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August 20, 1997

Mr. Lester S. Snow
Executive Director
CALFED Bay-Delta Program
1416 Ninth Street, Suite 1155
Sacramento, California 95814

Subject: Review of Draft Surface Water Storage Screening Process--Initial Screening Document and the Draft Reservoir Footprint Documents

Dear Mr. Snow:

The Fish and Wildlife Service (Service) provides the following comments on (1) the draft Surface Water Storage Screening Process--Initial Screening document and (2) the Draft Reservoir Footprint documents that were informally transmitted by Bob Pine of my staff to Sergio Guillen at bimonthly meetings starting in April 1997:

(1) Draft Surface Water Storage Screening Process--Initial Screening document:

COMMENTS: LOS BANOS GRANDES

On page 7 of the draft Surface Water Storage Screening Process document, **Terrestrial Habitat Values**, the following statements are made: "Reservoir sites were eliminated due to the presence of extensive, high quality and irreplaceable terrestrial habitat values. Reservoir sites that were recommended for elimination under this criterion include:

- Shasta Lake Enlargement
- Auburn Dam and Reservoir

D-049897

- Coloma Reservoir
- Lake Berryessa Enlargement
- Freeman's Crossing Reservoir
- Kosk Reservoir
- Squaw Valley Reservoir
- Nashville Reservoir

The Service recommends that Los Banos Grandes Reservoir be added to this list for the following reason: the presence of extensive, high quality and singularly, irreplaceable terrestrial habitat values.

- Los Banos Grandes has one of the oldest and most pristine sycamore woodlands in the state. These woodlands are impossible to replace. If it was possible to replace this woodland, it would take 200 years to reach the existing climax community. Avoidance of the sycamore woodland at Los Banos Grandes is impossible.

- Los Banos Grandes also has one of the last vestiges of California red-legged frog habitat (*Rana aurora draytonii*) in the Central Valley. If this population is lost, recovery of the Central Valley recovery unit may be precluded.

- Los Banos Grandes is the most northern known major population center of the federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*). Kit fox have been sighted in and around Santa Nella and the San Luis Dam region recently (1990's). One of the main effects of a reservoir at Los Banos Grandes would be the loss of the regional keystone population. This loss might preclude the recovery of the species.

  Building a reservoir at Los Banos Grandes would cause the loss of 13,000 acres of denning and foraging habitat. Twelve to 28 kit foxes would be lost through inundation of this site with losses of 50 known dens and 425 potential dens. There would be potential isolation of 65 kit foxes. Additional habitat would be lost from off-site borrow pits, construction of conveyance facilities, and road re-alignments. Additional loss and harassment of kit foxes would result from activities associated with

(1) recreation, (2) operation and maintenance, (3) interactions with red fox and feral dogs, and (4) increased rodenticide use.

Construction of this project would bifurcate the existing range of the kit fox. Kit fox habitat in western Merced County is limited easterly by agricultural practices east of Interstate 5 and westerly by increasing elevation and corresponding vegetation changes of the inner Coast Range. Lower elevations are more suitable as soil types are better for denning, prey abundance and availability. Los Banos Grandes Reservoir would inundate a block of kit fox habitat that is approximately four miles wide (between Menjoulet Canyon and the oak-savannah on the west side of the project) and almost 10 miles long. In addition, about a 100 foot wide channel would be constructed between Los Banos Detention Reservoir and the California Aqueduct. These structures likely would restrict movement of kit foxes between the area north and south of the project.

Habitat fragmentation is the leading cause of extinctions of populations worldwide. Bifurcation of the San Joaquin kit fox population may result in extirpation of the population north of the project area because its population size may be too small to perpetuate itself. This loss represents approximately one fifth of the current range of the species.

- Other listed animal species that would be affected by this project include endangered (1) blunt-nosed leopard lizard (*Gambelia silus*), and (2) giant kangaroo rat (*Dipodomys ingens*).

- The Arburua Ranch jewelflower (*Streptanthus insignis* spp. *lyonii*) is known only from the Los Banos Grandes area and locations nearby. This project would inundate some populations of this species.

Based on these effects on species and plant communities (habitat), the Service recommends inclusion of Los Banos Grandes in the list of reservoir sites recommended for elimination based on "extensive, high-quality, and irreplaceable terrestrial habitat values".

(2) Draft Reservoir Footprint Documents

In reviewing the proposed projects that have been identified in the CALFED process, an adequate biological assessment of the impacts to any of the proposed projects needs to include an effects analysis. At a minimum, the effects analysis needs to include direct, indirect, and cumulative

effects. Additionally, growth-inducing, interrelated and interdependent effects should be clearly and concisely described and analyzed in terms of what projects have been completed in the past, what additional projects are proposed, and what are the individual and collective effects of these projects.

The Service recommends that botanical surveys for federal species of concern and their potential habitat be conducted well before any project construction efforts are undertaken. Species of concern include all listed, proposed, and candidate species as well as species of concern. Botanical surveys need to be conducted as per Service protocols which are attached. Timing of botanical surveys is crucial to ensure that species are present and qualified botanists are able to make determinations to species (or subspecies) level.

The Service recommends that scientific names be included for each species mentioned in the proposals.

THOMES-NEWVILLE RESERVOIR

Special status plant and animal species mentioned in the Thomes-Newville Reservoir proposal warrant additional consideration before the project proceeds. Analysis of the potential effects of the project on each of these species is appropriate. Therefore, the Service recommends thorough biological surveys be conducted to determine the effects of the project on the species mentioned in the proposal as well as on the plant and animal species discussed below.

Further consideration of federally listed species: The proposal mentions that vernal pools are scattered through the project area, and the Service is concerned that the submitted proposal does not fully consider the potential effects of the project on federally listed vernal pool crustaceans: Conservancy fairy shrimp (*Branchinecta conservatio*), vernal pool fairy shrimp (*Branchinecta lynchi*), and vernal pool tadpole shrimp (*Lepidurus packardi*). Similarly, the proposal does not address other federally listed species known from the area including California red-legged frog (*Rana aurora draytonii*), giant garter snake (*Thamnophis gigas*), and valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). Additional species of concern that are known from the area but that are not addressed in the proposal include northwestern pond turtle (*Clemmys marmorata marmorata*), foothill yellow-legged frog (*Rana boylii*), western spadefoot toad (*Scaphiopus hammondii*), and two anthicid beetles (*Anthicus antiochensis* and *Anthicus sacramento*).

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SHASTA RESERVOIR ENLARGEMENT

Effects of the proposal would be on the federally threatened bald eagle (*Haliaeetus leucocephalus*), northern spotted owl (*Strix occidentalis caurina*), the federally endangered American peregrine falcon (*Falco peregrinus anatum*), and the Shasta salamander (*Hydromantes shastae*), a species of concern.

Estimates presented in the CALFED document and estimates in the Service's records on the proposal are inconsistent. CALFED estimates 30,000 acres would be inundated and Service records indicate that over 160,000 acres would be lost as a result of the action. The effects of the proposed action would vary in magnitude depending on the estimate used but either proposal would have significant effects on the aforementioned species.

Shasta Lake is home to the largest concentration of nesting bald eagles in California. In any given year, eighteen pairs of bald eagles may nest within 0.5 miles of the reservoir shoreline. Shasta Lake serves a critical role in the recovery of the bald eagle for the entire north state. Located within Recovery Zone 24, as designated in the 1986 Pacific Bald Eagle Recovery Plan, Shasta Lake supports up to 38 nesting, and breeding individuals, and over 50 wintering individuals. The proposed enlargement of the reservoir and subsequent inundation may result in the temporary loss of all eighteen known nest sites and may have longer term adverse impacts to the species.

In addition, at least two nesting territories for the northern spotted owl and American peregrine falcon, and foraging habitat would be adversely affected as a result of the proposed enlargement. Habitat for the endemic Shasta salamander would also be lost or adversely modified as a result of the proposed enlargement. This level of habitat loss, and/or modification for the species may result in a trend towards Federal listing, and possibly extinction of the species. The Service believes that the proposal as designed will have a significant impact on the presence of extensive, high quality and irreplaceable terrestrial habitat values associated with this action.

COMMENTS: RED BANK PROJECT

The Service agrees that the special status plant and animal species mentioned in the Red Bank Project proposal warrant additional consideration before the project proceeds. Analysis of the potential effects of the project on each of these species is appropriate. Therefore, the Service recommends thorough biological surveys be conducted to determine the effects of the project on

the species mentioned in the proposal as well as on the plant and animal species discussed below. Further consideration of federally listed species: The proposal mentions that vernal pools are found within the project area, and the Service is concerned that the submitted proposal does not fully consider the potential effects of the project on federally listed vernal pool crustaceans: vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*). Similarly, the proposal does not address the federally threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) that may be present in the riparian vegetation found throughout the project area. Other species of concern that may occur within the project area and that are not addressed in the proposal include western spadefoot toad (*Scaphiopus hammondii*) and silky cryptantha (*Cryptantha crinita*).

Special status plant communities: The Service recommends that the proposal include an analysis of the presence of and potential impacts to plant communities of special concern within the project area. These special status communities include vernal pools.

The Service also notes that Brandegee's woolly-star (*Eriastrum brandegeae*), adobe lily (*Fritillaria pluriflora*), Anthony Peak lupine (*Lupinus antoninus*), Mt. Tedoc linanthus (*Linanthus nuttallii* ssp. *howellii*), and Stebbin's lewisia (*Lewisia stebbinsii*) are not Federal candidate species but rather are species of concern.

COMMENTS: MID-VALLEY CANAL PROPOSAL

The Service agrees that the special status plant and animal species mentioned in the Mid-Valley Canal proposal warrant additional consideration before the project proceeds. Analysis of the potential effects of the project on each of these species is appropriate. Therefore, the Service recommends thorough biological surveys be conducted to determine the effects of the project on the species mentioned in the proposal as well as on the plant and animal species discussed below.

Further consideration of federally listed species: The proposal mentions that vernal pools are found within the project area, and the Service is concerned that the submitted proposal does not fully consider the potential effects of the project on federally listed vernal pool crustaceans and plants. Federally listed vernal pool crustaceans that need to be considered include Conservancy fairy shrimp (*Branchinecta conservatio*), longhorn fairy shrimp (*Branchinecta longiantenna*), vernal pool fairy shrimp (*Branchinecta lynchi*), and vernal pool tadpole shrimp (*Lepidurus packardi*). Federally listed vernal pool plants that need to be considered include Hoover's spurge (*Chamaesyce hooveri*), Colusa grass (*Neostapfia colusana*), San Joaquin Valley Orcutt grass

(*Orcuttia inaequalis*), hairy Orcutt grass (*Orcuttia pilosa),* and Greene's tuctoria (*Tuctoria greenei*). The proposal also should address the federally threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) since riparian vegetation occurs in the project area.

The Service notes that San Joaquin adobe sunburst (*Pseudobahia peirsonii*) is no longer proposed but has been federally listed as endangered.

Consideration of federally proposed and candidate species: Federally proposed species that may occur within the project area and that the proposal does not address include Springville clarkia (*Clarkia springvillensis*), soft bird's-beak (*Cordylanthus mollis* ssp. *mollis*), Greenhorn adobe lily (*Fritillaria striata*), Contra Costa goldfields (*Lasthenia conjugens*), and showy Indian clover (*Trifolium amoenum*). Keck's sidalcea (*Sidalcea keckii*), a Federal candidate species, may also occur within the project area. Potential impacts of the project on these proposed and candidate species and/or their potential habitat need to be analyzed before the project proceeds.

Further consideration of species of concern: Other animal and plants species of concern may occur within the project area and are not addressed in the proposal. Animal species include silvery legless lizard (*Anniella pulchra pulchra*), northwestern pond turtle (*Clemmys marmorata marmorata*), southwestern pond turtle (*Clemmys marmorata pallida*), San Joaquin dune beetle (*Coelus gracilis*), San Joaquin whipsnake (*Masticophis flagellum ruddocki*), foothill yellow-legged frog (*Rana boylii*), and foothill yellow-legged frog (*Rana boylii*). Plant species include Suisun marsh aster (*Aster lentus*), alkali milk-vetch (*Astragalus tener* var. *tener*), Kaweah brodiaea (*Brodiaea insignis*), Hoover's rosinweed (*Calycadenia hooveri*), Mt. Hamilton harebell (*Campanula sharsmithiae*), Mt. Hamilton thistle (*Cirsium fontinale* var. *campylon*), South Bay clarkia (*Clarkia concinna* ssp. *automixa*), interior California larkspur (*Delphinium californicum* ssp. *interius*), delta coyote-thistle (*Eryngium racemosum*), talus fritillary (*Fritillaria falcata*), Diablo rock-rose (*Helianthella castanea*), Carquinez goldenbush (*Isocoma arguta*), delta tule pea (*Lathyrus jepsonii* var. *jepsonii*), legenere (*Legenere limosa*), little mousetail (*Myosurus minimus* ssp. *apus*), Gairdner's yampah (*Perideridia gairdneri* ssp. *gairdneri*), and Arburua Ranch jewelflower (*Streptanthus insignis* ssp. *lyonii*).

The Service also notes that the plant species listed in the first full paragraph of page 18 are not Federal candidate species but rather are Federal species of concern.

Special status plant communities: The Service recommends that the proposal include an analysis of the presence of and potential impacts to plant communities of special concern within the project area (e.g. those mentioned on page 18, third full paragraph).

COMMENTS: TEHAMA-COLUSA CANAL EXTENSION

The Service agrees that the special status plant and animal species mentioned in the Tehama-Colusa Canal Extension proposal warrant additional consideration before the project proceeds. Analysis of the potential effects of the project on each of these species is appropriate. Therefore, the Service recommends thorough biological surveys be conducted to determine the effects of the project on the species mentioned in the proposal as well as on the plant and animal species discussed below.

The Service recommends botanical surveys be conducted to determine whether the federally listed palmate-bracted bird's-beak (*Cordylanthus palmatus*) or its habitat is present in the project area, and if so, whether and to what extent it is likely to be impacted by the project.

Further consideration of federally listed species: The proposal mentions that vernal pools are found within the project area. The Service is concerned that the submitted proposal does not fully consider the potential effects of the project on federally listed vernal pool crustaceans: Conservancy fairy shrimp (*Branchinecta conservatio*), vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*). Similarly, the proposal does not address the federally endangered California freshwater shrimp (*Syncaris pacifica*) and the federally threatened red-legged frog (*Rana aurora draytonii*) that may be found in the project area. Other species of concern that may occur within the project area and that are not addressed in the proposal include San Joaquin whipsnake (*Masticophis flagellum ruddocki*), foothill yellow-legged frog (*Rana boylii*), two ancithid beetles, alkali milk-vetch (*Astragalus tener* var. *tener*, diamond-petaled poppy (*Eschscholzia rhombipetala*), and Brewer's dwarf-flax (*Hesperolinon breweri*).

Further consideration of species of concern: The Service recommends that the proposal include an analysis of potential impacts to plant communities of special concern within the

project area. These special status communities include vernal pools and the other special status plant communities mentioned on page 17.

The Service also notes that, with the exception of palmate-bracted bird's-beak (*Cordylanthus palmatus*) which is federally listed as endangered, all of the species mentioned in the second and third paragraphs of page 17 are not candidates for listing, but they are species of concern.

COMMENTS: MILLERTON LAKE ENLARGEMENT

Scientific names should be used for each species mentioned in the proposal. An example where this is helpful is the last paragraph on page 17 where succulent owls' clover is shown as listed and fleshy owls' clover is a "proposed" species. In reality, the two common names refer to the same tri-nominal or specific species.

The status of the following sensitive and listed plant and animal species should be updated:

(1) Fleshy Owl's clover and San Joaquin Valley Orcutt Grass is 'threatened' not 'proposed threatened' per the March 26,1997 final rule.

(2) Hartweg's golden sunburst is 'endangered', not 'proposed endangered'.

(3) California red-legged frog was listed June 24, 1996.

Specific comments to the text include:

Page 16-17: These species are neither proposed nor candidates. Please review attachment A for current status.

Page 16-17: Add Nelson's antelope ground squirrel (*Ammospermophilus nelsoni*) to the list of species of concern.

Page 17, 2nd paragraph: Please cite a reference source of "Upper Sonoran Life Zone".

Page 17: Add hairy Orcutt grass (*Orcuttia pilosa*) to the list of vernal pool plants that occur within the project area which are in need of effects analysis.

MONTGOMERY RESERVOIR

The project would adversely affect one of the sixteen remaining populations of the federally listed endangered Hartweg's golden sunburst (*Pseudobahia bahiifolia*). This impact should be included in discussions in the "footprint" document concerning the environmental considerations.

Add information in this "footprint" document to allow more complete impact analysis. The document states that the reservoir would be used for environmental or water quality purposes but all is targeted for local use. Describe how this site would contribute to the Bay-Delta ecosystem improvements.

Compensation costs associated with reservoir construction and mitigation would need to be considered.

The background section needs to be rewritten to accurately describe historical events and existing conditions. Flows which are discussed as unappropriated flows from the 1966 study may be appropriated at this time. Water or the percentage of water that would be used to improve Delta water quality or to improve environmental conditions has not been identified.

COTTONWOOD CREEK

The environmental impact assessment is much better for this report, especially salmonid fisheries impacts downstream of the reservoirs. Some benefits were suggested for Sacramento River and Delta resident fish due to higher flows. Please provide additional information to support how this would occur. The general comments above apply as do cumulative effects comments listed for Shasta Reservoir enlargement. Provide a discussion of mitigation potential for the project and which areas would be used for this purpose.

LAKE BERRYESSA ENLARGEMENT

Potential adverse effects to listed, proposed, and species of concern should be addressed because Lake Berryessa capacity would be increased from 1.6 MAF to as much as 14 MAF. Include the cost of mitigation in the estimates of this project. This should include developing

a mitigation plan and finding a location for mitigation areas sufficient for a project of this size and include other costs such as the intertie with the Sacramento River, planning, or relocating

residences.

The new dam would be located two miles downstream of Monticello Dam. Although the document states that fishing "would not be significantly impacted", below the current dam is the best fishing area of Lower Putah Creek and this would be inundated. Fisherpeople come from a wide area to fish that section of the stream. The six miles downstream to the Solano Diversion Dam is the best habitat downstream of the dam for fish. This should be clarified in the document.

The project notes that half of Butts Canyon Natural Area and most of Cold Canyon Reserve would be inundated. Cold Canyon is one of the few natural areas available to local residents for hiking and nature observation. University at California, Davis (UCD) students use this area as a study site. The document should discuss the proposed Lake Berryessa Wildlife Management Area, which would be totally inundated, and Quail Ridge Reserve. The peninsula of Quail Ridge jutting into Lake Berryessa is one of the last areas with rare, native grasses and hybrid oaks and associated wildlife. It may be important butterfly habitat and should be studied to determine what values would be lost if inundated. Quail Ridge has recently been incorporated into the UCD Reserve System along with Cold Canyon. Another reserve downstream which may be impacted is Russell Ranch.

Upstream of the dam there are multiple tributaries such as Eticuerea Creek with fresh emergent wetland habitat at the current dam level that would be inundated. Wetlands listed that are to be inundated include 8 miles of scrub-shrub, 20 miles of forested wetland, 10 acres of shallow marsh and 20 acres of permanent ponds. We do not agree with the findings that "the effects of the proposed enlargement ...on wildlife would be mixed", based on the fact that waterfowl will benefit from the enlargement.

Obtaining adequate gravel locally may be more costly than expected, especially from Cache Creek. A recent referendum regarding gravel mining was met with fierce local debate. The Service recommends that an investigation be done on the adequacy of the gravel source. The site of the Putah Creek gravel is not specified. The source of the Putah Creek gravel may need to be investigated as it may be a spawning site for the few anadromous fish that enter Putah Creek from Sacramento River during floods.

Legal problems needing resolution that may impact costs will be the grazing right of the landowners next to the lake that extends down to the 440 M.S.L. line --the current lake level. A suit regarding flows for fisheries below the dam under California Fish and Game Code 5937 also

needs investigation to determine effects on a dam enlargement. The suit to provide extra flows for the fish downstream was achieved, but is now in appeal. The document states, "The existing fishery in Lake Berryessa would not be significantly impacted if the reservoir is operated in a manner similar to the present." Operation of the reservoir in a similar manner is not at all assured. The document further states that "...increases in shoreline...could be beneficial to game fish production." The current lawsuit is predominantly about native, coldwater fish and so enlarging the reservoir may not bring resolution.

The heron rookeries on the northern and southwestern shores of the lake, would be inundated. Describe how mitigation would be done for the two rookeries, with the potential that others may exist nearby that will also need to be mitigated.

The Putah Creek Reconnaissance Report, 1993, refers to additional listed species in lower Putah Creek including Swainson's hawk (*Buteo swainsoni*), giant garter snake (*Thamnophis gigas*), California red-legged frog (*Rana aurora draytonii*), California tiger salamander (*Ambystoma californiense*), red-shouldered hawk (*Buteo lineatus*), northern harrier (*Cicus cyaneus*), peregrine falcon (Falco peregrinus anatum), and long-billed curlew (*Numenius americanus*) in addition to those mentioned in this analysis. Loss of Swainson's hawk foraging habitat would have to be included in the mitigation figures.

Describe the effects of the diversion from the Sacramento River on aquatic and terrestrial species.

SITES/COLUSA RESERVOIR

Include information on several plant species listed in the document that have recently been federally listed. Provide additional detail on habitat located in the footprint area. Our information indicates that it is primarily grassland and oak savannah/woodland, but the DWR report also discusses a 7-acre saline vernal lake, among other wetlands. These descriptions need to be improved.

If you have any questions or concerns about the above, contact Robert Pine at (916) 979-2725 or Jean Elder at (916) 979-2130.

Sincerely,

Wayne S. White
Field Supervisor

cc: ARD, Klamath/California Ecoregions, Region 1, Portland, Oregon
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