

Groundwater Problems and Prospects_2_23_2015

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0:00:00 Speaker 1: All right. Good afternoon, everybody. A couple announcements before I introduce today's guest speakers. It's not football season. I don't know how many of you are football fans, but in terms of our schedule, we're calling an audible in the middle of the game. We're going to change the schedule around a little bit for two of our three remaining class sessions after today. Our next session, which is next Monday, March 2nd, instead of the presentation that is listed in the course syllabus on Integrated Modeling of Water Sustainability Planning, you'll not hear about that next Monday and that lecture, it will be given during our concluding session, which is I think three weeks from today, on March 16th.

0:00:54 S1: Instead next Monday, we will talk about what we had originally planned to discuss on March 16th, and that's the general subject of Groundwater Dependent Ecosystem with a particular focus on a case study, which is also I dare say one of the most prominent, currently pending cases of water litigation in the State of California over the Scott River system and associated groundwater resources in Siskiyou County. And that presentation, again, which was originally scheduled for March 16th, but we will take up on March 2nd, next Monday, will be a three-part presentation.

0:01:40 S1: We have one guest speaker, Maurice Hall who, until recently, worked for the Nature Conservancy, who will talk conceptually about, the Interrelated Groundwater and Surface Water Systems. And then, you'll also hear from two of the faculty members, Thomas Carter and I, who are both involved in the pending Scott River litigation, albeit on different sites, so we will give you our respective positions and research and findings with respect to that case and I think we'll provide an entertaining and lively session next Monday on Scott River. And at least for the law students who are enrolled, I will make available and post a reading assignment which consists of the Sacramento County Superior Court's July 2014 ruling in the case and I'll share that with Professors Harter and Lund, and they are free to make that available on assignment or not to our remaining enrolled students. So that's the change-up of our schedule. We will cover everything just in a slightly different order than what was originally announced.

0:02:57 S1: Okay, turning to today. By way of background, we've had a couple class sessions which specifically focused, in broad terms, on the California's 2014 Groundwater Legislation. I believe it was five weeks ago. We had several speakers talking about the political debate and discussion that culminated in the passage of that legislation. And then four weeks ago, Sacramento-based Water Law attorney, David Aladjem, and I systematically went through the legislation to provide you some of... An overview of the key points and provisions but, hopefully, you took away from that class the fact that while this legislation contemplates a bottom-up governance and planning and regulatory

structure for California's groundwater resources, that the State of California nonetheless has a significant role or set of roles with respect to that legislation, and primarily through two state agencies, the California Department of Water Resources and the State Water Resources Control Board.

0:04:11 S1: In my remarks four weeks ago, I think I referred to this as kind of a carrot-and-stick approach in terms of the state's involvement and potential intervention in this groundwater planning, governance and regulatory structure and, again, from my admittedly subjective point of view, I think it is the Department of Water Resources that offers most of the carrots and the incentives and the technical assistance under the legislation, while it is the State Water Board that provides the stick in the form of backup authority to plan, regulate and manage the State's groundwater basins under certain circumstances.

0:04:51 S1: So we have today with us really the two best people from those two agencies to describe in more detail what the nature, scope and key features of that state carrot-and-stick role are. Our first speaker is David Gutierrez, who is currently the Program Manager for the Groundwater Sustainability Program within the California Department of Water Resources. He's a veteran of DWR, has worked in several capacities over 35 years there with the department, including as the Chief of the Division of Safety of Dams, the Deputy Director of Public Safety and the Deputy Director of Business Operations. As Chief of the Groundwater Sustainability Agency, he really is the department's point-person to make sure that the department properly and timely implements its statutory obligations under the law.

0:05:46 S1: He has a Bachelor of Science degree in Civil Engineering and Master of Science degree specializing in Geotechnical Engineering from CSU Sacramento and, again, I've heard from multiple sources that when DWR Director, Mark Cowin, looked for the best person to lead the department's efforts to implement the legislation, he quickly focused on David as the best person from either inside or outside the department to take on that role, so we're delighted that he's here. After David's remarks, we're gonna hear from the Chief Counsel of the State Water Resources Control Board, Michael Lauffer. Michael, since 2005 has been the Chief Counsel of the California State Water Resources Control Board, as well as the nine Regional Water Quality Control Boards in the state.

0:06:40 S1: The Office of Chief Counsel employs some 40 attorneys that advise the Water Board's members and staff on all aspects of the laws they implement and oversees and parenthetically, particularly in recent years, Michael and the department have recruited and hired a number of our King Hall alums as staff attorneys working with him in the Office of Chief Counsel and also in the related Department of Enforcement at the Water Board. Before being selected to serve as Chief Counsel, Michael served as the Lead Counsel to the California Regional Water Quality Control Board in the Los Angeles

region, and advised the State Water Board on underground storage tank issues among other things.

0:07:22 S1: He's been the board's lead agency counsel, defending challenges on storm water permits, permits for wastewater treatment facilities and TMDL, total maximum daily loads. Before joining the board in the State of California, Michael began his legal career practising environmental law with a large law firm in San Diego and San Francisco. There he helped work and ensure client compliance with the Clean Water Act, the State Water Quality Control Act, Proposition 65, California Environmental Quality Act, and other state and federal laws. And I know for a fact that Michael played an instrumental role in the negotiations and drafting of the legislation that ultimately culminated in the three-bill package that forms the Groundwater Sustainability Act that was really in many ways the focus of his attention. So we'll look forward to hearing his remarks as well. But we'll start with David and the view from the Department of Water Resources.

0:08:24 David Gutierrez: Thank you. First of all, I'd like to thank you all for giving me the opportunity to come and talk to you a little bit about the Sustainable Groundwater Management Program within the Department of Water Resources. So I understand you've already had some background information given to you in previous presentations, so I'm gonna just kinda skim over the beginning part, I'm gonna tell you just a little bit of background. This may be a repeat to you, but I think it's kinda important just to set the stage. And then I'll quickly get into the Department of Water Resources' role, and I think what you're gonna see is you will see the flavour of kind of the carrot-and-stick and the success and how we measure success in DWR, and that is getting those local agencies to succeed. So we'll talk a lot about that.

0:09:10 DG: So let's start with just a little bit of background, and I think you've probably already seen before. So of course, groundwater is absolutely critical to California's water resources as a whole. When you look at groundwater and the availability of storage within groundwater, it's much, much, much greater than the availability of storage in surface water is. When you look at the usage of groundwater around the state, it's equally as important and in times of the normal years, it's on order of about a third of water resource use is by groundwater, and in times of drought, when we run out of surface water, we rely much more heavily on groundwater, upwards of 40% or greater. And in some areas, it's even greater than that.

0:09:56 DG: Now we have recently been experiencing a drought, and I think the drought highlighted some of the issues associated with groundwater from the start, we've had groundwater problems for decades. The map on the right-hand side shows groundwater at historical low levels throughout the state, and you can see, pretty much everywhere in the Central Valley, that we've had historical low spots, which I think precipitated the discussion around groundwater and I think that the... Like most issues, when we don't

necessarily deal with it right away, we wait until we're in a really bad situation and then we deal with it, and I think that's what we see here. We've had a drop, we've had this groundwater problem forever, but we really can't avoid it any more, and we need to take care of it.

0:10:43 DG: Now there's a significant number of adverse impacts as a result of lowering groundwater. So, some of the more obvious ones are the if groundwater goes lower and lower, there are some wells that are actually gonna go dry, and in fact, many wells throughout the state have gone dry over the last couple of years. We all know a little bit about subsidence, the ground could settle as a result of taking too much water out of the ground, and in some areas that's actually measured in tens of feet, and on the order of up to a foot a year, and infrastructure obviously could get damaged under those kind of scenarios.

0:11:18 DG: In the coastal communities we have sea water intrusion, again, this has been happening for decades, but it's getting to a point where it's becoming a severe issue associated with even agriculture and other problems. And then there's our ecosystem, some of our creeks and waterways will actually dry up as a result of pumping too much groundwater adjacent to them. So again the adverse impacts have been around, they've been highlighted as a result of the drought. It's something we obviously need to discuss and take care of, which is I think a result of the Sustainable Groundwater Program.

0:11:53 DG: Now, in the simplest terms, what we have to deal with is basically water balance, and we're gonna talk mostly today about groundwater, but you really can't separate the issues. Surface water, groundwater they go together. You can't really deal with one without dealing with the other. And so what we need to do, and it's not easy to do, is a complex water balance understanding of in particular, the separate basins that we're going to be talking about. But we also have to understand this as a whole in the State of California. So water balance is really the key that I think we have to address. We have to understand the water balance and it's a simple equation in terms of demand and supply. We have got to get more supply or we have to cut down demand and we have to get the equation more balanced out.

0:12:39 DG: Now, the California Water Action Plan I think is an important piece that I think we wanted everybody to recognize and this is kinda beginning to set the stage of all the issues associated with water and water resources, and so groundwater is just one piece of that. In fact, on the Action Number 6 on the California Water Action Plan which was released and put out by our Governor, is to expand water storage and improve groundwater management. So this was the beginning. This happened over a year ago or about a year ago when we were trying to set the stage on water policy in the State of California recognizing some of the issues. So again, groundwater is a

piece of the puzzle. It's a piece of the puzzle we're gonna focus on today and the part that my program is actually focusing on. But again, you can't get away from all the other water resources issues. They actually go absolutely hand-in-hand and we have to understand that.

0:13:34 DG: So a little bit more background. The Sustainable Groundwater Management Act itself, the way we've gotta look at it. There's the Act itself that's really the framework to get us started, that's setting up some of the ground rules. And then there's the local rules and then the state... The local roles and then the State's role. And so we're gonna talk a little bit about both of the those as we go through this presentation. In the simplest terms, we're gonna talk about getting some sustainable groundwater management, achieving some goals that we're gonna set up, we're gonna try to get to a sustainable yield and hopefully we get out the end, and we're gonna present these undesirable results that are actually outlined in the Act itself.

0:14:17 DG: It took us well over 100 years to get into this situation so we're not gonna solve the problem in a year. I think we need to all recognize that. So it's gonna be a phased approach, and it's gonna happen over decades. We're not gonna turn this around overnight. I think we need to recognize that. So the first phase is actually realigning the governance. We have to govern a little bit differently than what we have in the past. We've managed water resources on the surface level fairly well, at least relative compared to groundwater where we haven't really done a good job on that piece of it. So I think we have to realign our governance on the area. Then we're gonna have to develop adoption of groundwater sustainability plans, so we're gonna to talk a little bit more what that means. The plans are essentially to meet the goals for the groundwater basins throughout the state. And then we're gonna start managing our groundwater just like we manage our surface water and then over the decades, hopefully that leads to sustainable groundwater throughout the state.

0:15:16 DG: Now, fortunately we're not necessarily starting from ground zero. So, this Act is absolutely critical. It's certainly unique and important. Fortunately, we have a little bit of information that we've previously worked on over the last couple of decades. So starting out with 803030 which required local agencies to begin the development of groundwater sustainability plans. The department put out Bulletin 118 which kind of gave data on groundwater. We have the CASGEM program which began to develop data and data programs to start gathering some information about groundwater. But a lot of that previous work and legislation really didn't have a lot of teeth to it. So it was good. It's a good start. There's great information there, but we really needed the Act to give the teeth, the authority the responsibility to really get to where we need to go. So it's been a kind of a progressive haul up to now, and I think in terms of where we're at now, we're gonna use that information before but we're going a lot, lot, lot farther down the line now with this Groundwater Sustainability Act.

0:16:27 DG: I think this is some of the statistics, so when I say there was really no teeth in the previous legislation, it was required to have groundwater sustainability plans, there wasn't necessarily good funding for the state or the Department of Water Resources to review and comment on those plans. And when we look at those plans some of them are pretty good, but a lot of them actually don't even meet the requirements of the original legislation. And again, because there's not necessarily any teeth in that particular piece of legislation. Now, I think it's a lot different. So now we're gonna manage groundwater for the local level and I think this is really important to understand and it's certainly something the DWR buys into, and we have to operate that way. So I think this is the kind of carrot piece, the way the department's kind of looking at managing groundwater for the local level.

0:17:18 DG: The way we're gonna measure our success is by the success of the locals. So it's not gonna work if the department tries to manage the groundwater and although we have a backstop, I don't think it would work if the state comes in and tries to manage groundwater state-wide. For this to be effective, we have to get the tools and the financial assistance to the local agencies to make sure they actually do it because things are so regional and different basin to basin. So we put together this legislation timeline, and I don't expect you to read this legislation timeline. But this is basically the legislation laid out in a graphic form and the requirements that we have. So what you'll notice is the orange boxes are all DWR. So, right up front, DWR has a lot of issues to deal with and that's part of the problem. We have to get some of this stuff out the door and we have to get it out of the door quickly. And then the local agencies have to start some things and they have a little bit of time to implement some of the management. And then the State Water Resources Control Board is purple, they're coming down the line later on in the act. And so, we've got a long way to go, but DWR has a lot of work up front.

0:18:31 DG: So, let's talk a little bit about communication and outreach because I think this is actually an absolutely critical component to achieving success in this program. So as I mentioned before, for this to work, it's gotta be a local... It's gotta work at a local level, a local and regional level. It's gotta be managed at a local and regional level. And so the Department of Water Resources is going to be developing kind of the guides or the rules of the game. And we're gonna be doing that by the development of regulations. And we're also required to help assisting with tools, both technical and planning tools. And then we're also there to help with some regional issues, as well as provide financial support. Now, communication and outreach is absolutely critical for a variety of reasons. One, in some instances, groundwater and groundwater law and the Sustainable Groundwater Management Act, it's new to a lot of people so we gotta get out there, we've gotta communicate and educate those folks about that.

0:19:29 DG: When we start developing guidelines and rules the last thing I think that we would wanna do is go in a corner and figure out those rules ourselves, institute it, and say, "Here you go. Now serve that to the management team, or to the local managers and have them run with it." No, we have to work with 'em we have to understand the issues, as we, the Department of Water Resources comes up with those regulations. So, the department will in fact make all of the decisions, but it's important that we interact with the communities to ensure that we have a good common understanding of what are the issues. So, communication and outreach are gonna be absolutely critical. So, right off the bat, we have developed a communication plan and again communication, we're out there educating folks. We're talking to folks. We're trying to teach them about the Sustainable Groundwater Management Act, and we're trying to teach folks what are the roles of the various organizations and agencies.

0:20:25 DG: We've set up websites, we've gone out to numerous speaking engagements, so since November, nearly 30 engagements across the state to try to educate folks about what the groundwater programs are gonna be all about. We're developing brochures, technical fact sheets, etcetera and will continue this on over the next several years to continue to educate folks on the various issues that are coming up. So, right off the bat, what we're trying to do is to get folks to understand some of the lingo, some of the... Educate them about the Act itself, and we'll continue to do that as we progress through the afternoon.

0:20:59 DG: And then outreach. I look at outreach a little bit different. So, in communication, I'm doing more of an education approach, where I'm trying to teach folks things. And outreach, it's more of an interactive process. So, in the interactive process, I'm trying to understand the issues, I'm trying to work with you and I'm trying to discuss things with you. And so, we've developed a layered approach to this. And so, when we identify the various organizations, we have to work with them and outreach them differently.

0:21:33 DG: So, first of all, there's the State Water Resources Control Board. So, obviously, the right hand needs to know what the left hand is doing. We're creating some more regulations by our sister agency, the State Water Resources Control Board is going to have to implement some of those same regulations. So, we obviously have to communicate, and in fact they need to be part of our team to develop some of the regulations. So, we've developed teams to do that. The Water Commission's role is to actually approve the regulations that we eventually develop. So, we've developed some subcommittees to the Commission to ensure that they're going along and understand the various components that we're dealing with right upfront, and when we come to the end, there should be no surprises. They should know exactly what we're trying to approve. And that should work a lot better if we get them on early.

0:22:24 DG: We've put together a Technical Advisory Panel. So, the Technical Advisory Panel is where we would work on some of the very specific technical issues. So, we've gotten managers, these are the practitioners throughout the state, to work with us and the idea here is we're going to develop some guiding principles, kind of go through that with them when we develop the regulations, tools, etcetera, and we're gonna be getting advice from this Technical Advisory Panel, who are experts in the area of groundwater.

0:22:54 DG: What I don't seem to have up there is public stakeholder meetings. So, we are going to have public stakeholder meetings, we're gonna carry that through the process. Our first public stakeholder meetings are actually gonna be coming up in the spring and what we're gonna be doing is what are first listening sessions. So, before we even start developing regulations, we want listening sessions. We wanna develop some guiding principles, we're gonna present that to the public and we're gonna hear from them and get some feedback from them before we go out and write the regulations. And then we're gonna come back with draft regulations. And then we'll shelve it. So there should be kind of no surprises along the way. And I think that's the way we ought to treat each one of these organizations.

0:23:34 DG: The Department of Water Resources is the one that has to make the decisions. But, number one, we need to understand the issues, so it's important to outreach and communicate and effectively discuss some of these issues. But it's also to make sure everybody kind of understands the direction we're going and the decisions that we're making along the way. So, at the end, when we come up with the final regulations, we're not necessarily there to make everybody happy, this isn't a consensus-based approach, but on the same token we're hoping that no one is gonna be surprised. They're gonna see the direction that we're going all the way along the road.

0:24:11 DG: And then we're also leveraging organizations, so if you look at the State of California, there's over 500 water agencies that we have to work with and going to each one of those water agencies is just impractical. So what we're doing is we're leveraging the big organizations who have members of those organizations, so the ACWAs, the NACWAs, CSAC all those types of organizations, we're actually leveraging them. So we've asked them to put smaller committees together and we can meet regularly with them. So again, we could communicate and outreach with them. We could understand what the issues are first, we could discuss those issues, make sure there's a clear understanding, we could develop guiding principles, they could understand that.

0:24:49 DG: They could go to their community and outreach to their community to make sure that we're getting the message clearly across as best as we can. We also have to work with the contractor governments, and the federal agencies who are gonna be critical to implementation of this program. There was a list of assessments at the beginning which I've already discussed.

So outreach is absolutely critical for the success of this program, and we're spending a lot of resources on doing that.

0:25:18 DG: Okay, we've developed a program and we're kinda in works with the State of California, we're gonna develop approaches to fund things. And you ask for funding and you need to break up your program and describe to the legislature, the Governor's office what you... What you are actually trying to accomplish. And so we've done that kinda thing, and then you develop a strategic plan. And the idea is to kinda break it up into pieces that fit together for the overall program, but have individual units so that you could actually handle the program more effectively. And so what we've come up with is five objectives that we're gonna be working on over the next several years to implement the Sustainable Groundwater Program. And I'll kinda get into each one of these objectives separately.

0:26:06 DG: So the first objective is to develop... To give DWR support, locally develop groundwater sustainability plans. So this is the objective and then each of the bulleted items are the actual actions that we're going to be pursuing over several years. So I'll just highlight some of them and then we'll talk a little bit about more in detail later on in the presentation.

0:26:28 DG: So updating basin prioritization. So I didn't mention this, but at the beginning, the whole Sustainable Groundwater Management Act, is surrounding the basins that are outlined in the State of California. I think that you probably have already been briefed on that, and then it's only the high and medium basins within the State of California that the Act actually is going to be relied upon, and so it's up to the Department of Water Resources to define which ones are the high and medium priority basins. So we need to redo that over the next several years, and we need to update that list. Obviously developing regulations for basin boundaries and adopting regulations for groundwater sustainability plans, and I'll cover that in the next couple of slides after these.

0:27:19 DG: Alright, number two, so again our success is measured on the success of those local agencies, so the first objective was to develop those rules and guidelines. The second objective is to provide assistance, and this one is technical assistance. So what we want is we want a state-wide system, so it would be... Really work effectively if different parts of the state are all communicating in the same way. So the department's going to be developing a Groundwater Management Information System so that all information could be consistently applied, and we're talking the same language.

0:27:55 DG: We're gonna continue with the CASGEM program, but in some basins we're gonna have to go above and beyond the CASGEM program. So what the CASGEM program is is a data collection system. You could only develop a plan based on the data that you have. So if you don't have good data you're not gonna get a good plan. So in some instances even CASGEM level of

data is not good enough, and so we'll be looking for the different groundwater sustainability agencies to more effectively up the ante on data collection. And then promoting water conservation is part of our objective department-wide and so we're gonna be assisting local agencies with that and that's the... Looking at the local supply and the demand part of the equation.

0:28:43 DG: The next issue is assisting in planning. So Bulletin 118 is the data report that has all the information associated with the groundwater basins. And so the last one was completed in 2003. The law actually requires the Department of Water Resources to update that every five years. So the first one is due in 2020. What we're actually gonna do is put in an interim plan in 2017 as the basis to get these guys started with some information. Bulletin 160 is kinda the overall start, get a water resources plan. It needed to include groundwater information a lot better than it historically has, so it'll do that in the next version of that. And again, water resources as a whole is basically what Bulletin 160 is all about.

0:29:35 DG: Then we need to help and align GSAs throughout the state. How do you do that? GSAs, these are the Groundwater Sustainability Agencies, so remember it's the locals that are gonna be running the show. And a Groundwater Sustainability Agency is any public agency that deals with water or land use. And so these folks have to figure out, within each one of their own basins, they have to figure out amongst themselves who they are and who is gonna lead the effort? It's their decision to do it. The Department of Water Resource really has no authority or responsibility to do that and neither does the State Water Resources Control Board. But we also realize they need some assistance. So we're gonna be doing a couple of things for them. We're gonna be providing financial assistance. There's a Proposition 1 with \$100 million in it and that funding will help those local agencies get to a groundwater sustainability plan. We're also gonna be helping things like facilitation services.

0:30:30 DG: So we need those folks to start talking right now. They can't wait. They need to start figuring out their governance structure and we want to encourage that. We don't necessarily need to tell them what or how to do it, but we need them to get going right now and so we're going to provide some financial assistance by getting them the top data or some facilitation services. And then we will be continually providing education and communication as I mentioned early on.

0:30:57 DG: And then finally, inter-regional assistance. So when we look at the state and we look at all these groundwater basins, they're all individual basins, and we need solve those individual basins and their problems, but you need to look at the bigger picture too. So, a basin and its water supply, the supply may not come from the basin itself, there's water supply coming from other sources. And so we need to help, not only help them understand what that water supply is, we need to, maybe help them in the future look for

additional storage facilities, etcetera, to supplement the supply side of the equation. So immediate actions. Right off the bat, we have to develop regulations for basin boundary. So this is a difficult issue.

0:31:44 DG: So by December 31 of 2015, we have to develop regulations. And there's a process for developing regulations and it takes some time to do that. And so as the basin value changes, when you look at the State of California and you understand the Central Valley. The basins were divided the best that they could at the time, based on the knowledge that they had. So when you think about the entire Central Valley, when you look at the sides of the Central Valley, there is some good geologic basis to understand where the boundaries are going up and down the state. But when you start breaking up the basins going in the other direction, in some cases there's not really a good strong basin boundary. So someone determined where that basin boundary needs to be back in 2003. And in some cases it's not a great reason and there may be other better reasons to adjust that basin boundary.

0:32:41 DG: So, we'll be working with local agencies. Local agencies will request changes in the Department of Water Resources. We have to figure out the regulations and the rules of the game, how are we gonna do that? It can't just be a free for all. You can't just have basin boundary change for any reason. In order to make groundwater sustainable we kind of gotta balance, the governance with the state water problems. So when you talk about governance, the simplest way to do this is to break this up into smallest pieces as possible. 'Cause if I was in charge of myself, I can probably tell myself what I'm gonna do. But when you start working with others it gets a little bit more difficult, but we need to do that. We need to actually work with others to get to a sustainable groundwater situation.

0:33:25 DG: Now that's the first one. Updating basin prioritization, so I mentioned that. We have to consider some additional issues in prioritizing basins. When we look at basin prioritization it's not necessarily the basin that's in the biggest trouble that's the high priority. It's the basins that actually use water the most. And so, when you look at the high and medium priority basins throughout the state, there's 127 I believe, some number like that. And out of those, it's over 90% of the water, groundwater is coming from those basins. They're the important basins of the State of California.

0:34:03 DG: We have to identify basins subject to critical conditions of overdraft. And the reason we have to do that is if we do have a basin in trouble they are required to have a plan in 2020, whereas if they're not a basin in trouble under critical conditions of overdraft, they have an extra couple of years and 2022 is their deadline to actually have a groundwater sustainability plan.

0:34:27 DG: And then finally developing regulations around groundwater sustainability plans themselves. So the Act itself does give some guidelines of

what's going to be a groundwater sustainability plan, but it's the department's job to actually develop more specific guidance on what is going to be a groundwater sustainability plan to make sure we achieve sustainability state-wide. So these are some of the immediate actions and that's actually quite a bit of work we got, and are trying to straighten out. So we're struggling but we're coming along.

0:35:04 DG: So establishing GSAs. So this is the one I think I mentioned to you before, I remember, the Groundwater Sustainability Agency, these are the guys who are gonna actually regulate groundwater within a basin. So when you look at Bulletin 118 and you have a basin, you'll have various organizations and water agencies within that basin. And so any one of them, by this law, could become Groundwater Sustainability Agency. So these folks within a basin can get together and decide, "Hey, we're gonna have one big Groundwater Sustainability Agency. We'll work towards groundwater sustainability plan."

0:35:39 DG: These folks can choose to have individual Groundwater Sustainability Agencies. So I'm a city within a basin, and I'm a water district within a basin, and I'm gonna be my own Groundwater Sustainability Agency, and I'll work with the other Groundwater Sustainability Agencies within the basin to come up with the groundwater sustainability plan.

0:35:59 DG: So there's various ways that these local agencies and the law allows them to work together. But this is what they have to kind of get going right away, and there's quite a few issues with this, this isn't necessarily something that's been done before, so we have a lot of work to do and give them some guidance. Basin priorities, I talked a little bit about that already, initial priorities. We established the initial priorities in June 2014, so we had already had that data and information. And then we need to compile a habitat and stream flow data which are two new aspects of the law that previously weren't in our basin prioritization. So we have to figure out how are we gonna apply that. So we've got to develop the rules, we've got to apply it, and that could change basin priorities throughout the State of California. And then I talk about formalizing priorities within Bulletin 118, that's going to be in 2017.

0:36:52 DG: So here's our timeline for establishing basin boundary [0:36:55] bank, and I kinda talked a little bit about it already, but maybe it's worth spending a little more time. What we've been doing right now over the last couple of months is just scoping the problem. We've met with dozens and dozens of agencies and organizations throughout the state to make sure there's common ground in sharing and understanding of what the issues are. We're gonna use that information to develop guiding principles. We're gonna go back to those organizations, we're gonna go to public meetings, we're going to present that information, and we're going to get feedback on the guiding principles before we finalize that. Then we're going to use that

guiding principles to help us develop the regulations and that's what we're gonna be doing from April to June. We have to work with the California Water Commission and some additional public meetings to get additional information. We'll be doing that over the summer, and the idea is by the end of the year, we're gonna actually be adopting the regulations on basin values.

0:37:49 DG: We'll do a similar thing for the groundwater sustainability plans, that's six months after this one. And so we haven't established a time line but if you could imagine it's not quite six months behind this one. You have to actually know some of the answers associated with the groundwater sustainability plan that are associated with the basin boundaries. So with that, I'll leave you with this. Here's some websites I invite you to look. There's quite a few answers to some of these websites. The state website's got just barely a bit of information. DWR's website's got quite a bit, so we talk about the Sustainable Groundwater Program we have. There's data, information in there, Bulletin 118, there's a great interactive map that you can play with. You could bring up the State of California, you could put on the various layers. To start understanding where are the various county boundaries, where are the basin boundaries? Where are all the different water districts? It gets kind of complex, and you'll start to appreciate the complexity of the governance when you start looking at that. So with that, I'll leave it with that and we'll do questions, I guess, at the end.

0:38:53 S1: Yep.

0:38:54 DG: All right.

0:38:55 S1: Thank you, David. We will take questions after our second presenter has given his talk. While I'm queueing this up I think, Thomas, you had an announcement you were gonna make.

0:39:09 Thomas Harter: Yeah. I wanted to mention to those of you that haven't been to the dinners, there have been a few extra dinners, a couple of extra chairs there. Especially for those that are signed up for... The hydrologists and engineers that are signed up for the seminars that haven't... Like you could come for the dinner or in case they don't have enough credits or whatever, come by tonight and see whether there's enough seats and enough dinners. We're right down the hallway from here. We'll continue... The fun part about the dinner is, beside the food is we get to talk some more with no microphones with these guys. Thank you.

0:39:47 S?: So, it's a lot of shouting?

0:39:50 TH: Maybe, come and find out.

0:39:54 Michael Lauffer: Well, first of all I wanna say thank you to Professors Harter and Lund and Frank for inviting me to come. I think that

you guys have a really unique opportunity to get engaged with people who are intimately involved and not just referring to David [0:40:09] [REDACTED]. Across the entire service, you are very fortunate to be able to engage with some of these policy makers and really focus on being boots on the ground implementing the Sustainable Groundwater Management Act. Before I get into into the go and before I go into my presentation it would be helpful for me to know how many people in the room are law students or attorneys? I will try accordingly to cut down on some of the acronyms that are legally driven. It sounds like everyone here at least knows SGMA, so if I say SGMA you know I'm talking about the new Sustainable Groundwater Management Act. So, how many are attorneys or law students? Okay. About 50/50...

[background conversation]

[laughter]

0:40:53 ML: So there are... Well, first of all, the way that I'm going to approach this is to talk about the set piece of the State Water Board's responsibilities and its activities that it's doing generally with respect to groundwater supply. And not just solely talk about it in context of the Sustainable Groundwater Management Act. When I do that I want you to also appreciate... I'm talking about water supply, water rights in groundwater and not the entire other side of the house. The State Water Board has some fairly broad, almost primary powers with respect to in California and that's the water quality side. There are small components where I'll be very clear about the interaction between our groundwater responsibilities and the Sustainable Groundwater Management Act and some of the other authorities related to supply.

0:41:44 ML: But I am not talking about the entire body of law that the board is used to implementing that gives it very robust powers with respect to groundwater quality. David has done a good job also explaining that. I'm not talking about the Department of Water Resources. I can't tell you how many calls I get every week asking to... Really asking a question that should be directed to Cathy Crothers, who's the Chief Counsel at the Department of Water Resources. In California we have fractured up on a lot of our authorities, but generally what you can think of is if it's water and it's regulatory, it's the State Water Resources Control Board. Bad cop, State Water Resources Control Board; good cop mine generally tends to be Department of Water Resources. I think [0:42:24] [REDACTED] planning folks in my shop, that a lot of people do that good guy/bad guy thing.

0:42:31 ML: And so when I go through my presentation, it will be first primarily about the implementation of the Sustainable Groundwater Management Act and how the State Water Board functions as the state's credible backstop to ensure that locals... And a locals' first approach to groundwater management is actually implementing [0:42:47] [REDACTED]. But they

aren't the only authorities the State Water Board has, and while we have discussed it many times internally, how we'd best protect and help in the groundwater resources, the activities that I'll point to later in the conversation this evening are going to focus on largely untested authorities with especially water supply, and groundwater from the State Water Board's perspective.

0:43:15 ML: So as you heard, David explain and your prior speakers explained, really there are two kind of key break points with respect to the implementation to the the Sustainable Groundwater Management Act, SGMA, and that tends to be the locals' first approach to developing a plan and the Department of Water Resources as David has walked you through, is going to be providing the foundation, the regulations to which the locals will attempt to define and develop their plans. The State Water Board's role as DWR is going through developing regulations, is incredibly important, for the simple reason that David indicated, which is ultimately the State Water Board is going to be exercising a backstop responsibility.

0:43:59 ML: So as DWR is working through developing these regulations, our staff have been working closely with David and his staff to identify what are the parameters, what are the frameworks and what can result in regulations that are clear for locals to follow, but also for the State Water Board, as it is looking at exercising it's backstop responsibility to be able to actually enforce it and determine, "Did the locals comply with what the Act says? And can the State Water Board make necessary findings in order for it to carry out its responsibility?"

0:44:32 ML: So at this point in time, what we're seeing is our staff working with DWR. At same time that DWR is undertaking its efforts to reach out to the local agencies, the State Water Resources Control Board is going through a similar process. We are identifying and our staff are going out meeting with locals, and basically starting to invoke some of our own [0:44:55] [REDACTED] paper in those phrases. Nine scariest words a person's ever heard, "We're with the government, we're here to help you."

[laughter]

0:45:03 ML: That's the one worth looking at, and it's a lot of what of what's going on right now because groundwater has historically been unregulated in California, and a lot of people are happy to maintain the status quo. And a lot of the genius in the architecture behind the Sustainable Groundwater Management Act, is giving locals not only the tools so they could act, but letting them know that there's a consequence if they do not act, the Water Board is that consequence.

0:45:27 ML: So at this point in time, our staff are getting out there with a message of not only, "Hey, here are the parts of the state that we're concerned about. Here's what the DWR's doing. But here's what we're going to be doing

down the road, and by the way, the basins that we're visiting are those that are critically over-drafted, that are really the likely first targets of a potential State Water Board action if locals don't step up in the first instance." The other part of that is really to ensure that our staff at the State Water Board understand how the Act is being implemented, and we can actually hit the ground running. When you see those various milestones that David put up, role/task, our staff want to be prepared to move if people start missing the deadlines.

0:46:11 DG: So the first deadline from our perspective occurs in July of 2017. And at that point in time, and you saw it on the slides that David put out, all of the basins in the state that are high and medium priority basins are supposed to have a local Groundwater Sustainability Agency or an amalgam of agencies that will oversee their entire basin. If there is not an agency that has stepped forward by that magic date of July 1, 2017, the State Water Board's first power under the Act comes into existence. And that actually doesn't require the board to do anything formally at that point in time, what it does is for those parts of the state that are not covered by a plan, the local groundwater pumpers will have to start reporting to the State Water Resources Control Board the amount of water that they're extracting.

0:47:04 ML: And again, this leads into the overall architecture of the plan, what Californians, when it comes to groundwater hate to do is tell anybody what they're doing. We have not collected data. You cannot manage what you do not measure. And California, the lack of measurement and recording at the state-wide level has been the norm; that has been the way California has approached groundwater. And so, the first kind of chink in the armour is to say that "Once you hit this point in time, if you don't have a local agency that's stepping up, starting to collect this information and starting to manage, you're gonna start telling the State Water Resources Control Board how much is coming."

0:47:41 ML: The other thing is, and there was a great slide David put up about how local state agencies approach problems, and one of the things that he said and one of the points up on that slide was funding. We don't expect the citizens of California, even though water is an incredibly important resource for the entire state, we don't expect the states generally to pay for the problems in a specific area. And so, at the same time that people have to start reporting to the State Water Resources Control Board their extractions, they also have to pay a fee. So you can see two strong incentives to ensure that people who are pumping up groundwater support the development of a local plan.

0:48:19 ML: If they don't want to pay fees and if they don't want the State receiving their usage information and posting it up on a public website, then they need to get behind their local efforts. And that is a lot of what is going on here. There are some incredibly talented and resourceful people at the local

level who want to solve their district problems. But a lot of times, and with groundwater, it's been a particularly challenging issue for local government in Stanislaus County and San Luis Obispo, two regions of the State that had acute problems with groundwater overdraft in the last few years, to actually mobilize for local action because there's no consequence, or at least no near-term consequence, if there's a failure to act.

0:49:01 ML: But on that short horizon in 2017, there will begin to be immediate consequences to inaction, and so it's designed to not only provide the state information so that it can step in if it has to, but it's also designed to empower local agencies, there will be a consequence if they do not step forward and if local electeds or local groundwater pumpers do not support those local efforts. Once we move beyond July 1, 2017, and that extraction reporting, we then start to move into really the bread and butter. It's a small part of the Act. In fact if you go to the groundwater.ca.gov websites that they put up, you can actually get a copy of the Sustainable Groundwater Management Act.

0:49:44 ML: It runs about 50 pages, and the State Water Board is a really small but important part of that. Our part of it falls in Chapter 11 for those of you who are attorneys, and familiar with bankruptcy. But it's no coincidence that our bankrupt groundwater basins, they're stuck with the State Water Board coming in, intervening. And that whole chapter, though, only spans about four pages of that 50 pages, and that really is a reflection of we wanted to handle groundwater locally and we wanted the state's role to be important, and it's going to be prepared to come in with a heavy hand but there aren't gonna be a lot of tools that the State Water Board is going to have.

0:50:25 ML: Under Chapter 11 of the Sustainable Groundwater Management Act, the State Water Board will go through a multi-step process but ultimately its most powerful tools when it completes that process I'm about to go through, will be the ability to curtail demand, to put in place limitations on groundwater extractions. When you look at what the Department of Water Resources is putting together for regulations to develop groundwater sustainability plans, it is a mixture of carrots and sticks that the local agencies will be able to pursue.

0:50:55 ML: They will be able to look at Surface Water Augmentation, conjunctive use projects, a whole range of alternatives, that there are sweeteners in there to help, ensure that groundwater can be sustainably managed. When the State Water Board comes down, it's a very different perspective. It's going to be a demand-driven exercise and by doing that, again, it's designed to reinforce that drive for locals to solve their problems themselves.

0:51:23 ML: So this is one of my favorite slides because there are various people who, at the State Water Board and administration would like to

describe the State Water Board's role. And at least four or five different versions of this slideshow are running around. Each one of them has the four horsemen of the Apocalypse. But we each get to choose which photo we'd like to put up. I went with a Russian painter, Viktor Mikhaylovich Vasnetsov, who did this one in 1887 'cause we really are designed to be under the Act of the Apocalypse coming.

[laughter]

0:51:52 ML: We are at alternate times referred to as the Enforcer, [0:51:54] though currently with my five board members I don't think they collectively get anywhere near 800 counts. [chuckle] And when the State Water Board comes in, it's gonna be responsible for ensuring that the number of deadlines in the Act are actually implemented. The first I mentioned a few moments ago was a very clear case of black and white. Do you have a local agency in place? If that gets done after two-and-a-half, three years, there are no special findings the State Water Board has to make other than you're a high and medium priority basin and there's no agency in place. But after that it starts to become a mixed role between the Department of Water Resources and the State Water Resources Control Board. You heard David talk about the responsibility of the department to identify critically over-drafted basins.

0:52:43 ML: After five years, so this is by 2022, if you're a basin is critically over-drafted and identified by the Department, you will then be subjected to the State Water Board's loving hand. If you are in a basin that is not critically over-drafted you will have seven years. The next sort of threshold that triggers the State Water Board authority, actually it looks at the adequacy of the plan. And during the development of the legislation, there were a lot of different iterations as you can well imagine. Ultimately the way that this has ended up is that the State Water Board is not the sole determiner, in fact it's not even the determiner at all as to whether or not the plans at the local levels are being implemented adequately or even adequate plans that comply with DWR.

0:53:25 ML: That's the Department of Water Resources role, but when the Department of Water Resources makes those determinations, the State Water Board essentially has to validate them through a subsequent process. So the inadequate plans, inadequate implementation of those plans and a critically over-drafted basin, all is determined by the Department of Water Resources and you become subject... If you're in one of those basins, the State Water Board can begin acting after five years, and that's in 2022. The next, the fourth row, that next round of State Board love comes in conjunction with determination from the State Water Board and the Department of Water Resources happening together. And the department, once again, their regulations are the ones being implemented by the locals, makes a determination as to whether or not the plans are adequate, or being adequately implemented.

0:54:17 ML: But the State Water Board has to make two separate findings to open up a basin to what we call "probationary status." And that is the basin has to also be in long-term overdraft, which is a term defined within the Act. And it basically says that the net water coming into the basin over a 10-year period is exceeded by the water being extracted from the groundwater basin. And that's over a 10-year period. There was a lot of creative lobbying going on in the legislature, and a lot of folks were concerned that the crisis precipitated by the current drought would be used to trigger new authorities by the State Water Board and the Department of Water Resources.

0:55:00 ML: So, that definition of long-term overdraft specifically excludes periods of short-term drought, like we have right now, and don't use that in the averaging period. So, the State Water Board might happen to make the finding that you're long-term overdraft, or that groundwater extractions are resulting in significant depletions of surface waters. Now, if you're in a situation where it's long-term overdraft, you become subject to the State Water Board's backstop intervention authority after seven years, so that's 2022. Or, if it's significant depletions of long term... Or significant depletions of connected surface waters, the Scott River case that you'll be hearing a lot about next week, that is a power that the board needs in 10 years, so in 2025. So, these are the different ways that you can trigger the State Board paying you a visit in your basin. And what the State Board does is first go through a process to designate a probationary basin. That's somebody... That's a basin that has run afoul, if you will, of one of these criteria.

0:55:59 ML: And that, once again, goes back to the psychology of this legislation. What the State Water Board's doing is not coming in and trying to solve the problems in the groundwater basin. These are probationary basins. They have a problem. Locals haven't stepped up to fix them. And so, the State Water Board puts them on notice. If it's one of the simple things at the beginning, for example, there's no local agency, the State Water Board says, "Hey, you haven't met the deadline for the Act." The locals get 180 days to finally get their act together before the State Water Board can actually begin exercising the authority. Likewise, if the basin has a problem, it's not adequately implementing its plan, or the plan is inadequate from the outset, as determined by the Department of Water Resources, the State Water Board puts the basin on notice. Department of Water Resources has 90 days to prepare a report identifying the problems and what actions could be used to remedy the deficiencies. And only after that opportunity to cure can the State Water Board complete the process of identifying the probationary basin as a basin that the State Water Board should move to the next step of its brotherly love.

0:57:12 ML: And that next step is an interim plan. Again, going to the psychology of the Act, the State Water Board isn't coming in to supplant local... And I think this is something you may not have heard quite as much about in hearing the discussion of the legislation, or hearing from Professors

Frank and David Aladjem describing it. But, the State Water Board does not want to be grabbing a hold of these basins and trying to manage them for years and years. It wants to come in on an interim basis, really, once again, to incentivise the locals to step forward and solve their problems. They really know their basins better. They are more in tune to the local problems. So, all of this, again, going into that psychology of the legislation. And once the State Water Board identifies a basin as probationary, it then goes into a step where it begins that extraction reporting.

0:58:08 ML: The same tool that I mentioned earlier with respect to locals not forming their local sustainability agencies, once the State Water Board has determined that a local basin has not satisfied one of these four criteria, and identifies it as a probationary basin, the State Water Board then begins the process of collecting extraction information from the basin, coupled with the requirement of filing fees to file the reports of extraction. Again, designed to reinforce on a regular basis, and that's gonna be occurring every year, that bill will be coming from the State Water Resources Control Board, and with the data being submitted as well, it's a constant reminder to the local pumpers that they really should support the local efforts to develop sustainable groundwater management.

0:58:59 ML: I started to talk about it a few moments ago, but I wanna emphasize the point. The legislation that authorizes the board to step in authorizes the board to develop interim plans. Those interim plans can include limitations on groundwater extraction. They can include what we call under California Water Rights Law, a 'physical solution', which is basically an equitable way of apportioning responsibility for meeting some of the state's sustainability requirements of the Act. And also is designed to take account of the board's... And the board can identify principles and guidelines for how the groundwater extraction and the groundwater limitation requirements in the interim plan should interface with the surface water elements that the State Water Board oversees in its traditional water rights authority. But, the State Water Board is not responsible, and will not be developing a plan that is a sustainability plan.

0:59:51 ML: It is not going to be identifying all of the undesirable results. It is not going to be responsible for developing a sustainable, long-term fee structure, a conjunctive use structure. It really is just going to be, and was just provided tools to step in on an interim basis, to, again, reinforce those locals to step up. And one of the things that was an important evolution of the legislation as it was going through and it reflects on limitations of the State Water Board's power, is that there were a lot of concerns in these basins that somebody would act responsibly for a portion of the basin, but that there would be pieces of the basin that... What we'll call the 'white spots', that would not be governed by any Groundwater Sustainability Agency.

1:00:37 ML: And in that respect, there was concern that some of the locals

would not be masters of their own destiny because there would be somebody that would be a naysayer elsewhere in the basin and the State Water Board would step in. The Act requires the State Water Board to build on the local plans, developed by local Groundwater Sustainability Agencies for whatever portion of the basin that they cover. So, it's very possible that an interim plan adopted by the State Water Board will include pieces of a local Groundwater Sustainability Plan.

1:01:06 ML: And for those portions of the basin that are covered by a local agency, they will not have to report to the State Water Board. It will only be those portions that are not covered by a Sustainable Groundwater... A local Sustainable Groundwater Agency. So, what should be clear from all of this is that state has made a fundamental change in how it approaches groundwater management. But, fundamentally, it is still going to be a locals first approach. The State Water Resources Control Board and the Department of Water Resources have been given important tools that are essentially designed to scare local agencies and groundwater pumpers into embracing local sustainable groundwater management.

1:01:50 ML: I wanna just touch very, very briefly though on a couple of the other activities that the State Water Board has been proceeding through and has authority to proceed with, notwithstanding Sustainable Groundwater Management Act. You heard David talk about the California Water Action Plan and that really served as a springboard not only for the administration embracing Sustainable Groundwater Management Act, but also for some response activities by agencies such as the State Water Resources Control Board. So, last year building off the California Water Action Plan the governor's proposed budget and then it actually was accelerated as part of the Drought Emergency Funding, that was passed in late February of last year, included 10 positions with the State Water Resources Control Board to begin investigating groundwater conditions around the state.

1:02:43 ML: Now, this is, keep in mind before SGMA was passed and before it became law. And the authorities that those staff would have been exercising would have been authorities under Article 10, Section 2 of California's Constitution, which is the Waste and Unreasonable Use provisions of the Constitution. While the State Water Board has historically only used its authorities under Article 10, Section 2, in the context of Surface Water Diversions, California courts have held that Article 10, Section 2 applies to groundwater, as well.

1:03:13 DG: And so the State Water Board anticipated identifying again pre-SGMA, but it works compatibly with SGMA, those basins that were critically over-drafted, and if need be, commencing waste and unreasonable use proceedings in those basins. Now, I will say waste and unreasonable use is a very unwieldy context when you're looking across a basin. You can build a very simple case for how overdraft and excessive groundwater extractions are

unreasonable and wasteful, especially because they can begin to diminish storage capacity and those basins where you actually lose floor space as the basin collapses, where the groundwater... Or the soils above the basin collapse. But it's also tough to pull out individual instances of waste and unreasonable use. And the State Board has established precedent through some of its surface water regulations of saying "the uncoordinated activity of drawing water from streams", in this context we'd be looking at the uncoordinated extraction of groundwater from a basin would provide a basis for a waste and unreasonable use proceeding.

1:04:22 ML: And so, the State Water Board retains that authority and if need be, if we can find... If there's somewhere where we see that SGMA is not being implemented in a way that is sufficient to protect resources, the State Water Board may still evaluate whether or not that is an appropriate tool to use. For now those 10 staff have pivoted more towards assisting DWR in the implementation of the Sustainable Groundwater Management Act. The one last piece of authority that the State Water Board is prepared to explore with respect to groundwater is the application of the Public Trust Doctrine to groundwater resources and that will be much of the conversation that you will have next week in the discussions of the Scott River.

1:05:04

: But essentially, the State Water Resources Control Board has taken the position that extractions of groundwater that have an undesirable effect on public trust resources in an interconnected surface water give rise to the board's responsibility and authority under the Public Trust Doctrine as enunciated by the California Supreme Court and National Audubon v. Superior Court, to protect those public trust resources. This is an area that has been the subject of litigation, Dr. Frank and Dr. Carter are... Or Professor Frank and Dr. Carter are both involved in that. I don't realize what your involvement is, but I assume that happens in Siskiyou County, but that would be an area of further development and the Groundwater Sustainability Act was very careful to articulate that that authority was reserved for the State Water Resources Control Board and nothing within the Act limits that authority.

1:05:57 ML: So, at this point in time, where you see us is primarily focused working with DWR getting up to speed so that we can continue to scare locals into ensuring that they will step forward in the first instance and safely manage their basins. But also ensuring that we have other tools available to us beyond the Sustainable Groundwater Management Act to protect California's groundwater resources.

1:06:22 ML: Maybe you want to get in some question so...

1:06:24 S1: Yeah. Okay, well, thank you both. We've got about 13 minutes for questions for both of our guest speakers so fire away.

1:06:37 S?: So one of the basic assumptions that you mentioned was that the drought was a "short term". Considering some of the longer timeframes, five, seven, 10 years and more, and also I'm reflecting on about three weeks ago, I was in Yosemite Valley. There wasn't a speck of snow and not much more snow in the higher country there. Do you have a Plan B?

1:07:05 ML: So first of all, I should be clear because there's been a lot of argument raised within the water community that the Sustainable Groundwater Management Act was about opportunism in the face of drought. But in fact, these efforts of the California Water Action Plan pre-dated the Governor's proclamations concerning drought and to be perfectly honest, the State Water Board and, to a certain extent, the Department of Water Resources have been looking at this issue for a long time. We recognize that drought very likely and very possibly, given the global climate change, could become the new normal. And so the area of the legislation that talks about short-term averaging and not taking into account the drought for conditions of long-term overdraft really only have to do with one of the State Water Board's backstop authorities.

1:07:59 ML: They don't go into the assumptions that the Department of Water Resources will presumably include some of their regulations with respect to how the locals should manage to a sustainability target. And I'm actually giving a supplement on this... But the important thing is the legislation wraps around and can take account of changing climate and the drought. There's just one piece of it and it's an important piece to understand that's been where the State Board has been [1:08:23] [REDACTED] in its the ability to use the short periods of drought in order to trigger its backstop authority.

1:08:36 S?: So are you going to have groundwater cops or how are you going to have DWR telling State Water Resources Control Board, "The locals have failed", and what... How do the citizens know that that action is going to go into place? Is it public? How does it happen?

1:08:55 ML: So there are many elements of the sustainability reports that are public or the sustainability plans themselves will be public. Under the Act, the locals will have to report to the Department of Water Resources and provide a copy of their plan and their report. DWR has to do an evaluation and then publicly report on the status of that evaluation and then we'll do that on a cycle. The State Water Board and this was intentionally crafted into the legislation, the State Water Board or the Department of Water Resources can at anytime essentially initiate a review of the plan for that [1:09:31] [REDACTED].

1:09:32 ML: And the assumption has been, although there's not a formal petition process, if you will, built in for a concerned citizen, to petition the State Water Board, ask DWR to look at it or to ask DWR to look at a plan to make sure that it's being implemented. But that is the assumption. They will contact either one of the departments that can initiate a new review even if

it's out of the typical sequence of reviewing a groundwater sustainability plan and at that point in time, under the Act, the Department of Water Resources is responsible for ensuring that the plan is being adequate... Well it's in the first instance and is being adequately implemented.

1:10:10 S?: So all those steps are public and they're on your website and citizens can go and look and see where their local agency's at on groundwater management to see if they're met the deadlines and then they can see the reports and know that...

1:10:24 DG: Right. So right now, the first thing out of the gates is, folks are deciding who is the Groundwater Sustainability Agency is. We are actually required by law to post who that is. So if you were to go out on our site, there's already one agency that says they are a Groundwater Sustainability Agency. Now, when you get into groundwater sustainability plan, if that's actually the trick. Right, what's adequate? So that's the whole purpose of developing the regulations in groundwater sustainability plans. So hopefully we're going to develop regulations that will define what is in an adequate groundwater sustainability plan.

1:10:57 DG: So we should be able to look at a regulation. We should be able to look at the plan that comes in and there should be able to be a clear judgement on whether that plan is adequate or not. And then years down the line we're going to be reviewing the plan because there will be something in the plan at the end that tells us, are they adequate? Are the levels at the level that they're predicting based on the evaluations that they had conducted? And then if not, that's what kind of triggers the implementation of that more. So you'll see a lot of this I think coming up in what Matt says, as we start developing more and more...

1:11:33 S?: Can I have a follow-up?

1:11:33 DG: Sure.

1:11:35 S?: So you mentioned habitat data and stream flow data, but I'm not sure how the backstop fits in with that data.

1:11:46 ML: So that particular data is going to be going to the Department of Water Resources, so it can do its reassessment of the priority of various basins. For the State Water Board, when we're exercising our responsibilities under the backstop, after 2025, we have to make a determination about whether or not the basin's groundwater extractions is contributing to a significant decline of interconnected surface waters, substantially affecting interconnected surface waters. And so the State Water Board already has a vigorous ambient water quality monitoring program that includes bio-assessments of how surface water streams are doing and what the... How the species in the system are doing. Plus we have terrific resources here at UCD

that we tap into in the Department of Fish and Wildlife. And so, what will happen is that information about the effects on aquatic life, aquatic resources will be drawn from all these disparate systems that we use in order to make a finding that a particular basin is contributing to the decline of interconnected surface waters.

1:13:00 S?: But you'll first have to get a referral from them that something's gone wrong and they have to go to the backstop?

1:13:05 ML: That's correct.

1:13:09 S?: What happens if a groundwater pumper under SGMA is required to submit pumping data to the state and doesn't do it?

1:13:18 ML: So, a couple different things. First of all the fees will continue to be assessed. So they're gonna... Ultimately we can direct our actions that way. With respect to they just... They're paying the fees for example, and they're not reporting. The State Water Board's authorities under Division 2 of the Water Code have been amended. So, the State Water Board can issue a cease and desist order, saying that the individual now needs to... Has an obligation to report, you're not reporting extraction information, and then that individual... And it will go through a traditional adjudicate hearing process at the board, can be held liable up to \$1,000 a day for penalties. And if it happens to be in a time of drought, the number goes up to \$10,000 per day. So, there are significant hammers to ensure that there is actual reporting that will go on.

1:14:15 S?: Yes in the back.

1:14:16 S?: Is the State Water Board planning on changing the defin... Or expand the definition of methods we use to [1:14:22] groundwater recharge, 'cause it's my understanding, it's not currently. And then a follow up to that is are you also planning on changing the fee structure during certain parts of the year say in the winter time, when there's excess stream flows because right now, applying for a Water Board permit is about \$15 per acre foot. So, it gets prohibitively expensive, especially, in the rural areas, for example, Scott Valley where people would like to do this but applying for a permit when there's excess flows and everyone in the valley is totally fine with it, but, unable to find the money for..

1:14:54 DG: So, with respect to the first question, that's actually gonna be more of a legislative call because there's already within the water code, a definition that's, unfortunately, your people refer to as sausage in the process of legislation. There is a definition of recharge and groundwater recharge within Division 2 of the Water Code that's sort of mess. It means all things to all people. Some have argued that it has been used to restrict and essentially divide and say, not to recharge. Others think that it's too permissive and

encourages activities like flood irrigation in the name of groundwater recharge.

1:15:33 DG: So, there have been ongoing discussions, in fact, I actually am surprised it didn't make it into SGMA. One of the... I'll say, the largest water interest in the state actually have a role in pulling out a recharge definition that would have made its way into SGMA and would have I think addressed a lot of the concerns really promote appropriate groundwater recharge without providing an inappropriate incentive for people to just flood irrigate and recharge the basins.

1:16:00 DG: With respect to fees and looking at variable fees to potentially capture flood flows, that's something the State Water Board has looked at and is considering... It's entirely within the Water Board's purview in terms of how it structures its annual emergency water rights and fees. And that is one of the things we've been considering is how can we properly incentivize when we look in terms of projects where really the only water that's available is large quantities that are available. Flashy storm floods, nobody else can capture them because their version are capped out. Can we provide a better incentive to encourage those kind of projects to go forward? I don't know if it's gonna make it into the fee structure for this year, but it is on our active discussion.

1:16:45 S?: We have time for probably one more question.

1:16:48 S?: Question for David, and you had a slide on technical assistance in one of the elements there was establishing well standards?

1:16:57 DG: Yeah. I think we're required by law, we're actually working with the State Water Resources Control Board to develop [1:17:05] plan, so that's... That's a requirement of the law that is coming.

1:17:09 S?: Yeah. The California Well Standards that current...

1:17:11 DG: Update it. Yeah.

1:17:15 S1: Anybody else have any questions? Alright, if not, just want to again thank you both David and Michael...

[applause]

[background conversation]

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