

BIOLOGICAL INVENTORY REPORT

Site name: DeHart Trust
APN: 51-410-05
Location: Nevada County; Section 5, T. 15 N, R. 7 E (USGS Rough and Ready quadrangle, southwest of Penn Valley area).
Prepared for: Nevada City Engineering
Survey dates: March 18 and April 22, 2004
Report date: April 5, 2004
Biologist: Adrian Juncosa, Ph.D.
Objectives: To conduct a preliminary biological resources inventory.

EXECUTIVE SUMMARY

The majority of the parcel surveyed is vegetated by Foothill Hardwood and chaparral, with one area of pasture (Annual Grassland) to the east of Oak Springs Road.

No special-status species was observed on the site. Habitat suitable for Brandegee's clarkia is found within the building envelopes of three of the parcels. All suitable habitat was surveyed comprehensively at a time when several other *Clarkia* species were flowering at nearby sites, and only a common species (*C. gracilis*) was found on the DeHart Trust site. Three landmark blue oaks were found in the study area. If feasible, grading (cut or fill) should not occur within the canopy of these trees (estimated 30 foot radius from the centerpoint).

The project in question is a subdivision of one 30-acre parcel into four parcels, with three of the proposed building envelopes clustered at the western end of the site, and the remaining one located at the eastern end, adjoining existing development. The proposed subdivision configuration minimizes habitat impacts to the extent possible within the zoning constraints on minimum lot size.

The project would be expected to result in the direct loss or substantial alteration of up to 8 acres of existing blue oak woodland and 10 acres of pasture habitat, which is a less-than-significant overall habitat impact within the regional context.

If the one recommended mitigation measure is implemented, the proposed project would have less-than-significant impacts on existing biological resources.

SITE LOCATION AND SETTING

The study site lies in Section 5, T. 15 N, R. 7 E; USGS Rough and Ready quadrangle. The elevation of the site varies from approximately 1,500 to 1,900 feet.

The regional setting of the study site is agricultural (horses). Prior to settlement, the area probably supported nearly unbroken mixed evergreen forest dominated by pines (mostly ponderosa pine but also including sugar pine) and oaks (primarily black oak).

Community names that are capitalized in this report are those developed for the California Department of Fish and Game Wildlife Habitat Relationship system and slightly refined in the Nevada County Natural Resources Report (NCNRR). They are useful habitat names regardless of the regulatory status of the respective sources. For the present site, it is further useful to discriminate between two subtypes of Foothill Hardwood habitat.

The site supports the following biological communities, in order of coverage area:

- Annual Grassland (approximately 9.3 acres)
- Foothill Hardwood woodland with grassy understory (approximately 10.2 acres)
- Foothill Hardwood woodland with shrubby understory (approximately 5.1 acres)
- Oak-Foothill Pine with shrubby understory (approximately 5.5 acres)

REGIONAL SETTING

The study site lies in the Squirrel Creek watershed. This watershed includes the following acreages of the habitat types that occur on the project site:

Annual Grassland:	2,014
Foothill Hardwood:	608
Oak-Foothill Pine:	3,014
Foothill Chaparral:	20

As explained below, the habitat type mapped here as Mixed Oak and Foothill Chaparral is probably derived from Oak-Foothill Pine and does not provide the habitat values characteristic of chaparral (although a few of the common plant species are the same).

METHODS

The site was first walked to characterize the habitat and to locate any unusual habitat types (such as outcrops, areas of peculiar vegetation suggestive of gabbrodiorite or serpentine soils, which might support special-status plant species, or wetlands). A total of 7 field hours were spent on the study site itself. All plant species present were noted on a proprietary checklist of the local flora, and fragments of some were collected as necessary for microscopic study. Identifications were made using Hickman (1993).

The site was studied in March 2004, with a revisit in late April to survey for a special-status plant species for which suitable habitat was found.

SURVEY RESULTS

SPECIES OBSERVED

Appendix A includes a list of plants and vertebrates that were observed. Plants were identified almost entirely by sight identification; a few were keyed out using Hickman (1993). Birds were identified by sight or by reference to Sibley (2000). No mammals were seen during the site reconnaissance.

HABITATS PRESENT

The vegetation types present on most of the area of the site were evidently strongly modified at some time at least several decades ago. Whether this was by fire, logging, grazing, or other natural or human actions was not evident. Regardless of the cause, the result is that the plant communities correspond poorly to the descriptions of the habitat types used by the NCNRR and other widely known sources. The labels used for this report represent the probable original vegetation character, and the text below explains the differences between the typical type and the vegetation present on the site.

Annual Grassland

This habitat type occurs only at the eastern end of the project site and constitutes a maintained pasture, mainly vegetated by perennial species (despite the label name).

Foothill Hardwood woodland with grassy understory

This area is vegetated by an open blue oak (*Quercus douglasii*) canopy, with very few shrubs, and a grassy layer that includes a variety of native forbs. This habitat closely resembles the typical description for Foothill Hardwood vegetation (blue oak woodland).

Mixed Oak and Foothill Chaparral

This habitat type occurs on the steeply sloping central portion of the site. The vegetation is predominantly shrubby, comprised primarily of whiteleaf manzanita (*Arctostaphylos viscida*) and poison oak (*Toxicodendron diversilobum*), with a very broken overstory of relatively small (maximum 12-24 inches dbh) live oak trees (*Quercus wislizenii*). Very small grassy openings occur in places, but the habitat character is overwhelmingly shrubby. The loamy soil, numerous oaks, and unusual character of the shrub layer (high proportion of poison oak) distinguishes this area from typical foothill chaparral, which is relatively rare in the Squirrel Creek watershed. Most likely, this patch of habitat represents a modified form of live oak Foothill Hardwood, or of Oak-Foothill Pine (see below). This is the judgment that was also made by the preparers of the NCNRR, which shows the single small occurrence of Foothill Chaparral to be located some distance away from the DeHart Trust site.

Foothill Hardwood woodland with shrubby understory

This plant community intergrades with the mixed oak/chaparral type described above, and is distinguished on the basis of having a greater proportion of the overall canopy composed of trees rather than shrubs. The majority of the tree canopy is live oak, but foothill pines (*Pinus sabiniana*) are scattered throughout. This suggests that the original ecological type was Oak-Foothill Pine woodland, which is the most abundantly distributed habitat type within the Squirrel Creek watershed. No obvious signs of what caused the change in habitat character could be found.

A few woody riparian species occur in one very small patch between the Pet Hill Ditch and Oak Springs Road. This site is identified on the map by the star marking the location of a single Fremont's cottonwood (*Populus fremontii*; approximately 24 inches dbh). Several grape vines, or possibly several stems from one plant, grow at the same site. The area where these plants occur is only 100-200 square feet at most, and the few riparian plants are mixed with typical upland oak/pine species, so it would be inaccurate to denote it as an occurrence of Foothill Riparian Woodland. This site is over 100 feet from any proposed development, so there would be no impact upon it.

SPECIAL-STATUS SPECIES

The site is located in the Rough and Ready quadrangle, close to the border with Smartville quadrangle. The CNDDDB was queried for occurrences recorded for these two quadrangles; the printout is included as Appendix B. No occurrences are known from Rough and Ready, and only four from Smartville:

Asio otus (long-eared owl)

Emys (=Clemmys) *marmorata marmorata* (northwestern pond turtle)

Oncorhynchus tshawytscha (spring-run Chinook salmon)

Downingia pusilla (dwarf downingia)

In addition, this study considered two species that are recorded from adjoining quadrangles on all sides of the Rough and Ready quadrangle:

Phrynosoma coronatum frontale (California horned lizard)

Clarkia biloba ssp. *brandegeae* (Brandegee's clarkia)

WILDLIFE

Long-eared owl nests in riparian woodland or thicket habitats, which do not occur on the DeHart Trust site; there is no potential for occurrence of this species on the site.

Northwestern pond turtle (*Emys marmorata marmorata*) occurs primarily in slow-moving creeks, but also in ponds providing cover, basking sites, and other habitat features. No such water bodies are found on the DeHart Trust site.

Chinook salmon inhabits the major rivers and tributaries of central California, which do not extend to the project site; there is no potential for occurrence of salmon on the site.

California horned lizard is found in many nearby quadrangles. As stated in the CNDDDB records, among many other sources, California horned lizard frequents a variety of habitats, but especially ones with scattered shrubs and much open area, with loose soils, in which the lizard buries itself for cover and thermal protection. It is also dependent on abundant ants for food. These characteristics are not found on the study site; on the contrary, the shrub cover is extremely dense and tall, and the soils are not friable, so the habitat was judged to be unsuitable for California horned lizard.

PLANTS

Dwarf downingia is a plant of vernal pools or similar seasonal wetlands in nearly flat grassland habitat. No such wetland habitat occurs on the DeHart Trust site.

Brandegee's clarkia is found in grassy openings within chaparral or oak woodland habitat, often (but not exclusively) on road cuts or similar steeply sloping terrain. Although the species is not yet recorded from the Rough and Ready quadrangle, it is known to occur in many sites in the quadrangles north and south of Rough and Ready. Therefore, it could occur in some suitable habitats within the Rough and Ready and Smartville quadrangles. The three parcels proposed to be created in the western half of the site include habitat that appears to be suitable for Brandegee's clarkia. The Annual Grassland habitat in the eastern half of the site was examined closely, and is densely vegetated by turf composed of mostly perennial introduced pasture species. Based upon extensive field experience with California grasslands, this pasture area was judged unsuitable for Brandegee's clarkia.

The flowering season for many species arrived early in 2004; prior to revisiting the DeHart site, we confirmed that three other common clarkias were in bloom at other nearby sites. Since many species of this genus are indistinguishable unless open flowers are in hand, this is a precondition for a valid survey for any rare *Clarkia*. Since closely related species were found in flower during the week of April 19, the grassy openings in the upper portion of the site were surveyed thoroughly (on April 22). The only *Clarkia* species present was *C. gracilis*, which is extremely similar to *C. biloba* ssp. *brandegeae* vegetatively, but is easily distinguished by its different petal shape (ragged terminal edge, vs. smooth and notched in the middle for ssp. *brandegeae*).

Neither the western Nevada County soil survey nor the NCNRR show occurrences of serpentine- or gabbro-derived soils in the vicinity of the site, and the very robust mixed oak-chaparral community that is found on the site does not suggest that unmapped exposure of such soils might occur. Therefore, I conclude that there is no potential for the occurrence of rare edaphic endemic plant species to occur on the DeHart Trust site.

WATER BODIES

At some time in the past, an artificial pond that serves as a landscape feature was built near the existing residence, in the eastern portion of the study site. This pond does not appear on the USGS map and was built in a dry land situation (that is, not by damming an existing tributary). It is supplied with pumped/diverted irrigation water, thus is supported by artificial hydrology, not by incident rainfall or other runoff. In contrast to ponds built by damming other waters of the U. S., ponds of the type that is present on the DeHart Trust site are not regarded as jurisdictional by the U. S. Army Corps of Engineers. In the entirely landscaped setting which occurs here, pond does not provide natural habitat values either. In my professional opinion, supported by other Nevada County planning precedent, the pond that is located in the DeHart Trust site is not a waterbody that should appear on a parcel map and be subject to applicable General Plan

and Zoning Ordinance policies (specifically, Section L-II 4.3.17). This opinion does not apply to ponds built in tributaries, which, by contrast, constitute expanded waters of the U. S. and the State of California. Jurisdictional features, whether surrounded by hydrophytic vegetation or not, would merit recognition on a parcel map and regulation under § L-II 4.3.17.

PROJECT DESCRIPTION

The project description is a subdivision of the 30-acre site into three 5-acre parcels and one 15-acre parcel (see map). Five acres is the minimum size allowed by the AG-5 zoning designation, which applies to this site. The proposed building envelopes for the three smaller parcels are clustered at the western (uphill) end of the site, and the building envelope for the eastern parcel is already developed and maintained as pasture.

IMPACT ASSESSMENT AND MITIGATION

SPECIAL STATUS SPECIES

There is no anticipated impact on any special-status species, or upon habitat necessary for the continued existence of any such species.

LANDMARK OAKS

Two landmark blue oaks (>36 inches in diameter) were found in the southwestern portion of the site. Exact locations were determined by survey-grade GPS by Nevada City Engineering. Recommended mitigation is for no grading (cut or fill) to occur within 30 feet of the trunks (nominal canopy spread). Since there are only two such trees, one of which may ultimately prove to be outside the southern site boundary, it should be relatively easy to avoid them without constraining building design options excessively.

GENERAL HABITAT IMPACTS

Because the building areas are clustered at the two ends of the site, near other existing and anticipated future developments, habitat impacts are minimized. The magnitude of impacts upon Annual Grassland and Foothill Hardwood habitats are less than significant when judged by applicable CEQA guidelines.

REGULATORY CONSISTENCY

The proposed project is consistent with County policies regarding clustering of development.

There is no direct or indirect impact upon wetlands, riparian habitat, or seasonal tributaries.

With the implementation of suggested mitigation measures for avoidance of impact upon landmark oaks, the project is consistent with County policies pertaining to protection of sensitive natural resources.

INVESTIGATOR AND QUALIFICATIONS

The site was studied and this report written by Adrian M. Juncosa, Ph.D. (Botany; Duke University, 1982). He has completed over 120 site studies, impact analyses, mitigation, and monitoring projects in central and northern California. As principal biologist of EcoSynthesis Scientific & Regulatory Services, he is listed by Nevada County as a pre-approved biological consultant for the preparation of biological inventories and habitat management plans.

REFERENCES CONSULTED

California Native Plant Society. 1994. *Inventory of Rare and Endangered Vascular Plants of California*, Fifth Edition. CNPS, Sacramento, California. (On-line sixth edition also consulted.)

Department of Fish and Game. 2002. List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database, May 2002 Edition.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Hickman, J. C. (Editor). 1993. *The Jepson Manual: Higher Plants of California*. University of California Press, Berkeley, California.

Sibley, D. A. 2000. *National Audubon Society - The Sibley Guide to Birds*. Alfred Knopf, New York.

Appendix A. Species observed on the project site.

Species are listed in alphabetical order by scientific name under each category (except birds, listed phylogenetically).

PLANTS

Scientific Name	Common Name	Notes
<i>Achillea millefolium</i>	yarrow	
<i>Agoseris retrorsa</i>	spear-leaved agoseris	
<i>Aira caryophyllea</i>	silver hair grass	
<i>Anagallis arvensis</i>	scarlet pimpernel	
<i>Arctostaphylos viscida</i>	whiteleaf manzanita	
<i>Avena</i> sp.	wild oats	
<i>Baccharis pilularis</i>	coyote bush	
<i>Briza minor</i>		
<i>Bromus diandrus</i>	ripgut brome	
<i>Bromus hordeaceus</i>	soft brome	
<i>Calandrinia ciliata</i>	red maids	
<i>Calycadenia mollis</i>		
<i>Calochortus albus</i>	white globe lily	
<i>Carduus pycnocephala</i>	Italian thistle	
<i>Ceanothus leucodermis</i>	chaparral whitethorn	
<i>Cerastium glomeratum</i>	mouse-ear chickweed	
<i>Chlorogalum pomeridianum</i>	soap plant	
<i>Clarkia gracilis</i> ssp. <i>gracilis</i>	slender clarkia	
<i>Collinsia heterophylla</i>	chinese houses	
<i>Cynosurus echinata</i>	dog-tail grass	
<i>Dactylis glomerata</i>	orchard grass	
<i>Dichelostemma capitatum</i>	blue dicks	
<i>Dichelostemma volubile</i>	snake lily; twining brodiaea	
<i>Dodecatheon hendersonii</i>	shooting star	
<i>Eriophyllum lanatum</i>	woolly sunflower	
<i>Erodium botrys</i>	storkbill	
<i>Erodium cicutarium</i>	storkbill	
<i>Eschscholtzia lobbii</i>	Lobb's poppy	
<i>Galium ambiguum</i>	bedstraw	
<i>Galium</i>	bedstraw	
<i>Geranium molle</i>	geranium	
<i>Grindelia camporum</i>	gum plant	
<i>Helianthus annuus</i>	sunflower	
<i>Heteromeles arbutifolia</i>	toyon	
<i>Holcus lanatus</i>	velvet grass	
<i>Hypochoeris radicata</i>	cat's-ear	
<i>Iris tenuissima</i>	iris	

Appendix A. Species observed on the project site.

<i>Juncus balticus</i>	Baltic rush
<i>Linum bienne</i>	flax
<i>Lotus purshianus</i>	lotus
<i>Luzula comosa</i>	wood rush
<i>Madia elegans</i> ssp. <i>vernalis</i>	common madia
<i>Madia rammii</i>	madia
<i>Pentagramma triangularis</i>	silverback fern
<i>Perideridia</i> sp.	yampah
<i>Pinus ponderosa</i>	ponderosa pine
<i>Pinus sabiniana</i>	foothill pine
<i>Plagiobothrys nothofulvus</i>	popcorn flower
<i>Plantago erecta</i>	
<i>Plantago lanceolata</i>	common plantain
<i>Plectritis ciliosa</i>	long-spurred plectritis
<i>Populus fremontii</i>	Fremont cottonwood
<i>Quercus douglasii</i>	blue oak
<i>Quercus kelloggii</i>	California black oak
<i>Quercus wislizenii</i>	interior live oak
<i>Ranunculus occidentalis</i>	western buttercup
<i>Rhamnus californicus</i>	coffeeberry
<i>Rubus discolor</i>	Himalayan blackberry
<i>Sanicula bipinnatifida</i>	sanicle
<i>Sanicula crassicaulis</i>	sanicle
<i>Saxifraga californica</i>	California saxifrage
<i>Scutellaria tuberosa</i>	skullcap
<i>Senecio vulgaris</i>	common groundsel
<i>Solanum xanti</i>	nightshade
<i>Taeniatherum caput-medusae</i>	medusa-head grass
<i>Thysanocarpus curvipes</i>	lacepod
<i>Torilis arvensis</i>	hedge-parsley
<i>Toxicodendron diversilobum</i>	poison oak
<i>Trifolium dubium</i>	shamrock
<i>Trifolium pratense</i>	red clover
<i>Trifolium repens</i>	clover
<i>Triphysaria eriantha</i>	butter and eggs
<i>Triteleia laxa</i>	Ithuriel's spear
<i>Vicia sativa</i>	vetch
<i>Viola douglasii</i>	Douglas's violet
<i>Vitis californica</i>	wild grape
<i>Vulpia myuros</i>	six-weeks fescue
<i>Woodwardia fimbriata</i>	chain fern
<i>Wyethia bolanderi</i>	mule's-ears

Appendix A. Species observed on the project site.

BIRDS

Scientific Name	Common Name	Notes
<i>Cathartes aura</i>	turkey vulture	
<i>Lophortyx californicus</i>	California quail	
<i>Calypte anna</i>	Anna's hummingbird	
<i>Aphelocoma coerulescens</i>	scrub jay	
<i>Psaltriparus minimus</i>	bushtit	
<i>Wilsonia</i> sp.	Wilson's or hooded warbler	Difficult sight; no song heard; migrating individual
<i>Pipilo maculatus</i>	spotted towhee	
<i>Junco hyemalis</i>	dark-eyed junco	

MAMMALS

<i>Canis latrans</i>	coyote	sign observed
<i>Lepus californicus</i>	black-tailed hare	observed directly
<i>Odocoileus hemionus</i>	mule deer	observed directly
<i>Procyon lotor</i>	raccoon	sign observed
<i>Thomomys</i> (probably <i>bottae</i>)	pocket gopher	sign observed
<i>Sciurus griseus</i>	gray squirrel	observed directly

Appendix B.

**California Natural Diversity Data Base printout for
USGS Rough and Ready and Smartville quadrangles.**

Asio otus

long-eared owl

Element Code: ABNSB13010

Status	NDDB Element Ranks	Other Lists
Federal: None State: None	Global: G5 State: S3	CDFG Status: SC

Habitat Associations

General: (NESTING) RIPARIAN BOTTOMLANDS GROWN TO TALL WILLOWS & COTTONWOODS; ALSO, BELTS OF LIVE OAK PARALLELING STREAM COURSES.

Micro: REQUIRE ADJACENT OPEN LAND PRODUCTIVE OF MICE AND THE PRESENCE OF OLD NESTS OF CROWS, HAWKS, OR MAGPIES FOR BREEDING.

Occurrence No. 47	Map Index: 42029	EO Index: 42029	Dates Last Seen
Occ Rank: Excellent			Element: 1993-05-09
Origin: Natural/Native occurrence			Site: 1993-05-09
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1999-12-16
Main Source: WILLIAMS, B. 1993 (OBS)			

Quad Summary: SMARTVILLE (3912123/543A)
County Summary: NEVADA, YUBA

Lat/Long: 39.12566° / -121.27975°	Township: 15N
UTM: Zone-10 N4332130 E648700	Range: 06E
Mapping Precision: SPECIFIC	Section: 26 Qtr: XX
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 480 ft

Location: EAST OF PITTMAN ROAD HEADQUARTERS COMPOUND, SPENCEVILLE WILDLIFE AREA

Location Detail:

Ecological: NEST TREE IS LOCATED AT THE EDGE OF A GRASSLAND CLEARING (TO THE WEST) AND AN EXTENSIVE OAK WOODLAND (TO THE EAST).

Threat: THREATENED BY HUMAN DISTURBANCE FROM CURIOUS OBSERVERS.

General: 2 ADULTS WITH 3 YOY OBSERVED ON 9 MAY 1993; 2+ SECOND-YEAR BIRDS WERE ALSO PRESENT IN THE VICINITY.

Owner/Manager: DFG-SPENCEVILLE WA

Downingia pusilla

dwarf downingia

Element Code: PDCAM060C0

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CNPS List: 2
State: None	State: S3.1	R-E-D Code: 1-2-1

Habitat Associations

General: VALLEY AND FOOTHILL GRASSLAND (MESIC SITES), VERNAL POOLS.
Micro: VERNAL LAKE AND POOL MARGINS WITH A VARIETY OF ASSOCIATES. IN SEVERAL TYPES OF VERNAL POOLS.
1-485M.

Occurrence No. 95	Map Index: 43393	EO Index: 43393	Dates Last Seen
Occ Rank: Unknown			Element: 1999-XX-XX
Origin: Natural/Native occurrence			Site: 1999-XX-XX
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2000-08-09
Main Source: GAUSE, M. 1999 (PERS)			

Quad Summary: CAMP FAR WEST (3912113/543D), WHEATLAND (3912114/543C), SMARTVILLE (3912123/543A), BROWNS VALLEY (3912124/543B)

County Summary: YUBA

Lat/Long: 39.12647° / -121.37807°	Township: 15N
UTM: Zone-10 N4332063 E640199	Range: 05E
Mapping Precision: NON-SPECIFIC	Section: 26 Qtr: XX
Symbol Type: POINT	Meridian: M
Radius: 5 mile	Elevation: 250 ft

Location: BEALE AIR FORCE BASE, EAST OF MARYSVILLE.
Location Detail: EXACT LOCATION NOT KNOWN. ENTIRE BASE MAPPED TO REFLECT UNCERTAINTY.
Ecological:
Threat:
General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS SITE NAME NOTED BY M. GAUSE.
Owner/Manager: DOD-BEALE AFB

Emys (=Clemmys) marmorata marmorata

northwestern pond turtle

Element Code: ARAAD02031

Status	NDDB Element Ranks	Other Lists
Federal: Species of Concern	Global: G3G4T3	CDFG Status: SC
State: None	State: S3	

Habitat Associations

General: ASSOCIATED WITH PERMANENT OR NEARLY PERMANENT WATER IN A WIDE VARIETY OF HABITATS.
 Micro: REQUIRES BASKING SITES. NESTS SITES MAY BE FOUND UP TO 0.5 KM FROM WATER.

Occurrence No. 65	Map Index: 32841	EO Index: 761	— Dates Last Seen —
Occ Rank: Unknown			Element: 1988-08-18
Origin: Natural/Native occurrence			Site: 1988-08-18
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1996-02-24
Main Source: HOLLAND, D. 1988 (PERS)			

Quad Summary: SMARTVILLE (3912123/543A), OREGON HOUSE (3912133/559D)
 County Summary: YUBA

Lat/Long: 39.25068° / -121.35073°	Township: 16N
UTM: Zone-10 N4345891 E642311	Range: 06E
Mapping Precision: NON-SPECIFIC	Section: 18 Qtr: XX
Symbol Type: POINT	Meridian: M
Radius: 1 mile	Elevation: 240 ft

Location: DRY CREEK, 0.5 MILES NORTH OF SCOTT FORBES ROAD ON PEORIA ROAD; SSW OF COLLINS LAKE.
 Location Detail:
 Ecological:
 Threat:
 General: 1 CAPTURED AND RELEASED BY D.C. HOLLAND ON 18 AUGUST 1988.
 Owner/Manager: UNKNOWN

Oncorhynchus tshawytscha spring-run

spring-run chinook salmon

Element Code: AFCHA0205A

_____ Status _____	_____ NDDB Element Ranks _____	_____ Other Lists _____
Federal: Threatened	Global: G5	CDFG Status:
State: Threatened	State: S1	

_____ **Habitat Associations** _____

General: ADULT NOS DEPEND ON POOL DEPTH & VOLUME, AMOUNT OF COVER, & PROXIMITY TO GRAVEL. WATER TEMPS >27 C LETHAL TO ADULTS

Micro: FEDERAL LISTING REFERS TO POPS SPAWNING IN SACRAMENTO RIVER & TRIBUTARIES.

Occurrence No. 4	Map Index: 34002	EO Index: 8963	_____ Dates Last Seen _____
Occ Rank: Poor			Element: 1997-09-20
Origin: Natural/Native occurrence			Site: 1997-09-20
Presence: Presumed Extant			
Trend: Decreasing			Record Last Updated: 1998-06-02
Main Source: DEPT. OF FISH & GAME 1990 (LIT)			

Quad Summary: SMARTVILLE (3912123/543A)

County Summary: NEVADA, YUBA

Lat/Long: 39.22863° / -121.32764°	Township: 16N
UTM: Zone-10 N4343481 E644349	Range: 06E
Mapping Precision: SPECIFIC	Section: XX Qtr: XX
Symbol Type: POLYGON	Meridian: M
Area: 195.0 ac	Elevation: 260 ft

Location: YUBA RIVER FROM THE HIGHWAY 20 BRIDGE UPSTREAM TO ENGLEBRIGHT DAM, YUBA COUNTY.

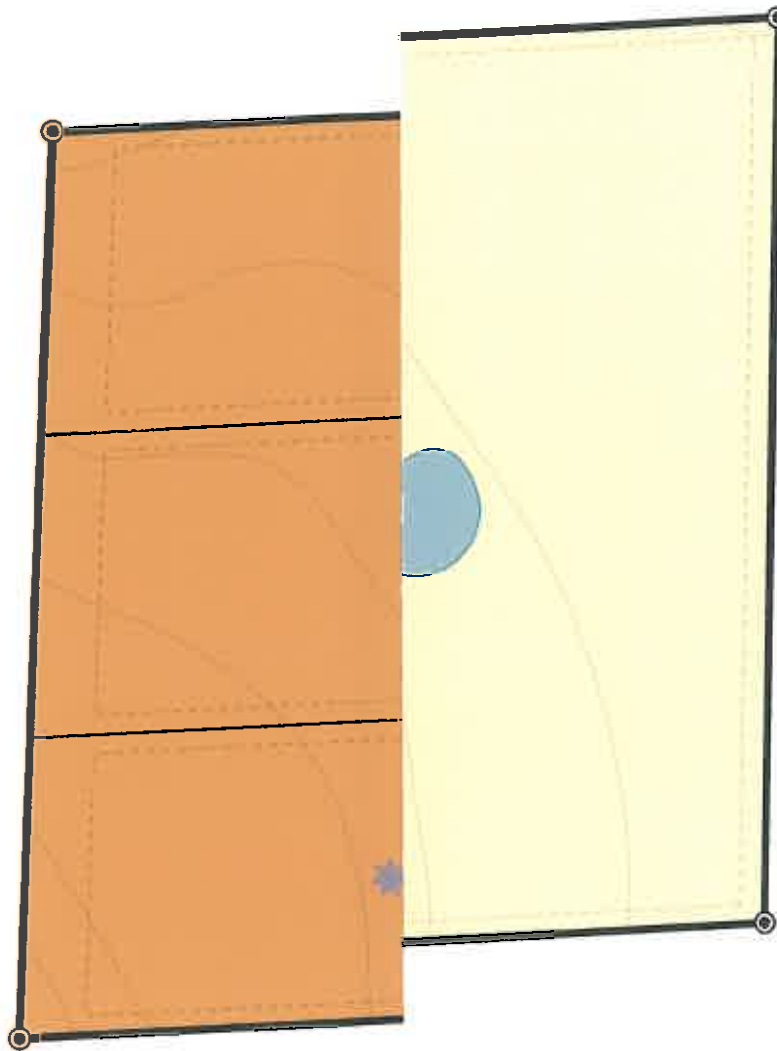
Location Detail: PRIMARILY IN THE NARROWS AREA APPROXIMATELY 1.4 MILES DOWNSTREAM FROM ENGLBRIGHT DAM.

Ecological: NO SPRING RUN CHINOOK HAVE BEEN OBSERVED THE LAST THREE YEARS USING SNORKEL AND RIVER BANK SURVEYS (1996 PERS). THE POTENTIAL FOR RESTORING THE RIVER IS UNKNOWN. MAPPED IS THE HOLDING/SPAWNING AREAS.

Threat: HIGH PROBABILITY OF HYBRIDIZATION. POACHING. FISH PASSAGE PROBLEMS. DIVERSIONS. INADEQUATE STREAM FLOWS.

General: THE SPRING RUN PURE STOCK IS SUSPECT BECAUSE OF OVERLAPPING SPAWNING AREA WITH FALL RUN CHINOOK. MEAN RUN SIZE FOR THE YEARS 1980-89 WAS 200. 5 FISH WITH SPRING RUN CHARACTERISTICS RESCUED, 1997, UPDATE REPORT.

Owner/Manager: PVT, UC



Eco.Synthesis

SCIENTIFIC & REGULATORY SERVICES

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Notes

Topography derived from USGS 7.5-minute Rough and Ready quadrangle by Nevada City Engineering.

Major habitat types intergrade.

See report text for a detailed description of plant communities.