

YOLO BYPASS WORKING GROUP MEETING 20

MEETING MINUTES

MEETING DATE: June 20, 2002

LOCATION: California Department of Fish and Game
Yolo Wildlife Area Headquarters
45211 County Road 32B (Chiles Road)
Davis, CA 95616

IN ATTENDANCE: Robin Kulakow, Yolo Basin Foundation (YBF)
Dave Feliz, California Department of Fish & Game (DFG)
Dave Ceppos, Jones & Stokes
Ed Towne, Bull Sprig Outing
Dean Kwasny, DFG
Rob Capriola, California Waterfowl Association (CWA)
Steve Jennings, Channel Ranch
Philip Martinelli, Channel Ranch
Mike Hall, Conaway Ranch
John Currey, Dixon Resource Conservation District (RCD)
Randy Beckwith, Department of Water Resources (DWR)
Marianne Kirkland, DWR
Don Stevens, Glide-In Ranch
David Kohlhorst, Glide-In Ranch
Chris V. Fulster Jr., Glide-In Ranch
Bob Dorian, H Pond Ranch
Will Wylie, H Pond Ranch
Rick Martinez, Martinez Brother's Farms
Selby Mohr, Mound Farms
Walt Cheechov, Natural Resources Conservation District (NRCS)
Jim Schneider, NRCS-Dixon
Mike Hardesty, Reclamation District 2068
Ken Martin, Rising Wings Duck Club
Butch Hodgkins, Sacramento Area Flood Control Agency (SAFCA)
David Brown, Sacramento Yolo Mosquito Vector Control District (SYMVCD)
Rachelle Rounsavill, Yolo Basin Foundation
Linda Fiack, Yolo County Parks & Resource Management
Mike Eagan, Yolo Flyway Farms
Craig Isola, U.S. Fish and Wildlife Service (USFWS) Sacramento Refuge
Tom Harvey, USFWS Stone Lakes Refuge

NEXT MEETING: The July 23, 2002 has been postponed. The new meeting date is August 15., 2002 This next meeting will have a very full agenda therefore, the meeting time has been expanded to 10:30 a.m. to 1:30 p.m. at the Yolo Wildlife Area Headquarters.

ACTION ITEMS:

1. Dave Ceppos will further clarify whether the Lisbon Flooding Gauge is based on 3 feet below sea level (United States Engineering Datum) or sea level.
2. Dave Feliz (DFG) and Robin Kulakow (YBF) will try to reschedule the Wildlife Area expansion Management Plan focused meetings after October 9th and preferably not on Wednesdays to better accommodate the fall hunting schedule. Meeting dates will be posted on the Yolo Basin Foundation website.
3. Butch Hodgkins (SAFCA) will obtain information on peak flows from the Natomas Basin into the Sacramento River. In addition Butch Hodgkins will look into whether the Bypass Toe Drain can be utilized for decreasing flood stress.
4. Dave Ceppos will revisit representative nominations at the next meeting for participants in the Sacramento River Corridor Floodway Planning Forum to be held at the end of July 2002.

Mr. Ceppos called the meeting to order and explained the purpose of the working group. Mr. Ceppos stated the Working Group is “a forum for land owners, tenants, and agencies that have an interest in the Bypass. Mr. Ceppos asked for introductions of those in attendance and briefly went over the agenda outline.

Mr. Ceppos asked if there were any changes or edits to the draft May 2, 2002 meeting minutes. No changes or edits were requested and the May 2, 2002 meeting minutes were adopted as final.

Mr. Ceppos announced that Regina Cherovsky had appendicitis and a get well card would be passed around at the break.

Mr. Ceppos briefly covered the four action items from the May 2, 2002 Working Group meeting as follows:

1. . Cindy Mathews (National Weather Service), via electronic mail with Mr. Ceppos, clarified that the Lisbon flooding gauge datum is based on 0.00 feet according to the California Datum Exchange Center (CDEC). Mike Eagan (in attendance) requested further clarification regarding whether the 0.00 feet is at sea level or 3.00 feet below sea level. Marianne Kirkland (DWR) and Randy Beckwith (DWR) informed the Working Group that CDEC datum is likely based on United States Engineering Datum (USED) or NGV29 datum both of which are based on 3.00 feet below sea level. According to participants the Lisbon Flood Gauge is at 3.00 feet below sea level already, therefore there was further confusion as to whether the gauge

readings are actually 6.0 feet below sea level or 3.0 feet below sea level. Mr. Ceppos said he would acquire further clarification from Ms. Mathews.

2. Mr. Ceppos passed out educational information regarding historical sightings and the life biology of the giant garter snake in the Bypass. A letter to Congressman MikeThompson signed by Steve Thompson, Manager, California Nevada Operations Office was included in the informational packet.
3. Mr. Butch Hodgkins did not have Natomas Basin peak flow information available. Mr. Hodgkins stated he would get the information before the next Working Group meeting.

Yolo Wildlife Area Expansion Management Plan Update Dave Feliz (DFG)

Dave Feliz, Yolo Wildlife Area manager, gave a brief update on the Yolo Wildlife Area Management Plan (Management Plan). Mr. Feliz informed the Working Group that the Yolo Basin Foundation has secured funding through an amendment to their existing CALFED grant to continue Working Group meetings with an emphasis on the Management Plan. The Working Group will conduct focused meetings to give information and get input regarding public use programs, habitat restoration, flood protection, and the long term role of agriculture in the Wildlife Area. Mr. Feliz handed out a focused meeting schedule for the upcoming months and stated that agendas will be developed and sent out prior to each meeting. Mr. Feliz briefly outlined potential topics for each of the meetings as follows:

- *Public Hunting and Fishing* on the newly acquired lands will be discussed on September 11, 2002. Topics may include how hunting will evolve and change in the Wildlife Area as well as discussions on sanctuaries, tour routes, etc.
- *Hydraulic Modeling* discussions are scheduled for September 18, 2002. The recent Reclamation Board proposal for modeling is likely to be on the agenda.
- *Flood Protection* discussions are scheduled for September 25, 2002
- *Agriculture* discussions are scheduled for October 2, 2002. Topics are likely to include specific areas within the new acquisition that can be used for agriculture, grazing for management of native grasses, and utilizing corn, safflower, and rice to attract wildlife. Range management specialists from the Yolo RCD will be present.
- *Fish* will be discussed on October 9, 2002. Specific topics will include management of the flood plain for native fish and movement of salmon in the Bypass. Fishing opportunities in the Toe Drain and in the vicinity of the Lisbon Weir will also be discussed.
- *Wildlife Management* discussions are tentatively scheduled for October 16, 2002. Development of wildlife habitat will likely be included on the agenda.

- *CALFED Ecosystem Restoration Plan* objectives and role is tentatively scheduled for October 23, 2002.
- *Wildlife Viewing and Environmental Education* is tentatively scheduled for October 30, 2002.

Mr. Feliz is interested in hearing about other areas of interests for future meetings or agenda items.

Participant: All of the meetings are scheduled for Wednesdays. That might create a conflict with hunting season, can the meetings after the first of October be rescheduled for an alternate day?

Robin Kulakow: Wednesdays are the only day we did not have a scheduling conflict for the conference room, however Mr. Feliz and she will look into rescheduling the October 16th, 23rd and 30th meetings.

Funding has been secured to conduct vegetation studies on the Tule Ranch. Biologists are excited by the rare plants that have been observed to this point.

Participant: (In reference to a slide in Mr. Feliz's presentation.) Is there a map where you can show us the location of the photo.

Mr. Feliz: The photo is a picture of the Umbrella Barn field (Mr. Feliz pointed out the location on an aerial photograph map).

Mr. Feliz mentioned that there are many alkali soils on the Tule Ranch and Umbrella Barn field regions (approximately 2,100 acres). These soils are ideal for many rare plants, but do not produce a lot for cattle. In addition Mr. Feliz pointed out on an aerial photograph potential locations for grazing, nesting, wetlands and agriculture in the new acquisition areas.

At the present time, DFG is maintaining existing leases with the same tenants. Mr. Feliz is pursuing a cooperative agreement between the Dixon RCD and DFG. The agreements will be used to help negotiate leases, manage funds and to help with infrastructure improvements on the expansion property.

The water system at the south-end of the Tule Ranch along the Toe Drain will be managed by DFG, therefore if you need water you will need to contact Mr. Feliz. Mike Brock will still manage the pump and you will be charged based on how much water is pumped to you.

Participant: How much does the water cost?

Mr. Feliz: I have not seen a bill yet, therefore I am unsure of the cost at this point.

Participant: We have an easement, can we put a pipe in for gravity irrigation?

Mr. Feliz: DFG will still control the gates and you will still be charged for the water you use, however you can install a pipe for gravity irrigation. Contact Chadd Santerre (CWA) about the NAWCA proposal to help with funding for your irrigation pipe.

Participant: Farming is an important part of maintaining ducks. Are you putting more into farming or less?

Mr. Feliz: That is a subject we will be covering in the Agriculture focus meeting on October 2, 2002.

Participant: You list wild and organic rice in the northeast (Glide Ranch). Will you grow organic rice.

Mr. Feliz: At this point organic rice is not one of the rotated crops this season.

Participant: How much of the Los Rios grazing lease is irrigated.

Mr. Feliz: Greg Schmidt is not irrigating more than 100 acres..

The Wildlife Area currently has an on-going 150-acre wetland reserve project. DFG is working with NRCS and CWA on this project and they are currently in discussions with the Reclamation Board about permitting this project.

Participant: Is the reserve under perpetual easement?

Mr. Feliz: Yes

Participant: Will there be a CEQA document produced from the Management Plan?

Mr. Feliz: Yes, once the plan is prepared.

Participant: Are the upcoming focus meetings just for the Working Group or are they open to the public?

Robin Kulakow: They will be open to the public also. We will be mailing out fliers to the Working Group and to others.

Dave Ceppos: Will the meeting dates be posted on the Yolo Basin Foundation website?

Robin Kulakow: Yes

**CALFED Phase II- Issues of Interest in the Future
Dave Ceppos (Jones & Stokes)**

Mr. Dave Ceppos discussed the letter writing campaign to CALFED for re-assessment of the proposal to fund a hydraulic modeling program for the Bypass. The Yolo Basin Foundation, Yolo County, Sacramento Area Flood Control Agency (SAFCA), and the Working Group composed letters to CALFED. Working Group participants Selby Mohr (Mound Farms), Rick Martinez (Martinez Bros. Farming), and Mike Hardesty (Reclamation Board 2068) signed the final letter.

Mr. Ceppos announced the letter campaign was a success. CALFED senior decision-makers re-evaluated the previous reviewer's decision and moved the proposal from the Competitive category to the Directed Action category. It is likely that representatives from CALFED, the Reclamation Board, and the U.S. Army Corps of Engineers will meet soon to discuss revising some aspects of the proposal.

Participant: Who will run the modeling program?

Mr. Ceppos: Unsure at this point.

Participant: Is the base model chosen?

Mr. Ceppos: RMA-2 is the proposed base model.

Participant: Does the base model cover the entire Bypass?

Mr. Ceppos: No. The previous RMA-2 model was produced in 1995 and does not cover the entire geographic area of the Bypass. Furthermore, it is based on the computational ability at that time and is somewhat unstable.

Mr. Ceppos then described the current CALFED funding for continuation of Working Group efforts. He outlined the main tasks of the contract:

1. Continued funding for twenty additional working group meetings over the next two years.
2. Meetings and Wildlife Area management planning support in the coming year including additional focused meetings with specific stakeholder groups.
3. Potential implementation of the Management Strategy. The Foundation and Jones & Stokes will initiate discussions with willing Working Group members to assess any interest in pursuing land use opportunities discussed and approved in the Management Strategy. Landowners interested in such opportunities will meet with consultant staff and will identify what ideas could be feasible and desirable on their properties. These ideas will be memorialized in a concept plan developed by the consultant. As these discussions take place, nothing will go forward unless adjacent land owners are protected regarding endangered species impacts unless potential flood control impacts are neutral.

Sacramento River Corridor Management Planning Forum Butch Hodgkins (SAFCA)

SAFCA and the Reclamation Board are developing a Sacramento River Corridor Management Planning Forum (Forum). Both agencies would like the Yolo Bypass Working Group to participate in the Forum.

Mr. Hodgkins gave a brief history that has lead up to the development of the Forum. Businesses, civic leaders, habitat advocates are interested in developing the waterfront around the Sacramento area. Encroachment permits have been denied due to the added stress that these encroachments could potentially impose on the flood management system and its capacity. A detailed analysis of the flood management system and where the stresses potentially could be alleviated is needed. Therefore, SAFCA and the Reclamation Board determined that a Sacramento River Corridor Management Planning Forum was necessary.

The purposes of the forum incorporate the following:

- Greater certainty/predictability in environmental permitting.
- Informal discussion of proposed projects
- Create a better understanding of the flood management system and its capacity to withstand encroachments
- Explore opportunities to reduce stress on the flood management system
- Improve transparency, communication and coordination of permitting process
- Expand opportunities for riparian habitat restoration and enhancement in permitting encroachments.

Ms. Kulakow (YBF *why the acronym?*), Mr. Hardesty (RD 2068) and Linda Fiack (Yolo County) were interviewed as part of the initial convening process for the Forum.

Mr. Hodgkins discussed the Sacramento and San Joaquin Rivers Comprehensive Study graphs for the combined natural flows at the Fremont Weir and the Sacramento River. The graph illustrated one and three day peak flows and showed that an increase in water is coming through the system since its construction in the early 1920's. The fundamental assumption for the increase in flows is climate change. During the 1986 and 1997 floods, peak flows reached a maximum height of 39 feet at the Fremont Weir . The USACE has extrapolated the potential increase in maximum peak flows over the next 100 years to reach 41.2 feet. The increase in flows is expected to result in added stress to the downstream flood management system. Therefore, the Forum calls for the following outcomes:

- Sacramento River Corridor Floodway Management Plan
- New procedural and analytic tools to assess individual and cumulative project impacts.
- Broad public and agency support for implementation of recommendations.
- Improved public understanding of the potential roles of the floodway in the future of the region.

The Forum will not make recommendations with respect to the following:

- Particular floodway project proposals
- Resolution of controversies relating to private property rights and public access
- Pollution discharge control, water supply allocation, endangered species recovery and other issues that are managed through established planning and decision processes.

Participant: I noticed there is nothing in the proposal about dredging Sacramento River. Are you discussing this?

Mr. Hodgkins: Yes. The questions are whether dredging helps in alleviating stress on the flood system and what is happening in the Sacramento River during a flood. During a flood, less than 20% of the flood water is carried by the Sacramento River, the remaining 80% is in the Bypass. Dredging the river would likely only increase the flood capacity by a relatively insignificant amount

Participant: How has original depth of the Toe Canal been affected over the past 40 years?

Mr. Hodgkins: We are unsure. The Forum process will focus on areas that cause stress and where stress can be alleviated.

Mr. Ceppos: As an action item for the next meeting, can we get additional information on the use of the Toe Drain for use in decreasing flood stress on the system?

Mr. Hodgkins: Yes

Participant: Can you reduce stress by putting additional flood waters in the deep water ship channel?

Mr. Hodgkins: The deep water could take on flood waters however, it would require significant design modifications . Additional flood waters in the deep water ship channel are likely to flood West Sacramento and wash out the deep water channel.

Participant: It's a given the Deep Water Ship Channel GLOBAL will be dredged. Has there been a time when big ships could not come up the ship channel?

Mr. Hodgkins: No.

A project is being conducted to deepen and widen the deep water ship channel because ships are getting much larger and some of the newer ships may not be able to navigate the channel.

Participant: Is the Port of Sacramento in financial trouble?

Mr. Hodgkins: My understanding is they need \$250,000 to finish the dredging project, however, I have no knowledge of the Port's overall financial status.

Participant: If the project is finished, could the deep water channel convey more water? Is the channel continual dredged because of a silting problem?

Mr. Hodgkins: It will be able to carry more water. It is my understanding that the deep water channel maintenance dredging is done to correct bank erosion, but I am unsure if there is a silting problem related to flows or tidal action in the deep water channel.

Participant: Have the levees been weakened by ship wakes?

Mr. Hodgkins: There is a large berm between the ships and levees. Therefore levee bank weakening is not likely caused by ship wakes.

Participant: Is it possible the Sacramento River has silted in over the past 45 years?

Mr. Hodgkins: Yes but it is also possible that sediment has continued to move through the system. We really don't know all the answers.

Participant: Has anyone looked into dredging the Sacramento River to relieve stress on the flood control system?

Mr. Hodgkins: Not recently to my knowledge.

Mr. Hodgkins explained that Forum members will include representatives from leading organizations with demonstrated effectiveness in representing the following major interests:

- Cities/Local Land Use Planning Agencies
 - City of Sacramento
 - City of West Sacramento
- Counties
 - Sacramento County
 - Sutter County
 - Yolo County
- Flood Control Agencies (Federal, State & Regional)
 - Army Corps of Engineers-Flood Control Operations
 - Department of Water Resources-Division of Flood Management
 - Reclamation Board
 - SAFCA
- Reclamation Districts
 - RD 1000
 - RD 1001
 - RD 900
 - Elkhorn area RD's
 - RD 2068
- Resource Agencies
 - US Fish and Wildlife Service
 - National Marine Fisheries Service
 - Department of Fish and Game
 - State Lands Commission

- CAL-FED Program
- Delta Protection Commission
- Conservation/Habitat Protection Organizations
 - Friends of the River
 - Sierra Club
 - The Nature Conservancy
 - Environmental Council of Sacramento
 - Sacramento River Watershed Program
 - Yolo Basin Foundation
- Recreation and Bicycle Transportation Advocates
 - Friends of the Sacramento Greenway
 - Sacramento Area Bicycle Advocates
 - River recreation groups
- Business and Commercial Development
 - Sacramento Metropolitan Chamber of Commerce
 - West Sacramento Chamber of Commerce
 - Building Industries Association
 - Old Sacramento Management Board
 - Marina Owners Association
 - Union Pacific
- Neighborhood and Community Associations
 - Garden Highway Neighborhood Association
 - Little Pocket Neighborhood Association
 - Sacramento Riverfront Association
- Yolo Bypass Interests
 - Yolo Bypass Working Group
 - City of Woodland
 - City of Davis
 - Port of Sacramento

Mr. Hodgkins encouraged the Working Group to designate someone they feel could represent their views at the Forum.

The Forum will further be organized as follows:

1. **Inter-Agency Steering Committee** – Members are the elected officials and appointed decision-makers of the MOU signatory agencies. They will have general oversight of the process, set its broad goals, provide funding, select the initial members and review progress every six months.
2. **Sacramento River Corridor Planning Forum** – The forum consists of the representatives of the above interests. The forum will be charged with achieving the six purposes mentioned above by producing a broadly supported Sacramento River Corridor Floodway Management Plan and informally reviewing potential projects. It is anticipated the forum will meet approximately six times per year, allowing sufficient time between meetings for the completion of technical and Working Group assignments.

3. **Working Groups and Coordination** – The forum will initially use three working groups and a coordinating entity as follows:

- **Policy and Permitting Working Group:** The primary functions of this group will include review of current criteria used in the regulatory processes for each project within the river corridor requiring permitting and construction and review the key policies underlying current decision criteria.
- **Land Use Scenarios Working Group:** This group will have a limited assignment of reviewing existing land use plans of all types regarding the future of the corridor in this reach of the river and proposing scenarios for use in computer modeling.
- **Flood Control and Public Safety Working Group:** The assignment to this group will be to review and report to the Forum on technical data regarding 1) the current state of the flood control system, 2) its capacity to tolerate further encroachments consistent with public safety and 3) analytical tools that can be used to assess cumulative impacts of various corridor development scenarios.
- **Technical Team:** The technical team will consist of staff members of the MOU signatory agencies. The team will assist with coordinating the various efforts of the Forum and will meet prior to each Forum and Inter-Agency Steering Committee meeting. It will review, monitor and coordinate the work of the three working groups and oversee the presentations of the groups to the plenary sessions of the Forum and the Steering Committee to ensure timely completion and technical accuracy.

The initial working group time-line for consensus building activities is anticipated to be 6-months. According to Mr. Hodgkins the time-line will include an agreement by January 2003 regarding what how flood control system currently functions .

Participant: Will the working groups help to determine whether any available proposals can be deducted to reduce stress for additional land use issues?

Mr. Hodgkins: No, that is not within the scope of the Forum working groups.

Participant: Is the system in trouble, especially from the Fremont Weir south?

Mr. Hodgkins: That is the task for the Forum over the next six months to figure out.

The main objective of the Forum is to get more capability out of what is already in place.

The next steps we need to take include:

- IWG endorse concept
- Obtain funding commitments in June/July

The Forum group will be convening August 2, 2002.

Participant: Is there a limit to the number of representatives?

Mr. Hodgkins: Yes. We prefer that one person speak for their group, however anyone can attend the meetings.

Participant: How long will the meetings be?

Mr. Hodgkins: Approximately half a day. Working teams would be in between the meetings.

Dave Ceppos (question to the working group): Who would you like to see representing the working group at these meetings?

Mike Hardesty (RD 2068) was nominated, however he declined because he wants to represent the Reclamation District. Chris Fulster (Glide-In Ranch) declined because he will be on vacation.

Participant: Can the representative be someone from CWA?

Mr. Hodgkins: Yes they can represent YBF interests.

It was suggested that Regina Cherovsky or someone from Conaway Ranch may be interested in being the Working Group representative. This topic will be revisited at the next Working Group meeting.

Mosquito/Vector Control Discussion Session David Brown (SYMVCDD) and Working Group

West Nile virus has been found in the Central Flyway in Texas. When will the West Nile virus arrive in the Pacific Flyway? The answer to that question is not known, but most public health officials believe it will arrive by next year. West Nile virus is carried by birds and transmitted by mosquitoes. Wet areas, such as wetland habitats can be great breeding grounds for mosquitoes. However, there are multiple ways to reduce mosquitoes while enhancing wetland habitat including chemical, mechanical and biological controls. Mosquito/Vector Control (SYMVCD) has the authority to serve abatement notices to land owners if mosquitoes on their property are not sufficiently managed. Landowners can be charged up to \$500.00 per day if mosquitoes are coming from their property.

In the Butte Sink area, they have a tremendous mosquito problem. Three districts have served notices informing land owners they need to assist with control of the mosquitoes or abatement measures will be taken. This year the SYMVCD Board has directed the manager to look at ways to reduce costs. There is a potential 20% cut in SYMVCD revenues which can create a problem for future mosquito control efforts. Therefore, we need to assess what management techniques we can implement to meet wildlife habitat, public health, and agricultural needs. Just spraying insecticides is not the answer.

USFWS locally has been tremendous in helping landowners do what is necessary to solve or implement techniques that will reduce mosquito populations. If you have an easement, offered by the USFWS or some other government program, you still own the property and fall under state law. Therefore, you are still responsible and liable for mosquitoes that come from the property.

Participant: Is there a chance landowners or duck clubs can obtain and apply pesticides themselves?

Mr. Brown: Yes, but it can be very expensive. A land owner from the Butte Sink area researched this and found that landowners who apply the pesticides themselves usually pay approximately \$40.00 per acre. This is in contrast with the \$18.00 an acre and/or irrigation the three districts are proposing.

Participant: How effective are fish in controlling mosquitoes?

Mr. Brown: Fish are effective within given parameters.

There are three main genus of mosquitoes. I'm assuming these have been proofed by David Brown? They are the Ochlerotatus, the Culex and the Anopheles. Ochlerotatus eggs reside in soil until a flood event occurs, such as flood irrigation. They have a very short and rapid life cycle. Fish are generally not effective controlling this genus. The Culex and Anopheles mosquitoes eggs are found in water. Fish can be effective with these two genus' because they have a longer life cycle.

Participant: What species carries the West Nile virus?

Mr. Brown: Mosquitoes in the genus Ochlerotatus and Culex. Ochlerotatus is a good vector and Culex is a great vector, based on research done at UC Davis. More work is being done to discover which of the remaining mosquitoes in this area can transmit the disease.

Participant: What species is found in pasture land?

Mr. Brown: Ochlecotatus. In regards to duck clubs, the eggs of Ochlecotatus are in the soil and when you flood the eggs hatch quickly.

Participant: Does water depth matter?

Mr. Brown: A quick flood will usually result in only one hatch. A slow, gradual flood will result in multiple hatches.

Participant: How long do the eggs stay viable?

Mr. Brown: 20 years

Participant: Do the eggs have to dry out to be viable?

Mr. Brown: Yes.

Participant: Is prolonged flooding without fluctuations better?

Mr. Brown: Yes.

Participant: I often see SYMVCD spraying multiple times in the same area and it seems like overkill. Do you have to spray that often?

Mr. Brown: The type of species and stage of life cycle determines the spraying regime. Therefore SYMVCD spraying events are likely for management of these different life stages.

Participant: How long before a mosquito matures after it hatches from an egg?

Mr. Brown: Depending on the species and on the weather, approximately four days. The mosquitoes lay the eggs on the soil, the eggs will hatch during a flood event. Once they mature, the male and female immediately mate, the female searches for a blood meal and proceeds to lay eggs.

SYMVCD had developed threshold data that is used by our district to implement control events. The district uses standard Integrated Pest Management practices that are specifically geared for mosquitoes. The district first considers cultural (delaying flooding events) physical (modifying the land or water control structures) biological (mosquito fish or other predators of mosquitoes) and chemical (using the most effective target-specific insecticide). Three components of mosquito control have been compromised through the creation or management of wildlife/wetland habitat that has not also incorporated mosquito control. Therefore, many districts have had to use a greater reliance on insecticides. The District has larval data and threshold limits for larvae and adults which determine whether a larvicide or adulticide is used through sampling and trap data.

Participant: I have heard a mosquito that hatches in the Bypass can be carried to West Sacramento on prevailing winds. Why are we only targeting the Bypass?

Mr. Brown: Yes, some species can fly 20 miles from their source. Trap counts and larval sampling can demonstrate where they originated, therefore we target the source locations.

Participant: Would best management practices be to build up a good head and then flood quickly? Should we minimize vegetation along pond ditches and edges?

Mr. Brown: Regarding flooding quickly, yes, and if you could flood in October instead of September it would be even more effective. However I understand that duck hunting areas flood in September for the duck season. The primary issues in mosquito control and abatement are flooding management, timing, depth and vegetation management.

Participant: Is it true that mosquito larvae are an excellent source of protein for ducks?

Mr. Brown: This doesn't show in data. However, other invertebrates are a better source of protein for ducks. Ducks will eat mosquito larvae if they are present but they are not an integral part of waterfowl diet.

Participant: What was the mechanical device that was used last year at the corner of H-Pond?

Mr. Brown: It was a new technology called a Mosquito Magnet. We purchased ten of them and put them throughout the Bypass. We caught a large number of mosquitoes, but they did not significantly reduce the population.

Participant: Are your treatments and field sampling the same ones used in the Butte Sink?

Mr. Brown: I believe so, but I can't speak for them. We use larvicides which are more expensive initially but I believe it is the most effective because we can treat smaller areas. Larvicides are much more target specific. Adulticides may affect beneficial invertebrates, however the dosage rate used minimizes this.

Mr. Ceppos wrote down the key questions provided for this session as follows:

1. Question: Can duck clubs do their own vector control maintenance?
Answer: Yes, but it may not be economical.
2. Question: How effective has fish predation been?
Answer: They are effective for certain genus', however, they are ineffective for control of Ochlerotatus which resides in the soil until a flood event. Therefore, effective maintenance of this genus includes fast flood-up to avoid progressive hatches.
3. Question: Would permanent non-fluctuating levels be a benefit in vector control?
Answer: Yes, but you need deep water (1-2 feet).
4. Question: What does data show about duck clubs versus other land uses in regards to vector sources.
Answer: That information can be found at your local mosquito control agency.

Mr. Brown proposed another meeting with just the duck clubs to discuss what can be done to work on the issues. Mr. Brown is very willing to explore alternatives with landowners. Mr. Brown is aware that duck clubs are getting pulled from multiple directions. We all need to go through the general requirements for NRCS and State and Federal easements to figure out an equitable answer. The main issue at hand is communication practices between SYMVCD and landowners and other resource groups.

Mr. Ceppos adjourned the meeting at the conclusion of this discussion.

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