Tim Ford - TRTAC subgroup meeting of 28JAN2004

From: Tim Ford
To: Mark Bevelhimer; TRTAC SUB 12-2003
Date: 1/23/2004 5:54 PM
Subject: TRTAC subgroup meeting of 28JAN2004

To TRTAC subgroup list et. al.:

We have a subgroup meeting scheduled for 28JAN2004, 9 AM, Room 3A at MID. Main topic will be rainbow trout (O. mykiss) issues as agreed at the DEC2003 TRTAC meeting. Since that DEC meeting we have had:

- FERC decision deferring action on NOAA Fisheries petition
- Ford provided source of trout WT info used on 01DEC filing and some limited DO data
- Martinez provided some trout WT criteria information
- Bevelheimer provided comments on trout WT criteria
- Ford provided some new DFG fishing stamp information
- Ford provided habitat map files from M&T
- Heyne provided trout genetics report and north coast survey protocol
- Initial results of salmon spawning survey from Heyne
- Steelhead mapping effort by CRRF to be initiated on 21JAN
- Download of thermographs by Kirihara
- Results of first seining survey (no trout encountered)
- Heyne provided comments on the gravel addition project

For the meeting, all parties should provide any additional trout data to supplement the compilation contained in the 01DEC filing with FERC. I suggest bringing the "Potential project concerns for steelhead trout" document, the 01DEC filing, and other related items if you attend. Please provide any other suggestions in advance if possible.

- Attached are draft notes for the 17DEC TRTAC meeting
- Pasted below is a draft list of items for the FERC report this year

Summary; TRTAC materials	Districts
2003 Spawning Survey Report	CDFG
Spawning Survey Summary Update	SWS/Districts
1999 Redd Count Study Report	CDFG
2003 Seine/Snorkel Report and Summary Update	SWS/Districts
1998, 2002, 2003 Grayson Screw Trap Reports	CDFG
Coded-wire Tag Summary Update	SWS/Districts
Review of 2003 summer flow operation	SWS/Districts
Adaptive Management Forum Final Report	CBDA/AFRP
2003 Restoration Project Monitoring Report	McBain&Trush

From: <Jeff_McLain@r1.fws.gov>
To: <tjford@tid.org>
Date: 1/27/2004 3:53:53 PM
Subject: Re: TRTAC subgroup meeting of 28JAN2004

Tim,

I just talked with Carl Mesick who has some substantial comments on the agenda. We revised it and I am submitting a new draft below.

1. FERC deferral - next steps.

2. CRRF Habitat Mapping - Preliminary results.

3. Study recommendations. How do we build/revise what has been done.

4. Other

Jeff

Jeff McLain
Anadromous Fish Restoration Program
Habitat Restoration Coordinator
Merced and Tuolumne Rivers
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cell (209) 403-1347

----- Forwarded by Jeff McLain/SJFRO/R1/FWS/DOI on 01/27/2004 03:48 PM -----

Jeff McLain
01/27/2004 01:46 PM

To: "Tim Ford" <tjf@tid.org>
cc: TRTAC SUB 12-2003: "Allison Boucher" <aboucher@netfeed.com>, "B. Johnston" <agengr6@aol.com>, "Mark Bevelhimer" <bevelhimerms@ornl.gov>, "Bill Johnston" <billj@mid.org>, "Carl Mesick" <cmcfish@innercite.com>, "Darren Mierau" <darren@mcbaintrush.com>, "Dennis Blakeman" <dblakeman@dfg.ca.gov>, "Dave Boucher" <dboucher@netfeed.com>, "Deborah Giglio" <deborah_giglio@fws.gov>, "Dean Marston" <dmarston@dfg.ca.gov>, "Donn Furman" <donn.w.furman@sfgov.org>, "Erich Gaedeke" <Erich.Gaedeke@ferc.gov>, "Erin Strange" <Erin.Strange@noaa.gov>, "Frank Ligon" <frank@stillwatersci.com>, "Andrea Fuller" <fuller@inreach.com>, "Jeff McLain" <Jeff_McLain@fws.gov>, "Jenna Olsen" <jenna@tuolumne.org>, "Jim Koontz" <jkoontz@calwaterlaw.com>, "Madelyn Martinez" <madelyn.martinez@noaa.gov>, "Noah Hume" <noah@stillwatersci.com>, "Nicole Sandkulla" <nsandkulla@bawsca.org>, "Patrick Koepele" <patrick@tuolumne.org>, "Pat Brantley" <pbrantley@dfg.ca.gov>, "Roger Masuda"

<rmasuda@calwaterlaw.com>, "Ron Yoshiyama" <rmyoshiyama@ucdavis.edu>, "Scott McBain" <scott@mcbaintrush.com>, "Steve Walser" <steve@mlode.com>, "Tim Heyne" <THEYNE@dfg.ca.gov>, "Tim Ramirez" <timr@calwater.ca.gov>, "Tim Ford" <tjf@tid.org>, "Walter Ward" <walterw@mid.org>, "Wil Fryer" <WBF@tid.org>
Subject: Re: TRTAC subgroup meeting of 28JAN2004(Document link: Jeff McLain)

Tim, I noticed there was no agenda for Wednesdays meeting. I suggest the following.

1. Summary of Jan 22 meeting at NOAA Fisheries Office

2. FERC deferral - informal consultation process. Next steps.

3. District and NHI study recommendations. How do we build/revise these study recommendations?

4. NHI flow recommendations - discuss

5. Other

Did I miss anything?

Jeff

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"Tim Ford" <tjf@tid.org>
01/23/2004 05:54 PM

To: "Mark Bevelhimer" <bevelhimerms@ornl.gov>, TRTAC SUB 12-2003: "Allison Boucher" <aboucher@netfeed.com>, "Andrea Fuller" <fuller@inreach.com>, "B. Johnston" <agengr6@aol.com>, "Bill Johnston" <billj@mid.org>, "Carl Mesick" <cmcfish@innercite.com>, "Darren Mierau" <darren@mcbaintrush.com>, "Dave Boucher"

TRTAC Subgroup Meeting Notes
January 28, 2004 9:00 AM @ MID

Attending
Tim Ford, Allison Boucher, Dave Boucher, Tim Heyne, Dean Marston, Patrick Koepele, Ron Yoshiyama, Madelyn Martinez, Steve Walser, Carl Mesick, Jeff McLain, Noah Hume.

Notes
A. Boucher requested that notes be kept on the Subgroup meetings and they be included in the annual FERC report. Ford, Yoshiyama, and A. Boucher will jointly contribute to preparing the notes.

Water Temperature
Ford distributed temperature data graphs for the latter half of 2003. There was discussion on the temperature trends through the months and whether the real-time management of summer flows was effective. The flow management was to increase the flow to 235 cfs if the next day's maximum air temperature forecast was 96°F or greater. Flows were dropped to 195 cfs after the maximum air temperature was 95°F or lower on two consecutive days. This operational strategy was based on a water budget of 205 cfs daily average flow during the remaining summer period.

It appeared from the temperature data that the flow management contributed to keeping downstream river temperatures cooler than with a steady flow rate. Dean Marston stated that CALFED peer reviewers would soon issue guidelines on temperature criteria for salmonid life-history stages that are expected within 45 days.

Smolting, temperature, and salt water residence
How does temperature, among other factors, affects the smoltification timing of steelhead and Chinook salmon? There is published literature that may help us understand that process in the Tuolumne River. Hume considers the temperature modeling being scoped could assist in that effort.

What evidence demonstrates saltwater residency by trout (i.e., steelhead)? There was general agreement that various types of information would indicate saltwater residence, e.g., otolith or scale growth patterns, chemical composition, blood chemistry. Yoshiyama noted that finding steelhead in the Tuolumne River does not by itself necessarily prove that the fish were produced in the Tuolumne; i.e., they could have strayed in from other streams that have steelhead populations. [A. Boucher later recommended blood samples be added to the list of studies]

Trout carcass salvage
Can TID or other parties can legally salvage any dead trout found in the river for collecting otolith and scale samples for CDFG's ongoing studies? CDFG already has the legal ability to retain carcasses for study. The allowance of collecting dead specimens, even for forwarding to CDFG, is not provided in the current TID permit application but it can be added via an amendment. One issue that needs to be clarified is the chain of custody of specimens-- i.e., who can collect the specimens and where they will be stored. A. Boucher requested that TID submit an amendment to the permit application to NOAA Fisheries so that any dead fish could be

salvaged for study. Walser suggested that DFG warden confiscations also be used for otolith studies. DFG will talk with their wardens so the otoliths can be used when possible.

Revised Coarse Sediment Acquisition Plan. (Zanker-Domecq)
The Subgroup briefly discussed the possibility of pursuing alternative options for proceeding with the long-term sediment acquisition plan. This project had been funded by CalFed, but the TID Board recently reversed its support to buy gravel mining rights due to local objections. Heyne thought that a feasible alternative may be to have the Department of Water Resources (Kevin Faulkenberry) handle the mining aspects of the original plan. After some discussion, it became evident that such a line of action probably would not be successful because it would require considerable effort to guide it along. Fryer reportedly has submitted an amendment to CalFed that eliminates the mining aspect and proposes instead to directly purchase gravel from commercial sellers.

Results on Trout Habitat Mapping.
Mesick and Walser reported on their ongoing survey of observed trout locations. They provided information on habitat features and locations for trout observations were depicted on maps (PowerPoint). The survey had been completed for about 50% of the length of river initially planned but included most of the trout habitat areas-- i.e., locations where they have caught trout.

Mesick and Walser identified a number of areas that appear highly favorable for trout but which would be degraded or eliminated as trout habitat if gravel additions are conducted without duly considering trout requirements. Mesick noted that trout tended to use the downstream half of the riffles while Chinook salmon seem to favor the upstream half of riffles. He also reported that salmon tended not to use the recently introduced gravels, evidently because of the lack of smaller gravel sizes in the mixture. Walser stated that the DFG gravel addition project near La Grange eliminated microtopographic features formerly used by trout. The Subgroup discussed the need to conduct gravel additions in a more effective manner and particularly to avoid negative impacts on existing trout habitats.

Coarse Sediment Management Plan Final Report
A. Boucher requested that TID instruct its consultants, McBain & Trush, to address additional concerns raised by FOT regarding potential negative impacts of the gravel addition projects. She expressed concern that the final report would be viewed as a blueprint for gravel addition projects and believes that specific aspects of the proposed gravel addition projects need to be refined to ensure that trout (and salmon) are not detrimentally affected. While there was no disagreement expressed about the potential for detrimental effects, other individuals considered that the details of implementing the gravel additions could be changed and thought addenda could be attached to the report. McLain would work on getting the plan revised.

STUDY RECOMMENDATIONS
Spawning survey. The CDFG and SP Cramer survey team is ready to conduct an initial survey for steelhead-rainbow trout carcasses and potential trout redds. Heyne recommended that specific instructions be given to the team regarding the type of data desired from the survey. There was extended discussion on the proposition by FOT that the Districts hire Walser to assist in mapping potential trout redds. After several options were aired, it was agreed by those present (minus McLain, Martinez, Marston, Koepele) that the survey team would proceed with a two-day

survey to look for trout carcasses redds. Walser will accompany them to provide advice on trout and redd locations. The survey reach would be from La Grange to Turlock State Campground with a decision on repeated float surveys to follow. Regarding other methods, Walser thought winter snorkeling would be difficult and suggested a hook and line survey instead.

Other items

Walser and Mesick have applied to NOAA Fisheries for a take permit to enable them to collect otolith and scale samples from steelhead or rainbow trout captured by angling activities. The samples would be surrendered to CDFG. Mesick recommended lipid content studies of O. mykiss to study the fish health using fish caught.

The FERC decision pending the conclusion of informal consultation was briefly discussed.

Heyne and Martinez would see if steelhead angler card data has any Tuolumne information.

Microhabitat suitability data for trout was discussed. Mesick suggested site specific suitability curves, including turbulence, flow differential, cover, and refugia, be developed for large trout. Pebble count of redds could be useful.

Mesick inquired what factors may affect mortality of outmigrating fish. He suggested a review of this be considered.

Final note of thanks to Yoshiyama and Martinez for the goodies, and to Walser for the viewing of trout photos.

Friends of the Tuolumne, Inc.

7523 Meadow Avenue
Stockton, CA 95207
(209) 477-9033

September 15, 2004

Tim Ford
Tuolumne River Technical
Advisory Committee
333 East Canal Avenue
Turlock, CA 95380

Dear Tim:

Please attach this letter as an addendum to the minutes you prepared for the January 28 minutes. The draft minutes I prepared for you included the following important items that should be attached to your minutes in order to fairly represent the meeting.

> To come: a graph showing the daily high water temperature (perhaps comparing to the daily high air temperature?) as part of the "recap."
>
> A discussion followed regarding the question "What causes smolting? Is it temperature? Is it flow? This question will be added to the list of concerns to be discussed when studies are determined.
>
> Walser stated that smolting proved steelhead status as opposed to trout. NOAA and USFWS agreed.
>
> Jeff McLain, USFWS, stated that rainbow trout must be protected.
>
> The Friends requested that the Coarse Sediment Management Plan be withdrawn due to its potential damage to trout/steelhead.
>
> Mesick and Walser presented the idea that existing plans are detrimental to **both** salmon and trout/steelhead. Carl and Walser state that the gravel can be added to benefit both species without harming the trout/steelhead.
>
> It was pointed out that McBain and Trush are focused on providing material that the river will sort and move. However, the Friends, Mesick, and Walser believe that gravel additions should also consider the short

term impacts and can be used to immediately enhance habitat for both species without harming either species.

Study recommendations:

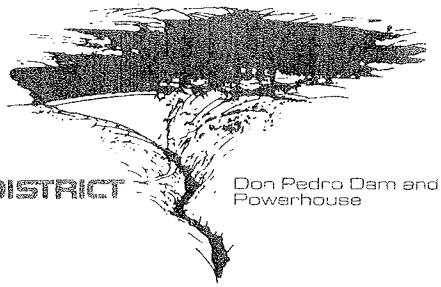
The Friends, however, say that if the float survey found few or no fish or redds it does lead to the presumption that the fish or redds are not there. Such a conclusion would be damaging to both science and efforts to demonstrate trout/steelhead habitat. In order to provide the necessary expertise (in the minds of the Friends) Walser will be fully involved in the float surveys at the expense of the Friends.

Sincerely,

Allison Boucher

Allison Boucher

TURLOCK IRRIGATION DISTRICT
333 EAST CANAL DRIVE
POST OFFICE BOX 949
TURLOCK, CALIFORNIA 95381
(209) 883-8300



January 5, 2004

Bill Loudermilk
Regional Manager
California Department of Fish and Game
1234 E. Shaw Avenue
Fresno, California 93710

Michael Hoover
Chief, Division of Habitat Conservation
US Fish and Wildlife Service
2800 Cottage Way
Sacramento, California 95825

Dear Messrs. Loudermilk and Hoover:

Under the 1995 Don Pedro Settlement Agreement, the Turlock Irrigation District agreed to develop a cost analysis of withdrawing water from the lower Tuolumne River for irrigation purposes. The specific provision of the agreement reads as follows:

> *TID will conduct a feasibility and cost analysis of withdrawing water for irrigation at the proposed Turlock Area Drinking Water project diversion point. This analysis will be included in the EIR for that project. Based on the results of these analyses, CDFG and FWS will determine if it would be appropriate for them to fund or cost share in the design and construction of alternative irrigation diversion facilities. The parties to the settlement are under no obligation to fund the design, construction, operation, or maintenance of these facilities.* (Sixth bullet on Page 5 under Article 11. Fishery Flows, New Don Pedro Proceeding, P-2299-024, Settlement Agreement 1995)

While TID is pursuing its Drinking Water Program, the project has not yet reached the point of issuing an EIR. Any subsequent EIR for the Program will contain an analysis of an agricultural diversion as was envisioned in the Settlement Agreement.

In the meantime, TID retained the engineering firm of Brown and Caldwell to develop the construction and operation cost estimates for an agricultural diversion from the Tuolumne River near the Geer Road Bridge. Brown and Caldwell have estimated the cost of a system capable of diverting up to 100 cubic feet per second and transporting it to the Ceres Main Canal at $11,200,000. The facilities would include an infiltration gallery, pump station, pipeline, and outlet structure.

Brown and Caldwell further estimated that if the diversion was in place today and operated at full capacity for the period between March 15 and October 15, the cost of operating the system in 2004 would be approximately $800,000.

These costs are estimates only and the actual expense for construction and operation may vary. However, these numbers do provide the magnitude of the dollars that would be required for such a venture.

Enclosed is a copy of the Brown and Caldwell's transmittal letter, cost estimates, and site diagram. We provide you with this information in compliance with our obligation under the afore cited provision of the 1995 Settlement Agreement. If you should have any questions about the calculations, please do not hesitate to contact me at (209) 883-8214.

Sincerely,

Robert M. Nees
Assistant General Manager
Water Resources & Regulatory Affairs

Enclosures

2701 Prospect Park Drive
Rancho Cordova, California 95670

Tel: (916) 444-0123
Fax: (916) 635-8805

www.brownandcaldwell.com

BROWN AND CALDWELL

November 7, 2003

Robert Nees
Turlock Irrigation District
333 E. Canal Drive
Turlock, California 95381

017-23491-01/1

Subject: Cost Estimate for Irrigation Diversion System

Dear Mr. Nees:

This report presents the construction and operation cost estimate for the proposed irrigation diversion project. The project would utilize a diversion on the Tuolumne River near the Geer Road bridge to divert a maximum flow of 100 cubic feet per second (cfs) for discharge to the Ceres Main Canal.

The facilities would consist of an infiltration gallery type of diversion, diversion pump station, pipeline, and canal outlet structure. Figure 1 presents the proposed facilities. Table 1 presents the cost estimate for constructing the facilities. A diversion flow rate of 100 cfs is the same as 45,000 gallons per minute, 65 million gallons per day, and 72,400 acre-feet per year. For developing the annual operation and maintenance (O&M) cost estimate, it is assumed that the facility would divert 100 cfs continuously for the March 15 to October 15 irrigation season, or 42,200 ac-ft/yr. Table 2 presents the O&M cost estimate.

If you have any questions, please do not hesitate to contact me at (916) 853-5306.

Very truly yours,

BROWN AND CALDWELL

Paul Selsky, P.E.
Project Manager

PS:ap

Enclosure

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Table 1. Construction Cost Estimate for Irrigation Diversion System

Item	Cost, $ million
Infiltration gallery	1.0
Pump station	5.0
Pipeline, 84-inch, 3,000 feet	1.8
Outlet structure	0.5
Subtotal	8.3
Contingency (20%)	1.7
Engineering design and construction management (15%)	1.2
TOTAL	**11.2**

Notes:
Engineering News Record Cost Index = 6,700 (2003)
Cost of land not included.

Table 2. Operation and Maintenance Cost Estimate for Irrigation Diversion System

Item	Cost, $ million/year
Labor	0.1
Power[a]	0.6
Equipment and materials	0.1
TOTAL	**0.8**

[a] Based on 42,200 ac-ft/yr, 90-foot head, and 10 cents per kw hr.

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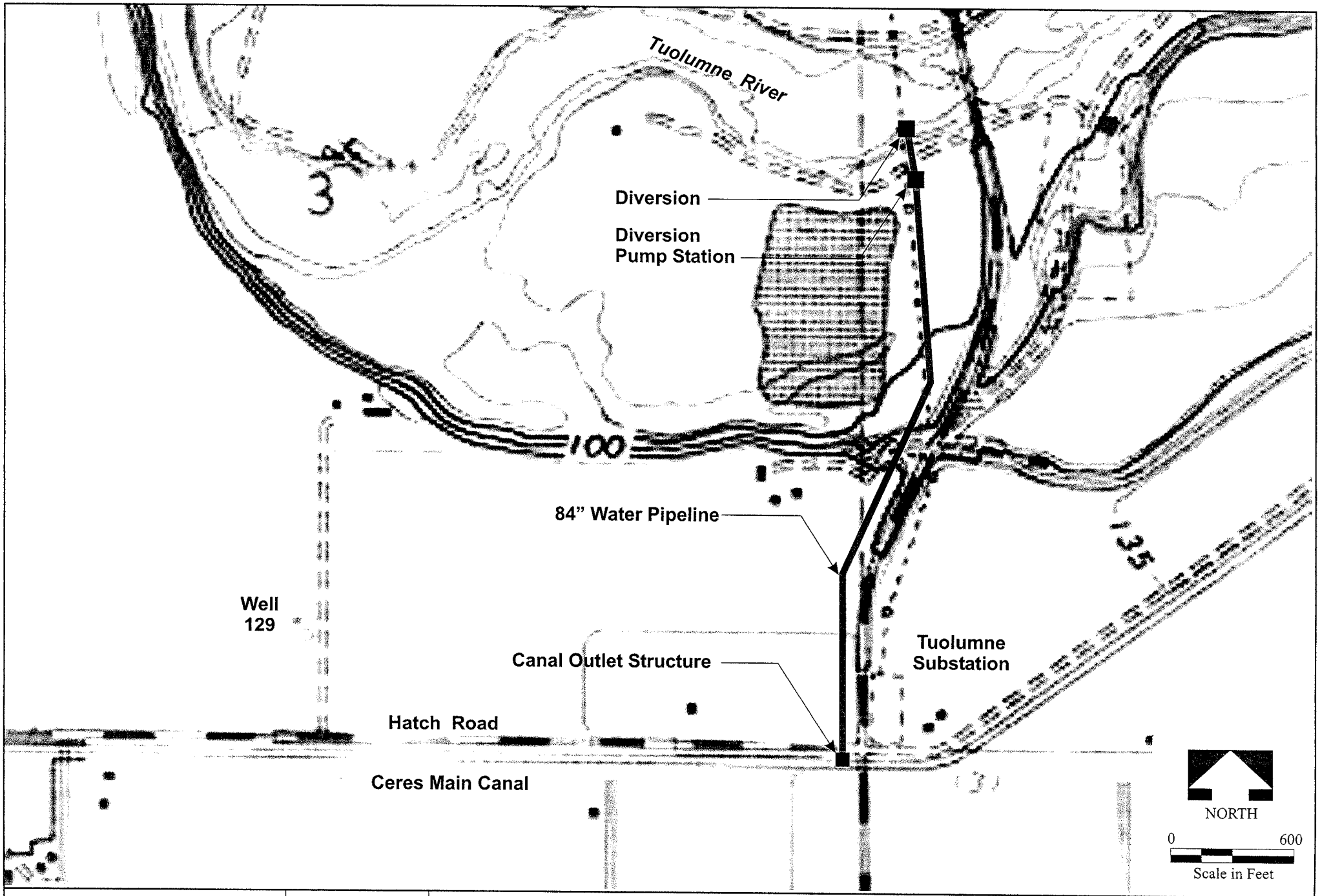

BROWN AND CALDWELL	DATE 11-6-03	SITE Turlock Irrigation District	Figure 1
	PROJECT 23491-001	TITLE Irrigation Diversion System	