KFOI Radio - Shasta Environmental Alliance Program Nov. 9, 2018

David Ledger: Good afternoon. My name is David Ledger reporting today on KFOI Radio's Shasta Environmental Alliance program. This is a weekly program that starts every Friday at 1:00 PM. Today we have author Bob Madgic to discuss his book, *The Sacramento: A Transcendent River*. We will discuss the threats to the Sacramento River from the proposed raising of Shasta Dam and the proposed Sites Reservoir, as well as the Natural History of the river and its riparian corridor.

Shasta Environmental Alliance, or SEA, is a nonprofit organization which has 14 supporting groups. You can see our website at ecoshasta.org and we have a Facebook page @ facebook.com/shasta Environmental Alliance.

Before we start, I want to talk to you about money, specifically money to run KFOI Radio. This station is run by volunteers to bring you music, news, and interviews that you might not find elsewhere. It takes money to run a station, especially electricity for broadcasting, but also rents and fees to run some of the syndicated shows. So take a moment and go to our website at kfoiradio.org—that is "Care For Radio" one word—and look for the donate button and donate what you can afford, whether it's $25 or $100. A monthly donation can easily be made through the website with PayPal. We want to keep this community information asset on the air and we need your help. Please donate what you can. Thank you.

Now I want to give a trails update. The City of Redding was recently awarded a grant of $995,000—that's almost a million—for a new trail extending from Hwy. 299 at the I-5 northbound off-ramp that will extend south along Boulder Creek next to the I-5 freeway through some settling ponds and to the Highland Park neighborhood that connects to Hilltop Dr. via Mission de Oro and Browning St. The trail is 1/2 mile long and will provide a safe bicycling path and shortcut for those riding or walking from the trail next to Hwy. 299 to the Mount Shasta Mall. The grant was written by Travis Menne of Redding Community Services and was awarded on October 31st. Shasta Environmental Alliance had written a letter of support for the grant.

The award was a part of the Urban Greening Grant program administered by the California Natural Resources Agency. The grant will cover the engineering and construction of the trail and also the planting and care of 60 native trees. This will be an innovative trail for Redding as it will have a permeable surface which will allow the seepage of rainwater through the trail surface and into the soil. This is a part of the State of California's current push to get public entities to start treating rainwater as a water resource to replenish our groundwater. The lighter surface will also reflect more sunlight and absorb less heat. If this trail is successful, the permeable surface could be used on other new trails in Redding. As an added benefit, it will be easier on the feet and knees of anyone walking on the trail. This concept could be extended, as it is in other cities, to parking lots, perhaps near planters where there is less traffic, further reducing the heat island effect that asphalt has and allowing more water to percolate to the water table. This trail section is phase one of a trail complex in the Boulder Creek area. Phase 2 will extend the trail down Boulder Creek to Churn Creek and eventually onto a Churn Creek Greenway that will run from Boulder Creek down to Old Alturas Rd. Travis Menne stated that the city has most of the land easements on Churn Creek to complete the corridor, but that is another grant.

Later, the West Side trail work. The West Side Trail complex in Redding had its first post-Carr Fire treatment for erosion control restoration and acorn planting. Last Saturday, about 30 volunteers working under the direction of Travis Menne of Redding Community Services started trail work at the Kilkee Dr. trailhead near Mary Lake. Volunteers spread out seed that is rated as a weed-free native grass, and spread straw and wattles over the area. Wattles are those coils of straw about 6 inches wide that you may see on construction sites along highways which prevent dirt from sliding down the hillside. They also planted some wildflower beds and many acorns of primarily blue oak. These acorns had been collected by various citizens of Redding and left off at the Shasta Public Library. Shasta Environmental Alliance volunteers had previously treated and sorted out the acorns. The organized groups that helped with this trail restoration project were the Trails and Bikeways Council of Greater Redding, Redding Parks and Trails Foundation, and Friends of Redding Trails. Thank you to all of the volunteers and Redding Community Services for organizing this event. Travis Menne said he has a group of students helping them plant another batch of acorns today.

The Costco final environmental impact report is finished. The Planning Commission will hold a hearing on the proposed new Costco project at its November 27th meeting. This proposed Costco development will have a 3-1/2 acre warehouse, a 15-island gas station, as well as a separate 70,000 square foot shopping center apart from the Costco. It is located between I-5 and Bechelli Lane at South Bonnyview Rd. The Planning Commission will consider making recommendations on the final EIR and the project itself to the Redding City Council at that meeting. Redding planner Kent Manuel said the EIR will be uploaded to the city's website on Wednesday, November 14th.

Shasta Environmental Alliance opposed certain parts of the project based on four different issues related to the California Environmental Quality Act, or CEQA. Our primary concern was the aesthetics, which is an issue that must be addressed in CEQA. Currently, the I-5 corridor has a beautiful aesthetic barrier of trees from the South Bonnyview Bridge almost to Cypress Ave. The last public version of the plan would remove all but a few trees by I-5, leaving a total of only 45 remaining oak trees out of 4,000 trees currently on the 25-acre parcel. We were also opposed to the draft EIR as there was no mitigation for the removal of the trees. As the Costco site is already zoned for a shopping center, SEA is not opposing the development. We just want to see more trees saved and CEQA requirements met. Now, an exception to the aesthetics of the freeway section that I mentioned is, of course, the very ugly Churn Creek Marketplace on the opposite side of the freeway—that would be the east side—where they clear-cut over 700 mature oak trees and will soon have an 80-foot high billboard, which is double the height of the previous sign ordinance. Planning Commissioners are appointed by the mayor when a commissioner's term ends. This shows the importance of voting and making sure that you vote for a council member who puts the environment and the taxpayers' wallet above the profits of real estate developers. There is a separate ad hoc group that has been holding meetings to oppose the project based primarily on traffic issues.

Sucking the Sacramento River dry: plans to raise Shasta Dam by 18-1/2 feet and building the Sites Reservoir west of Maxwell will soon be used to divert more water out of the Sacramento River through the desert areas of the San San Joaquin Valley and cities southward. When the Bureau of Reclamation first started promoting raising Shasta Dam, they said they were doing so

to help the salmon. Then the U.S. Fish and Wildlife Service came out with a study stating that raising the dam would be detrimental to the salmon. The Bureau of Reclamation really wants the water for corporate farms, which use 80% of our state's water supplies, and is going forward with the plans to raise the dam. However, they do have a new Congress, and that may be difficult. We will be discussing related issues later in this program with Bob Madgic.

Cat wars continued at the Redding City Council meeting last Tuesday. On Election Day, a large group of cat supporters spoke out in favor of stray and feral cats found around Redding. About a dozen of the supporters wore red shirts so the council members would recognize them, and there were perhaps a dozen more who were seated in the audience. The main issue various speakers discussed was the need for the city to have free spay and neutering programs for the stray, abandoned, and feral cats. Currently, if someone brings in a stray cat to Haven Humane Society, there is a $40 neutering fee and that person must return the cat to where they found it. Haven Humane Society is under contract with the City of Redding for Animal Control. One speaker talked about the explosion of cat populations that can occur if feral cats continue to have litters, and over the life of a cat, if they are not neutered, it will exponentially increase the cat population. One speaker spoke of the need for a cat sanctuary. Previously on this program, we reported that scientists in conservation biology estimate that cats are the biggest threat to our native population of birds, killing an estimated 2-1/2 billion birds per year. This is both feral and domesticated household cats. Scientists recommend the euthanasia of feral cats and keeping household cats indoors. Neutered cats can have a number of years to live and kill birds; however, eventually, neutering does reduce the cat population. Anything that reduces the population of feral and stray cats would be welcome. For more information on the harm cats cause to birds, read the book *Cat Wars: The Devastating Consequences of a Cuddly Killer* by Peter Marra.

Native plant books: books and field guides on wildflowers, native trees, native plant gardening, and plant habitats—such as the book *An Introduction to California Chaparral*—are available at the Shasta Public Library. The Shasta Chapter of the California Native Plant Society donated 25 books in this area to the library. CNPS recently received an email from a woman thanking them for donating the books, as she had checked out the book called *Conifer Country* and went on a trail the book featured that had 17 different conifers on it. If you would like to learn more about native plants or native gardening, go see what your Public Library has to offer.

The recent Redding City Council elections: in Tuesday's general election, Mayor Kristen Schrader, Redding businesswoman Erin Resner, and Redding attorney Michael Dacquisto were elected to the Redding City Council. School teacher James Crockett did quite well considering that he only spent less than $2,000 on his campaign, and longtime City Council member Francie Sullivan was defeated in the election. It is unfortunate that Sullivan has lost the election, as she was a true public servant willing to meet with almost all of her constituents to help them on any issues they had. When I was trying to get the 380 acres of city-owned Oregon Gulch land preserved as open space, she was the only council member who would meet with me and help me with the issue. After almost four years of work, the land was eventually set aside as open space, free from development. Sullivan will definitely be missed on the Redding City Council.

Today we have with us Bob Madgic, who has written a number of books. We will be discussing his book *The Sacramento: A Transcendent River* and how it relates to the current health of the

Sacramento River ecosystem and its future. This is a very important topic today because of current threats to the river from many sides. Bob has an extensive education: he has a BA from Amherst College and an MBA and PhD from Stanford University. He has also written three related books, and those include *Pursuing Wild Trout: A Journey in Wilderness Values*, *A Guide to California Freshwater Fishes*, and also *A Guide to Fly Fishing on the Sacramento River*. Bob states his overriding interests are conservation and the outdoors. Welcome to KFOI Radio, Bob.

Bob Madgic: Thanks. Glad to be here.

David Ledger: You have an impressive background. What inspired you to write this book on the Sacramento River?

Bob Madgic: Well, my wife Deanne and I lived in the Bay Area for 25 years, and when we considered leaving that particular location, it was only the image of living on water that provided us with the motivation to leave such a rich area. And that water turned out to be the Sacramento River. It's one of the greatest fly fishing rivers in the world, which is, of course, my main interest, but it's also surrounded by the outdoor resources that we have here, which Deanne takes full advantage of with kayaking and hiking and so forth. So we made that move, and we live on the banks of the Sacramento River. Most evenings I'd be down there fly fishing, casting for the beautiful rainbow trout that the river holds, and I also took up writing in retirement to keep my brain functioning and to write about things that were important to me. I noted that there was no comprehensive book on the Sacramento River. Here we have the most important natural asset in California—I can't think of even what comes in a close second—and yet there is no book documentation on this important resource. So I took it upon myself to take on that assignment, and after many years of work, with photography being a part of the writing, I finally came out with the book.

David Ledger: Now "transcendent"—that isn't a word you always find. What does the meaning of that like in reference to the river where you have that in your title?

Bob Madgic: Yes, that's kind of a unique concept that I chose to subtitle the book, and it really has two dimensions. One is when something is transcendent, it exceeds usual boundaries, surpasses it, and is in a class by itself. But the second dimension is that it triumphs over negative and restrictive aspects. So with respect to the Sacramento River, not only do we have a river that is unique and one-of-a-kind on so many different levels, but it's also been forced to deal with many injuries and efforts to redirect it away from where it wants to go and what it wants to be. So in a sense, *Transcendent* is a looking to the future and hoping that this river continues to occupy its special niche without allowing so many of the forces arrayed against it.

David Ledger: When I read your book, I found that I could read it in sections. Like, what I did was actually every night, or a couple nights, I'd read two chapters, and they might be out of order, but they were all kind of self-contained chapters. I found that really nice for me to read because I'm rarely one that goes from beginning to end of a book. Now, can you discuss some of the history of the river, the assaults on the river by man, and that would be pre-Shasta Dam?

Bob Madgic: Sure. In a sense, the book has an organization of going from pre-European settlers moving to its shores all the way to the present, and it's also a Natural History of what took place on the river and what continues to affect the river now. Over the decades, centuries really, there were many assaults to the natural functioning of the river, to the natural beauty of the river, and to the purpose of the river as a wildlife refuge.

First, we had mining. Mining just was so rampant in the middle of the 19th century. A lot of it took place, of course, in the foothills where entire mountainsides were just blasted aside. Hydraulic mining was just a huge, powerful force that blasted hillsides to get at the ore, and a lot of that material, including poisonous slackens from the mine, mercury, and other remnants, were flushed into the Sacramento River. So much so that the river lost some of its depth due to filling up, and in order to continue with boating, they had to dredge the river. That's how much the mining refuse and materials being flushed into the river affected it. But it left mercury and other poisonous materials, eroded tremendous sections of the river, and in a sense was very, very devastating, as it was throughout the West and throughout California. I mean, the damage done by mining to human as well as natural elements is just devastating.

We went from mining to pretty much developing the land along the river, mainly farming. At one point, the river had 10 miles of riparian forest on either side leading out to prairies and grasslands and so forth, and those riparian forests were tremendously...

David Ledger: How wide was that riparian area, just because this is kind of an issue in development now? If you could...

Bob Madgic: At least 10 miles. It's in the book, I meant to check that, but at least 10 miles. Not on either side, but, you know, 5 miles on each side. That's forest leading to grasslands, prairies, etc. It was a whole natural system, which affects the Sites Reservoir. And this forest was a wildlife bonanza. I mean, we had 20% of the grizzly population in this country residing in California—20%. We had 500,000 Tule elk plus all of the attendant birds and other mammal species, and insects. So cutting back those riparian forests down to what remains—which is about 2% of what used to be there—is devastating, absolutely devastating to the ecology of the river corridor.

What took its place were farmlands. Primarily, the farmlands added the added ingredient of fertilizing the lands as well as chemicals in order to eradicate insects, and a lot of that washed into the river, causing further poisoning aspects to it. The San Joaquin River, for instance, has just about been destroyed as a naturally flowing river for many reasons, one of which is diversions and damming, which we'll get to, but also from all of the pollutants that flowed into it.

Then we had dams. You know, the largest dam in the state is Shasta Dam. And whenever you interrupt the river's natural flow, it causes severe consequences. Shasta Dam was put in there in order to develop water supplies for the Central Valley and change the desert into a green grassland and a garden. And then from there, we went to other potential dams, and we're looking at potential dams today. They cannot be described more thoroughly than as an impediment to the natural function of a river.

David Ledger: You mentioned in your book the river needs to be seen as a natural system that it's important to enhance and protect. Can you maybe expand on that?

Bob Madgic: Yes, that's actually the most important theme that I would expose in talking about not only the Sacramento River but any other river system, which, by the way, are considered the most important to planetary health. Now, when we talk about a system, we're talking about sort of a subset of the total ecology of a region. Let's look at the Sacramento River. It begins in its headwaters from the flows off of Mount Shasta, from the springs that flow from that area, and from the tributaries that flow into the beginning river. It picks up tributaries from the McCloud, the Pit, and the Sacramento flows down. In doing so, it captures nutrients, cobble, and other kinds of gravel in its waters and begins to carry those down and distribute them along its long course. In so doing, it provides spawning gravel for fish and soil for the riparian forest. It gets progressively finer as it reaches the estuary, which is a huge biological engine—historically possessing a massive ability to sustain life in all of its forms. From there it goes through the Bay and out to the ocean.

So that's the system looking from the headwaters to the ocean. Rains drop water on the ocean, and from there come these anadromous creatures, the most important being salmon for our discussion, but also sturgeon and other creatures. They store nutrients that they gathered in the ocean—nitrogen and phosphorus and other nutrients—and they carry those back up the river corridor, nurturing life all along the way right back up to the headwaters where these nutrients then sustain life in the headwaters. One study in Alaska showed that salmon sustained over 125 organisms. Not only that, but they also fertilized the forest as eagles and other birds take their droppings and deposit them miles away. So it's a tremendously important system, and any interference in that system begins to compromise what a river is supposed to do and is capable of doing.

David Ledger: Now, you mentioned how the boulders and then the cobbles and then the pebbles are transported from the headwaters on downstream, and eventually out to the Bay they're very fine particles by the time they get there. Shasta Dam also blocks a lot of nutrients such as leaves and tree limbs that eventually bacteria and other organisms live off of.

Bob Madgic: That's very definitely the case. And one of the side effects of a dam is that it warms the water. Now, when we talk about a natural, unimpeded river, that river carries cold water fed by springs and snowmelt all the way down its long course, cooling everywhere it flows. When you stop it and create a dead body of water, which is what a reservoir is, it warms the water and interrupts that flow. The waters coming out of it in some cases have to be artificially cooled, which in this case the Shasta Dam has provided for, but there are just many, many negative effects. Not the least of which—in fact, one of the most important—is it impedes the return of salmon to their natal headwaters. The winter-run salmon, which is endangered and probably will go extinct, used to spawn high up in the McCloud River, and that's been impeded from ever reaching that place where they were born. Extremely critical.

David Ledger: You discussed some of the experiments with reducing the threat of flooding by planting more riparian vegetation. As I recall, in Hamilton City, they moved a levee and they

actually reduced flooding there and planted trees. Can you explain what was done around Hamilton City?

Bob Madgic: Sure. When we talk about efforts to restore the river, one factor is the restoration of riparian habitat. A byproduct of that is what you alluded to here, and that is the effects it has on flooding. Now let me just back up a second and say flooding is not a negative; flooding is a natural process. Over the millennia, flooding was extremely crucial to a naturally functioning ecosystem. Unfortunately, flooding and human cohabitation is not a good combination, not a good balance. So we have to restrict flooding, and the normal way—in fact, one of the major impairments to the Sacramento River—was the effort to control it through riprap, through armoring the banks, and through making it a straight channel. That not only prevented flooding, but in some cases, it actually led to greater flooding because once a river overflows its levees and its banks, there's nothing there to stop it and it wreaks havoc on the surrounding lands. We've seen that time after time after time.

So what groups have done—and River Partners down there based in Chico is one of the major ones—is to have specific plans to restore habitat. They themselves, the founders, were farmers. They worked with farmers, and farmers began to see the benefits of vegetation along their banks. Some fields that used to be grown right up to the river now are lying fallow. They put those to good use by restoring habitat and restoring vegetation, which slows the flow of water into the interior. In some cases, it can block it, although that's not really the intent. It slows it and prevents erosion, which is very, very critical. As we've seen with fires—when you have fires, you lose all the vegetation. Then when you have heavy rains, all of those banks and dirt go rushing down, causing tremendous damage. So vegetation slows erosion. Some flooding, as I mentioned, is good, so it's very complex as to how to balance the allowance of the river to flow as it wants to, while restricting its flows to protect human dwellings. But yes, vegetation and riparian restoration is extremely helpful on many counts, not the least of which is to the farmers who have farms and ranches there.

David Ledger: Now at Hamilton City, which for those that don't know is near Chico on Hwy. 32 between Orland and Chico, I recall reading that the levee was moved back and they planted trees in that area. Did that prevent some of the flooding?

Bob Madgic: Yes. Well, that would be one of the strategies. For instance, if you have a levee right near the river and the river is subject to massive flows, those flows are capable of breaching the levee. That is highly, highly damaging because once the levee is breached, then all hell breaks loose. We've seen that over and over again; it's not a rare phenomenon. Whole towns get not only flooded but lose a lot of property. So the strategy there was, OK, let's bring the levee further way back from the banks of the river and plant a lot of vegetation. The vegetation will not only slow the water flow, but it will also allow it to sink and gather and become a wetland. So by the time the river reaches the levee, a lot of it has been reduced and slowed. That's one strategy.

David Ledger: Riprapping, which is the dumping of boulders onto the riverbanks—is that still legal? And if it is, do they need permits to do that? I've seen on Churn Creek that the City of Redding in one section has put a lot of riprap, which sort of directs Churn Creek over towards McConnell Foundation land, but is that still legitimate?

Bob Madgic: Well, yes, riprap is still legitimate. In contrast to the days when the Army Corps of Engineers' main goal in life was to riprap every single river and create a canal basically—that was in the early part of the 20th century—today we have gathered the wisdom of a naturally flowing river and are trying to do as much as possible to bring back those natural elements. If anyone wants to provide control of a riverbank, you have to go through a tremendous permitting process. The Department of Fish and Wildlife has to approve it, the Army Corps of Engineers in many cases has to approve it, and the Clean Water Board has to approve it. There are several different agencies that have to approve that, and it's quite a rigorous process. So there's been a lot of learning that has taken place that says, you know, riprapping really was not a good solution. We want the river to be as natural as possible, while recognizing that humans have to live in harmony with the river. So yes, in some cases it has to be guarded, but it's a tremendously rigorous permitting process.

David Ledger: All right. Well, we had Ryan Henson, who's with the California Wilderness Coalition, on this program about a month ago. He talked about the Wild and Scenic Rivers Act, and he would like to see the Sacramento River Bend area be made a section of the California Wild and Scenic Rivers designation. Is that something that you think would be a good idea?

Bob Madgic: Well, it's long been a good idea. In fact, probably 20 years ago, I remember joining a contingent from Friends of the River. Senator Barbara Boxer at the time was very supportive of making it a Wild and Scenic River. And a federal designation is stronger than a state designation, but either way, that whole area was also considered as a National Conservation Area. But the word "conservation" in those days with our Congressman Wally Herger and the Republican Congress—they wanted nothing to do with conservation. So it was altered to become a National Recreation Area. That didn't fly either. But to return to the point, if it could be designated a federal Wild and Scenic River, that means the river itself would then forever be protected, which includes the riparian landscape around it. State protection would be as good. So yes, by all means, let's get that done. It's too beautiful and critically important a part of the river to allow any further degradation of it.

David Ledger: And that river, for our listeners who haven't been down there, is a very beautiful area where everything is natural around it, and in parts of it, it's in a deep canyon—or I should say, maybe it's sort of a gouged bend in the canyon. It's quite a spectacular place to see. BLM owns most of the land in and around it. What is its official title? Sacramento River Bend Recreation Area, or is it just the Bend Area?

Bob Madgic: Just the Bend Area. There's no official title for it at the moment.

David Ledger: In your book, you talked about the importance of the Sacramento River as a recreation resource and for fishing. Can you go into that and maybe the financial impacts of the river on the community?

Bob Madgic: A community that has a river flowing through it like Redding is a blessed community, and that's true for any smaller community along the pathway. What a river does is create beauty and natural experiences. Whether it's fishing or bird watching, it brings in people to participate in those experiences. For instance, if you go to the Sacramento Wildlife Refuge off of

Hwy. 5 through February, sometimes March, you'll see all kinds of people just going there to see the bird life that is brought to that refuge. The Sacramento River itself is one of the world's greatest rainbow trout fisheries, so hordes of anglers come here to ply its waters. That brings in tourist dollars, motel fees, gas, restaurants, and all the rest. One of the most successful fly shops in the country, if not the world, is right here in Redding—The Fly Shop. So there are tremendous dollars that accrue to our communities as a result of the river flowing through it. It's such a beautiful experience. Look, if we were to identify the most significant tourist attraction that Redding now enjoys, what is it? The Sundial Bridge and the Turtle Bay Museum. They built a distinctive, iconic bridge across the river, and if you go there, there are tens and tens of people from around the globe visiting all year long. That's the benefit of having a river.

David Ledger: I remember sitting there having coffee at the coffee shop, and you would see people who seemed to be from another country. The first thing they would do when they came up was take a picture of the bridge and a picture of their friends in front of the bridge. I would see a lot of tourists coming there, and I'm amazed at the number of non-Redding visitors to that spectacle. I wish that someone would do a study and just document where all of these visitors are coming from, because like you say, many of them are not from this country.

In the City of Redding, there seems to be a lot of cutting and thinning of trees for scenic views, trails, or to reduce transient camping. There's even a push to have a walkway with shops along the river, primarily along Park Marina Dr., but it's also been mentioned near the Henderson Open Space. I see that near the Cypress Street Bridge, some of those buildings there have no trees. Can you explain the importance of trees, shrubs, and other vegetation along a river to our listeners?

Bob Madgic: Sure, and it's a very easy assignment to do. Let me just go back to a section of the Trinity River that flows out of Trinity Lake that is basically sterile. It's just clear, cold water running over rocks, and there are no trees and very little vegetation. I remember one person making a derogatory comment saying, "Well, the DFG wants to put in logs and other organic material to make it more natural." But the point is, when you have sterile flowing water, you lack organisms. Organisms such as insects are needed to support a bird population, and they're needed to support a fish population. So the whole system depends on a river bordered by riparian foliage and vegetation, which also brings in birds, wildlife, and mammals. This is part of what River Partners is trying to do. We talked about bringing back riparian forests for the benefit of farmers down in the Central Valley. You then create a rich environment as opposed to a sterile environment, and a rich environment benefits everybody. Humans are part of that rich environment; you can't separate humans from the creatures that live with us.

David Ledger: I remember reading a chapter in your book—it was kind of exciting—about some of the restoration work going on to repair at least a part of the riparian forests. It's just a great effort that various groups are doing further south of us. But how would you rate the current health of the Sacramento River?

Bob Madgic: Well, it's endangered. It's endangered. The fact of the matter is there are more demands on the river now than the river is able to satisfy. We've created rich garden lands down in the Central Valley that demand more and more and more and more water, and yet we know that the Sacramento River itself has to sustain its native creatures, its native fishes, and

particularly salmon. I would maintain, and I state this at any opportunity, that salmon are far more important than any crops and that they deserve the priority status they've been given. Crops can be grown anywhere; salmon require the Sacramento River. Look at the strawberry and crop populations we have all around Shasta County being grown in red clay. Crops can be grown anywhere, but the demands on the river are such that these corporate farms, as you mentioned earlier, are just requiring more and more water, and they have more and more politicians voting with them. It's going to produce so many demands on the river that we're going to reach a crisis.

David Ledger: Raising the height of Shasta Dam and the Sites Reservoir—a lot of talk is going on by the proponents that the water going down the river is just going to waste and running out to the ocean. That's one of the things our president has said. Can you address those issues of raising Shasta Dam, leaving water to flow to the ocean, and putting the Sites Reservoir in to divert water?

Bob Madgic: The most important statement that I could make today, and anytime that I talk about the river, is that the river flowing down the Sacramento is vital to the health of the Pacific Ocean. The Pacific Ocean is part of this natural system that I described. If we continue to see the health of oceans suffer, as we are doing with the growth of algae and other negative impediments, the filling of certain segments of the ocean with plastics, and the killing of parts of the ocean, we are injuring the last remaining bulwark for planetary health. So a river must be allowed to flow into the Pacific Ocean. It used to be that the floods we talked about were critical to flushing out all of these nutrients into the ocean because it restores ocean habitat and restores beaches. A lot of ocean creatures depend on that habitat to spawn, so this is a critical habitat. Yes, our ignorant president talked about water being diverted to the ocean, which is probably the most ignorant statement anyone could make with respect to understanding the importance of a natural system. Water flowing into the ocean is not wasted; it is vital. And the more we take away from that function, the weaker the river becomes, the weaker the estuary becomes, the weaker the bay becomes, and the weaker the ocean becomes. And all of those are getting progressively weaker.

David Ledger: How about fishing groups? Are they opposed? Have they spoken publicly in opposition to raising the dam or the Sites Reservoir? I haven't really heard that. And for that matter, I haven't really heard much from our county supervisors or the Redding City Council.

Bob Madgic: Well, it's a good question. Fishing groups are so diverse themselves that they don't speak with a united voice. Some of them are probably not aware of the implications of preserving a river if they're out there catching striped bass, which is an exotic species introduced to the river. But on the whole, fishing groups and those guides who run up and down the river will speak to the need to conserve the resource, just like hunters. One of the greatest conservation groups for the river is Ducks Unlimited because they need that riparian forest to protect their quarry—ducks and waterfowl.

I haven't seen much by way of recent reaction to raising Shasta Dam, but if you put your ear to the ground, there are a lot of people here in our own Shasta County who are against it. I think if we were to take a vote, the majority of citizens by a large amount would vote against raising Shasta Dam. It does us no good; it hurts us. It hurts the businesses right now on Shasta Dam, it

hurts the Winnemem Wintu tribe, it hurts the anglers who fish the lower reaches of those rivers, and it hurts Shasta County. The benefit almost exclusively goes to those farmers down in the Central Valley—big agribusinesses that are producing water-thirsty crops like almonds and pistachios and other cash crops and exporting most of it overseas, especially to China. That's the trade-off.

David Ledger: In our closing minutes here, is there anything else you'd like to add?

Bob Madgic: Well, you know, there are real critical efforts being made to both restore and protect the river. There is a concerted effort to bring back these natural elements that I talked about. One is to allow the river to meander more, to get away from this straightjacketing that riprapping created, and to allow the river to become a natural river by meandering and allowing more flooding to occur. Flooding is good for segmented habitat; some of those small salmon smolts can hide from predacious creatures like pikeminnows and even striped bass so that they can grow big and healthy and carry out their life mission.

Interestingly, one of the developments taking place involving the Western Shasta Resource Conservation District here in Anderson, Shasta County—which is one of the groups leading this—is to restore some of the side channels that used to exist in the river. One has taken place already, being restored here in the City of Redding, but one is also being targeted for the Anderson River Park nature area directly across from where I live. A side channel is going to be recreated there, allowed to become a side channel once again, which provides habitat for salmon and habitat for other creatures. This recreation that brings back side channels is a major effort being undertaken and deserves a lot of our support. It will make for a much healthier river system.

David Ledger: Where can we buy this book?

Bob Madgic: Well, locally it's being carried by The Fly Shop that I mentioned, the Enjoy Store, and Turtle Bay. It's available on Amazon, but quite frankly, the best deal you can get is just by directly contacting me and I would be happy to supply it. In some cases, I've brought the book directly to someone's front doorstep, so I'd be happy to do that. Email is probably the best: bmadgic@yahoo.com. I'm always happy when I can sell the book.

David Ledger: Yeah, the email is bmadgic@yahoo.com, yahoo.com. All right, well, this has been David Ledger of the Shasta Environmental Alliance, and we have been interviewing Bob Madgic, who is the author of *The Sacramento: A Transcendent River*. Thank you very much for listening to KFOI Radio, and thank you, Bob, for being with us to explain your book.

Bob Madgic: My pleasure. Just wonderful to talk about the river.