCP would be considered part of routine operations and maintenance. Therefore, repairs of flood damage would be accomplished with funds from the Conservation Account.

**Earthquake/Landslide.** Earthquake and/or landslides within the Arroyo Grande Creek watershed may cause local changed circumstances, affecting instream flows within the creek. If an earthquake damaged the Lopez Dam outlet works or a landslide obstructed flows within the creek, it would impact the ability to successfully implement actions under this HCP. If a changed (\$100,000 or less) or unforeseen circumstance results from either an earthquake or landslide, the Technical Committee will be consulted about appropriate actions in response to these events.

**Reporting.** The District will report to the Technical Committee within 10 business days of a local triggering event. The report will include a brief description of the event, actions implemented by the District, and recommendations for additional actions requiring consideration by the Technical Committee.

**Regional Events.** In response to a regional event the District will convene the Technical Committee within 5 business days of being notified of (or recognizing) a triggering event. Using the best available scientific and commercial data, the Technical Committee will determine, on a consensus basis, the most appropriate response to the triggering event and develop an implementation strategy. If there is no consensus on the approach, the parties shall use the dispute resolution process established in the HCP. An appropriate response is one benefiting covered species in the HCP area. The parties will attempt to implement the following agreed-upon response at the earliest possible date:

- The parties will jointly seek funding from federal and State sources;
- The \$100,000 Changed Circumstances Account will be made available to the Technical Committee for use in responding to the trigger events;
- To facilitate a prompt response, and upon appropriation of matching federal and State funds under then-existing programs, the District will advance the Conservation Account up to \$100,000 toward the costs of implementation if funds are available, over and above the \$50,000 contribution for that year. In this way, the District's Conservation Account funding for one year could total a maximum of \$150,000;
- These advances shall count towards the District's obligation to provide \$1,000,000 over the life of the HCP. This contribution shall be in addition to any insurance proceeds;
- The increase in funding can be used by the Technical Committee to accelerate implementation of restoration actions including, but not limited to, an accelerated schedule for implementing habitat improvement, purchase or lease of lands for increasing availability of specific types of habitat, an increase in the rate of installation of vegetation plantings, or other modifications to improve availability and quality of specific types of habitat; and
- The District shall have the option of reducing annual contributions to the Conservation Account by up to \$50,000 per year for up to two years after advancing funds for a response to changed circumstances.

Any response to changed circumstances involving modification of Lopez Project operations will only be implemented if (1) there is Technical Committee consensus that such

modification is necessary to respond to the changed circumstance and (2) the District consents to the proposed response.

## 8.2.4 Unforeseen Circumstances

### Definition

All significant changes in physical or biological conditions that are not changed circumstances are unforeseen circumstances, as defined by the ESA and implementing regulations. Unforeseen circumstances include, but are not limited to fire, earthquake, flooding, civil disorder or other act of God causing damage in excess of \$100,000 to projects and facilities integral to the HCP Conservation Strategy.

### Response

**Notification of Technical Committee.** The District will convene the Technical Committee within five business days of being notified of (or recognizing) an unforeseen circumstance. In the event that one or more resource agency participants in the Technical Committee are unable to meet within the five-day period (e.g., as a result of catastrophe, emergency actions, or other causes), the District and responding agencies will have unilateral authority to identify and implement actions under this HCP.

**Filing for Insurance Coverage.** If possible, the District will file for insurance to cover damage from the unforeseen circumstance within 20 days of being notified of (or recognizing) an unforeseen circumstance.

**Determination of Response.** Using the best available scientific and commercial data, the Technical Committee will determine, by consensus, the appropriate response to the unforeseen circumstance and will develop an implementation strategy. If there is no consensus on the approach, the parties shall use the dispute resolution process established in the HCP. An appropriate response is one benefiting covered species within the HCP geographic boundaries.

**Implementation.** The parties will attempt to implement the following agreed-upon response at the earliest possible date:

- The parties will jointly seek funding from appropriate federal and State sources;
- To facilitate a prompt response, and upon appropriation of matching federal and State funds under then-existing programs, the District will advance up to \$100,000 toward the costs of implementation if funds are available, over and above the \$50,000 Conservation Account contribution for that year. In this way, the District's funding amount for one year could total \$150,000;
- These advances shall count towards the District's obligation to provide \$1,000,000 over the life of the HCP. This contribution shall be in addition to any insurance proceeds;
- The increase in funding can be used by the Technical Committee to accelerate implementation of restoration actions including, but not limited to, an accelerated schedule for implementing habitat improvements, purchase or lease of lands for

- increasing availability of specific types of habitat, an increase in the rate of installation of vegetation plantings or other modifications to improve availability and quality of specific types of habitat; and
- The District shall have the option to reduce annual contributions to the Conservation Account by up to \$50,000 per year for up to two years after advancing funds for a response to unforeseen circumstances.

**No Surprises.** The Technical Committee will have broad discretion in recommending funding allocation under this HCP to address unforeseen circumstances affecting covered species, including allocating funds to projects outside the designated HCP geographic area, as long as the fund allocation is consistent with the best available scientific information, provides biological benefits to covered species, and does not modify or increase District responsibility or obligations under this HCP. Specifically, any response to an unforeseen circumstance involving modification of Lopez Project operations will only be implemented if:

- There is Technical Committee consensus that such modification is necessary to respond to the unforeseen circumstance;
- The District consents to the proposed response, and
- The Technical Committee determines that additional land, water or financial compensation or restrictions on the use of land, water, or other natural resources are needed to respond to the unforeseen circumstance, and it will be the responsibility of the State or federal governments to provide such land, water, financial compensation, or other natural resources. The response to an unforeseen circumstance shall not include any limitations on water use without the express consent of the District.