Upper Sacramento River Basin Monitoring Project Work Team

June 13, 2001 Meeting at the U.S. Fish and Wildlife Service Office, Red Bluff, CA

SUMMARY OF DISCUSSION ITEMS

Welcome and Introductions - Tom Kisanuki, FWS

The group had not met since February 6, 1998, and many new players have arrived, and several new projects. The PWT has much to catch up on.

(The preliminary list of attendees was distributed at the end of the meeting, and a complete list is attached).

Individual Updates

***Prof. Michael Marchetti*, CSUC - Will be looking at fall-run chinook growth rates from main channel vs backwaters, near Chico, CA. The study will have linkage with DWR studies on the Yolo Bypass area. This will be a proposal to CALFED in cooperation with Larry Brown of USGS, who is doing HHD monitoring of small tribs to the Sac. Riv.**

***Stuart Angerer*, BOR - Is the project manager for spawning gravel injections. The sites are below Keswick Dam, downstream to Tobiasson Riffle. The Shea site is being re-considered as a site. BOR has imbedded 100 rocks with ultrasonic pingers, to track the movement of gravel. 50 pinger-imbedded rocks have been placed at the Salt Creek site, and 25 each at the Keswick and Tobiasson sites. These pingers have a 4-year life. Tracking has been on-going for two years.**

***Robert Vincik*, CDFG - Is conducting a telemetry study in the North delta area using ultrasonic pingers placed in the gullet of adult salmon. Objective is to evaluate salmon usage of the Suisun Control Gates and Montezuma Slough areas. These tagged fish are also externally tagging with Floy tags on non-adipose clipped fish.**

***Derek Stein*, CDFG - Noted that technical information on Robert Vincik's tags are available on their Yahoo.com web-site. Derek's work is in the cross-channel area of the delta, and his work is in coordination with Jeff McClain of the FWS' Stockton office. Striped bass, and sturgeon are known to access the cross-channel pathways. The cross-channel is being looked at to address the question whether fish are trapped when the control gate is closed. Also, there is a delta cross-channel committee which is chaired by Bruce Herbold of EPA. The experimental chinook are Floy-tagged and also have been tagged with reusable white sonic tags; which measure 64mm x 16mm. However, the Striped bass do not have Floy tags.**

[The PWT discussed the fact that all tags are placed on the left side of the fish, to facilitate camera verification at hatcheries, as well as at the RBDD.

***Kurt Brown*, FWS - Adult fish counting at the RBDD takes place when the RBDD dam gates are lowered on May 15, and remain down until September 15, annually. Kurt noted that the BOR will be conducting flow "crowning" experiments by releasing the majority of the flow through the center gates of the dam, to evaluate whether unconventional dam gate operation will improve fish passage at the West and East fish ladders.**

Kurt is working on the results of the pikeminnow telemetry study; some fish are still at-large. Kurt has documented recaptures of fish 7 years post-tagging. FWS has conducted telemetry of fall chinook at RBDD for the past 3 years; FWS may re–conduct this work during 2002.
[note: after the meeting, the BOR authorized FWS to conduct a telemetry study to evaluate fish passage in conjunction with the flow "crowning" experiment for this August.]

***Scott Hill*, CDFG - CDFG conducts Rotary Screw Trapping (RST) at river mile 278.5 (Ball Ferry Bridge site), to monitor emigration of salmonids. Seine/snorkel work occurs from Keswick Dam to the confluence of Battle Creek, for habitat evaluation purposes. Also does fall, late-fall, and winter-run carcass surveys (in conjunction with USFWS), to estimte adult spawner escapement for the different salmon runs in the upper Sacramento River. CDFG applies Floy tags on fall-run adults at RBDD, to evaluate for bias in finding males versus females in the carcass surveys (using fall run as a surrogate for winter run). Also has radio-tagged carcasses to determine their disposition/outcomes. CDFG has radio-tagged 50 winter-run carcasses, and about 25-30 fall-run carcasses during 2000. Scott has also done bulk gravel sampling (not all of the gravel has been analyzed) for spawner suitability, this study targeted winter-run, and the earlier efforts looked at 15 different sites.**

***Jess Newton*, FWS - Various restoration monitoring work within the lower Clear Creek drainage:**

1) Spring chinook carcass surveys from Whiskeytown Dam, to downstream areas. The objective is to obtain spatial/temporal distribution. All redds are marked.
2) Late-fall carcass surveys.
3) Adult fall-run carcass surveys (assistance to Colleen Harvey-Arrison's study).
4) Stranding surveys, looking at gravel bar areas where stranding is most likely to occur, as a result of project managed flows.
5) Spawning gravel quality sampling through bulk sampling, and permeability studies.
6) Floodplain morphology evaluations of floodplain profiles, head-cutting, measuring sand/gravel content, and monitoring aggredation/degradation sites.
7) Flow and temperature monitoring, using 8 temp-loggers, and 5 recording gage sites (in addition to USGS sites).
8) Juvenile salmonid/native fauna monitoring, using beach seining sites and electro-fishing sites. Rough C/E's are generated.
9) Annual fall chinook spawner surveys. Examining 4.5 mile stretch of useable habitat, and obtaining amount of useable spawning habitat per 1000 ft of stream distance.
10) Monitoring spring run adults in the North and Main forks of Clear Creek. FWS is working with 50 private land-owners to obtain access. It is difficult to work with this many owners.

Note: 16 "spring" race adults were counted in the Clear Creek system, with 10-11 redds counted; most of these redds were above the Placer Road bridge. Clear Creek appears to have a small "population" of spring race chinook; with the term "spring race" being loosely applied.

[A question relating to the influx of adult fish in August was asked and whether these fish would be categorized as "spring" race. Jess responded that we could correlate fish counts at the RBDD for the same time period and this could help us in the race designation.]

Tom Kisanuki, FWS - Battle Creek Monitoring Projects. In the past, FWS has operated a fish trap at the Battle Creek barrier weir for the purpose of monitoring returning winter-run at the Coleman National Fish Hatchery, and as a means for gathering winter-run chinook adults for purposes of relocating them to the mainstem Sacramento River. Beginning this spring, FWS operated the weir fish trap for obtaining general biological information on adult chinook, and collecting tissue samples. The weir is fitted with a video-camera and a vaki infra-red system for counting fish during periods of higher water temperatures.

Phillip Gaines, FWS. Clear Creek emigration study. Mainstem Sacramento River RST. Mainstem operations began in 1994; while tributary monitoring

started in 1998. The general objective is to obtain production estimates, and one desired utility is to link production to the restoration work within the Clear Cr. basin. Recent funding restrictions have limited the sampling to 5 nights per week. In Battle Cr., USFWS has operated two RST's; one at CNFH, and one downstream, adjacent to the CDFG Wildlife Area, until early 2001, at which time the operation was ended due to lack of funding. We are awaiting CALFED funding to restart this project.

***Colleen Harvey-Arrison*, CDFG - Colleen is responsible for salmon tributary monitoring north of (and including) Deer Creek. This includes annual spawner abundance surveys for fal-run chinook in Battle, Clear, Mill, and Deer creeks. Colleen is also in charge of a spring-run life-history study of Mill and Deer creeks which includes adult salmon distribution and spawn timing, and juvenile salmon rearing and outmigrant studies. Doug Killam is responsible for the mainstem monitoring, Cottonwood Creek monitoring and oversees the steelhead monitoring.**

***Ian Drury*, CDFG - Works on Butte Cr. RST. Kathy Hill was originally in charge of this project. Paul Ward is the interim CDFG contact until a permanent assignment is made.**

***Kevin Niemela*, FWS - Kevin has been in charge of the Hatchery Evaluation activities. Kevin oversees the mainstem winter-run spawner survey which is done cooperatively with Scott Hill's program. CDFG conducts estimates of abundance; whereas FWS's primary focus is the genetic component and recovery of adults at Livingston Stone Nat'l Fish Hatchery. FWS may also conduct a second consecutive year of mark-recovery surveys in Battle Creek, in cooperation with Colleen's project. The goal of the mark-recovery surveys in Battle Creek is to estimate the proportion hatchery:naturall adults. FWS is proposing to repeat this study in the fall.**

FWS is also involved in a fine-scale genetic investigation of Battle Cr. steelhead (including Coleman NFH fish), and other Sacramento River tribs (Clear Cr. (below/above Seltzer Dam, Mill, and Deer creeks). The genetic analyses are being performed by Jennifer Nielsen. Most of the samples are from juveniles. The markers being examined were those in previous use by Nielsen, who is looking at microsatellite markers to assess temporal/spatial variations amongst sites. [Mike Lacey noted that there are technical problems with using juvenile samples for certain genetic analyses]

***Scott Hamelberg*, FWS - Scott commented that it is helpful to have a larger perspective of the genetic work being done in the basin. Sheila Green is the appropriate contact for the winter-run genetic Project Work Team. The next PWT meeting is July 18. Scott provided update on the Bodega Marine Laboratory release group - the F1 group was from BY '98; these progeny should be returning as 3-year olds.**

This year's trapping counts at Keswick Dam are much lower this year; 127 chinook have been trapped to date. About 30 fish have been retained; the rest were released because they were non-winter fish or were hatchery progeny.

***Alice Low*, CDFG - Has submitted a genetics proposal to CALFED PSP which was not funded, and has modified the proposal which focuses on addressing management related questions such as differentiation of fall/spring run to directly address introgression in sympatric populations. This work would be done in cooperation with ?Garza, U.C. Santa Cruz geneticist.**

***Sheila Greene*, DWR - Sheila's genetic work is intertwined with Winter Run Captive Broodstock and Propagation Program genetic work. DWR funded genetic characterization research for the past 5 years. The focus has been on identifying juveniles in the Delta, with the initial emphasis on winter run. The early results were several strong microsatellite markers for winter run. Unknown juvenile samples from the export facilities have been genetically characterized for 4 years now. Another, CALFED funded, research project focused on spring run. The results are positive, but the markers are not as strong as winter run. As a comparison, 3 markers are necessary for winter run identification, whereas 7 markers would be required for spring run identification. The spring run project is scheduled to be completed this year. Geneticists from several labs (NMFS, Seattle, NMFS Santa Cruz, UC-Davis, and Hagerman Lab, U of Idaho) concurred genetic characterization of winter run is adequte for management uses.**

[Sheila and Kevin discussed the need to collect tissue samples from the RBDD RST operations, and the importance of keeping coordinated on winter-run genetics work]

***Richard Corwin*, BOR - Richard has been involved in RBDD Research Pumping Plant (RPP) evaluations. They have produced a number of reports relating to various research evaluations. The last report is scheduled for completion in July, and will present results of entrainment monitoring from 1997 through May 2000 for Archimedes lifts and the internal helical pump. They will continue to monitor entrainment of Sacramento River fish into the pumps by sampling one 24-hour period each week that the pumps are operated. The main objective is to monitor the take of listed species. The number of fish entrained, by species, and their lengths will be recorded. The database is in MS Access. Summaries are produced after each fall and summer sampling periods and are available upon request.**

The BOR's Stoney Creek monitoring is done in cooperation with DWR and CDFG. There are 7 sampling sites on Stoney Cr. at this time, however 20 sites will be eventually sampled as stream access becomes available. Access to the stream is a problem from Black Butte Reservoir to the Interstate 5 area. The current seven sites have been beach seined weekly from Jan 1 through June 15, and monthly thereafter from June 16 to October 31. The objectives of the monitoring is to assess habitat characteristics and availability for salmonids, identify seasonal and spatial distribution of fish, determine occurrence and extent of salmonid spawning, estimate timing of juvenile salmonid outmigration, and determine potential entrainment into the CHO (constant head orifice) and Northside Diversion Canal. The size range of juvenile chinook was 34 to 96 mm; mean of 57 mm. This work is coordinated with Charlie Brown, CDFG. DWR is also planning to conduct biological studies in Stoney Creek for purposes of pre-project planning for Thomes-Newville reservoir project development. The project manager for the BOR is Michele Simpson.

***Michelle Simpson*, BOR - Salmonid spawning has been documented below the Highway 99 bridge; 2 redds sighted aerially, and 1 confirmed by ground surveys. Aerial flight surveys were discontinued this year due to complaints from private landowners.**

The BOR also has on-going monitoring of impacts from the Iron Mountain site; feasibility work for enlargement of Shasta Dam, and a pending analysis for evaluating downstream fisheries impacts from this action.

***John Hannon*, BOR - John is a new fishery biologist for BOR's regional office in Sacramento. John is involved with OCAP consultation of CVP dams, in concert with DWR. John is also working on the recent terms and conditions of the latest OCAP biological opinion relating to steelhead monitoring. The focus of this work is on steelhead escapement for the upper Sacramento River. John has contacted various people working on monitoring escapement.**

***Doug Killam*, CDFG - One of Doug's activities is chinook race differentiation at RBDD during the 4 months of gates-in operation, and also generating run-size estimates of 3 chinook races; winter-run, spring, and fall races. Redd concentrations below RBDD are also monitored. Doug also monitors SH and spring chinook in Cottonwood Cr. CDFG also looks at Mill, Beegum, and Antelope creeks for SH useage; this work started this winter and obtaining landowner cooperation has been difficult.**

Ian Drury, CDFG - Ian monitors juvenile out-migration on the Yuba River, using RST. This project is in its second year, and is funded through FWS. Spring run adult salmon spawning/migration estimates are generated at Eagurre Dam. CDFG has two adult traps there, but only four fish have

been seen since March, and may be due to low water conditions. Ian also conducts spring run redd surveys on a weekly basis. Phenotypic assignments are used, until the bulk of the fall-run fish show up. CDFG is also conducting temperature monitoring in the Yuba and Feather rivers, whereby the temperature flume created by Yuba into the Feather river is assessed. In these two systems, juveniles are known to out-migrate year-around, and Ian is striving to learn what life stages are contributing the most to adult escapement. [Mike Tucker commented that they are seeking ways to best manage the Yuba River to protect life history strategies, since smolts die when they reach the Feather River]

The eventual fate of Euagirre Dam is unknown; there is also a mercury problem, and the dam is now filled in with sediment. USGS will sample for Hg. If it is determined that Hg is not a problem, can dam be removed? The dam is owned by ACOE. There is an existing CALFED proposal to do CWT monitoring, similar to the work being conducted at Butte Cr.

Annual spawner surveys are done on the Feather River; this data is being looked at by Brad Cavallo of DWR.

***Barbara McDonnell*, DWR - Barbara is involved with FERC relicensing on the Feather River, at present the alternate process is working with the stakeholders, and meeting monthly. Steve Ford of DWR is coordinating this process, which is now two years in the running.**

***Mike Tucker*, NMFS - Mike is working on the Yuba River, and noted that power generation revenues are funding various field studies work, being mostly performed by Jones & Stokes. Jones & Stokes are collecting steelhead genetic samples in cooperation with the Yuba County Water Agency (YCWA). ACOE is in consultation with NMFS for interim operational actions at Euagirre Dam. The consultations are intended to help ACOE reduce predator problems, use of flashboards for attraction flows, and looking at Deer Creek which is a tributary below the base of Englebright Dam. ACOE may fund gravel injection work.**

[Ian Drury noted that CDFG is no longer issuing new dredging permits for the lower Yuba River. Mike Tucker explained that recent high flows have redistributed accumulations of shotrock (from the dam construction) downstream and this has caused armoring of the gravel bars and has degraded the spawning habitat.. Andy Hamilton also asked if the CWT results for the Yuba River are available, to which Ian Drury responded that he has not seen the results]

[Colleen commented that 100,000 chinook are CWT annually at Butte Creek]

***Kimberly True*, FWS - Kim explained that although they (CA/NV Fish Health Center) have**
no current on-going work in the upper Sacramento River, they would welcome involvement in addressing management needs. They are conducting general fish health assessment work in the San Joaquin River system and could quite easily apply these same fish health assessments in the Sacramento system.

Kim said that CNFHC is involved in the 5th year of a national wild fish health survey. There are some funds through this program to do laboratory analysis work, but there is only limited funds available to do field sampling. Therefore, they would count on agency cooperation to provide the samples, and CNFHC would perform the technical analyses. CNFHC has just completed a 2-year pathogen study in Battle Creek looking at standard pathogens, whirling disease, and IHN. A summary of this work was presented at the May Battle Creek Workgroup meeting a full report is available. The Center now have a full capacity wet lab which allows them to conduct temperature & disease susceptibility studies on hatchery and wild stocks. Kim also expressed concern for elevated water temperatures and potential fishkills this year in the Trinity/Klamath system, and requested folks let the fish health center know if they encounter any fish health problems during their monitoring programs. The Center has the ability to respond rapidly if fish kills occur or other fish health issues should surface. [Randy Benthin stated that the State also has a full-service fish health facility/laboratory]

The CNFHC is developing different assays that would permit them to assess contaminants; they are not fully capable at this time. [Mike Lacey asked a question related to hormonal analogues in fish].

***Tricia Bratcher*, CDFG - Tricia is working on AFRP/CVPIA related restoration programs, and she specifically works with Antelope, Cottonwood, Deer, Mill, Red Bank, and Reeds creeks. Tricia provides technical assistance to various watershed groups/conservancies in writing management plans, and pursuing funding for fisheries work. CDFG will be assisting these groups in their monitoring efforts in Cow and Cottonwood creeks. Tricia also assists private groups that are involved in the restoration of Clear Creek.**

***Mike Berry*, CDFG - Mike explained that he is the fisheries program equivalent role to Tricia Bratcher, and that he is working with watershed groups to write restoration proposals and plans. Mike provides technical liaison and assistance. [MIKE - please provide details; this part of my notes were illegible; thanks]**

CURRENT TOPICS DISCUSSION

***Mike Tucker*, NMFS - ESA Section 10 Permits**

Discussed Rebecca Lent's letter of March 14, 2001 which affirmed that NMFS' interim allowance to take SH in the Central Valley ESU expired on March 7, 2001, and that any scientific research take of SH thereafter is not authorized. However, the letter also stated that NMFS would consider the mitigating value of the agency's monitoring work when deciding whether to prosecute for violations of the ESA.

NMFS is required to issue a Biological Opinion for each Sec. 10 permit, but due to extreme staffing shortages, Mike felt that the future prospectus of NMFS' ability to accomplish this was uncertain. Mike explained that Dan Logan once had five staff members assisting him in processing sec. 10 permits, but now only has one assistant.

***Kurt Brown*, USFWS - The Red Bluff office of FWS is planning to conduct CWT tagging of wild stock fall chinook in 2002. Other agency participants felt this study would provide useful information, and it was discussed that these fish had been recovered at various downstream locales. The FWS would also conduct radio-telemetry work to evaluate the effectiveness of the new ladders at ACID. This work may take place later this fall, no definitive date has been set.**

NOTE: THE NEXT DISCUSSION PRIMARILY INVOLVED <u>BILL SNIDER</u>, <u>PHILLIP GAINES</u>, <u>MIKE TUCKER</u>, <u>ANDY HAMILTON</u> & <u>SCOTT HAMELBERG</u>, HAVING TO DO WITH THE "BLACK HOLE" OR "VOID" BELOW RBDD AND ABOVE THE ESTUARY WHERE WE HAVE LITTLE UNDERSTANDING OF WHAT THE JUVENILES ARE DOING AND WHERE MORTALITIES ARE OCCURRING. MY WHITEBOARD NOTES WERE ILLEGIBLE.

Phillip Gaines explained that Craig Martin's work involved development of a flow versus fish passage efficiency model that yielded a good least squares regression fit with confidence intervals ranging from 75 to 95%. This efficiency model has been peer reviewed by noted biometricians J. Skalski, and Lyman McDonald and Shay Howlin. Phillip also noted that efficiencies vary from site to site, Clear Creek ranges from 20-30% for this time of year, whereas Battle Creek ranges from 6-8%.
Sam Williamson said 5-6 years of calibration took place at the Balls Ferry site. Sam asked for a calibration effort to close up the gap between winter-run adult estimates generated at RBDD versus estimates derived from the carcass survey data.

Julie Brown explained that the GCID site was being operated as a screen shop, and any requests for GCID trapping data should go through Diane Coulon.

Tom Kisanuki identified that FWS i s working the FWS Stockton office in an effort to develop a beach seining proposal that would generate useful information to the fisheries community. Tom explained that the FWS has been opportunistically conducting seining operations between Princeton (river mile 164) and Redding (river mile 300) since 1981; the original study objectives were to obtain generalized information relating to presence/absence of juvenile salmonids. Tom asked the group for suggestions and ideas for possible data needs that could be addressed with a beach seining program. The general response of the group was in the form of various questions relating to "what are the objectives". Bill Snider and others felt that survival and population abundance data was needed, but also recognized that empirically reliable information would be very difficult and costly to do, and equally difficult to obtain with a beach seine methodology.

Sam Williamson asked why we would want to sample boat ramps, since they are not representative of any other habitat types in the river other than boat ramps, and the associated habitat quality is poor. Phillip Gaines responded that since one of the objectives was to determine presence/absence, and access considerations were important, boat ramps were convenient sample sites. The methodology employed also minimized winter-run take issues. Andy Hamilton commented that the beach seine work provided good preliminary information in the past, but also cautioned that winter run juveniles move away from boat ramps at certain times of the year, not necessarily because they are migrating downstream but because they were seeking different habitat. Phillip noted that there were problems with beach seine program continuity and due to increased staffing needs with the RST project associated with increased captures, the beach seining had to be sacrificed. Also, the beach seine site characteristics would change with increases in river discharge, which limits empirical use of the catch information. Bill Snider feels beach seining is not the best way to monitor fish movement, and therefore asked what are the objectives for the seining? Mike Tucker also agreed that below RBDD, shallow water areas are limited and therefore limit the number of areas that could be sampled by beach seine.

There was general agreement by the group that the technical approach to sampling the river downstream of RBDD would be to employ stratification of river reaches to try to quantify survival. Sam also advised stratification with the different levels. Discussion ensued (in the context of utility of RST versus beach seine) that seining often captured size intervals of juveniles that were either missing or uncommon in the RST. Some group members

felt snorkeling and beach seining could offer some indicative information but would be difficult to draw reliable inferences. The fundamental theme of the discussion seemed to focus on the question of where do the fish go below RBDD, what is their survival, where are they dying, etc.

The group also pondered the need for increased number of marked fish and increased number of sampling sites if we were going to assess the river areas downstream of RBDD.

The next subject of discussion had to do with how various watershed groups are coordinating their work/project objectives with the monitoring objectives of the agencies, and the apparent discrepancies in the sampling plans/methods. Tricia Bratcher and Mike Lacey explained that different groups have differing objectives - (e.g. one group may be focused on grazing cattle, and another may be focused on recreational benefits). These diverse objectives are all legitimate and certainly raises the need for awareness and common coordination to standardize where possible.

During the final hour of the meeting, we tried to bring to discussion any other burning issues of inter-agency coordination, but the energy/interest level of the group was seriously waning.

There was limited discussion on whether a separate tagging coordination group was needed to communicate/dispense information amongst the fisheries community. Tom suggested that the agencies could voluntarily post general information on their respective websites, and identify lead contacts for further information. The group response was somewhat feeble but most seem to agree that agency websites could serve as a initial source of information provided the agencies were committed to keeping the sites up-to-date.

The group unanimously agreed that this PWT should meet annually, and Stuart Angerer of the BOR graciously accepted the baton to coordinate the 2002 meeting. A placeholder date of May 8, 2002 was agreed upon. The specifics of the next meeting will be arranged by Stuart. Tom will draft up the meeting notes, finalize them, and transfer significant information to Stuart within the next couple of months.

END OF NOTES

LIST OF ATTENDEES - UPPER SACRAMENTO RIVER BASIN MONITORING PWT
June 13, 2001
Red Bluff, CA

	Name	Agency	Location
1	Angerer, Stuart	BOR	Shasta Lake
2	Arrison, Colleen Harvey-	CDFG	Red Bluff
3	Benthin, Randy	CDFG	Redding
4	Berry, Mike	CDFG	Redding
5	Bratcher, Tricia	CDFG	Redding
6	Brown, Julie	CDFG	Sacramento
7	Brown, Kurt	FWS	Red Bluff
8	Burmester, Rick	FWS	Stockton
9	Corwin, Richard	BOR	Red Bluff
10	Drury, Ian	CDFG	Sacramento
11	Gaines, Phillip	FWS	Red Bluff
12	Gaither, Shea	FWS	Red Bluff
13	Greene, Sheila	DWR	Sacramento
14	Hamelberg, Scott	FWS	Anderson
15	Hamilton, Andrew	FWS	Sacramento
16	Hannon, John	BOR	Sacramento
17	Hill, Scott	CDFG	Sacramento
18	Killam, Doug	CDFG	Red Bluff
19	Kisanuki, Tom	FWS	Red Bluff
20	Lacy, Michael	CDFG	Sacramento
21	Lim, Mike	CSUC	Chico
22	Low, Alice	DFG	Sacramento
23	Marchetti, Michael	CSUC	Chico
24	McDonnell, Barbara	DWR	Sacramento
25	Newton, Jess	FWS	Red Bluff
26	Niemela, Kevin	FWS	Red Bluff
27	Parker, Tricia	FWS	Red Bluff
28	Reavis, Bob	CDFG	Sacramento
29	Simpson, Michelle	BOR	Shasta Lake
30	Snider, Bill	CDFG	Sacramento
31	Stein, Derek	CDFG	Stockton
32	True, Kimberly	FWS	Anderson
33	Tucker, Michael	NMFS	Sacramento
34	Vincik, Robert	CDFG	Stockton
35	Williamson, Sam	USGS	Ft. Collins, CO