

Issues (and Supporting Information Sources):

II. AGRICULTURAL RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. **Would the project:**

	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporation</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SETTING

BURNEY FALLS, BOWMAN DITCH, AND AHJUMAWI PROPERTY

Currently the Burney Falls area is primarily used for public recreational activities, which are described in detail in the Recreation section. The State Park General Plan currently restricts any agricultural uses, including grazing and timber extraction, on State Park premises. Small-scale timber extraction operations are ongoing on adjacent Shasta National Forestlands; however, these operations are not anticipated to affect any of the proposed land transfer properties within the State Park. The Bowman Ditch and Ahjumawi Property are located on the western and southwestern portions of the Ahjumawi Lava Beds State Park, respectively. These lands are located along the northern banks of the Little Tule River and Tule River.

MCARTHUR SWAMP AND GLENBURN DREDGE SITE

The McArthur Swamp and Glenburn Dredge site are located in the Fall River Valley, which consists of approximately 35,000 to 40,000 acres at elevations ranging from 3,300 to 3,400 feet above mean sea level (Shasta County, 1996). A majority of the rainfall occurs during the winter months, from November through March, and averages around 17 inches annually with an average snowfall of approximately 14 inches (Shasta County, 1996). The Fall River Valley is a modestly productive region with the average growing season lasting approximately 130 days. Livestock production is the major industry in the area with over 5,000 animals being marketed annually. Hay production is the second major agricultural industry with over 150,000 tons cut each year

(PG&E, 2000). Specialty crops, such as wild rice and strawberry nursery operations, have also become substantial revenue producers.

There are approximately 2,500 acres within the Fall River Valley that are planted with wild rice. The westerly portion of the valley facilitates rice production, due to the heavier clay soils. Although wild rice production has been relatively successful, this crop is considered to be a high-risk specialty crop, due to its need for excessive irrigation. Strawberry plant production within the Valley is generally limited to nursery stock and requires aerated sandy loam soils in the eastern portion of the valley. This crop typically generates a higher return to the grower. However, the soil conditions are critical for its production and there is little additional land available to expand this industry (PG&E, 2000).

McArthur Swamp

With the construction of levees along the southern portion of the Tule River back in the 1930s, the McArthur Swamp has facilitated livestock grazing for approximately 1,000 head of cattle on an annual basis. PG&E currently provides access on the property to nine livestock owners with grazing licenses for spring and summer forage and are renewable on an annual basis. The primary forage species in the annual upland areas include medusahead (*Taeniatherum*), small fescue (*Festuca*), and cheatgrass (*Bromus tectorum*). These species are generally poor quality feed, but do provide adequate spring forage prior to drying and developing seed heads and awns within the medusahead. The perennial uplands include species such as annual hairgrass (*Deschampsia danthonioides*), Kentucky bluegrass (*Poa pratensis*), California barley (*Hordeum californicum*), and bentgrass (*Agrostis*) (PG&E, 2000).

In a natural state without the maintenance of existing levees, McArthur Swamp would consist of seasonal and annual wetlands. The forage species on moister, lower lying soils include sedge (Cyperaceae), reed canary grass (*Phalaris arundinacea*), wheatgrass (*Elymus californicus*), ladino clover (*Trifolium*), and several other grass and legume species (Leguminosae). These low-lying areas provide superb forage production for livestock grazing as well as habitat for various waterfowl and other wildlife species.

Currently, the McArthur Swamp is managed essentially for rotational grazing. Individual fields are grazed at various times during the grazing season based on the condition and availability of the above-mentioned forage species. The property is currently divided into 16 fields through a network of perimeter and cross-fencing, 19 stockpond watering systems, and some access improvements. The perimeter and cross fencing is estimated to consist of 189,000 feet, all of which is in relatively good condition (PG&E, 2000). Fencing is essential to the management of livestock on designated fields and to achieve the maximum carrying capacity. Each field has a forage carrying capacity based on the number of Animal Unit Months (AUMs) that can potentially feed on the field during the season. Currently, the entire McArthur Swamp land area facilitates approximately 10,000 AUMs (RMA, 2000). The total carrying capacity for the various fields are summarized in **Table II-1**.

**TABLE II-1
CURRENT CARRYING CAPACITY FOR MCARTHUR SWAMP**

Field Name	Carrying Capacity (AUMs)
Hollenbeak Fields	1,120
Ashfield Fields (A Field)	1,098
N Fields	2,200
E Fields	3,422
S Fields	2,935
Totals	10,775

Source: PG&E Proponents Environmental Assessment, 2000.
Figure II-1 illustrates the relative location of each of the existing grazing fields

The source for the livestock water consists of well, two 10,000-gallon storage tanks, and a system of canals that drain water to the southeast corner of the property along McArthur Road. The water distribution system includes about 50,600 linear feet of buried PVC pipelines (PG&E, 2000). There are 18 concrete watering tanks with automatic water control valves and the existing water system has the ability to support between 8,000 and 12,500 AUMs.

The existing grazing plan includes approximately 5,949 acres and provides for the approximately 10,000 AUMs during the period of April to November (RMA, 2000). Of the total 5,949 acres, 146 acres include the southern levees along the Tule River, wetlands in field N-1, and the Rat Farm Pond, which are currently excluded from livestock operations for wildlife habitat. Livestock are typically introduced in mid-April into the upper S-1 and E-1 fields. Through May and June, additional livestock are placed on the remaining S fields and E fields. During the month of June, livestock grazing in the S-1 and E-1 fields is rotated into the N fields. The spatial layout of the current fencing system is as depicted in **Figure 1-5**.

Livestock are introduced to the Ashfield (A field) in July and the Hollenbeak field (HB field) in August. The Ashfield and Hollenbeak fields provide seasonal wetland habitat for numerous bird species during the spring and early summer grazing season. Specific bird species found in the area and wetland classifications are discussed in detail in **Section IV, Biological Resources**. The existing grazing rotation recognizes the value of these seasonal wetlands and, therefore, livestock are introduced later in the summer, and only allowed to graze for a month before being rotated into another field. The Ashfield is grazed only in July and September, while the Hollenbeak field is grazed in August and October.

Glenburn Dredge Site

The Glenburn Dredge Site is located on the eastern bank of Fall River along McArthur Road and is approximately one and a half miles west of southwestern corner of McArthur Swamp. The Glenburn Dredge Site has been used historically to moor the dredge “Francis” and as a recreation access point to the Fall River. There is no agricultural use associated with the Glenburn Dredge Site.

REGULATORY SETTING

BURNEY FALLS, BOWMAN DITCH, AND AHJUMAWI PROPERTY

The Burney Falls and McArthur Swamp is designated under the Shasta County General Plan as Public Land (PL) and Timberland (T), however, the McArthur-Burney Falls Memorial State Park General Plan supersedes these land use designations. The State Park General Plan designates the currently leased PG&E properties as either Open Space or Day Use and, therefore restricts agricultural uses and timber extraction operations (DPR, 1997). The State Park General Plan specifically states in its directive that, “Livestock grazing is prohibited within the Park” (DPR, 1997).

The Bowman Ditch and Ahjumawi Property are located within the eastern and southern portions of the Ahjumawi Lava Beds State Park, which too, is under the jurisdiction of DPR. Currently the Ahjumawi Lava Beds State Park lacks a General Plan, however, uses at the park are governed and restricted by the general provisions pertaining to lands classified as “state parks”. Parcel 016-320-013, which is located adjacent to the Bowman Ditch, is currently designated under the Shasta County General Plan as Full Time Agricultural Cropland (A-C). However, the Shasta County General Plan designation is superceded by restrictions pertaining to lands classified as “state parks” and consequently, the parcel is currently restricted from grazing uses.

MCARTHUR SWAMP AND GLENBURN DREDGE SITE

STATE REGULATORY OVERSIGHT

California Land Conservation Act

Under the provisions of the Williamson Act (California Land Conservation Act 1965, Section 51200), landowners contract with the County to maintain agricultural or open space use of their lands in return for a reduced property tax assessment. However, since the McArthur Swamp is currently owned by PG&E and is considered a utility property by the County, none of the parcels involved with the land transfer are currently encumbered under Williamson Act Contracts.

Farmland Mapping and Monitoring Program

The California Department of Conservation, under the Division of Land Resource Protection, has set up the Farmland Mapping and Monitoring Program (FMMP), which monitors the conversion

of the state's farmland to and from agricultural use. The map series identifies eight classifications and uses a minimum mapping unit size of ten acres. The program also produces a biannual report on the amount of land converted from agricultural to non-agricultural use. The program maintains an inventory of state agricultural land and updates its "Important Farmland Series Maps" two years. The FMMP is an informational service only and does not constitute state regulation of local land use decisions. Four categories of farmland, Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance, are considered valuable and any conversion of land within these categories is typically considered to be an adverse impact. Shasta County is currently not covered under the FMMP, however the County has developed a similar system for classifying the quality of its agriculturally designated lands by using Land Capability Classifications and Soil Story Indexes, which are made available by the Natural Resource Conservation Service (NRCS), Soil Survey Division.

SHASTA COUNTY REGULATORY OVERSIGHT

Shasta County General Plan

All of the parcels within the McArthur Swamp and Glenburn Dredge site are designated under the Shasta County General Plan for either Full Time Agricultural Cropland (A-C) or Public Lands / Open Space (PL/OS) (see Land Use Section for specific APN designations). In the Fall River Valley, the A-C designation limits the minimum parcel size to 40 acres for cropland and 160 acres for irrigated pasture. This designation was designed to provide protection to lands containing highly desirable soil characteristics and sources of water that provide irrigation to full time agricultural activities (Shasta County, 1996). The following agricultural policies govern land use activities on these lands and would apply to the proposed land transfers:

Agricultural Policies

Policy AG-a - Agricultural lands in Shasta County shall be classified according to three (one of which is applicable to the Proposed Project) general categories based on the following criteria:

Land designated on the land use maps as **A-C** capable of supporting crop production by full-time operators, including:

- Existing croplands used for full-time agricultural purposes.
- Lands which are not now but could be used for full-time agriculture based on resource characteristics (soils, climate, access to water) and compliance with the applicable parcel size minimums as shown in Table AG-3 of the General Plan. (Shasta County, 1996)

Policy AG-f - All lands classified as full-time agricultural lands shall be placed in a corresponding agricultural zone district and shall be eligible to enter into a contract, as provided by the Williamson Act (also known as the California Land Conservation Act of 1965) and applicable Shasta County agricultural preserve standards which require a minimum of 100 acres

of Class 1 equivalent soil based on the Soil Conservation Service's soil capability system and soil equivalencies adopted by the Shasta County Board of Supervisors (Shasta County, 1996).

Policy AG-h - The site planning, design, and construction of on-site and off-site improvements for non-agricultural development in agricultural areas shall avoid unmitigatable short- and long-term adverse impacts on facilities, such as irrigation ditches, used to supply water to agricultural operations (Shasta County, 1996).

Zoning Information

Each of the parcels within the McArthur Swamp are zoned either for Exclusive Agriculture (EA) or are Unclassified (U) with certain parcels containing the F2 designation; indicating that they are within a potential flood zone. The Glenburn Dredge Site is zoned (EA). These zoning designations are described below:

Exclusive Agricultural District (EA)

The purpose of the Exclusive Agricultural (EA) District is to preserve lands with agricultural value that have the combination of size and quality, sometimes in conjunction with other lands, to make their use for agriculture economically feasible, and within which agricultural preserves may be created for the purpose of utilizing provisions of the law relating to agricultural preserves. This district may also be applied to parcels that do not have these characteristics, but are located in an area where the predominant land use pattern meets the criteria of this district. This district is consistent with the Agricultural-Croplands (A-C) general plan designation. This district may also be applied to other areas within, which the parcels have a combination of size and quality to be used for full-time agriculture, provided there are no conflicts with other general plan policies.

Unclassified District (U)

The unclassified (U) district is intended to be applied as a holding district until a precise principal zone district has been adopted for the property. All new uses in this district shall be consistent with all applicable policies of the General Plan. According to this zoning designation, if a parcel is larger than ten acres, agricultural uses permitted in this zone are those agricultural uses permitted without a use permit in Exclusive Agriculture (EA) zoning districts.

AGRICULTURAL RESOURCES IMPACTS DISCUSSION

BURNEY FALLS, BOWMAN DITCH, AND AHJUMAWI PROPERTY

- a) Properties within the Burney Falls, Bowman Ditch, and Ahjumawi Property are currently not utilized for agricultural purposes. Furthermore, according to the Shasta County General Plan all of the properties are designated as Public Land (PL), except for the parcel adjacent to the Bowman Ditch, which is designated for Full Time Agricultural Cropland (A-C). However, since the DPR has jurisdiction over the parcel, agricultural activities on the parcel are restricted. Furthermore, due to the parcel's inaccessibility, grazing operations

would be economically infeasible on the property. Therefore, the proposed land transfer of the McArthur-Burney Falls Memorial State Park property, Bowman Ditch, and Ahjumawi Property would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), to non-agricultural use. As a result, no impact is expected.

MCARTHUR SWAMP AND GLENBURN DREDGE SITE

- a) The transfer of the McArthur Swamp and Glenburn Dredge Site from PG&E to the CWA, and subsequently to the RMA, would result in substantial changes to the current grazing pattern within McArthur Swamp. With the adoption of the MSMP, current grazing activities would still be permitted, however, the existing grazing rotation would be reconfigured to enhance migratory bird habitat. The reconfigured design of the fencing system is illustrated in **Figure 1-6**. As shown in **Table II-2**, the reconfigured fencing layout would actually provide a minimal increase (1 %) in the existing carrying capacity of the entire McArthur Swamp land base and therefore, no reduction in the land’s current agricultural productivity is expected. However, as shown in **Table II-2**, certain portions of the McArthur Swamp land base would actually experience substantial reductions in their current AUM capacity, due to proposed habitat modifications.

**TABLE II-2
PROPOSED CARRYING CAPACITY FOR MCARTHUR SWAMP**

Field Name	Current Carrying Capacity (AUMs)	Proposed Carrying Capacity (AUMs)	Change in AUM Capacity	Percent Change
Hollenbeak Fields	1,120	540	- 580	- 52 %
Ashfield Fields (A Field)	1,098	538	- 560	- 50 %
N Fields	2,200	2,755	+ 555	+ 25 %
E Fields	3,422	3,314	- 108	- 3 %
S Fields	2,935	3,758	+ 823	+ 28 %
Totals	10,775	10,905	+ 130	+ 1 %

Source: PG&E Proponents Environmental Assessment, 2000.

The FMMP currently does not provide coverage for Shasta County and therefore, to analyze any potential reductions in the quantity of locally productive farmlands, this analysis is based on information obtained from the Intermountain Soil Survey for California. According to NRCS Land Capability classifications shown in **Table 6-1**, a number of the soil types that reside within the McArthur Swamp and Glenburn Dredge Sites are classified as II or III when drained and irrigated, and consequently are classified

as Prime Farmland. The proposed transfer of McArthur Swamp and adoption of the MSMP would involve the conversion of currently grazed lands to non-grazing uses. However, since there is no proposed change in land use, the land transfer would not preclude potential agricultural uses. Furthermore, as shown in Table 2-2, a net increase of 130 AUM is expected, due to a more efficient grazing rotation system.

Since a number of habitat modifications are required as part of the Conservation Easement and subsequent adoption of the MSMP, each of these habitat modifications is evaluated below in order to assess potential impacts to agriculture.

In the development of nesting habitat, fencing and a reduction or seasonal exclusion of grazing to protect and foster nesting habitat in Field E-3 will reduce this field's value for agricultural uses. However, it is expected that this reduction can be offset through forage planning and stockpiling feed in Fields N4-A and N4-B for use in September and October. A small portion at the southeastern corner of Field S-1 will also be fenced and livestock grazing limited to protect and foster nesting habitat (see **Figure 1-6**). Since this field is somewhat brushy, it is expected that management of the area for upland nesting habitat will have a less-than-significant impact on its grazing value.

The development of fresh emergent wetlands within the Hollenbeak Field would not preclude livestock grazing, but would limit the amount of grazing by 52 %, as indicated in **Table II-2**. Depending on spring precipitation, irrigation water may be applied in late May and June, and livestock grazing will be permitted between irrigation watering as long as consistent field inspection is performed to ensure that the timothy grass matures. Livestock grazing ahead of the mid-September flooding for waterfowl habitat and forage will also be permitted as long as the timothy grass is allowed to seed. A similar grazing management approach will be applied to Ash Field Pond, which is expected to see a 52 % reduction in the amount of grazing. To counteract this potential decrease in productivity, fencing will be constructed at Ash Field Pond to make part of the field available to livestock. This would allow managers to analyze the potential compatibility impacts between managed livestock use and its direct and indirect effects on waterfowl habitat. As a result, agricultural uses will co-exist with the newly designed waterfowl habitat and therefore, a less-than-significant impact is expected.

The development of reverse cycle wetlands at locations shown in **Figure 1-6** would include measures to allow the continuation of existing grazing activities, as described in the MSMP. Fencing will be assembled to control direct access by livestock; however, depending on the amount of annual precipitation, limited grazing may be permitted. The loss of forage production by development of reverse cycle wetlands, referred to as Pond A in Field S-2, Pond B in Field S-1/S-2, and the Rat Farm Pond, would be balanced by increases in other portions of the S fields and N fields. Therefore, a less-than-significant impact is expected.

Wetland management objectives outlined in the MSMP will require supplemental water for the late summer and early fall flooding of approximately 875 acres of designated wetland habitat, and for spring irrigation of these areas. The required supplemental water will be obtained from several sources including, (1) 300 af of water that can be drawn from Big Lake or Tule River. (2) irrigation well capable of producing about 2,000 gpm installed in Field E6, and (3) additional piping installed to deliver water to nearby fields. Additionally, up to five cfs of water may be taken from Lee Drain (if available) for fall flood-up of wetland areas between September 15 and November 15 and excess irrigation water from a neighboring hay field will be used, if available, for wildlife reverse-cycle brood habitat in two ponds at the southern end of the McArthur Swamp. Other water can also be obtained from the previously mentioned livestock watering well adjacent to McArthur Road. A by-product of the new water delivery system would come in the form of increased forage production, which could be used for grazing within the limitations established for the various fields. Therefore, the water management practices that would affect the availability of water for irrigation would be considered less-than-significant.

Continued improvements to the McArthur Swamp Levee are considered essential to sustain existing agricultural uses. The initial improvement of the 5.8-mile McArthur Swamp levee will ensure continued use of portions of the property for grazing and improvement to wildlife habitat. Without implementation of the proposed improvements and subsequent maintenance, the levee will eventually fail, and land presently used for grazing will become flooded. Thus, the McArthur Swamp levee improvements will have a positive impact on agricultural uses currently occurring at McArthur Swamp.

As discussed in the MSMP, interactions between waterfowl and livestock grazing will be continually monitored by the TRT and the full-time McArthur Swamp Resource Manager (Resource Manager). As explained in the **Chapter 1.0, Project Description**, the TRT would provide the technical advice and direction for the management of McArthur Swamp. Regularly scheduled meetings with the TRT, RMA, CWA, and CWF (as holder of conservation easement) are intended to continuously update the MSMP and adjust the grazing and monitoring programs to insure the success of the wildlife programs. The Resource Manager will be hired by the RMA and will be responsible for implementing the elements of the MSMP and modifying on-the-ground activities based on TRT recommendations approved by the Board of Directors of the RMA.

Overall, because grazing will be managed more carefully by the employment of a full-time Resource Manager, grazing activities would occur more efficiently and in a manner that will improve and expand existing waterfowl habitat. Following the implementation of all waterfowl habitat improvements, increased water distribution for waterfowl, and additional fencing, McArthur Swamp will continue to provide near or slightly more than its current level of forage productivity (+1 %). In addition, the property will remain subject to the Conservation Easement, which binds all successive owners to preserving agricultural conditions on the property in accordance with the MSMP. For these previously discussed reasons, the transfer of the McArthur Swamp from PG&E to CWA, and subsequently to the

RMA would not involve changes to the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural uses. As a result, a less-than-significant impact is expected.

BURNEY FALLS, BOWMAN DITCH, AND AHJUMAWI PROPERTY

- b) None of the parcels located at Burney Falls, Bowman Ditch, and Ahjumawi Property contain pre-existing Williamson Act Contracts (Wayne Stephens Shasta County Assessor's Office, 2001). All of these properties are currently under DPR's jurisdiction and therefore, the existing County Zoning designations are inapplicable. However, with the transfer of the Bowman Ditch and Ahjumawi Property from DPR to PG&E and subsequently to CWA, these two areas will then fall under the jurisdiction of Shasta County. Only one parcel, located along the Bowman Ditch, is zoned EA, while the others contain a "U" zoning designation. As discussed in the **Chapter 1.0, Project Description**, PG&E would donate these parcels to the CWA for conservation purposes, which would subsequently use them for open space purposes. These proposed uses would be consistent with the EA District, which requires the preservation of lands with agricultural value. These uses would also be consistent with the "U" District, which is to be applied as a holding district until a precise principal zone district has been adopted for the property. Therefore, no impact is expected.

MCARTHUR SWAMP AND GLENBURN DREDGE SITE

- b) None of the parcels located at McArthur Swamp and the Glenburn Dredge Site contain pre-existing Williamson Act Contracts (Wayne Stephens Shasta County Assessor's Office, 2001). The assessor parcels that currently make up the McArthur Swamp all contain the EA or U zoning designation. Under the baseline condition, all of these parcels are currently used for grazing livestock during some portion of the year. The proposed land transfer would not include uses that would deviate from this current system of land use, except for creating additional open space habitat for migratory bird species. Therefore, uses proposed under the Conservation Easement and MSMP would be consistent with existing zoning designations and would not conflict with an existing Williamson Act Contract. As a result, no impact will result from the transfer.

BURNEY FALLS, BOWMAN DITCH, AND AHJUMAWI PROPERTY

- c) There are no other potential project changes which will result in the conversion of farmland to a non-agricultural use. All impacts related to the conversion of farmland are described under checklist item (a.)

MCARTHUR SWAMP AND GLENBURN DREDGE SITE

- c) There are no other potential project changes which will result in the conversion of farmland to a non-agricultural use. All impacts related to the conversion of farmland are described under checklist item (a.)

REFERENCES

RMA. 2000. Resource Management Association, McArthur Swamp Management Plan.

DPR, 1997. State Department of Parks and Recreation, McArthur-Burney Falls Memorial Park General Plan, June 1997.

Pacific Gas and Electric, 2000. Proponents Environmental Assessment for McArthur-Burney Falls Memorial State Park and McArthur Swamp (Application Numbers 00-05-030 and 00-05-029).

Shasta County, 1996. Shasta County General Plan. Resource Element, Agriculture.

Shasta County, 1999. Shasta County Zoning Code (As amended through July 23, 1999) Chapters 17.04 and 17.06.

California Land Conservation Act 1965, Section 51200. Williamson Contract.

Shasta County Assessors Office. Personal communication with Wayne Stephens, February 2001.