Steelhead Survey and Temperature Monitoring Report for Cow Creek, 2002 and 2003

by

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The decline of Central Valley steelhead is well documented. In 1998, the species was listed as threatened under the Federal Endangered Species Act. Efforts to manage and reverse the decline of steelhead have been impaired by a lack of information, particularly about the status and basic life-history characteristics of individual stocks. Cow Creek (Shasta County, tributary to Upper Sacramento River), is known to support steelhead. However, very little is known about the distribution or size of the population.

In an effort to obtain basic information about Cow Creek steelhead, personnel from the Department of Fish and Game (CDFG) and a volunteer from W. M. Beaty & Associates, Inc. conducted direct observation (snorkel and walking) surveys in South Cow and Old Cow creeks. The main objectives were to count adult steelhead, carcasses and redds and to evaluate the effectiveness of direct observation techniques for this purpose in Cow Creek. Secondary objectives were to document barriers to anadromy and any obvious problems with the habitat. Additionally, thermographs were deployed throughout the watershed to record water temperature. Results of direct observation surveys and water temperature data are presented in this report.

Methods

We conducted direct observation surveys (snorkeling and on foot) to search for adult steelhead, redds and carcasses when adult steelhead would most likely be present (approximately February through April) based on data from other Sacramento River tributaries. We also conducted surveys during late summer to observe the resident trout population. We attempted to choose sampling sites where adult steelhead would most likely occur based on anecdotal reports of sightings and information from previous CDFG habitat surveys. We also located survey reaches within timberlands managed by private companies; which may be required to comply with more stringent Forest Practice Rules if steelhead use habitat within their management areas.

We used size as the main criteria to distinguish resident rainbow trout from anadromous rainbow trout (steelhead). According to Hallock et al (1961), Sacramento River steelhead range in size from approximately 41 to 82 cm (16 to 32 inches), with an average of approximately 47 cm (18.5 inches). Although there is no scientific method to distinguish a steelhead from a large resident rainbow trout, we accepted Hallock's findings that rainbow trout greater than 47 cm (18.5 inches) fork length (FL) were likely anadromous. We also looked for silvery coloration and a streamlined body shape, characteristics more typical of steelhead than resident rainbow trout (McGinnis 1984; Moyle 1976).

We also used size as the main criteria to identify steelhead redds. Although there is no

data available pertaining to redd size for Sacramento River steelhead, researchers in other systems have reported average redd sizes from 5.3 m^2 (Shapovalov and Taft 1954; Reiser and Bjornn 1979) to 6.9 m^2 (Wilson and Collins 1992). By contrast, rainbow trout redds average approximately 0.2 m^2 (Reiser and Bjornn 1979).

While conducting direct observation surveys, we recorded qualitative observations about the habitat, including suitability of spawning gravel, number of deep holding pools, signs of excessive sedimentation, bank stability, and presence of potential barriers to anadromy.

Onset Optic Stowaway temperature loggers were installed at 6 locations within the Cow Creek watershed to record water temperatures year-round (Figure 12).

Results of direct observation surveys

South Cow Creek 2002

Between 5 February and 15 April 2002, Teri Moore (CDFG Fishery biologist) and Bob Carey (W. M. Beaty and Associates wildlife biologist) conducted three snorkel surveys in South Cow Creek to search for adult steelhead, carcasses and redds. We did not observe any adult steelhead, carcasses or redds. We did observe moderate numbers of rainbow trout ranging in size from approximately 3 to 8 inches. Results of these surveys are summarized in Table 1.

Table1. Summary of direct observation surveys conducted in South Cow Creek during 2002.

Date	Section (Figure 3)	Adult steelhead	Steelhead redds	Comments
2/5/02	Ponderosa Way Bridge to 1.5 mi downstream, S. Cow Reach 3.	0	0	Visibility good, water temp 35 F @ 1000. No fish observed.
3/21/02	Ponderosa Way Bridge to 1.5 mi downstream, S. Cow Reach 3.	0	0	Visibility good, water temp 45 F @ 0930. Moderate numbers of rainbow trout, 3 to 8 inches.
4/15/02	Ponderosa Way Bridge to 1.5 mi downstream, S. Cow Reach 3.	0	0	Visibility fair, water temp 41 F @ 0900. Moderate numbers of rainbow trout in 3 to 8 inches.

South Cow and Old Cow Creek, 2003

Between 6 February and 15 August, 2003, Teri Moore (CDFG fishery biologist), Bob Carey (W. M. Beaty and Associates wildlife biologist) and Mike Berry (CDFG senior

fishery biologist) conducted 11 snorkel surveys and 1 walking survey in South Cow Creek and 1 snorkel survey in Old Cow Creek to search for adult steelhead, carcasses and redds. We observed 7 adult steelhead and 2 possible redds in South Cow Creek. The 2 adult steelhead observed upstream of the PG&E diversion dam on 2/7/03 may have been counted the day before downstream of the dam. We also observed moderate numbers of rainbow trout ranging in size from approximately 3 to 8 inches during the winter and spring surveys. During the two surveys conducted in July and August, we observed large numbers of rainbow trout within the 5 to 8 inch size range, a few 10-12 inches, a few fry less than 1 inch, and one approximately 16 to 18 inches. The 16-18 inch trout was significantly larger than any others observed and it may have been a late-spawning steelhead which failed to emigrate during higher flows. However, it was not large enough to be definitely identified as originating from the ocean. Observations are summarized in Table 2.

Table 2. Summary of direct observation surveys conducted in South Cow and Old Cow Creeks during 2003.

Date	Section (Figures 1-6)	Adult SH	redds	Comments
2/6	0.25 mi upstream and 0.1 mi downstream of PG&E diversion dam, S. Cow reach 6.	5	0	Visibility good, water temperature 40 F @ 1130, adult steelhead 18 to 27 inches FL. All downstream of PG&E diversion dam.
2/7	0.5 mi upstream and 0.1 mi downstream of PG&E diversion dam, S. Cow reach 6.	2	0	Visibility good, water temp 41 F @ 1245, two rainbow trout observed. Adult steelhead approx. 20 inches FL. Both upstream of PG&E diversion dam.
2/26	Ponderosa Way to 1.5 mi downstream, S. Cow reach 3.	0	0	Visibility good, water temp 38 F @ 0945. No redds or fish observed.
3/4	1.5 mi downstream of Ponderosa Way to Section 30 (T32N, R1E), S. Cow reach 4.	0	0	Visibility good. Water temp 40 F @ 1015. Few rainbow trout and speckled dace observed. Rainbow trout 3 to 6 inches.
3/6	1.25 miles of Old Cow Cr. W edge of Section 26 to Roseburg line on the W edge of Section 27, Old Cow reach 1 (T33N, R1E).	0	0	Visibility good. 15 rainbow trout observed 3 to 6 inches. Almost no suitable spawning habitat for adult steelhead.
3/18	SE corner of Section 24 (T32N, R1E) to 500 Road (T32N, R1E, Section 25, NE 1/4 of the NW ¼), S. Cow reach 1.	0	0	Visibility impaired by whitewater. Water temp 44 degrees F @ 1400. No fish of any kind observed.
3/20	Confluence Atkins Creek to Ponderosa Way, S. Cow reach 2	0	0	Visibility impaired by whitewater. Water temp 44 F @ 0940. Moderate numbers of rainbow trout 3 to 5 inches, few 8 to 10 inches. One brown trout 5 inches.
3/25	Approx. 1 mi in Section 30 (T32N, R1E), S. Cow reach 5.	0	2 ?	Walking survey. Water temp 45 F @ 1140. 2 areas of disturbed gravel possibly redds. Couldn't positively ID.

Date	Section (Figures 1-6)	Adult SH	redds	Comments
3/31	Ponderosa Way Bridge to 1.5 mi downstream, S. Cow reach 3.	0	0	Visibility fair. Water temp 45 F @ 0900. Moderate numbers of rainbow trout 2 to 8 inches, most 5 to 6 inches.
7/25	S. Cow reach 5.	0	0	Visibility good. Water temp 63 F @ 1030. Large numbers of rainbow trout 5 to 8 inches, few 10-12 inch, few fry < 1 inch.
7/28	S. Cow reach 3	0?	0	Visibility good. Water temp 60 F @ 0920. Large numbers of rainbow trout 5 to 8 inches, few 10-12 inch, few fry < 1 inch. One rainbow trout 16-18 inches.
8/15	S. Cow reach 1	0	0	Visibility good. Water temp 62 F @ 0940. Large numbers of rainbow trout 5 to 8 inches, few 10-12 inch.

All UTM coordinates based on DATUM = UTM Zone 10, NAD 27.

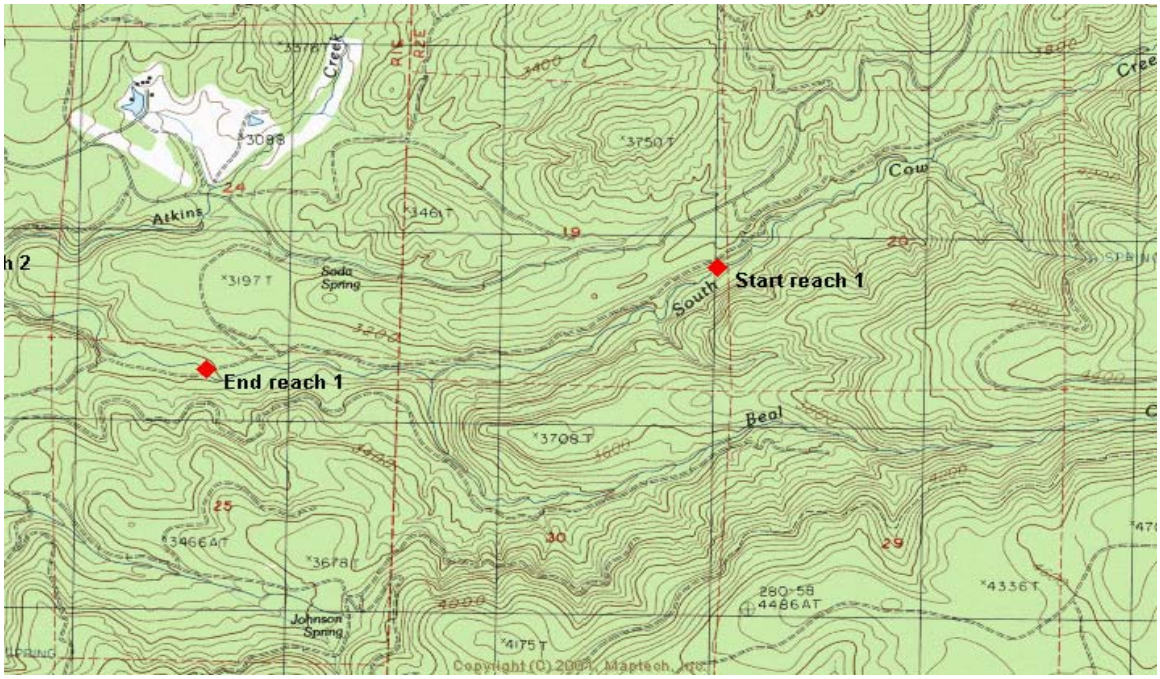

Figure 1. South Cow reach #1, UTM coordinates (603024E, 4495839N) to (600616E, 495271N).

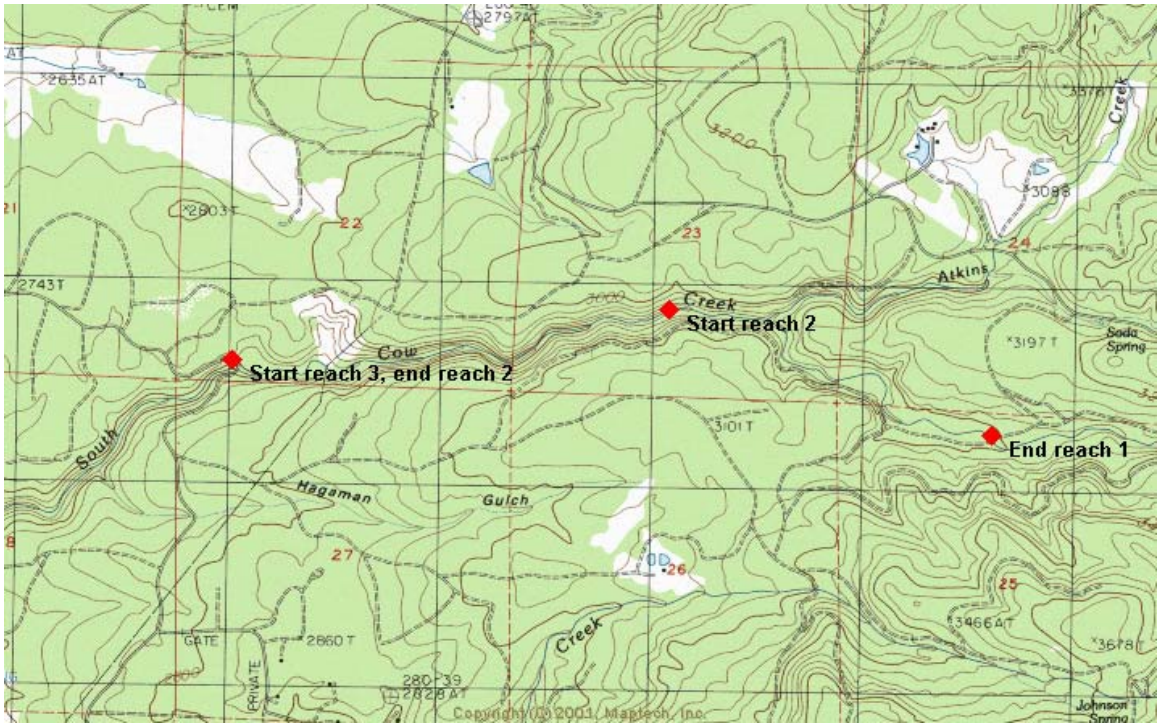

Figure 2. South Cow reach #2, UTM coordinates (599088E, 4495879N) to (597053E, 4495546N).

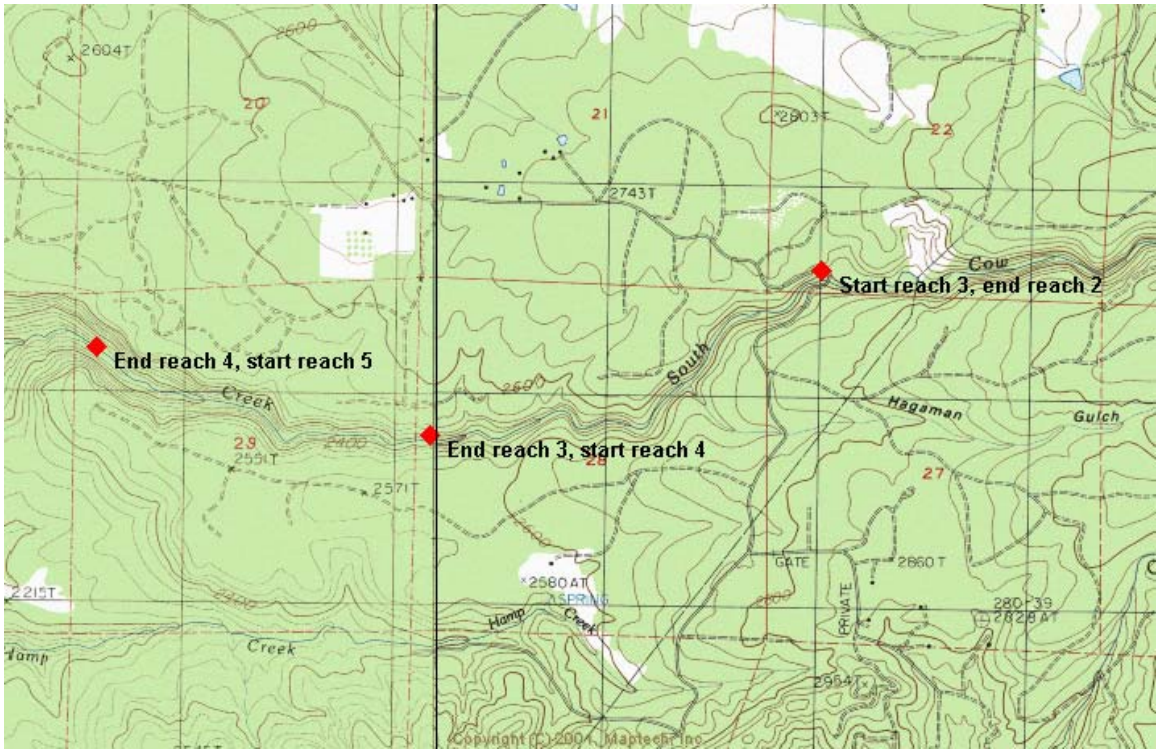

Figure 3. South Cow Cr. survey reach #3 UTM coordinates (597053E, 4495546N) to (595173E, 4494794N); reach 4 (595173E, 4494794N) to (593517E, 4495230N).

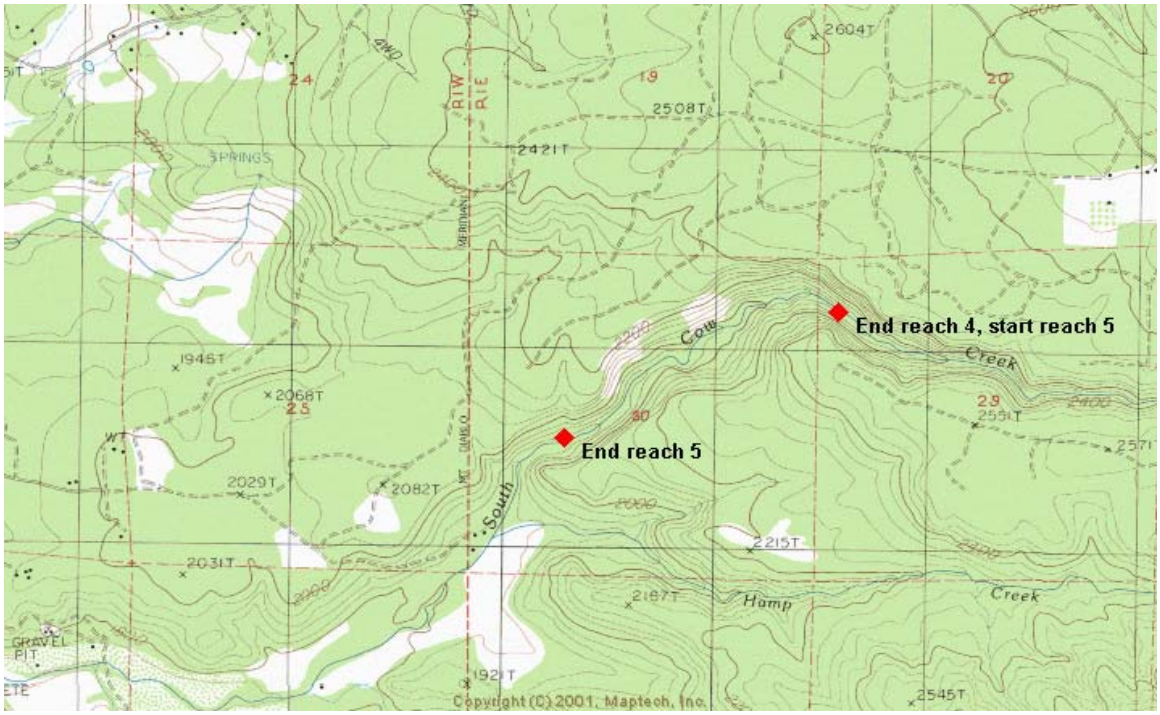

Figure 4. South Cow Cr. survey reach #5, UTM coordinates (593517E, 4495230N) to (592289E, 4494545N).

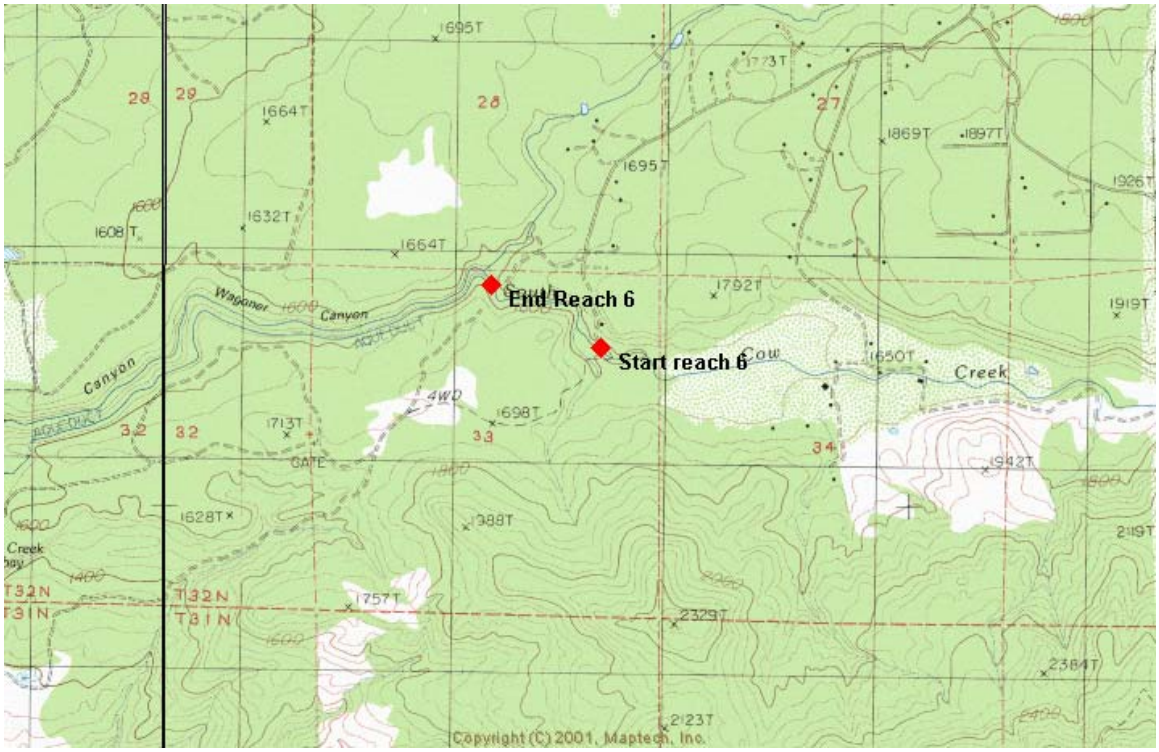

Figure 5. South Cow Cr. survey reach #6, UTM coordinates (586746E, 4493527N to (586240E, 4493805N).

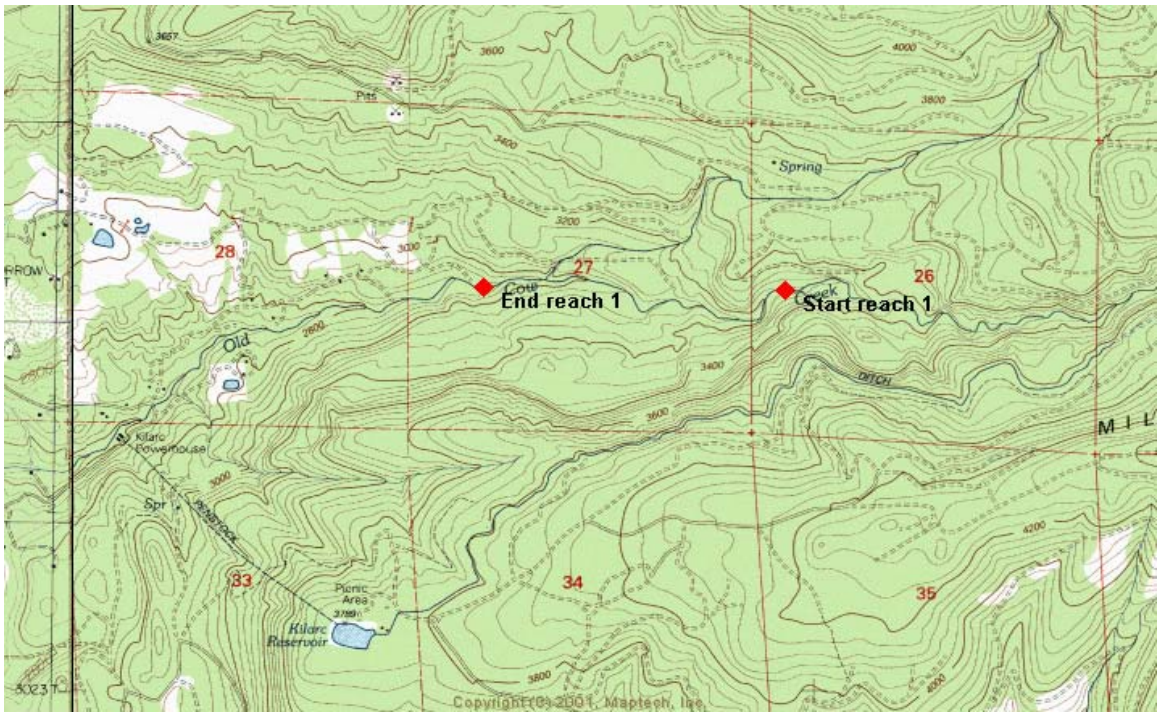

Figure 6. Old Cow Cr. survey reach #1, UTM coordinates (598456E, 4504200N) to (597024E, 4504200N).

Results of temperature monitoring

Stressful conditions for both Chinook salmon and rainbow trout occur at average fluctuating daily water temperatures of approximately 70 degrees Fahrenheit, depending on levels of dissolved oxygen, food availability, stressors within the environment and possibly local adaptation. Most salmonids cannot tolerate daily water temperatures greater than approximately 75 to 77 degrees Fahrenheit (Baker *et al*. 1995, Nielsen *et al*.1994, Reiser and Bjornn, 1991).

According to data collected between May, 2002 and June, 2003, water temperatures in Upper Old Cow Creek (also known as Little Cow) and Upper South Cow Creek remained below stressful levels year-round. Water temperatures in mainstem Cow and Lower Clover Creeks reached stressful levels during late May and lethal levels during late June of both 2002 and 2003. Water temperatures in Lower South Cow and Upper North Cow Creeks reached stressful levels during late May and Lower South Cow reached lethal levels during late June, 2002 (data for North Cow not available from 6/5/2002 to 5/1/2003 due to vandalism). During 2003, South Cow and Upper North Cow Creeks remained below stressful levels until early June and had not reached lethal levels by the end of June (Figures 7 through 11). Starting 6/27/03, thermographs will be maintained by Central Valley Water Quality Control Board personnel.

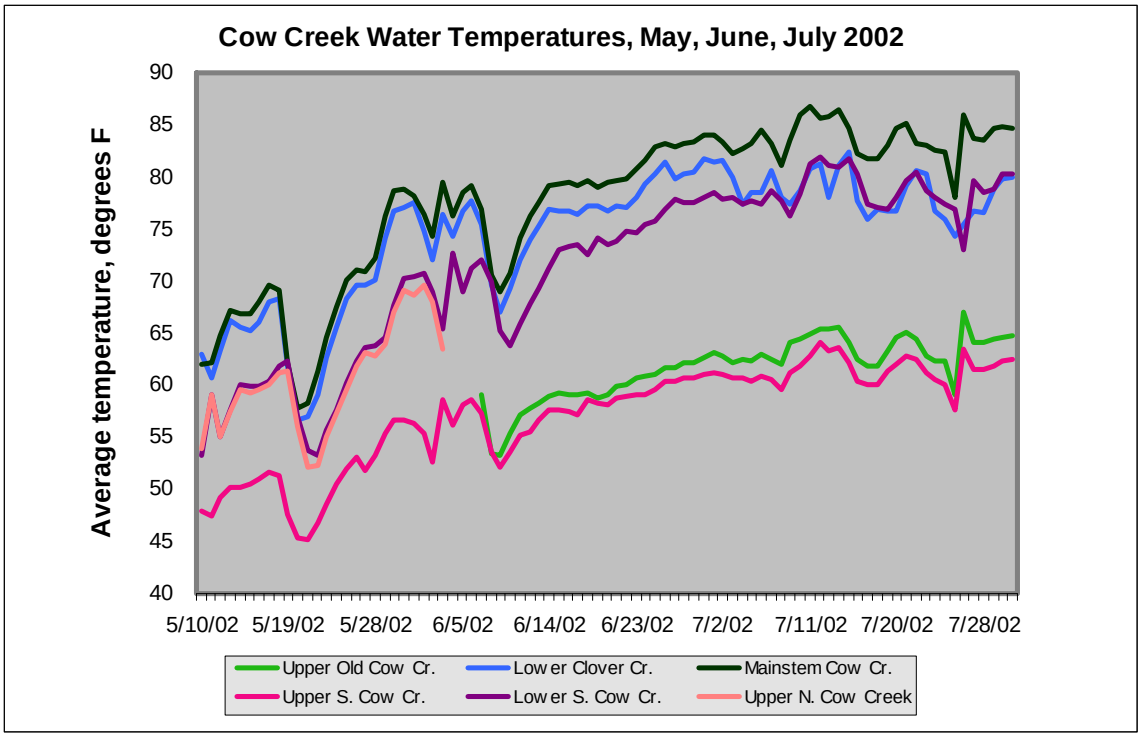

Figure 7. Average daily water temperatures in Cow Cr. watershed during May, June, and July, 2002

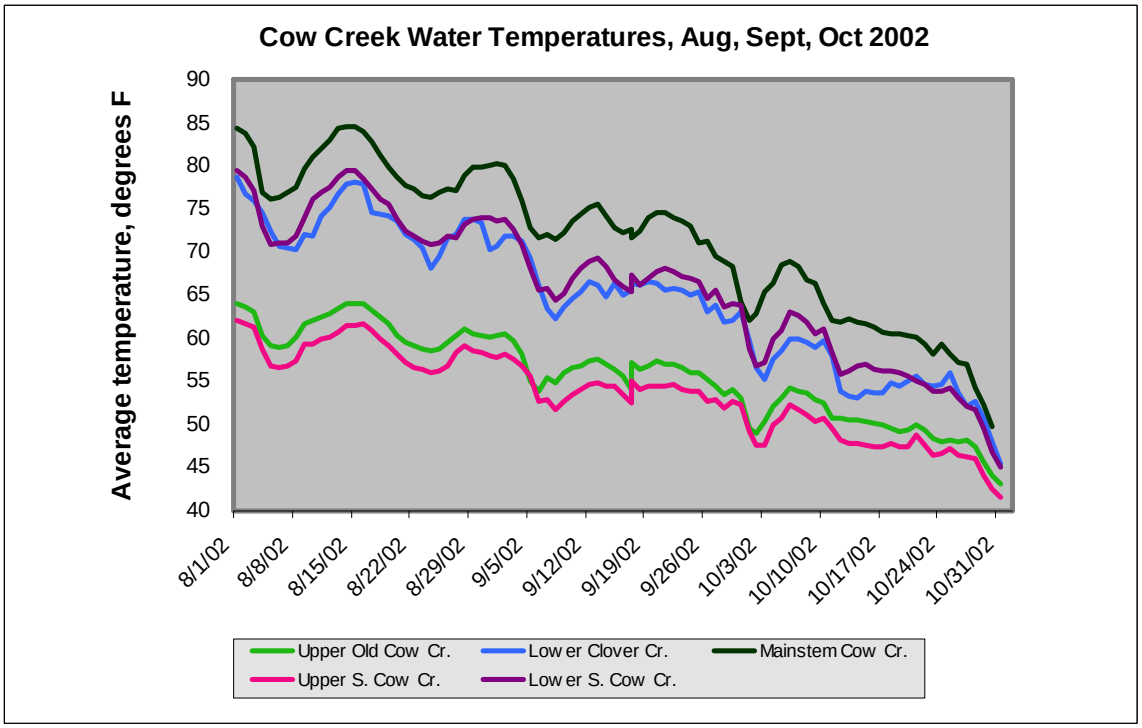

Figure 8. Average daily water temperatures in Cow Cr. watershed during August, September and October, 2002.

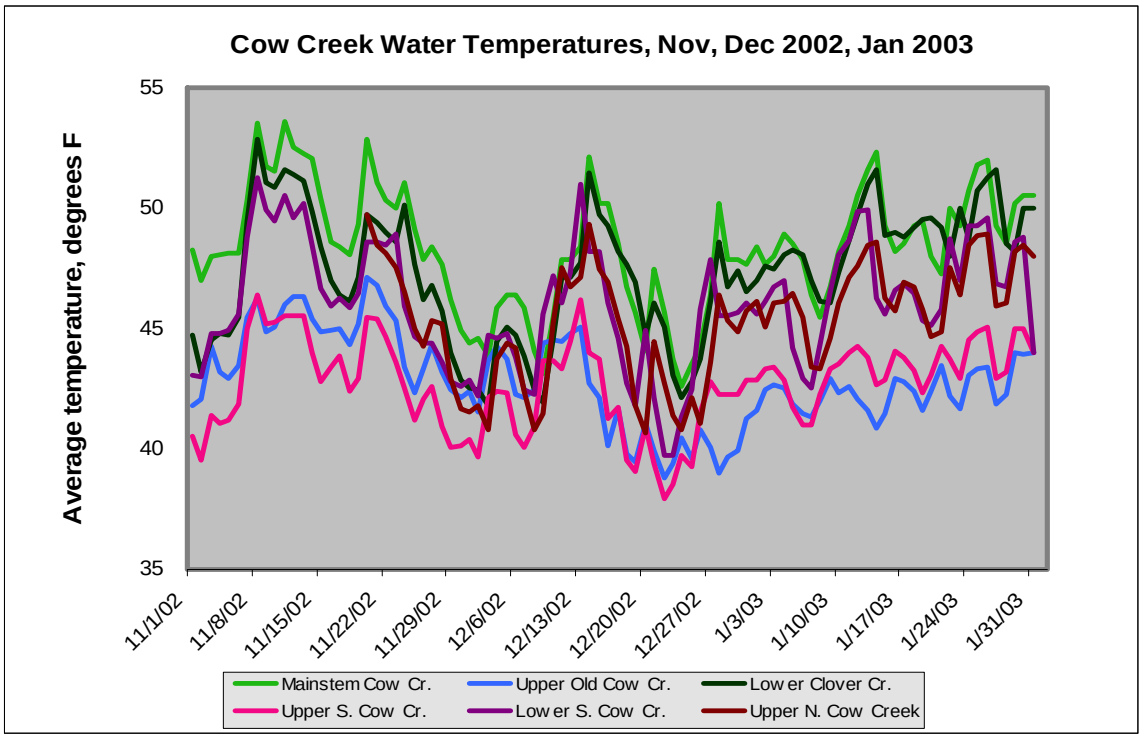

Figure 9. Average daily water temperatures in Cow Cr. watershed during November and December, 2002 and January, 2003.

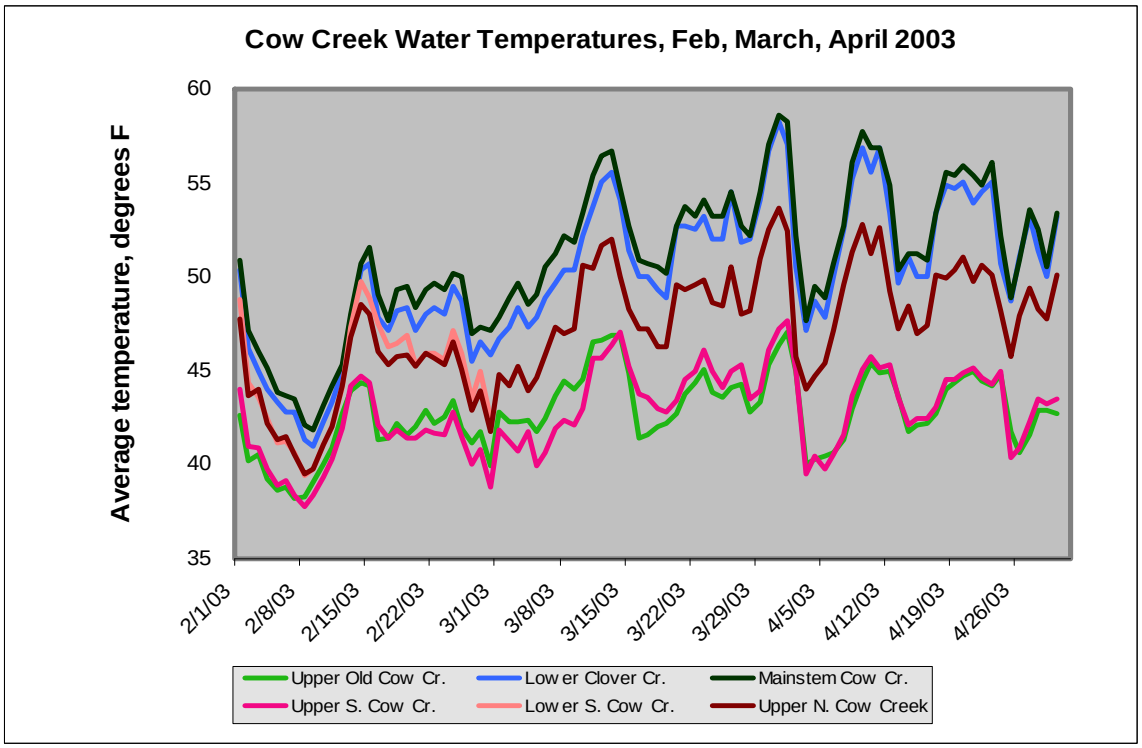

Figure 10. Average daily water temperatures in Cow Cr. watershed during February, March and April, 2003.

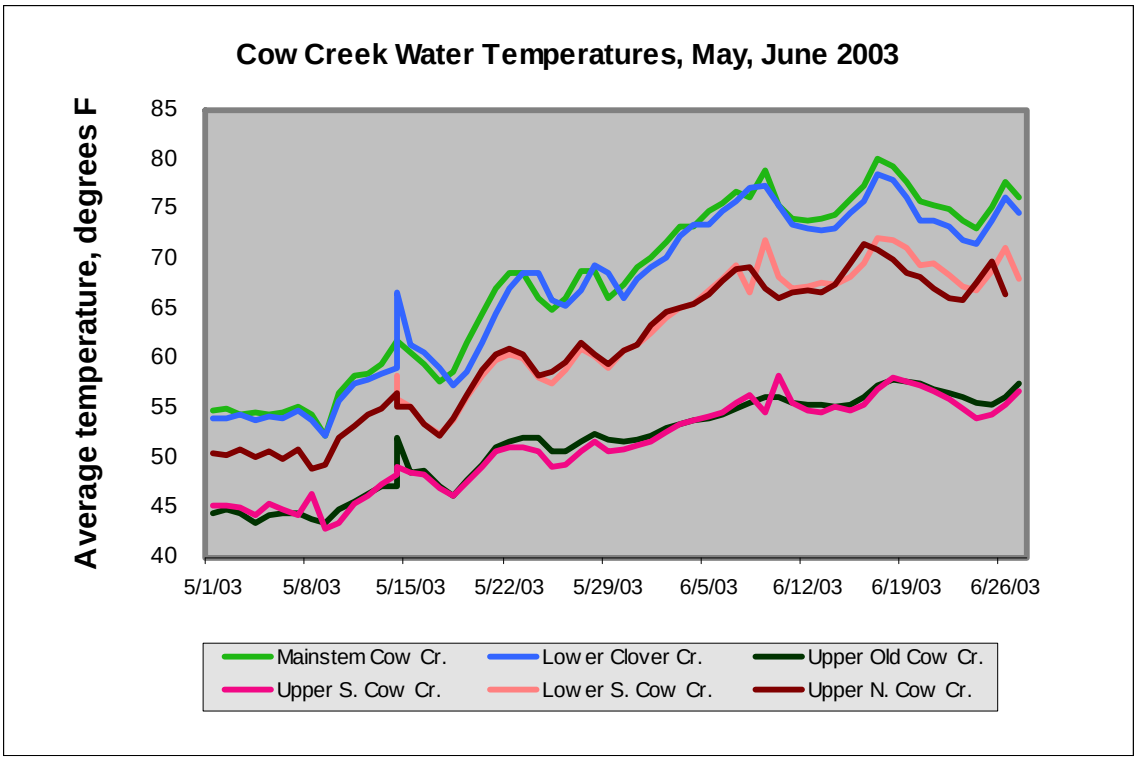

Figure 11. Average daily water temperatures in Cow Cr. watershed during May and June, 2003.

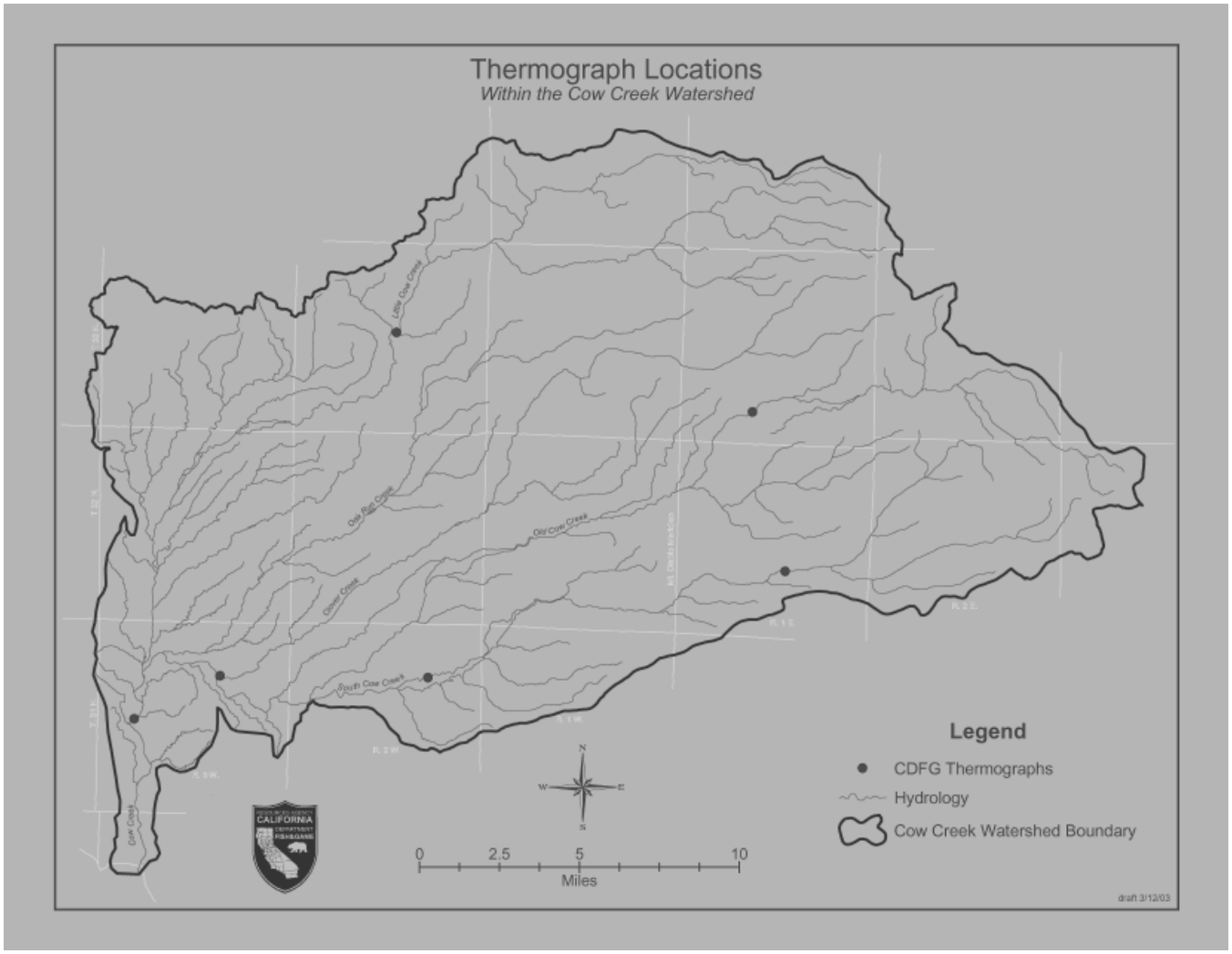

Figure 12. Locations of temperature loggers within the Cow Creek watershed.

Discussion and recommendations for further studies

Direct observation surveys

This was our first attempt to use direct observation (snorkel and foot) survey techniques to count steelhead in Cow Creek. Flow and water clarity in South Cow Creek were generally favorable for direct observation surveys during 2002 and 2003. However we were only able to survey Old Cow Creek once during 2003 due to poor water clarity.

We attempted to conduct surveys when adult steelhead would most likely be present (approximately February through April). However, because so little is known about Cow Creek steelhead, we may have missed the peak holding and spawning periods. We also attempted to choose sampling sites where steelhead would likely occur based on anecdotal reports of sightings and previous CDFG habitat surveys. Substantial effort was required to obtain landowner information, contact landowners and locate accessible survey reaches. Although some landowners were very cooperative, we were unable to survey many areas due to lack of permission. Because we did not survey all anadromous habitats and may have missed the holding and spawning periods in South Cow and Old Cow Creeks, these surveys did not yield a population estimate.

The habitat in most sections of South Cow Creek surveyed consisted of riffles, step-runs and relatively shallow pools with few pools greater than 5 feet deep. The substrate was predominantly boulders and cobbles with pockets of good spawning gravel. Overall, the habitat appeared to be suitable for spawning adult and rearing juvenile steelhead trout, with no definite barriers to anadromy. There is no obvious reason for the absence of adult steelhead in the upper reaches of South Cow Creek. However, survey reaches 4 and 5 (Figures 3 and 4) contain high gradient (> 4%) sections with boulder-log jumbles which may impede upstream migration at some flows. It is also possible that we failed to observe adult steelhead due to low fish numbers, improper timing of surveys or suboptimal visibility. We also may have failed to identify redds because most of the gravel was clean and it was impossible to distinguish redds from natural scour.

The one section of Old Cow Creek we were able to survey (Figure 7) did not appear to contain suitable habitat for spawning adult steelhead because the substrate was either clay hardpan or embedded with fines and there were very few pools. If possible, more suitable sections of Old Cow Creek should be identified and surveyed in the future.

According to data collected during 2002 and 2003, temperatures appear to be suitable for salmonids year-round in the upper reaches of Old Cow and South Cow Creeks (map attached). Stressful and lethal temperatures observed in the lower reaches may not affect adult steelhead migrating upstream, emigrating steelhead smolts or spawning adult fall and late fall Chinook because all of these activities occur between October and June when water temperatures are relatively cool. However, in very dry years spawning adult Chinook may be at risk if irrigation diversions continue longer than normal.

Recommendations for future studies

1. Begin steelhead surveys as soon as flows are high enough to pass fish.

2. Survey sections in a systematic manner. Start with the downstream sections first since spawning begins earlier at lower elevations.

3. Choose upper, middle, and lower sections with suitable steelhead habitat and survey twice per month until the end of May.

4. Collect otoliths from juvenile rainbow trout (or adult carcasses) for strontium content analysis as outlined in the 2002 CDFG study proposal Distribution and Relationship of Resident and Anadromous Central Valley Rainbow Trout by Kathleen Perry and George Edwards.

5. Search for adult steelhead and collect otoliths from juveniles upstream of the Whitmore Falls in Old Cow Creek. Historically, these falls were considered a barrier to anadromy but were recently reclassified by CDFG as a barrier only at low flows.

6. Conduct a few snorkel surveys during the summer to observe resident fish and search for adult spring Chinook salmon.

7. Continue to examine temperature data for the watershed. State Water Quality Control board personnel have substantially expanded the temperature monitoring effort. The contact person is Dennis Heiman (530) 224-4857

8. Continue to work cooperatively with timber management companies. The contact number for Beaty and Associates is Bob Carey (530) 243-2783. The contact number for Roseburg Resources is Mike Grifantini (530) 938-5729.

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Cow Creek Watershed

Watershed Restoration Potential and Contribution to Recovery

[To be determined]

Key Threats and Stressors

Key stressors (i.e., identified as "Very High") to steelhead in Cow Creek include the following:

- Passage impediments/barriers affecting adult immigration and holding and spawning life stages;
- The existence of a trout fishery supplemented through stocking in the upper sections of Cow Creek, which likely affects the genetic integrity of anadromous steelhead (e.g., during the spawning life stage);
- High water temperatures in and poor water quality during the embryo incubation, spawning, and adult immigration and holding life stages in Cow Creek;
- Entrainment of juvenile steelhead at individual unscreened permanent and temporary water diversions in Cow Creek during the juvenile rearing and outmigration life stage;
- Loss of natural river morphology, riparian habitat and instream cover, and floodplain habitat affecting the juvenile rearing and outmigration life stage;
- Changes in flow conditions in Cow Creek affecting juvenile rearing and outmigration (e.g., flow dependent habitat availability, changes in hydrology) life stage;
- Short-term inwater construction effects (e.g., sedimentation, turbidity, acoustic effects, hazardous spills) on adult immigration and holding steelhead.

Additional threats and stressors categorized as "High" are displayed in Appendix A.

Comment [p1]: Another threat is catastrophic wildfire. I'd also add water quality (Cow Creek is an impaired water body due to high coliform), plus diversion and groundwater pumping is affecting water availability, even in the upper reaches. There are also some real erosion problems in a few of the upper watersheds (e.g. Old Cow) caused by historical timber harvesting practices (my opinion). Let's not also forget development.

Watershed Description

The Cow Creek watershed encompasses approximately 425 square miles and drains the base and foothills of Mt. Lassen (average annual discharge is more than 500 taf) in a southwest direction into the Sacramento River (RM 280) (USFWS 1995, USFWS 2000). Headwaters for most of the tributaries originate

between 5,000 and 7,000 feet in elevation, and the stream gradient in the upper reaches of the tributaries is relatively steep. Mixed conifer forest of ponderosa pine, Douglas-fir, incense cedar, and California black oak is the predominant vegetation in the higher elevations (USFWS 1995). In the lower foothills that abut the valley floor, the oak-digger pine association is predominant. The valley floor is dominated by oak grassland and pasture (USFWS 1995). Cow Creek is a dendritic (tree like) stream system and can be divided into five main subbasins, including Little Cow Creek, Oak Run Creek, Clover Creek, Old Cow Creek and South Cow Creek (USFWS 2000)(**Table 1**).

The following five main subbasin descriptions were obtained provided by USFWS (2000).

Comment [p2]: Not checked yet, but did you use the Cow Creek watershed assessment at all (SHN, 2002)?

Little Cow Creek

Also known as North Cow Creek, this subbasin drains a 148 square mile basin. The headwaters (Cedar Creek, North Fork, and Mill Creek) originate at an elevation of roughly 5900 feet on the west slopes of Tolladay Peak, Snow Mountain and Clover Mountain. Little Cow Creek flows for 36 miles southwesterly, and then southerly prior to joining with the Main Stem Cow Creek at Hwy 44.

Oak Run Creek

Oak Run Creek is the smallest of the five main tributaries, draining a 42 square mile basin. Oak Run Creek originates at an elevation of approximately 3200. The creek flows 23.5 miles southwesterly to its confluence with the Main Stem of Cow Creek in Palo Cedro.

Clover Creek

Clover Creek drains a 54 square mile basin and originates at approximately 5500 feet elevation on the south slope of Clover Mountain. Clover creek flows 27.5 miles from the headwaters to its confluence with the Main Stem of Cow Creek.

Old Cow Creek

Old Cow Creek drains an 80 square mile basin and originates at an elevation of 6500 feet in the Latour Demonstration State Forest. Old Cow Creek flows 32 miles and conjoins with Hunt Creek, Glendenning Creek, Canyon Creek and Coal Gulch before its confluence with South Cow Creek three miles east of Millville.

South Cow Creek

South Cow Creek drains a 78 square mile basin and originates at an elevation of 5800 feet in the Latour Demonstration State Forest. South Cow Creek flows 28.5 miles to its confluence with Old Cow Creek near Hwy 44. Its larger tributary streams include Atkins Creek, Beal Creek, Hamp Creek, and Mill Creek.

Table 1. Summary Data for Tributaries of the Cow Creek Basin

Stream Name	Basin Area (square miles)	Stream Length
Little Cow Creek	148	36
Oak Run Creek	42	23.5
Clover Creek	54	27.5
Old Cow Creek	80	32.9
South Cow Creek	78	28.5
Main Stem Cow Creek	29	15
Total to Sacramento River	**430**	**47.8**

Source: (USFWS 2000)

Geology

Cow Creek and its tributaries carve into diverse layers of geologic features. The eastern high of the Cow Creek watershed elevation reaches are the result of relatively recent volcanic activity, ranging from 12 million years ago to the present; the last eruption series occurred from 1915-1917 (Alt and Hyndman 1975 *as cited in* USFWS 2000). Encrusted lava rocks along with loose volcanic debris were deposited over more ancient (Cretaceous) marine sandstone and shale formations (USFWS 2000). Over time the Cow Creek tributaries have sliced through the blanket of volcanic deposits and eroded into the underlying sandstone and shale producing extensive alluvial deposits (Alt and Hyndman *as cited in* USFWS 2000). Gradient-transition points (i.e., head-cuts or knick-points) are evident in all 5 tributaries at approximately 1000 feet elevation, forming spectacular waterfalls. These erosional deposits are the source of rich, well-draining soils that support lush forests and more recent agricultural development (USFWS 2000).

Hydrology

General rainfloods, resulting from prolonged heavy rainfall over a large part of the tributary areas and characterized by high peak flows of moderate duration,

can occur in the watershed anytime during the period from November through May (USACE 1971).

Land Uses

The flood plains and adjacent areas along Cow Creek and its tributaries in the watershed are fertile valley lands that attracted settlers because of the agricultural potential (USACE 1971).

Irrigation in the Cow Creek basin began soon after its settlement and continues today with a complex series of diversions and lift-pumps in all tributaries. Stream diversions and pumps carry water to fields, pasturelands and residences in the upper and lower elevation areas. The lowland area primarily supports livestock ranches. Private and public timberlands dominate the eastern upland parts of the basin, above 2000 ft. elevation. Mining activity was limited to the northern portion of the basin, along Little Cow Creek, where the Afterthought Mine near Ingot (Hwy 299) was a source for gold and copper ore from 1862 to 1952 (Albers and Robertson 1961 *as cited in* USFWS 2000). Hydro-power plants were established on Old Cow Creek (Kilarc Reservoir and Powerplant) and South Cow Creek (Olsen Diversion) in the early 1900s to provide electricity for copper smelting, businesses and residents (Allen 1979 *as cited in* USFWS 2000).

Comment [p3]: There are also multiple small (individual) hydropower setups throughout the watershed, incl. on Clover Creek.

Fisheries and Aquatic Habitat

Central Valley Steelhead

Historically, Central Valley steelhead were well distributed throughout the Sacramento and San Joaquin Rivers (Busby et al.1996) prior to dam construction (McEwan and Jackson 1996). McEwan and Jackson (1996) report that in the 1960's, an annual run size of about 30,000 steelhead for the Sacramento River upstream of Feather River existed. Although and accurate estimate is not available, based on hatchery counts, dam counts, and past natural spawning escapement estimates for tributaries, the run size reduced to less than 10,000 adult fish by 1992 (McEwan and Jackson 1996).

Comment [p4]: What is the run size on Cow Creek? I pulled this out of the WA: Steelhead populations have not been estimated in Cow Creek. No specific studies have been conducted on Cow Creek to estimate the size of the steelhead spawning run, although DFG (1965) estimated that Cow Creek supported annual spawning runs of 500 steelhead (current estimates would
be much lower). Adult steelhead have been observed in North Cow, Old Cow and South Cow creeks; however, it is unknown what percentage of the steelhead run utilizes the other tributaries. Most steelhead spawning in South Cow Creek probably occurs above South Cow Creek diversion. The best spawning habitat occurs in the 5-mile reach of stream extending from about 1.5 miles below South Cow Creek Diversion Dam to 3.5 miles above the diversion dam (Healy, 1974). Additional spawning habitat occurs upstream of this reach, but it is much less abundant. Sightings of adult steelhead have been made at the South Cow Creek Campground (approximately 8.5 miles upstream of the South Cow Creek Diversion Dam) and in Atkins Creek, located just upstream from the campground. (DFG, DWA comments, 2001).

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From:
Sent:
To:
Subject:

[redacted]

[redacted]

Referred to U.S. Fish and Wildlife Service

[redacted]

><> ><> ><> ><> ><> ><> ><> ><> ><> ><> ><> ><> ><>

[redacted]

Referred to U.S. Fish and Wildlife Service

[redacted]

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Naseem Alston
<Naseem.Alston@noaa.gov>
07/10/2009 09:11 AM

To
Brenda_Olson@fws.gov

cc

Subject
Cow Creek

Hi Brenda,
you work on Cow, right?
Don't know if you are around today...
I'm a little confused about the potential of this watershed, there are comments that it is in pretty good condition, that temperatures can be suitable year round, yet there are no fish there (but no extensive surveys either). I know it is pretty heavily diverted with no screens, so flow is perhaps too low? Habitat seems like its good in some areas but poor in others?
We are trying to think about watersheds and their potential, so IF it was fully restored, could it hold a large population of steelhead, and what about spring-run? And how realistic could it be "fully restored" - a lot of extensive restoration, water rights, etc?

Thanks for your thoughts!
Naseem

and Community Forestry Advisory Council, 201 14th St., SW., Yates Building (1 Central) MS–1151, Washington, DC 20250–1151, phone 202–205–1054.

Individuals who use telecommunication devices for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1–800–877–8339 between 8 a.m. and 8 p.m., Eastern, Monday through Friday.

SUPPLEMENTARY INFORMATION: The 2010 U. S. Forest Service Urban and Community Forestry Challenge Cost-Share Grant instructions and application are posted on *http://www.grants.gov.* The instructions only will be posted on the U.S. Forest Service Web site at: *http://www.fs.fed.us/ucf.*

If interested applicants are not already registered in Grants.gov, they are encouraged to register now. The process may take up to 2 weeks to collect the required information.

Dated: October 1, 2009.

Robin L. Thompson,

Associate Deputy Chief, State & Private Forestry.

[FR Doc. E9–24137 Filed 10–6–09; 8:45 am]

BILLING CODE 3410–11–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XR39

Endangered and Threatened Species; Recovery Plans

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration, Commerce.

ACTION: Notice of availability; request for comments and notice of public meetings.

SUMMARY: The National Marine Fisheries Service (NMFS) announces availability for public review and comment of the Draft Central Valley Salmon and Steelhead Recovery Plan (Draft Plan). The Draft Plan addresses the Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*) Evolutionarily Significant Unit (ESU), the Central Valley spring-run Chinook salmon (*O. tshawytscha*) ESU, and the Distinct Population Segment (DPS) of Central Valley Steelhead (*Oncorhynchus mykiss*). NMFS is soliciting review and comment from the public and all interested parties on the Draft Plan. In addition, four public meetings will be held in October 2009 as opportunities for providing comments on the Draft Plan (dates to be determined).

DATES: NMFS will consider and address all substantive comments received during the comment period. Comments must be received no later than 5 p.m. Pacific Standard Time on December 7, 2009. Public meetings will also be held (see Public Meetings below).

ADDRESSES: Please send written comments and materials to Brian Ellrott, National Marine Fisheries Service, 650 Capitol Mall, Suite 8–300, Sacramento, CA 95816. Comments may also be submitted by e-mail to: CentralValleyPlan.SWR@noaa.gov. Include in the subject line of the e-mail comment the following identifier: ''Comments on Central Valley Salmon and Steelhead Draft Plan.'' Comments may be submitted via facsimile (fax) to (916) 930–3629.

Persons wishing to review the Draft Plan can obtain an electronic copy (i.e., CD-ROM) from Aimee Diefenbach by calling (916) 930–3600 or by e-mailing a request to *aimee.diefenbach@noaa.gov* with the subject line ''CD-ROM Request for Central Valley Salmon and Steelhead Recovery Draft Plan.'' Electronic copies of the Draft Plan are also available on-line on the NMFS website *http://swr.nmfs.noaa.gov/recovery/centralvalleyplan.htm.*

The specific dates, times, and locations of public meetings will be posted on this website as they become available.

FOR FURTHER INFORMATION CONTACT: Brian Ellrott at (916) 930–3612 or Howard Brown, NMFS Sacramento River Basin Branch Chief at (916) 930–3608.

SUPPLEMENTARY INFORMATION:

Background

Recovery plans describe actions beneficial to the conservation and recovery of species listed under the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*). The ESA requires that recovery plans incorporate: (1) objective, measurable criteria which, when met, would result in a determination that the species is no longer threatened or endangered; (2) site-specific management actions necessary to achieve the plan's goals; and (3) estimates of the time required and costs to implement recovery actions. The ESA requires the development of recovery plans for each listed species unless such a plan would not promote its recovery.

NMFS is responsible for developing and implementing ESA recovery plans for listed salmon and steelhead. In so doing, NMFS' goal is to restore endangered and threatened Pacific salmonids to the point that they are again self-sustaining members of their ecosystems and no longer need the protections of the ESA.

Recovery Plans developed under the ESA are guidance documents, not regulatory documents. However, the ESA envisions Recovery Plans as the central organizing tool for guiding the recovery of listed species. Recovery Plans also guide Federal agencies in fulfilling their obligations under section 7(a)(1) of the ESA, which calls on all Federal agencies to ''utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species.'' In addition to outlining proactive measures to achieve species recovery, Recovery Plans provide a context and framework for implementing other provisions of the ESA with respect to a particular species, including consultations on Federal agency activities under section 7(a)(2) and the development of Habitat Conservation Plans in accordance with section 10(a)(1)(B).

This Draft Plan serves as a guideline for achieving recovery criteria and goals by describing the criteria by which NMFS would measure species recovery, the strategy to achieve recovery, and the recovery actions necessary to achieve viable ESU's of Sacramento River winter-run Chinook salmon and Central Valley spring-run Chinook salmon, and a viable DPS of Central Valley steelhead.

Recovery Criteria

Recovery criteria are built upon criteria recommended by the NMFS Technical Recovery Team (TRT) for the identification of viable anadromous salmonid populations and ESUs/DPSs. A viable population is defined as a population having a negligible risk (<5%) of extinction due to threats from demographic variation, non-catastrophic environmental variation, and genetic diversity changes over a 100–year time frame. A viable ESU/DPS is comprised of a sufficient number of viable populations sufficiently dispersed spatially, but well connected enough to maintain long-term (1,000–year) persistence and evolutionary potential (McElhany et al. 2000). The viability criteria are intended to describe characteristics of the species and its natural environments necessary for both individual populations and the ESU/DPS as a whole to be viable, i.e., persist over a specific period of time.

Recovery of winter-run Chinook salmon, spring-run Chinook salmon, and steelhead in the Central Valley will

require recovery of a sufficient number of viable populations of each species within each of the species' historic diversity groups defined by the TRT. Recovery of individual populations is necessary to conserve the natural diversity (genetic, phenotypic, and behavioral), spatial distribution, and abundance of each species, and thus the long-term viability of each ESU/DPS as a whole. Additionally, the ESU/DPS as a whole must contain a minimal number of viable populations, or interacting trans-basin populations, within each diversity group in order to withstand environmental variation of the sort known to have occurred in the Central Valley over the last 500–1,000 years. Such variation has included natural catastrophes such as prolonged drought, volcanic eruptions, large wildfires, and anthropogenic impacts such as the 1991 Cantara metam sodium spill. Therefore, for ESUs/DPSs to be considered viable, they should be able to persist if challenged by these types of catastrophes as well as anthropogenic climate change.

Recovery Strategy

Achieving recovery of winter-run Chinook salmon, spring-run Chinook salmon, and steelhead will require a number of coordinated activities, such as: (1) implementing the strategic and threat-specific recovery actions identified in this Draft Plan, including actions directed at increasing the quantity and quality of habitat available to anadromous salmonids, minimizing hatchery effects, and improving harvest management; (2) monitoring the abundance and distribution of existing populations for all three species and their response to recovery actions; and (3) researching the diverse life-history patterns and adaptations of Central Valley steelhead to a highly dynamic environment (e.g., the ecological relationship between anadromous and non-anadromous life-history forms).

There remain uncertainties regarding the level of recovery necessary to achieve population viability, therefore, additional research and monitoring of winter-run Chinook salmon, spring-run Chinook salmon, and steelhead in the Central Valley is an essential component of this Draft Plan. As this Draft Plan is implemented over time, additional information will become available to: (1) refine the viability criteria; (2) update and refine the species-specific threats assessments and related recovery actions; (3) determine whether individual threats have been abated; and (4) evaluate the overall viability of winter-run Chinook salmon, spring-run Chinook salmon, and steelhead in the Central Valley. There will be a review of the recovery actions implemented and population and habitat responses to these actions at the 5–year and 10–year status reviews for each ESU/DPS.

Effective implementation of recovery actions will also entail: (1) extensive public education (including the general public, non-governmental agencies, and local, regional, State, and Federal governmental agencies,) regarding the role and value of these species within the larger watershed environment; (2) development of cooperative relationships with private land owners, special districts, federally-recognized tribes, and local governments with direct control and responsibilities over non-federal land-use practices; (3) participation in the land use and water planning and regulatory processes of local, regional, State, and Federal agencies; (4) close cooperation with other state resource agencies such as the California Department of Fish and Game, California Department of Water Resources, CalTrans, and the California Department of Parks and Recreation, and (5) partnering with Federal resource agencies, including the U.S. Forest Service, U.S. Fish and Wildlife Service, National Park Service, U.S. Bureau of Reclamation, U.S. Bureau of Land Management, U.S. Army Corps of Engineers, U.S. Department of Transportation, U.S. Department of Defense, and the U.S. Environmental Protection Agency.

Recovery Actions

Many complex and inter-related biological, economic, social, and technological issues must be addressed in order to recover anadromous salmonids in the Central Valley. Policy changes at the Federal, state, and local levels will likely be necessary to implement many of the recovery actions identified in this Draft Plan. For example, without substantial strides in water conservation throughout California, flow conditions for anadromous salmonids will limit recovery. Similarly, recovery is unlikely without programs to restore properly functioning historic habitat such as estuaries, and access to upstream spawning and rearing habitat.

Implementation and Cost Estimates

Implementation of this Draft Plan by NMFS will take many forms. To achieve recovery, NMFS will need to promote the Draft Plan and provide needed technical information and assistance to other entities responsible for actions that may impact the species' recovery. NMFS should work with key partners on planning and implementation of all high priority recovery actions. Additionally it will be important to work with local governments to ensure that protective measures consistent with recovery objectives are included in their general and local plans. NMFS should also work with state and Federal regional entities on Regional Water Control Board Basin Plans and U.S. Forest Service Plans.

An implementation schedule describing time frames and costs associated with individual recovery actions is included in the Draft Plan and is continuing to be developed as information becomes available. Estimating total cost to recovery is much more challenging, if not impossible to estimate for a variety of reasons. These include the large geographic extent of the Central Valley; the long-term duration (e.g., likely decades) expected to achieve full recovery; and the uncertainty associated with population responses to changing environmental conditions. In some instances, however, NMFS is able to estimate the costs associated with certain common restoration activities such as those undertaken as part of the Calfed Ecosystem Restoration Program, the U.S. Fish and Wildlife Service Anadromous Fish Restoration Program, or the California Department of Water Resource's Fish Passage Improvement Program. An appendix to the Draft Plan contains estimates for these categories of typical watershed restoration actions.

The criteria and recovery actions identified in the Draft Plan provide a comprehensive road-map for recovery and are consistent with many ongoing activities intended to protect and or restore ecosystem functions in Central Valley watersheds. As a result, many of these recovery actions will be undertaken by local, state and Federal agencies, as well as non-governmental organizations and other private entities as a part of their local ecosystem protection efforts. Also, the wide variety of threats to Central Valley salmon and steelhead provide for a variety of potential funding sources available to develop and implement these recovery actions, often as part of other ongoing natural resource restoration, management, and mitigation programs.

Public Comments Solicited

NMFS solicits written comments on the Draft Plan. All comments received by the date specified above will be considered prior to NMFS' decision whether to approve the Draft Plan. NMFS seeks comments particularly in the following areas: (1) the analysis of limiting factors and threats; (2) the

recovery objectives, strategies, and actions, especially in regard to the selection of core populations, priority areas for reintroduction, and critical recovery actions; (3) the criteria for removing ESUs/DPSs from the Federal list of endangered and threatened wildlife and plants; and (4) estimates of time and cost to implement recovery actions. NMFS will also hold public meetings to provide an opportunity for the public to learn more about the Draft Plan, ask questions of NMFS staff, and submit oral or written comments on the Draft Plan.

Public Meetings

Four public meetings will be held, two in Chico, CA and two in Sacramento, CA . The two Chico meetings will occur on the same date with one three-hour meeting during the day followed by one two-hour meeting in the evening. The Sacramento meetings will follow this same day/evening approach. The meetings will be targeted toward receiving comments from key stakeholders and salmon recovery ''practitioners'' such as local jurisdiction officials, state and local agency personnel, industry representatives, public and non-profit interest representatives, and others who have a professional involvement and knowledge of salmon recovery issues, as well as general public and other constituencies.

Literature Cited

McElhany, P., Ruckelshaus, M.H., Ford, M.J., Wainwright, T.C., and Bjorkstedt, E.P. 2000. Viable Salmonid Populations and the Conservation of Evolutionarily Significant Units. U.S. Department of Commerce. NOAA Technical Memorandum. NMFS NWFSC 42. Seattle, WA.Authority: 16 U.S.C. 1531 *et seq.*

Dated:September 30, 2009.

Angela Somma,

Chief, Endangered Species Division, Office of Protected Resources, National Marine Fisheries Service.

[FR Doc. E9–24224 Filed 10–6–09; 8:45 am]

BILLING CODE 3510–22–S

DEPARTMENT OF COMMERCE

International Trade Administration

Expected Non-Market Economy Wages: Request for Comments on 2009 Calculation

AGENCY: Import Administration, International Trade Administration, Department of Commerce.

ACTION: Request for comments.

SUMMARY: The Department of Commerce (''Department''') has a longstanding practice of calculating expected non-market economy (''NME'') wages for use as the surrogate value for direct labor in antidumping proceedings involving NME countries. These expected NME wages are calculated annually in accordance with the Department's regulations, *see* 19 CFR 351.408(c)(3). This notice constitutes the Department's 2009 expected NME wages, which were calculated from 2007 data made available in 2009 according to the Department's revised methodology described in the **Federal Register** notice entitled *Antidumping Methodologies: Market Economy Inputs, Expected Non-Market Economy Wages, Duty Drawback; and Request for Comments,* 71 FR 61716, Oct. 19, 2006 (hereafter, the *Antidumping Methodologies notice*). The Department further provides the public with an opportunity to comment on potential clerical errors in the calculation. *Id.*

DATES: Any comments must be submitted no later than 10 days after publication of this notice.

ADDRESSES: Written comments (original and six copies) should be sent to Ronald Lorentzen, Acting Assistant Secretary for Import Administration, U.S. Department of Commerce, Central Records Unit, Room 1870, 14th Street and Pennsylvania Avenue, NW., Washington, DC 20230.

FOR FURTHER INFORMATION CONTACT: Bobby Wong, Senior International Trade Analyst, China/NME Group, Import Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW., Washington, DC 20230, (202) 482–0409.

Background

The Department's regulations generally describe the methodology by which the Department calculates expected NME wages. For labor, the Secretary will use regression-based wage rates reflective of the observed relationship between wages and national income in market economy countries. The Secretary will calculate the wage rate to be applied in non-market economy proceedings each year.[1] The calculation will be based on current data, and will be made available to the public. *See* 19 CFR 351.408(c)(3).

The Department's expected NME wages are calculated each year in two steps. First, the relationship between hourly wage rates (obtained from the International Labour Organization's (''ILO'') Yearbook of Labour Statistics) and per-capita gross national income (''GNI'') (obtained from the World Bank) is estimated using ordinary least squares (''OLS'') regression analysis. Second, the GNI of each of the countries designated by the Department to be an NME is applied to the regression, which yields an expected hourly wage rate for each NME.

The Department published a notice in the **Federal Register** on October 19, 2006, which detailed its revised methodology for calculating expected NME wages in antidumping proceedings involving NME countries. *See* the *Antidumping Methodologies notice.* In that notice, the Department stated that ''{e}ach year, the Department's annual calculation will be subject to public notice prior to the adoption of the resulting expected NME wage rates for use in antidumping proceedings. Comment will be requested only with regard to potential clerical errors in the Department's calculation.'' *Antidumping Methodology notice,* 71 FR 61722. This notice constitutes the Department's 2009 calculation of expected NME wages in Attachment 1, which were calculated from 2007 data made available in 2009 according to the Department's revised methodology described in the *Antidumping Methodologies notice.* The Department is requesting public comment only on the potential clerical errors in the calculation. Comments with regard to the methodology were addressed in the Antidumping Methodologies notice and will not be considered.

In order to facilitate a full opportunity for comment, and because the underlying data are voluminous, the preliminary results and underlying data for the preliminary 2009 expected NME wages calculation have been posted on the Import Administration Web site (*http://www.ia.ita.doc.gov*). This preliminary calculation will not be used for antidumping purposes until it has been finalized by the Department following the public comment period.

Submission of Comments

Persons wishing to comment on clerical errors in the Department's 2009 calculation of expected NME wages presented in Attachment 1 should file

[1] Pursuant to the *Antidumping Methodologies Notice,* 71 FR 61722, the Department intends to publish the annual revisions of the expected NME wage rates on its Web site in the fall. Since there is no fixed deadline for the submission of the relevant country data to the World Bank and ILO, the Department cannot specify a date certain by which the revision will be published. We can say, however, that because not all countries submit their data at the same time and because the Department must wait until all relevant data is submitted, publication of the revision will likely take place in late fall.

Subject:
Re: Kilarc Question
From:
David White <David.K.White@noaa.gov>
Date:
Mon, 26 Oct 2009 13:45:02 -0700
To:
Naseem.Alston@noaa.gov, Kathryn Kempton <Kathryn.Kempton@noaa.gov>

Naseem,
In short, yes, certain parties are still trying to take over the PG&E Kilarc Project even though FERC denied their requests. There have been developments recently, namely that FERC has handed the process over to their Compliance Division, and their lead in developing the environmental document, Carlisa, has expressed interest in all alternatives as part of her NEPA evaluation. That has them riled up again. Plus, Shasta County and surrounding landowners are now backing the Tetrick Ranch alternative. I asked Shasta County why they had reversed their position (formerly not interested in maintaining the project) and they replied they felt Tetrick was credible and had the finances to make his project work.

I suspect that the person who made the comments about "a brand new production and research facility " during your meeting was Dick Ely, the one who is proposing it, as he was notably absent that day in my meeting. His idea has no merit in my opinion.

I would like to have a call with CDFG and USFWS later this week to discuss the Tetrick alternative. The agencies are still opposed to it and need to develop comments in response to the scoping meetings. I'll send you the meeting info. Also, I'd like to talk live with you and Kathryn about recent events. I'm in all week. I'll send some suggested dates/times.
Best Dave

Naseem.Alston@noaa.gov wrote:
> Hi Dave,
> I'm not going to be able to hear the HCD updates on Monday's call, but
> would be interested in hearing your update for Kilarc.
> I wanted to let you know as well that during the public workshops for
> the CV Recovery Plan a man got up and was asking about Cow Creek and
> steelhead potential. We characterize it as having a high potential to
> support a strong steelhead population, but this is based on "potential"
> after substantial restoration, such as deconstruction of the hydro
> facilities. He said that he was told there wasn't very much steelhead
> production (which is true currently), then he said that there was going
> to be a brand new production and research facility there (which we
> realized is the people still fighting FERC to take over the PG&E
> facilities).
> Anyway, just wanted to let you know that he seemed pretty darn
> confident, I don't know how this kind of thing pans out, all I know is
> FERC denied their request when they didn't meet the deadline, but
> apparently they are still fighting that.
>
> I plan on being out Monday and Tuesday (trying to recuperate after a
> LONG month), but perhaps you could catch me up on anything needed having
> to do with Kilarc after that.
>
> Thanks,
> Naseem

>
>
> ----- Original Message -----
> From: David White <David.K.White@NOAA.GOV>
> Date: Sunday, October 18, 2009 4:46 pm
> Subject: Re: Kilarc Question
>
>
>> Naseem,
>> Thank you. That is VERY helpful, and I will bring it with me next week. Good luck with your efforts on the Plan.
>> Best David
>>
>> Naseem Alston wrote:
>>
>>> Hi Dave,
>>>
>>> Who is Glenn Dye? Anyway, he most likely is quoting something
>> that was
>>> in the paper about the plan, NOT the plan itself.
>>>
>>> You can look at the Core Populations section starting on pg. 63
>> of the
>>> plan (excerpt below), where Cow is listed as a Core 2 population
>> (and
>>> other Core populations within the "Sac tribs" are listed there as
>> well).>
>>
>>> "Core 2 population areas also form part of the recovery strategy
>> by
>>> contributing to geographically diverse
>>> populations. Core 2 populations must have the potential to reach
>> the
>>> biological recovery criteria for moderate
>>> risk of extinction set out in Table 4-1 (from Lindley 2007).
>> These
>>> populations are of secondary importance in terms of recommended
>>> priority of recovery efforts, but provide an important role in
>> ESU/DPS
>>> viability by increasing the diversity, spatial
>>> distribution and abundance of the species"
>>>
>>> Also look at the Watershed Profiles (Appendix A) starting pg. 143
>> (Cow
>>> Creek Watershed), you can see what was written (excerpt below).
>>>
>>> "The Cow Creek Watershed is characterized as having a low
>> potential to
>>> support a viable independent population of spring-run Chinook
>>> salmon population and would be considered to have a high risk of extinction according to criteria described in Lindley et at. (2007).
>>> In addition, the watershed is considered to have a moderate
>> potential
>>> to support a viable population of steelhead. Implementation of

>>> key recovery actions could improve population viability by
>> reducing
>>> the risk of extinction to moderate, based on achieving an effective
>>> population size of 50 to 100 spawning adults, or a census
>> population
>>> size of 250 to 2500, as described by Lindley et at. (2007) as
>> criteria> for assessing the level of extinction risk for Pacific salmonids (see
>>> Table 4-1 in the Recovery Plan)"
>>>
>>> Basically for watersheds that would need extensive restoration to bring them up to a lower risk of extinction (higher abundance,
>> etc)
>>> they are considered core 2 or 3, so in Cow Creek, this
>> deconstruction
>>> project could bring its potential to support a viable steelhead population way up.
>>> Regardless, we definitely don't feel that anyone should "dismiss" Redding tribs, nor do we say that in the plan, far from it!
>>>
>>> We can talk more about this sometime if you'd like.
>>> As for the Kilarc meetings next week, unfortunately my work on
>> the
>>> Recovery Plan requires my attention at the public workshops we
>> are
>>> putting on those 2 same days: Chico on the 20th, Sacramento on
>> the
>>> 21st. I will have to take a tour of the facilities another time.
>>>
>>> http://swr.nmfs.noaa.gov/recovery/centralvalleyplan.htm
>>>
>>> Send Glenn to the public meetings, we'll set him straight (with
>> what
>>> the plan says vs. the negative media).
>>>
>>> Naseem
>>>
>>> David White wrote:
>>>
>>>> Naseem and Howard,
>>>> Glenn Dye supposedly quoted the recent draft Recovery Plan in
>> his
>>>> scoping comments regarding Kilarc-Cow Creek. These comments
>> don't
>>>> seem in keeping with recovery recommendations, especially those
>> which
>>>> focus on Cow Creek. Do these look familiar or even possible? I couldn't find them in the draft, and I'd like to respond to him
>> next
>>>> week. Thanks much, Dave
>>>>
>>>> Quote from Glenn's Comments filed with FERC:
>>>>
>>>> A Central Valley Salmon and Steelhead Recovery Plan Draft
>>>> by the National Marine Fisheries Service released on 10 Oct 2009,
>>>> “dismisses the Redding area tributaries of the Sacramento as too

>>>> developed for meaningful salmon and steelhead habitat
>>>> restoration".
>>>>

Subject:
South Cow Wagoner Canyon/Hooten Gulch Visit
From:
David White <David.K.White@noaa.gov>
Date:
Fri, 06 Nov 2009 18:23:35 -0800
To:
Matt Myers <mmyers@dfg.ca.gov>, Mike Berry <MBerry@dfg.ca.gov>, Deborah_Giglio@fws.gov, Naseem Alston <Naseem.Alston@noaa.gov>, Brenda_Olson@fws.gov, Mark_Gard@fws.gov

Steve Tetrick invited agencies to walk the bypass reach and Hooten Gulch on November 16th in order to evaluate their alternative to decommissioning the PG&E facilities. I am going in order to see the habitat. I assume Bob Carey of Vestra biological consultants will be there. Please respond if you'd like to join us. It will likely be a full day of difficult walking. Also, Bob has asked us if we'd like him to perform a SWAMP assessment (a rapid biological assessment technique) of the bypassed reach in advance of the site visit. I told him I'd rather walk the habitat first, but the rains are coming soon, so if you have any reason you'd like this done before the 16th, please let me know ASAP.
Best, David

Subject:
Re: Kilarc Question
From:
David White <David.K.White@noaa.gov>
Date:
Mon, 23 Nov 2009 13:03:03 -0800
To:
Naseem Alston <Naseem.Alston@noaa.gov>

Thanks!

Naseem Alston wrote:
> Sure, that would be fine.
> I just re-looked over what I wrote/quoted and in addition to Cow, the Redding area tribs are also listed at core 2 for steelhead.
> Let me know if you need any clarification,
> Naseem
>
> David White wrote:
>> Naseem,
>> Is it ok to quote these sections of the draft in a letter to FERC? I'd like to set the record straight regarding our position on the Kilarc/South Cow habitat.
>> Best Dave
>>
>> Naseem Alston wrote:
>>> Hi Dave,
>>>
>>> Who is Glenn Dye? Anyway, he most likely is quoting something that was in the paper about the plan, NOT the plan itself.
>>>
>>> You can look at the Core Populations section starting on pg. 63 of the plan (excerpt below), where Cow is listed as a Core 2 population (and other Core populations within the "Sac tribs" are listed there as well).
>>>
>>> "Core 2 population areas also form part of the recovery strategy by contributing to geographically diverse
>>> populations. Core 2 populations must have the potential to reach the biological recovery criteria for moderate
>>> risk of extinction set out in Table 4-1 (from Lindley 2007). These populations are of secondary importance in terms of recommended
>>> priority of recovery efforts, but provide an important role in ESU/DPS viability by increasing the diversity, spatial
>>> distribution and abundance of the species"
>>>
>>> Also look at the Watershed Profiles (Appendix A) starting pg. 143 (Cow Creek Watershed), you can see what was written (excerpt below).
>>>
>>> "The Cow Creek Watershed is characterized as having a low potential to support a viable independent population of spring-run Chinook
>>> salmon population and would be considered to have a high risk of extinction according to criteria described in Lindley et at. (2007).
>>> In addition, the watershed is considered to have a moderate potential to support a viable population of steelhead. Implementation of
>>> key recovery actions could improve population viability by reducing the risk of extinction to moderate, based on achieving an effective
>>> population size of 50 to 100 spawning adults, or a census population size of 250 to 2500, as described by Lindley et at. (2007) as criteria

>>> for assessing the level of extinction risk for Pacific salmonids (see Table 4-1 in the Recovery Plan)"
>>>
>>> Basically for watersheds that would need extensive restoration to bring them up to a lower risk of extinction (higher abundance, etc) they are considered core 2 or 3, so in Cow Creek, this deconstruction project could bring its potential to support a viable steelhead population way up.
>>> Regardless, we definitely don't feel that anyone should "dismiss" Redding tribs, nor do we say that in the plan, far from it!
>>>
>>> We can talk more about this sometime if you'd like.
>>> As for the Kilarc meetings next week, unfortunately my work on the Recovery Plan requires my attention at the public workshops we are putting on those 2 same days: Chico on the 20th, Sacramento on the 21st. I will have to take a tour of the facilities another time.
>>>
>>> http://swr.nmfs.noaa.gov/recovery/centralvalleyplan.htm
>>>
>>> Send Glenn to the public meetings, we'll set him straight (with what the plan says vs. the negative media).
>>>
>>> Naseem
>>>
>>> David White wrote:
>>>> Naseem and Howard,
>>>> Glenn Dye supposedly quoted the recent draft Recovery Plan in his scoping comments regarding Kilarc-Cow Creek. These comments don't seem in keeping with recovery recommendations, especially those which focus on Cow Creek. Do these look familiar or even possible? I couldn't find them in the draft, and I'd like to respond to him next week. Thanks much, Dave
>>>>
>>>> Quote from Glenn's Comments filed with FERC:
>>>>
>>>> A Central Valley Salmon and Steelhead Recovery Plan Draft
>>>> by the National Marine Fisheries Service released on 10 Oct 2009,
>>>> “dismisses the Redding area tributaries of the Sacramento as too
>>>> developed for meaningful salmon and steelhead habitat
>>>> restoration”.
>>>
>

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

SEP 30 2010

Russ Mull, R.E.H.S., A.I.C.P.
Director, Department of Resource Management
Shasta County
1855 Placer Street
Redding, California 96001

Re: FOIA Request # 2010-00561

Dear Mr. Mull:

This responds to your Freedom of Information Act (FOIA) request # 2010-00561 dated August 5, 2010. You referenced a May 7, 2010, letter from Richard L. Wantuck, Regional Hydropower Program Supervisor Habitat Conservation Division, National Marine Fisheries Service (NMFS) Southwest Region, to Steve Tetrick. You referenced several statements regarding Cow Creek watershed in Mr. Wantuck's letter to Mr. Tetrick. You specifically requested documents containing information regarding the basis for certain statement made in Mr. Wantuck's letter categorized under the following:

1. On page 4 of the letter, NMFS states that "Key recovery actions in [the Cow Creek] watershed could improve population viability by reducing the risk of extinction to moderate." On page 6 of the letter, NMFS states that "decommissioning of the PG&E Hydroelectric Project and restoring natural instream flows in the bypassed reach…has been identified as a Key Action in the recovery of the listed Evolutionary Significant Unit (ESU) of Central Valley Spring-run Chinook salmon and Distinct Population Segment (DPS) of Central Valley steelhead." You request "any and all documents, reports, or e-mails containing information supporting these statements."
2. To the extent that NMFS relied upon its Public Draft Recovery Plan for the Evolutionary Significant Units of Sacramento River Winter-run Chinook Salmon and Central Valley Spring-run Chinook Salmon and the Distinct Population Segment of Central Valley Steelhead ("Draft Recovery Plan") in making statements in the letter, you request any and all documents, reports, studies, or e-mails that were used in the preparation of the Draft Recovery Plan, relating to the Cow Creek Watershed, that are not listed in the list of "Literature Cited" at pp. 228-254.

Since you had not provided your agreement to pay FOIA processing fees nor had you requested a fee waiver in your original request letter, we "tolled" processing of your request in accordance with Section 6 of the "Openness Promotes Effectiveness in our National Government Act of 2007" or OPEN Government Act, Pub. L. No. 110-175, 121 Stat. 2524. Our letter to you dated September 15, 2010, notified you of our preliminary estimated fee of $5,000.00, in accordance with 15 C.F.R. §4.11. We also provided you with the opportunity to discuss narrowing the scope of your request. We received your request for a fee waiver on September 21, 2010.

Thank you for your clarification provided during your telephone conversation September 21, 2010, with our FOIA Coordinator. You stated you are interested in "Any conversations that went on that didn't exist in the Draft Recovery Plan or in the list of references cited."

Our search produced a total of nine documents responsive to your request. Please find enclosed a CD transmitting an electronic copy of this material. Six documents are provided to you in their entirety, with portions of two documents referred to the U.S. Department of Interior, Fish and Wildlife Service (FWS) for review and direct response to you for the reason below.

The remaining document, which in addition to portions of already released documents from the enclosed, originates from FWS. This material is referred to FWS for review and direct response to you. This referral is made pursuant to our regulations at 15 CFR 4.5(b).

This letter completes our response to your FOIA request. We have not assessed fees for processing of this request. If you have any questions or concerns, please contact Ana Liza Malabanan, FOIA Coordinator, at telephone number (562) 980-4008.

Sincerely,

Kevin Chu

for Rodney R. McInnis
Regional Administrator

Enclosure

From: Naseem Alston <Naseem.Alston@noaa.gov>
Sent: Monday, May 11, 2009 8:55 AM
To: Brenda_Olson
Subject: Re: Please review!

that would be great Brenda,
Is she a better person to review than Colleen?
Maybe Colleen is only for the fish?
If you do pass it on, please just let her know that our intention is to involve our experts in the field.
I will send the others out to her when I get them (hopefully they will be here today, I haven't gone through all my email yet).

Thanks again!
Naseem

Brenda_Olson@fws.gov wrote:
Hi Naseem,
I can reveiw. Do you mind if I pass on to Tricia Bratcher, CDFG, our state AFRP counterpart? She knows Mill a little better than I do. We also both work on Antelope and Deer.

Bren

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Brenda J. Olson
Fish Biologist, Habitat Restoration Coordinator
Anadromous Fish Restoration Program (AFRP)
U.S.F.W.S. - Red Bluff Fish & Wildlife Office
10950 Tyler Rd, Red Bluff, CA 96080
phone: (530) 527-3043 x227,
cell: (530) 526-4607
fax: (530) 529-0292
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Naseem Alston
<Naseem.Alston@noaa.gov>

05/08/2009 11:24 AM

To
Brenda Olson <brenda_olson@fws.gov>
cc
Subject
Please review!

Hi Brenda,

We are taking a new approach in how we discuss each watershed for the CV Recovery Plan, by putting together watershed "profiles" for each.

I would really appreciate it if you had some time to review Mill Creek for now, I'll send along Antelope later (do you also know Deer?) if you are able to review them. They are not long, Mill's is about 8 pages I believe. One of the things we are thinking is trying to condense them a little if possible, so if you have any suggestions/recommendations as far as that goes that would be helpful.

Anyway, the other way we are taking a different approach this time, is sending these out to some select users/managers prior to publishing, and getting some feedback up front. We want to make sure the info is 1) helpful, 2) accurate, 3) up to date (not necessarily in that order).

Thanks for your help! (if you don't have time, I understand, but if you are able to get this back to me within a week or so that would be really great).

Naseem
(See attached file: Mill Creek_profile.doc)

From: Brenda_Olson <Brenda_Olson@fws.gov>
Sent: Tuesday, June 02, 2009 8:19 AM
To: Naseem.Alston
Cc: PBratcher
Subject: Re: Please review! Cow Ck
Attachments: Cow Creek Watershed Profile_5-8-09 pab 052709_BJO 060209.doc

HI Naseem,
I have a few additional comments to Tricia's. I have the Cow Ck watershed assesment if you haven't already downloaded from the site Tricia gave you.

Bren

(See attached file: Cow Creek Watershed Profile_5-8-09 pab 052709_BJO 060209.doc)

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Brenda J. Olson
Fish Biologist, Habitat Restoration Coordinator Anadromous Fish Restoration Program (AFRP) U.S.F.W.S. - Red Bluff Fish & Wildlife Office
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"Patricia Bratcher" <PBratcher@dfg.ca.gov> 05/27/2009 01:53 PM

To <Brenda_Olson@fws.gov>, "Naseem Alston" <Naseem.Alston@noaa.gov>
cc
Subject
Re: Please review!

Here are my comments on Cow Creek. You may want to get a copy of the Cow Creek Watershed Assessment, SHN 2002. Go to this website:
http://wim.westernshastarcd.org/watersheds.aspx?ws=6

I've also attached a couple of other goodies...

Patricia (Tricia) Bratcher
Staff Environmental Scientist
Habitat Restoration Coordinator - Sacramento River Watershed California Department of Fish and Game

601 Locust St., Redding, CA 96001
Phone: (530) 225-3845
Cell: (530) 945-4261 Fax: (530) 225-2381

>>> On 5/11/2009 at 2:19 PM, in message <4A08964E.40609@noaa.gov>,
>>> Naseem
Alston <Naseem.Alston@noaa.gov> wrote:
Here are the last ones!
Again, if you don't work in any of these areas, feel free to ignore!

Oh, and you are welcome to review/comment in track changes, or if they
are more general
you can write your comments at the top or bottom of the doc.

Naseem

Naseem Alston wrote:
> Hi Brenda and Tricia,
>
> We are taking a new approach in how we discuss each watershed for the
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> I would really appreciate it if you had some time to review these
> creeks. They are not too long, generally around 6-8 pages. One of
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> Naseem
>
>
>[attachment "cowcreeklisathompson.pdf" deleted by Brenda Olson/RBFWO/R1/FWS/DOI] [attachment "RESouthCowCreeksteelheadsurveyresults.doc" deleted by Brenda Olson/RBFWO/R1/FWS/DOI] [attachment "SCow3-19-22-04.doc" deleted by Brenda Olson/RBFWO/R1/FWS/DOI] [attachment "SCow4-16-04.doc" deleted by Brenda Olson/RBFWO/R1/FWS/DOI] [attachment "Cow Creek2.doc" deleted by Brenda Olson/RBFWO/R1/FWS/DOI] [attachment "Cow Creek Watershed Profile_5-8-09 pab 052709.doc" deleted by Brenda Olson/RBFWO/R1/FWS/DOI] [attachment "Patricia Bratcher1.vcf" deleted by Brenda Olson/RBFWO/R1/FWS/DOI]

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cc
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Cow Creek Watershed

Watershed Restoration Potential and Contribution to Recovery

[To be determined]

Key Threats and Stressors

Key stressors (i.e., identified as "Very High") to steelhead in Cow Creek include the following:

- Passage impediments/barriers affecting adult immigration and holding and spawning life stages;
- The existence of a trout fishery supplemented through stocking in the upper sections of Cow Creek, which likely affects the genetic integrity of anadromous steelhead (e.g., during the spawning life stage);
- High water temperatures in and poor water quality during the embryo incubation, spawning, and adult immigration and holding life stages in Cow Creek;
- Entrainment of juvenile steelhead at individual unscreened permanent and temporary water diversions in Cow Creek during the juvenile rearing and outmigration life stage;
- Loss of natural river morphology, riparian habitat and instream cover, and floodplain habitat affecting the juvenile rearing and outmigration life stage;
- Changes in flow conditions in Cow Creek affecting juvenile rearing and outmigration (e.g., flow dependent habitat availability, changes in hydrology) life stage;
- Short-term inwater construction effects (e.g., sedimentation, turbidity, acoustic effects, hazardous spills) on adult immigration and holding steelhead.

Additional threats and stressors categorized as "High" are displayed in Appendix A.

Comment [k1]: Depends on water year. When steelhead are in the system to hold/spawn, the water temps are o.k. Same for incubation, except maybe for late spawners (April/May). I would think the juvenile stage is the most affected by water temp. By May/June, water temps are warming up. This year, Oak Run Creek, trib to Cow, is drying up. North Cow is fairly low, so is South Cow. Last week, I measured 23 cfs in So. Cow.

Comment [BJ02]: The stream does appear to be downcutting. Dennis Heiman, works with the Water Board and lives on North Cow, has seen the creek downcut and lose gravel over the past 10years.

Comment [BJ03]: I would ask from what? As far as I know, there are no instream construction projects going on; especially when adult steelhead are immigrating or holding (winter flows).

Comment [p4]: Another threat is catastrophic wildfire. I'd also add water quality (Cow Creek is an impaired water body due to high coliform), plus diversion and groundwater pumping is affecting water availability, even in the upper reaches. There are also some real erosion problems in a few of the upper watersheds (e.g. Old Cow) caused by historical timber harvesting practices (my opinion). Let's not also forget development.

Watershed Description

The Cow Creek watershed encompasses approximately 425 square miles and drains the base and foothills of Mt. Lassen (average annual discharge is more than 500 taf) in a southwest direction into the Sacramento River (RM 280) (USFWS 1995, USFWS 2000). Headwaters for most of the tributaries originate

between 5,000 and 7,000 feet in elevation, and the stream gradient in the upper reaches of the tributaries is relatively steep. Mixed conifer forest of ponderosa pine, Douglas-fir, incense cedar, and California black oak is the predominant vegetation in the higher elevations (USFWS 1995). In the lower foothills that abut the valley floor, the oak-digger pine association is predominant. The valley floor is dominated by oak grassland and pasture (USFWS 1995). Cow Creek is a dendritic (tree like) stream system and can be divided into five main subbasins, including Little Cow Creek, Oak Run Creek, Clover Creek, Old Cow Creek and South Cow Creek (USFWS 2000)(**Table 1**).

The following five main subbasin descriptions were obtained provided by USFWS (2000).

Comment [p5]: Not checked yet, but did you use the Cow Creek watershed assessment at all (SHN, 2002)?

Little Cow Creek
Also known as North Cow Creek, this subbasin drains a 148 square mile basin. The headwaters (Cedar Creek, North Fork, and Mill Creek) originate at an elevation of roughly 5900 feet on the west slopes of Tolladay Peak, Snow Mountain and Clover Mountain. Little Cow Creek flows for 36 miles southwesterly, and then southerly prior to joining with the Main Stem Cow Creek at Hwy 44.

Oak Run Creek
Oak Run Creek is the smallest of the five main tributaries, draining a 42 square mile basin. Oak Run Creek originates at an elevation of approximately 3200. The creek flows 23.5 miles southwesterly to its confluence with the Main Stem of Cow Creek in Palo Cedro.

Clover Creek
Clover Creek drains a 54 square mile basin and originates at approximately 5500 feet elevation on the south slope of Clover Mountain. Clover creek flows 27.5 miles from the headwaters to its confluence with the Main Stem of Cow Creek.

Old Cow Creek
Old Cow Creek drains an 80 square mile basin and originates at an elevation of 6500 feet in the Latour Demonstration State Forest. Old Cow Creek flows 32 miles and conjoins with Hunt Creek, Glendenning Creek, Canyon Creek and Coal Gulch before its confluence with South Cow Creek three miles east of Millville.

South Cow Creek

South Cow Creek drains a 78 square mile basin and originates at an elevation of 5800 feet in the Latour Demonstration State Forest. South Cow Creek flows 28.5 miles to its confluence with Old Cow Creek near Hwy 44. Its larger tributary streams include Atkins Creek, Beal Creek, Hamp Creek, and Mill Creek.

Table 1. Summary Data for Tributaries of the Cow Creek Basin

Stream Name	Basin Area (square miles)	Stream Length
Little Cow Creek	148	36
Oak Run Creek	42	23.5
Clover Creek	54	27.5
Old Cow Creek	80	32.9
South Cow Creek	78	28.5
Main Stem Cow Creek	29	15
Total to Sacramento River	**430**	**47.8**

Source: (USFWS 2000)

Geology

Cow Creek and its tributaries carve into diverse layers of geologic features. The eastern high of the Cow Creek watershed elevation reaches are the result of relatively recent volcanic activity, ranging from 12 million years ago to the present; the last eruption series occurred from 1915-1917 (Alt and Hyndman 1975 *as cited in* USFWS 2000). Encrusted lava rocks along with loose volcanic debris were deposited over more ancient (Cretaceous) marine sandstone and shale formations (USFWS 2000). Over time the Cow Creek tributaries have sliced through the blanket of volcanic deposits and eroded into the underlying sandstone and shale producing extensive alluvial deposits (Alt and Hyndman *as cited in* USFWS 2000). Gradient-transition points (i.e., head-cuts or knick-points) are evident in all 5 tributaries at approximately 1000 feet elevation, forming spectacular waterfalls. These erosional deposits are the source of rich, well-draining soils that support lush forests and more recent agricultural development (USFWS 2000).

Hydrology

General rainfloods, resulting from prolonged heavy rainfall over a large part of the tributary areas and characterized by high peak flows of moderate duration,

can occur in the watershed anytime during the period from November through May (USACE 1971).

Land Uses

The flood plains and adjacent areas along Cow Creek and its tributaries in the watershed are fertile valley lands that attracted settlers because of the agricultural potential (USACE 1971).

Irrigation in the Cow Creek basin began soon after its settlement and continues today with a complex series of diversions and lift-pumps in all tributaries. Stream diversions and pumps carry water to fields, pasturelands and residences in the upper and lower elevation areas. The lowland area primarily supports livestock ranches. Private and public timberlands dominate the eastern upland parts of the basin, above 2000 ft. elevation. Mining activity was limited to the northern portion of the basin, along Little Cow Creek, where the Afterthought Mine near Ingot (Hwy 299) was a source for gold and copper ore from 1862 to 1952 (Albers and Robertson 1961 *as cited in* USFWS 2000). Hydro-power plants were established on Old Cow Creek (Kilarc Reservoir and Powerplant) and South Cow Creek (Olsen Diversion) in the early 1900s to provide electricity for copper smelting, businesses and residents (Allen 1979 *as cited in* USFWS 2000).

Comment [BJ06]: Many of Cow Creek tribs are adjudicated and I believe fully appropriated. If you go to http://kilarc.info/Docs_Maps_Drawings/Docs_Maps_Drawings.htm, they have a Cow Ck water rights document.

Comment [p7]: There are also multiple small (individual) hydropower setups throughout the watershed, incl. on Clover Creek.

Comment [p8]: What is the run size on Cow Creek? I pulled this out of the WA:
Steelhead populations have not been estimated in Cow Creek. No specific studies have been conducted on Cow Creek to estimate the size of the steelhead spawning run, although DFG (1965) estimated that Cow Creek supported annual spawning runs of 500 steelhead (current estimates would
be much lower). Adult steelhead have been observed in North Cow, Old Cow and South Cow creeks; however, it is unknown what percentage of the steelhead run utilizes the other tributaries. Most steelhead spawning in South Cow Creek probably occurs above South Cow Creek diversion. The best spawning habitat occurs in the 5-mile reach of stream extending from about 1.5 miles below South Cow Creek Diversion Dam to 3.5 miles above the diversion dam (Healy, 1974). Additional spawning habitat occurs upstream of this reach, but it is much less abundant. Sightings of adult steelhead have been made at the South Cow Creek Campground (approximately 8.5 miles upstream of the South Cow Creek Diversion Dam) and in Atkins Creek, located just upstream from the campground. (DFG, DWA comments, 2001).

Fisheries and Aquatic Habitat

Central Valley Steelhead

Historically, Central Valley steelhead were well distributed throughout the Sacramento and San Joaquin Rivers (Busby et al.1996) prior to dam construction (McEwan and Jackson 1996). McEwan and Jackson (1996) report that in the 1960's, an annual run size of about 30,000 steelhead for the Sacramento River upstream of Feather River existed. Although and accurate estimate is not available, based on hatchery counts, dam counts, and past natural spawning escapement estimates for tributaries, the run size reduced to less than 10,000 adult fish by 1992 (McEwan and Jackson 1996).

References

Albers, J. P. and J. F. Robertson. 1961. Geology and ore deposits of East Shasta copper-zinc district. Shasta Co., California: U.S. Geological Survey Professional Paper 338.

Allen, M. V. 1979. Where The 'Ell is Shingletown? Press Room Inc., Redding, CA, USA

Alt, D. D., and D. W. Hyndman. 1975. Roadside Geology of Northern California. Mountain Press Publishing Co., Missoula, MT, USA.

Busby, P.J., T.C. Wainwright, G.J. Bryant, L. Lierheimer, R.S.Waples, F.W. Waknitz and I.V. Lagomarsino. 1996. Status review of west coast steelhead from Washington, Idaho, Oregon and California. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-NWFSC-27. 261 p.

McEwan, D.R. and T. Jackson. 1996. Steelhead restoration and management plan for California. California Department of Fish and Game, February 1996. 234 p.

U.S. Army Corps of Engineers (USACE). 1971. Flood Plain Information – Cow Creek, Palo Cedro, California. Prepared for Shasta County by Sacramento District. Sacramento, California. June 1971. Available online at: http://www.sacriver.org/documents/watershed/cowcreek/erosion/CowCreek_FloodPlain_Information_ACOE_Jun71.pdf (Accessed May 8, 2009)

U.S. Fish and Wildlife Service (USFWS). 1995. Working paper: habitat restoration actions to double natural production of anadromous fish in the Central Valley of California. Volume 2. May 9, 1995. Prepared for the U.S. Fish and Wildlife Service under the direction of the Anadromous Fish Restoration Program Core Group. Stockton, CA.

U.S. Fish and Wildlife Service (USFWS)..2000. Final Report - Preliminary Water Quality Assessment of Cow Creek Tributaries. A reported submitted by Morgan J. Hannaford and North State Institute for Sustainable Communities to USFWS. Available online at: http://www.sacriver.org/documents/watershed/cowcreek/general/cowcrkrpt.pdf

From: Brenda_Olson <Brenda_Olson@fws.gov>
Sent: Wednesday, July 15, 2009 8:35 AM
To: Naseem Alston
Subject: Re: Cow Creek

Hi Naseem,
I am working from the bottom up through my sea of red. Cow Creek does not have any potential for spring-run. There just is not the holding habitat, and if there was, the temperatures are not hospitable. Who knows what the creek would look like if there weren't any diversions, but unfortuntately this is a heavily diverted watershed. A lot of diversions are used to water grazing pasture using flood irrigation. The Cow Creek Watershed Group has been trying to get ditches piped to help with water efficiency.
The majority of water users are all for it but getting the funding has been the biggest factor. Since everything is gravity fed, it would be nice to find a system they could use that was a little more efficent than flood irrigation. Wells aren't the greatest idea as a lot of the ground water is either saline or contains a lot of sulphur.

Not much is known about the habitat. The tribs seem to be downcutting to hardpan. Some areas seem to have gravel, while others do not. North
(Little) Cow probably has a lot of potential for steelhead. HWY 299 runs along it for a short ways, and you cross it once or twice heading to 299 from Oak Run. Those portions I saw from the car looked pretty good for steelhead. There have been some areas on South Cow I have seen that looked pretty good also. Mark Gard is currently working on South Cow getting habitat info from Wagner Canyon down. We (FWS, DWR, CDFG) have been trying to get our act together to habitat type Clover Creek. CDFG seems to think it has good steelhead habitat above the barriers created by the siphon and diversion dam. We haven't got much done.

Cow Creek definately does not support salmonids year round, unless they are residents above the barriers (at approx. 1000 ft.). The waters are cooler up there. Oak Run is starting to dry up again. It has done so for the past 2 years. During a good water year, such as 2006, it ran all summer - but warm. Small-mouth bass, catfish, pikeminnow, etc. in there during the summer. When we first moved in (2004), I saw a chinook carcass up at the neighborhood bridge. (Nov. '04). I know quite a few fishermen fish for steelhead on main Cow in the fall and winter. From what I hear they do fairly well which may indicate a fair population of steelhead. From the small amount of snowpack Cow gets, I'm not sure it would have been real hospitable in the summer prior to diversions. Just like Cottonwood (w/ very few diversions), the summer temps are pretty high in the valley reaches so wonder how much over summer rearing really occurred in the valley portions of these streams. Then again, riparian was probably much more intact and better functioning than it is now.

Anyways, as far as restoration potential, I think it is there for both steelhead and fall chinook. What exactly that will entail is another question and we're working on it. For our 10 year plan, we worked on identifying things that needed to happen, alot of which was getting at
habitat quantity and quality. The community is now very open to
restoration occurring in their watershed and are eager to see the fish return. Water will be a huge (very sensitive) issue but if couched in the correct manner, I think you would see cooperation. Especially if something were designed similar to what occurs on Mill Creek with the Los Molinos Mutual Water Company. As with everything, it depends on timing. First we need to get a handle on what is out there, what needs to be improved, and develop a plan in conjunction with the watershed group to get things moving. Working within and above the current Watershed Plan would go a long ways.

I don't know if any of this helps - I'm still working on my first cup of joe so apologize if I didn't answer your qestions. Please let me know if I need to clarify anything or missed the point.

Bren

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Brenda J. Olson
Fish Biologist, Habitat Restoration Coordinator Anadromous Fish Restoration Program (AFRP) U.S.F.W.S. - Red Bluff Fish & Wildlife Office
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Naseem Alston
<Naseem.Alston@noaa.gov>

To
Brenda_Olson@fws.gov

07/10/2009 09:11 AM

cc

Subject
Cow Creek

Hi Brenda,
you work on Cow, right?
Don't know if you are around today...
I'm a little confused about the potential of this watershed, there are comments that it is in pretty good condition, that temperatures can be suitable year round, yet there are no fish there (but no extensive surveys either). I know it is pretty heavily diverted with no screens, so flow is perhaps too low? Habitat seems like its good in some areas but poor in others?
We are trying to think about watersheds and their potential, so IF it was fully restored, could it hold a large population of steelhead, and what about spring-run? And how realistic could it be "fully restored" - a lot of extensive restoration, water rights, etc?

Thanks for your thoughts!
Naseem

United States Department of the Interior

FISH AND WILDLIFE SERVICE

911 NE 11th Avenue
Portland, Oregon 97232-4181

In Reply Refer to:
ABA-CGS-FOIA
FWS-2011-00008

October 8, 2010

Russ Mull, Director
Department of Resource Management
Shasta County
1855 Placer Street
Redding, California 96001

Dear Mr. Mull:

This letter completes the Fish and Wildlife Service (FWS) response to your September 5, Freedom of Information Act (FOIA) request to NOAA regarding Kilarc-Cow Creek Hydroelectric Project, FERC Project No. 606.

On October 1, 2010, we received three responsive records from NOAA which originated with FWS, for our review and release determination. We have determined to release all 12 pages in their entirety, as enclosed.

There is no charge to process this request since the costs did not exceed the minimum required for reimbursement. If you have questions, you may contact me at 503-231-2072.

Sincerely,

Patti Carroll

Patti Carroll
FOIA Officer
Region 1 and Region 8

Enclosures

cc: Rodney R. McInnis, NOAA Regional Administrator

CERTIFICATE OF SERVICE