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Welcome to the EDC exchange on mitigation banks and in-lieu fees. At this time all participants are in a listen-only mode. Later we will conduct a question and answer session and instructions will be given at that time. If you should require assistance during the call, please press star then zero. As a reminder, today's conference is being recorded. I would now like to turn the conference over to your host, Corrie, please go ahead.

Thank you. Welcome everyone to the Every Day Counts exchange. Today we are going to discuss mitigation banks and in-lieu fee programs. We have excellent speakers today that will give great representation of these programs. Today the agenda is, Tara Fisher is going to discuss about how to speak Chesapeake, Virginia does their mitigation from the cities perspective and Loren Clark is going to give a perspective from Placer County and Brad Livingston is going to get perspective from ODOT. And between those two discussions we're going to have local discussion for about 15 minutes and then we will come back for a 15 minute question and answer session. There will be one at the beginning and one towards the end. Also included a couple of handouts today, there's a couple of definitions and a couple of pages of definitions and one is from the regulations which I'm going to discuss in a little bit and one is definitions that the presenters came up with for topics in which we might use in the presentation so you can understand what we are talking about. Okay, that's all there my name is Corrie Veenstra, I work for Federal Highway Administration headquarters and I work for the office of project development and environmental review. The presentation goals are to help you provide the audience with an understanding of mitigation also explain a little bit of the basics of in-lieu fees and mitigation banking, and to describe where some of the mitigation banks and in-lieu fee programs are located around the country so you can determine if any of your projects actually fall within the service area of the bank.

First question, what is mitigation? In plain terms, you impact a wetland or environmental resource one place, you will need to actually mitigate for it someplace else. Create a stream or a wetland someplace else and that's what mitigation is. Here are the actual terms, the formal definition of mitigation: it is the restoration, establishment, enhancement or preservation of wetlands, streams, or other resources for the purposes of offsetting unavoidable adverse impacts.

Who requires mitigation? The federal agencies, local agencies and here's a list of who actually requires it. On the left-hand side you have a list of the permitting agencies that actually require it and on the right-hand side the actual Act that requires it. Army Corps of Engineers requires it through the section 404 of the Clean Water Act, the state water quality control board or state water quality Agency requires under Section 401 of the Federal Clean Water Act. Another type banking issue that we are going to discuss is confirmation banking and that's required through the Fish and Wildlife Service and National Marine Fisheries Service under the Endangered Species Act. Also some of the local agencies may require you to do wetland mitigation through the city or county ordinance.

The mitigation options, I'd like to compare and contrast them from permittee mitigation, which is the "sitting in traffic method" where you will get there eventually but you will be sitting in traffic. It's a long process to get there. You have to identify the property that you're going to be doing the mitigation on. Design the wetland. And once you come up with a property and you figured out what sort of wetland plants to put out there, you need to find and make sure it has got the right hydrology and right soil and then you can formally design the wetland. The resource agencies that I described earlier are the ones that are going to have to approve it. That's half of the process and the rest of it is constructing and making it successful and then you have to monitor the site for five or 10 years. Then you also have to maintain the site in perpetuity. With new regulations there's new restrictions that you have to put an easement on there, or some sort of a long-term property restriction on there. You cannot build or put anything on that property forever. Then on the other side of the column is buying credits at a mitigation bank or in-lieu fee programs and that's where I equated to a "toll lane". You may pay a little bit more money up front, but you bypass the whole process on the left. You pay the money upfront and then you are done with the mitigation. So you've met all the obligations required and you will get your environmental permit.

I'm going to explain a little bit about what mitigation banks are. What are mitigation banks? They are large-scale wetland mitigation sites where the owner, which is typically called the banker, has developed mitigation so he's done the restoration and enhancement and created this large-scale site and he set up an agreement with the resource agencies to allow him to sell credits to the permittees, like yourself, who may need to get a permit through the environmental agency. And there's also in the agreement lays out the service area and the service areas real important, it determines where they can actually sell credits and a lot of it is based on the watershed, so if you're within that watershed or service area you can buy credits at that particular bank. The next thing I am going to talk about are the in-lieu fee programs. These are a little bit different. It is a program more based on the watershed. The watershed there's a picture on the bottom that shows you what the watershed is. The sites are typically not identified before the instruments actually signed. It will be determined mitigation is needed within watershed so you would actually buy credits at an in-lieu fee program and the money would be collected in an account and once there's enough money in there, then they would actually implement the project and do the mitigation. There is a little bit of temporal loss when you do in-lieu fee programs, a little bit different than mitigation banking.

The other one we're going to talk about, the presenters have a couple of examples are conservation banks and in-lieu fees. It is similar to wetland mitigation, but more of the species or endangered species so your preserving their habitat or creating habitat to preserve an endangered species that's protected under the Endangered Species Act.

The differences between mitigation bank and in-lieu fee programs are listed here. The mitigation bank is a private or public sector. In-lieu fee program is typically a government or nonprofit conservation organization. For mitigation banks the sites identified beforehand and are secured the restoration is done before the banker can sell any credits to you. In-lieu program the sites are not identified ahead of time, the money is collected in an account and then once they have enough money than they actually do the project so there's a little bit of a time lag in temporal loss

possibly with that one. The regulatory agencies are not involved in the mitigation bank expenditures, but they are involved in the in-lieu fee expenditures if they decide where the money can go to do the in-lieu fee restoration project or the mitigation project.

Like I said there's in 2008 Corps/EPA issued regulations and it lays out a lot of information about mitigation banking and in-lieu programs and how to establish them. One of the other big things that it points out is all mitigation sites no matter how big or small they are need to have a long-term management plan so even if the quarter acre or tenth of an acre mitigation site, you need to have some sort of a long-term instrument on the property that says you'll never build on it. That was a really big change. So with the permittee mitigation, if you do your own mitigation site you're going to have to have a long-term management plan on it.

The program comparison, there are about 1000 mitigation banks in this country. And only 17 in-lieu programs and close to about 100 conservation banks so a lot more mitigation banks in the country than there are in-lieu fee programs. Here's a map that shows where the mitigation bank sites are located. A lot are located in the Southeast and these aren't all DOT banks, they are all scattered around the country and are mostly privately owned. This shows who owns the banks. Only 23% of the bank sites are owned by a single user, a single user means a DOT or sometimes a County will have their own the mitigation bank. Most of them are privately owned. Here is my contact information if you have additional questions, feel free to e-mail me or call me and then the information I gathered on the mitigation bank and distribution I got it from the RIBITS website and here's the link for it, it is also on the handout I gave you. Here's a link for the Every Day Counts website that gives more about the Every Day Counts initiative on mitigation banking and in-lieu fee and the EPA has a great website that lists all the regulations was talking about from the Corps and the EPA and he has a lot of information on their especially about the most recent regulation that were issued by the court and EPA. Next up we have Tara Fisher from city of Chesapeake.

Good afternoon everybody. My name is Tara Fisher, I am with the City of Chesapeake. I work for the public Works division here. My supervisor and I are responsible for obtaining environmental permits, specifically wetland permits from the regulatory agencies for our public works projects. We conduct wetland delineations on city property and have many other duties as the environmental services section here for public works. As you can clearly see from the picture here, I love my job. And granted this picture was taken about a week after I started, but luckily not much has changed. My talk today will focus on the use of mitigation banking at the city government level.

My presentation goals today include discussion of the types of wetland impacts that we see here in Chesapeake, that may require compensation. Also, I will talk about some examples of projects that may result in a wetland mitigation requirement and permitting. And I will discuss the city's process for wetland credit purchase. I will end up with some general comparisons of the time and money and ecosystem benefits involved in wetland credit purchase, from the mitigation bank versus on or off site creation of a wetland.

This is just a brief slide to show you where I am located. I'm in the city of Chesapeake in southeastern Virginia, just west of Virginia Beach and east of Suffolk, Virginia. Obviously a lot

of wetlands and waters here where we are. There are not very many public works projects that can go on without impacting some type of wetland.

The first thing I'm going to talk about is types of wetland impacts. We have tidal wetlands here in Chesapeake, these are wetland areas that are tidally influenced. Sometimes navigable waters, sometimes they are not. Projects that we see within public works that may impact tidal wetlands include shoreline projects, shoreline stabilization, bridge replacements, the picture is of the Bells Mill Bridge in Chesapeake, that's the before picture and when that bridge was replaced we had some wetland impacts at the abutments there. Also pipe replacements and drainage improvements, anytime we have to upgrade an outfall, and things like that. All tidal wetland impacts must be compensated for, there's no threshold under which you do not have to provide compensation, which is the case for non-tidal wetland impacts. If you have 20 square feet of tidal wetlands impacts you have to compensate for it and it is at a minimum of a one to one ratio. Permitting agencies such as the Virginia Marine resource Commission or the Army Corps of Engineers or Department of Environmental Quality may require an increased compensation ratio sometimes if they determine it is a very high-quality, pristine shallow mud flat or something along those lines.

If the city were to pursue on or off site creation to fulfill a mitigation requirement, it would typically be in a tidal area as opposed to non-tidal area. In general, it's easier to match elevations in the shoreline areas, hydrology is kind of a given. Plant along the appropriate elevations and many times these sites are successful. However, you still would have the costs associated with the potential property acquisition, the earthwork itself, the planting, the monitoring for it in perpetuity and for these reasons the city opts to purchase tidal wetland credits. We have one mitigation bank currently which sells tidal wetland credits so in this case we wouldn't have to obtain competing price quotes and go with the lowest bidder. The name of the bank is Libertyville Bank and the going rate right now is \$15 per square foot of tidal wetland impacts so just a 10 by 10 area can run about \$1500 in compensation costs. While that's a lot up front, I think getting that paid and done as opposed to long-term monitoring and maintenance of the site is efficient and beneficial to the city.

Non-tidal wetland areas we see also here in Chesapeake. These are wetland areas that are not tidally influenced. Many times they can go unnoticed as a wetland by the laymen's eye. So we evaluate the vegetation, soil, hydrology and do an actual wetland delineation using the Army Corps manual. Different types of projects that may impact these non-tidal wetlands are roadway improvement projects, drainage improvements of all kinds which includes re-grading of ditches and even construction of new city facilities as needed. As I mentioned before, there is a threshold under which you do not have to provide compensation. Impacts up to a tenth of an acre, you do not have to provide any compensation for those, typically. Any impact over a tenth would be compensated for in accordance with the appropriate compensation ratio. If you have a forested wetland, like in this picture here, its non-tidal forested wetland, you would have a two to one ratio, if you impact an acre you will have to replace it with two. Scrub shrub wetlands is a one and a half to one ratio and emergent wetlands is a one to one ratio. We have several banks in the city that sell non-tidal wetland credits and their cost can range anywhere from \$15,000 per credit acre to up to \$38,000 per credit acre and that depends on the location and the watershed. In the

southern watershed it is cheaper and in the northern watershed and more developed areas it is more expensive.

This is just a flowchart here. You can see purchasing wetland credits is a fairly easy and straightforward process. If you have mitigation banks available in your area, minimal steps are involved and you can fulfill this wetland compensation requirement very quickly. We start at the top and obtain your permit which sets forth a wetland mitigation requirement by your permitting agencies. If you have tidal wetland impacts we would go with the Libertyville Bank, obtain a price quote from them and you actually might already do that in the application process so you'd be ready to request a check from accounting and send the check to the mitigation bank, request proof of purchase and provide that proof to the permitting agencies and you would be done. Non-tidal wetland impacts, same process. Except we have competing banks in the area so we would obtain at least three price quotes and go with the lowest bidder and just request a check, send the check and get proof of that purchase and you have fulfilled your mitigation requirements.

Time and money, I don't have specific measurable numbers for my presentation today, but just to show a generalized comparison of the time and money and effort associated with wetland creation versus credit purchase, we have site selection here if you are doing and you have to have the site approved by the Corps, takes a lot of time. You may have to acquire that property, it is time and money. I'm not going to go through all of them that you can see there's many steps involved, the last one, the least of which is the potential for enforcement action by these regulators if that site is not successful. The pictures here show a living shoreline that we finished up recently. A lot of earthwork involved in that project.

Credit purchase on the other hand, like Corrie described, you have your HOV lane, you have your sitting in traffic lane, this would be the HOV lane, obtain our credit availability letters from the bank or banks, takes minimal time to do that because they usually respond pretty quickly when someone is asking about buying credits. Request a check, send that check and obtain proof of purchase to provide to your permitting agencies. And you are done. You can see picture of Dover Farms mitigation bank which is a fairly new bank nearly adjacent to the dismal swamp in the southern watershed.

Finally, ecosystem and citizen benefits. Mitigation banks are typically situated in rural areas adjacent to existing swamps or other large wetland areas or large tracts of land. They provide a more contiguous tract of protected wetlands which can potentially allow for habitat and migration corridors for federally or state threatened and endangered species. In our area we deal a lot with the Canebrake Rattlesnake, pictures at the bottom from left to right, the Canebrake Rattlesnake, the Dismal Swamp Shrew, and the Mabee's Salamander so we deal with those quite a bit. Being that we are stewards of the city and the citizens are our clients and our customers, we do have to take that into consideration when we are trying to create the smaller pockets of wetlands in urban areas. We are not always successful for the potential for secondary impact being so great with runoff, more runoff more sedimentation, human impact, and as well they're not always well received by citizens. They have what they call a NIMBY feeling against that which means not in my backyard. They don't want the mosquitoes or standing water or swamp monsters coming out onto their property so we have to work with that and keep that in mind as well. And that is all I have today. Here's my contact information here, my e-mail and phone

number and I also provided Steve Martin, his e-mail address for the Corps. He works in the Corps, Norfolk district office and just a wealth of information on anything that has to do with mitigation banking on a nationwide level. And the RIBITS website link there which Corrie already provided. There's a link to a 2008 guidance document, memorandum of agreement or MOA between the Army Corps and EPA, on this very subject. Thank you for your time. Thank you very much.

Thank you. Now we are going to a 15 minute discussion break and so each one of the exchanges will have a local discussion for 15 minutes and we are going to come back and have a 15 minute question and answer forum with Tara, myself and the whole group. Let's take a 15 minute discussion break.

Thank you.

[The EDC Exchange is on a 15 minute discussion break.]

All right everybody, 15 minutes is about up so I'm going to start the national question and answer forum. Are there any questions from the operator waiting on the phone?

If you wish to ask a question please press star then one on your touch tone phone. You will hear a tone indicating you've been placed in the queue and a voice prompt on your phone will indicate when your line has been open. And you may remove yourself from the cue at anytime by pressing the star key followed by the digit two. But again, ladies and gentlemen, *1 at this time and if you're using a speakerphone, please pick up the handset before pressing the corresponding digits. We will pause for a moment

You can ask questions on a chat room and I'm going to them right now so we will try to answer them as we go.

Can FHWA fund advanced credit bank establishment credits purchased that would be drawn from down for specific projects later? Right now, we are trying to working with a couple of states on trying to figure out how this process might be done. It is not a set process in place right now so we are working on something, but as you know, federal highways is reimbursable agencies so as far as fronting money up front for a project right now the way our process works we cannot do that right now but we are working on something to try to fix that.

Can one state use a bank in another state? That's up to each different--the way the mitigation bank instrument is written, there's a lot of states that border other ones. Perfect example is Oregon and Washington we have the Colorado River separating -- Columbia River separating the two and right now in the two states they cannot buy credit in Oregon for project in Washington. It is a state regulation so it is up to the state laws wherever you are working.

We are trying to develop new in-lieu fee program for lynx impacts.

The other question from Colorado you asked about trying to set up a conservation bank or in-lieu fee program for the lynx, fish and wildlife service has a really good website. I can't get on right

now because I'm on the webinar, but I believe it is conservationbanking.com -- if you Google conservation bank and fish and wild services, it should pop up or later I can actually post a link to it and possibly a link to Deblyn Mead, who's the coordinator for the fish wildlife service conservation banking and conservation in-lieu fee programs and she's a wealth of information.

Any other verbal questions while I read through these?

We do have a couple on the phone and caller, please go ahead.

Your line is open, did you have a question?

Please check your mute button, your line is open.

Our question, we'd like to know who is the managing these banks and who's running the day-to-day operations of them? Is it an intergovernmental Agency or how are they generally managed and run? Thanks.

This is Loren Clark in California, I think it is going to be unique to each state and each jurisdiction, but certainly where the Corps of Engineers has oversight or the local fish and game Agency at the state level or very frequently what you will see is some sort of multi- Agency review on the front end and an agreement or contract or banking instrument that's approved and in the case in California very frequently it is oversight by the California Department of Fish and game. You can also have a conservation easement that's running in perpetuity on the property held by that state Agency or another entity. You could end up with multiple levels, typically the monitoring is from the banking entity back to the state or the Federal Agency that has oversight.

We will move onto our next question.

Okay.

Caller, please go ahead.

This is Claire Carter I'm calling from ODOT in Oregon. During our break we had some discussion. A question for the city of Chesapeake, wetland specialist, Tara Fisher, we were interested and how you derived the cost per credit for your mitigation bank. The amount seemed quite low compared to what we can purchase credits for out here in Oregon.

This is Tara. As far as the city of Chesapeake, who I work for, the city, we don't have any control or oversight on what the banks charge. As I understand it, I liken it to a notary, they can pretty much charge what they want if there's a developer out there willing to pay that price. And I know they go through that process with the Army Corps when the bank is being set up and implemented. But myself, just a lowly employee of the city of Chesapeake, I don't have any oversight or control over those prices. I guess if they sound lower than maybe some nation, national standards, I cannot really speak to that very well. Yeah. That's oversight from the Corps and like I said, as I understand it, it is really driven by the market in the area and when it was booming and booming and everybody was developing and everybody needed to buy wetland

credits, they were charging a lot higher and now I just had a project I had three banks just undercut going down even further to try and get the business. That's all I have.

Hope that was helpful.

How nice it must be to have a competitive environment.

Yes, it is.

I know. It certainly is. We are fortunate out here to have that option.

I think I saw a question about the hierarchy of state versus federal regs. The hierarchy of whether we are supposed to look at on-site creation first and then mitigation bank. I'm not really well versed on it since I've been with the city here three years. Our state regs have changed over the last few years to its bank first. If there's a bank in the watershed that serves where the project impacts are then we are supposed to go the bank first. That's as I understand it and that's pretty much what I've done since I started working here. I don't have a lot of experience with the creation aspect, just a few tidal mitigation site shoreline, living shoreline projects and things like that.

I don't know if Corrie can expand on that anymore of the hierarchy? What permittees are supposed to look at first?

The federal -- 2008 federal regulations that were issued by the Corps and EPA, they gave a soft preference to mitigation banks, but it is not necessarily a definite preference. It's just more you need to look at the watershed as a whole and you need to do the watershed approach to determine which one is going to be more appropriate to use.

Right, okay. Well said.

We have several more questions.

Please go ahead.

Am I on?

Go ahead.

Question I have is you talk about the watershed area. How big of an area? You have little drain into bigger into bigger? How is that set up?

That varies by district or by state. Sometimes it will be a very small watershed. Again, I think it depends on where you are at in the country. If you're in Montana you might have a bigger watershed cause you have a lot less mountains and stuff, not Montana, I'm thinking of North Dakota and the Midwest, versus something over in Virginia where it is a lot more, much smaller watershed. It varies by locality.

Okay, we are in North Dakota so we have a fairly large drainage areas, that type of thing. Would the Federal Highway be involved in setting those up working with the local DOTs or whoever?

Probably not. The final decision-maker with determining how big the watershed or service area will be will be the Corps of Engineers. Since they would be the ones that would be approving the instruments so speak with your Corps of Engineers representatives and when you negotiate the details of your mitigation bank instrument they would determine how big the watershed would be and how big the service area is.

Okay, thank you.

Your welcome.

Once again, ladies and gentlemen, its *1 if you have a question. Please go ahead.

This is Michelle Mastin with the Army Corps of Engineers. I'm in Southern California right now at Caltrans. I was invited to attend today when I was here for another meeting and have a couple comments or clarifications on answers that were provided earlier. The first was about cost of credits. And whether or not I think the response was that the Corps had some involvement. That is true with respect to in-lieu fee programs, but it is not the case with mitigation banks. The Corps cannot set the price for the mitigation banks. The bankers set that price, based on supply and demand, the minimum, we typically will look at the minimum credit pricing but only with respect to will it adequately cover their construction implementation monitoring and long-term endowment. We want to make sure we do review and approve the property analysis record or that's an analysis that evaluates how much money is needed to manage the property in perpetuity following the first five years or after they meet their performance standards. We have to ensure that that endowment is not in wasting and it is adequately funded. Otherwise we don't get involved in the credit pricing. With in-lieu fee programs that's different, we do get involved with the pricing.

Thank you, shall. I appreciate the clarification on that.

You're welcome, one other clarification, the hierarchy in the mitigation bank rule, the response was correct was that we have the soft hierarchy for first banks and in-lieu fee programs and permitting responsible. But if your project it is up to the Corps project manager to determine whether or not purchase at that mitigation bank is environmentally preferable with the term that the rule says to doing permitting responsible. Only once have I turned a permittee away from a bank when they were in the service area and it was because they were immediately upstream from that bank. I wanted them to restore the creek on their property in order to protect the functions and services of that bank downstream, so to me, that was environmentally preferable than to have them purchase credits at that bank. That's an example of where we would move away from that hierarchy.

That's all I have.

Very good. Thank you.

We do have another question. Caller, please go ahead.

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Go ahead.

This is Bill Buchner with Maryland State Highway Administration. Question was for Tara. Looking at the price of square-foot price for the Libertyville bank when you do the math it looks like it comes out to a little over \$653,000 per acre. Has the city of Chesapeake done any kind of cost analysis to know whether the city could do something for a cheaper rate or is it simply because this is the number one preference you're going directly to this bank?

I'm not aware of any internal, within the city of any studies looking into maybe the city of Chesapeake actually setting up our own tidal mitigation bank. Again, I just know in my experience here, limited as it may be, that's the bank that we go to. If we don't create a tidal wetland on-site and as I mentioned we would typically we would be more apt to do an on-site or off-site creation to fulfill mitigation requirement for tidal areas. The only experience I have is with this bank and with the pricing, again the pricing is subjective and we don't have any control over that, but I'm not aware of any studies that had been done within the city of cost analysis to see if that would be something that the city would want to pursue. Luckily, the majority of projects that impact tidal wetland and my supervisor and I our job is to work with the engineers and minimize or avoid if at all possible so typically we are able to keep those impacts fairly low in the square footage so we don't get into having to mitigate for an acre of tidal wetlands, that's not going to happen with the projects that we deal with.

Okay.

Tara? This is Todd Nichols from Maryland State Highway Administration, just an add-on to Bill's question, related to the Libertyville bank is I don't know if you've had this experience but maybe in your conversations with the bank owner, if you are impacting or have a mitigation requirement of an acre, are the bankers, or in this case the banker, flexible with that rate? I can see where it is beneficial if I as a state DOT have a 100 square foot of impact for writing a check for \$1500 is a lot cheaper than going out and trying to mitigate for 100 square feet. But when it comes down to an acre mitigation obligation, I would think that my obligation to the citizens here and the use of Federal Highway dollars because I think we could do it with lot less money than \$600,000 per acre and we are talking on a larger scale compensatory mitigation obligation. Had they had any flexibility with you or other permittees?

Not that I'm aware of. We don't typically get into impacts tidal and impacts of that scale. I'm not aware of any discussions with other cities or other agencies within this watershed that would be able to buy credits from Libertyville. The bank managers actually Tom Tye, all this information is on the RIBITS website, but I cannot really speak to that because I don't -- I've never gotten into such a large-scale tidal impact before. But I wouldn't be surprised if, yes, he would reduce that rate, maybe not go on a square footage rate if you get up to a certain threshold or what have

you. But in my experience, my biggest job is working with the engineers, getting them to have no wetland impacts if possible so that we don't have to have that mitigation requirement. So we really try and get these things down pretty low. Unfortunately, I cannot really answer your question too well because I don't have a whole lot of experience in those large-scale impact situations.

Very good, thank you very much and I applaud your efforts towards avoidance and minimization.

Thank you very much.

I have no further questions at this time.

Good, perfect timing. Thank you.

Thank you for the great questions and don't forget Tara's e-mail is available on this link and I on the handout sheet so if you have any questions for her you can e-mail her personally. Next up to speak is Loren Clark. He works for Placer County.

Good afternoon, everybody. I'm waiting for the slide to come up. Here it is. I'm out here in California so it is just now 12 noon, thanks for sticking around through your lunch hour. What I want to provide in a presentation this afternoon is the regional context, the previous speaker, Tara, gave you context from a city. In California, in particular, counties provide both services to all of the residents of the county, but also to an unincorporated area where we provide municipal services. So here we are, state of California, Placer County identified in red, we are right on sort of a transect of the Sierra Nevada between the Central Valley to the west and the Sierra Nevada to the east. It is a very rich area in terms of biodiversity. State of California is very diverse as it relates to ecological resources and Placer County has over 50% of habitats that exist throughout the state. There's a lot of impacts associated with growth. Predominantly to the West where over 90% of the growth will occur and we have a lot of public land in the Sierra Nevada, but a lot of growth in eastern areas of the county, in and around Lake Tahoe and the Truckee River area. When you look at regional conservation planning that's occurring throughout California and certainly to a large extent here in the North, Placer County is one of four counties that's in a planning process in terms of developing regional conservation plans. Wetlands, mitigation banks, and conservation banks are all part of that. There is also number of adopted regional conservation plans both here in northern California and even to a larger extent in Southern California. When you look at banks themselves that are already present in Placer County they've been here actually for quite some time, we have about 3500 acres of land that is either a conservation bank, mitigation bank, or a combination of the two. The majority of them are associated with wetland impacts but we do have some endangered species issues that are resulting in banking as well. As you can see here we are in Western Placer County it is largely located where the growth is expected to occur. In terms of the history, we've been involved in policy development in the county dating back to 1989 where we sat on a task force with state and federal agencies. First Bank really came to Placer County in 1994, after the state adopted guidelines in 1993. Currently there's eight banks being managed today, one of which is only a conservation bank for only one federally listed endangered species, it has no connection to 404

programs and wetland programs. For the most part it is all private sector driven, it's all entrepreneurial banks, the public sector is not functioning as a bank here in Placer County and the County uses them extensively as well as the private sector.

In terms of mitigation banks themselves, Corrie touched on this earlier, by and large they are used to replace the loss function and value to the resource that is impacted in some way by your project. It is compensatory mitigation. No net loss standard of the U.S. Army Corps of Engineers, which is a national standard to replace wetlands that are impacted. But even down to the local level we have a no net loss policy standard for wetlands and riparian area. They're also used for local impacts. It isn't just necessarily state and federal law, but it can be local policy on local concerns such as impacts to oak woodlands that we have here in Western Placer County.

Conservation banks, the big difference is they are really about preservation of resources. They are not focused on compensatory replacement. They're focused on the preservation of something that is very good. Often very frequently you will see conservation and mitigation come together. You have to replace the loss function and value but you also have to conserve at the same time so you might see a minimum of one to one compensatory and one-to-one preservation. You might also see higher ratios of replacement, so the example I've given here for a resource that's heavily regulated in Western Placer County, you have compensatory replacement to account for no net loss at one standard and an even higher preservation standard resulting in roughly three or even higher than that, three to one ratios. In terms of who is using the banks, Placer County does use them extensively. It is usually associated with infrastructure either the development of new County facilities or very frequently linear infrastructure, sewer lines, water lines, new roads, bridges, etc. Also increasingly here in California, we are dealing with the indirect effects associated with the provision of new infrastructure. If we build a new wastewater plant or you put a new sewer line in, that can have growth inducing effect, and the wildlife agencies in particular are very concerned about the growth inducement from those facilities. You have to mitigate, banks can help fill that niche. In terms of the private sector it is largely driven by land development and because of the routine, where we see the need for compensation as well as preservation, banks have been developing both mitigation banks and conservation banking credits. In terms of benefits to the user, obviously the efficiencies of, in particular, the private sector banks to get up and online and provide you credits based upon where the market is is a very real interest to the both the bank user as well as to the banking industry. They want to make money, they want provide you that service as quickly as possible, we want to buy the credits and be able to move on to our projects.

When you look at the benefits from a conservation standpoint, very often you have mitigation occurring before the impact occurs, credits are being established and in some cases many years might actually go by. Also with monitoring, monitoring very frequent is a three to five year process when we do our own projects, monitoring when it comes to banks is in perpetuity. High-value resources are created, there's a lot of mimicry of the existing conditions and of course, accounting for impacts to mature resources and accounting for temporal losses.

Two examples of an area that we frequently see problems with resource intensification, this can occur at the banks as well. But very often when you have to mitigate and you have to compensate a unit of land is required and you are trying to do an awful lot within that given unit

of land. The resources are packed in there. You are not mimicking the landscape, you are creating the potential for catastrophic failures with either climate change or effects to species populations and very frequently the site that is selected is not optimal. The two aerial photographs on the left is a vernal pool mitigation site, this is the result of a 404 permit being issued, the wetlands are packed in there at a density much higher than what would be normally found in the landscape. On the right is a conservation bank where the wetlands were preserved as they were found in the natural environment. Also resource isolation, we've been evaluating very carefully the whole sequencing of avoidance and minimization and what we get as a consequence of that being a priority. And very frequently we find resources with a lot of urban edge, a lot of potential for changes of hydrology, a lot of incompatible land uses and yet that is the highest priority for conservation. Through the use of mitigation banks that are appropriately cited within in particular if there's large-scale or landscape scale conservation planning, if you can get your banks in those areas you will avoid those resource isolation issues. Here in this photo we see the 3500 acres of banks in Placer County all located within an area in dark green where we would be emphasizing conservation over the next 50 years.

In-lieu fee fees are used extensively in California. They used extensively by Placer County for park fees, for affordable housing and certainly for impacts to resources. The burden of receiving an in-lieu fee is essentially you are passing on the obligation of implementing the mitigation action onto yourself. While in-lieu fees are very efficient way of mitigating a project, you have transferred the burden of the mitigation action to whatever entity is receiving that fund. Also in California we have an extra burden of having to very carefully demonstrate the nexus between the fee that's being collected and the degree to which an impact is occurring. When you look at 404 and mitigation banks and the collection of these it is important to look at the Corps compensatory rule. You cannot just create a fee, you cannot just demonstrate the nexus to the fee, you really need to demonstrate how you're going to spend that fee and what is the context for where those dollars are going to go. It goes beyond just collecting the fee, you really have to be able to demonstrate how you are going to spend that fee. As recently as yesterday, in a phone call with the Fish and Wildlife Service, they absolutely reinforced this opinion of the Corps of Engineers that you cannot just receive a fee without having some framework. And our particular case, that framework will be a regional or landscape scale conservation plan where about 80,000 acres of land will going into conservation over the next 50 years. We will be conducting our mitigation activities within the area in purple where we will see impacts largely in sort of the pale yellow area. We can nest our in-lieu fee programs and nest our mitigation banking activities within those areas.

In terms of where we go from here, we've had a long history with mitigation banks in Placer County and we continue to want to have that relationship with the mitigation bankers. They provide a lot of credit value for us and a lot of efficiencies. There are issues to resolve as well, particularly in and around the adoption of these large-scale conservation plans. If mitigation credits can be sold out of Placer County, that mitigation value was flowing one-way, out of our jurisdiction. That's a concern once we adopt these plans. The whole issue of watershed plans and watershed relationships to where bankers can sell their credits is of concern to us. Even at an eight digit huc level, for those who know what that means, it doesn't work for us compared to where we need to conserve and mitigate with our conservation plan. So there's a variety of issues that need to be resolved and lastly looking at those opportunities for layering. Are there other

credit values out there just beyond the wetland credit, or the riparian credit that can create incentive for bankers to come to your community? I site a couple examples here such as carbon sequestration or even farmland conversation interests.

My contact information is there working at Placer County and we're more than happy to answer questions in this dialogue and when we wrap up later on today.

Thank you, Loren. Next up we have Brad Livingston from Oregon DOT.

Hello everybody. Thank you for your time. My name is Brad Livingston I am the statewide wetland program coordinator for the Oregon DOT. I will touch on some of the comments made and the points made in earlier presentations and hopefully add a little bit more insight from the perspective of a practitioner.

So why bank? General question there, ODOT's mission is to provide a safe, efficient transportation that supports economic opportunity and livable communities for Oregonians. A broad statement there, but this is supporting the underlying idea of why consolidated banks are important. ODOT's sustainability plan focus areas support governmental stewardship, land use and infrastructure.

Several of the benefits of banking have been touched on and I will go into additional detail there. Economies of scale generally bigger is better. Scaling up just like in the free markets and other practices can find efficiencies. For example, the one-time acquisition cost. Consolidating environmental studies, design, construction mobilization focusing on one site versus a suite of sites. Having one site to monitor long-term. In the past we've seen permittee responsible sites cost very considerably. We did a study about 10 years ago where we saw the range was so big it was very difficult to plan financially for project cost. So broader conservation goals are supported if you choose your site through the site selection process and engage natural resource agencies early, potential stewards, potential bankers, you can move with a larger site in the context of conservation plan. Can provide more sustainability. The big one in Every Day Counts initiative is touching on is the project delivery critical path. The DOT project by project mitigation can require specific designs, specific contracts for landscape architecture, right-of-way acquisitions, so for the DOT where we have lots of routine projects like curve correction, safety improvement, that sort of thing, with sliver impacts, it makes a lot of sense for us to consolidate our mitigation efforts in line with broader conservation plans. Generally we found it to be much more cost effective. The study we did about 10 years ago showed that cost varied from up to \$250,000 per acre credit down to around \$30,000 depending on the situation. The big benefit for us is to have compliance upfront. In the past there have been high failure rates for compensatory mitigation. Being able to purchase a bank credit or debit a bank credit, the credit had been preapproved. So there's not a compliance issue. Also in the past with the project delivery critical path we used to force mitigation sites into highway right-of-way. Just because projects had to be delivered and that sort of thing, mitigation was early in development and so we have conflicts and projects coming back since we've been doing mitigation for about 20 years that are impacting old mitigation sites and here in Oregon we've got to double our impact ratio so there's plenty of incentives to avoid conflict with highway operations.

Federal Highway developed the Eco-logical ecosystem approach which is very helpful and a great broad brush for describing how to meld development in conservation. It takes into account long-term population transportation growth projections. You need to look at market analysis or needs assessment and local consistency with Metropolitan planning organizations. Engage the locals and their local transportation plans. Integrating conservation. We are lucky here. The example I'm going to go into is our Vernal Pool Bank. We worked with our Rogue Valley council of governments in the Metropolitan planning organization to ensure that the siting of our bank was not going to conflict with any future road projects or growth areas. The siting was consistent with wildlife action plans here in the Oregon Department of Fish and Wildlife produced an Oregon conservation strategy and identify conservation opportunity areas. The site is consistent with adjoining land uses and from beginning to end and collaborate with natural resource groups and conservation interest.

This figure provides an example of a wildlife action plan, this is the state of Oregon on the right here and the figure is the Klamath Mountains eco-region. Our site, hopefully you can see that, is within the Klamath mountains eco-region conservation opportunity area 08. This site, the Vernal Pool Bank is within critical habitat. This was established by US Fish and Wildlife Service. It supports critical habitat for three species, the vernal pool fairy shrimp, large-flower woolly meadowfoam, and cooks lomatium, two wildflowers there. The siting of our bank is consistent, the adjoining land used to the East is a nature conservancy preserve about 140 acres. Our site is roughly 80. Together that comprises approximate 220 acres or so of contiguous high functioning critical habitat.

Statewide pulling back a little bit this is an eco-province map so we look at watershed approach, eco-regions for service areas and that sort of thing, it is an ecological context. Ideally we use private banks when established. The Willamette Valley, this tan area here, has several banks that are established and operating. Sometimes we need to match the impacts if they're to sensitive areas sensitive resources with same kind of mitigation so we have to go with ecological preference. Where banks don't exist, like our Vernal Pool bank, we established that in the Medford area or an area in southwest Oregon where there were no banks at the time. In-lieu fee options, we haven't used very often. We may use those in future. Our Department of State lands, regulatory Agency here, has set up an in-lieu fee program and we build permittee responsible sites when there's an ecological preference as was alluded to earlier.

There have been several challenges with us and trying to engage regulatory agencies scope, scale, and priorities, required needs assessments and long-term planning. Growth projections, that sort of thing. Prioritize the resources since it is difficult to have a perfect functional accounting system. Or an exact match for whatever impact you have. So the classifications can get complex, which dives into the regulatory flexibility. Service areas have a very big driver in terms of the scale of your site, the larger the service area, the larger sites you can develop. The other development pressures, the market size, that sort of thing, in terms of needs or market demand. Project schedule and timelines, the banking process can be very difficult and complex and can take up to and two years or more. And conservation banking is new in the state of Oregon, our Vernal Pool Bank was the first conservation bank in the state and currently there are only two total so that's a big challenge.

Big lessons learned are to engage the resource interest upfront especially stewards or bankers. Document your decisions, Acknowledge that there's risk involved in terms of construction risk as I mentioned in the past lots of mitigation sites have not been successful. To keep it simple especially in regards to function based accounting. There's a big push to go in that direction, however I have yet to see a perfect function-based accounting method. I certainly recommend keeping it simple.

I will end with a photo here of our Vernal Pool mitigation conservation bank. You can note the elements of the buck-brush chaparral, the Vernal Pool in the foreground and the Oak Savannah in the background there. That's all for my presentation. I appreciate your time, thank you very much.

Thank you very much, Brad. Now we are going to go back to the local discussion groups so again, if everybody has if everybody could break into local discussion and if you have any questions you can type them on the checkbox or you can press *1

It is *1.

Thank you.

Of course.

If you could chime in and ask questions verbally after the 15 minutes but right now it will be 15 minute local discussion starting now. Thank you.

[The EDC Exchange is on a 15 minute discussion break.]

Welcome back, everybody. I hope everybody is having great discussions at the local level. Now we are onto a 15 minute question and answer session. If you have questions for Loren or Brad or Tara or myself, shoot away.

*1 for a question.

I'm -- we are going to answer all the questions on the chat box, I'm trying to answer them as the presenters are speaking, but we will get to all the questions and it will be posted on the community of practice website which is on the Every Day Counts website on federal highways.

I have no phone questions at this time.

Okay. Let me scroll through some of these questions on here. One question came up locally that I would like to discuss is how can you actually attract bankers to come to your area because as I mentioned there's only 39 states that have active mitigation banks and there's only 17 in-lieu fee programs in whole country. One way to get out to the bankers and that's my big problem is trying to connect the bankers with who actually needs it, that's not my job to do, but I'd like to figure out a way to do that. There's a national mitigation banking association that most of the bankers are part of, but not all of the bankers are. That link is on the reference sheet and also

there's a national mitigation banking association conference every year. There is one next year, it will be in New Orleans, beginning of May, I don't know the exact dates and I don't want to throw out the wrong date so take a look at that and that's a great way to network with the bankers and let them know you're interested in setting up banks and one thing I also want to bring up this I gave a presentation at the banking conference this past year and it was about how they can connect with some of the DOT's and a lot of them were surprised about what a stip is. They are -- they don't know that and they don't know that is public information and they are not sure how to connect with the local public agencies to find out where your need is. So they don't know where you need projects, but you can come to the conference or go on the bank site and try to figure a way to connect with him in that way.

Are there any questions on the chat box you want to answer verbally, Tara or Brad?

I think the question from Arizona DOT about if there's a natural disaster after establishment, would we have to re-mitigate or is there insurance provision, I think that came up in some of our pre -- before this webinar in some of our discussions internally. Unfortunately, I cannot answer that question but I would say refer to your local district, your Army Corps contact or even Steve Martin in our Norfolk district, he does work on a national level with banks. Implementation and setting them up so I'm not sure how that works. I don't believe you would have to mitigate, but I don't know for sure.

It is a good question.

Most bank instruments have a force majeure clause --

A what clause?

Force majeure.

Okay which essentially says if its an "act of God" you're not responsible.

Yes, got you.

Thank you.

I see Ohio has a question about in-lieu fees and if they can actually, if they are looking to expand them, yes, there's regulations out there to expand in-lieu fee programs, there's only 17 in the country right now and there might be some older ones that were approved before the 2008 regulation, but not sure if they are 100% valid and able to use right now because of the new regulations that came into play in 2008. Yes, they are open and work with the Corps of Engineers in trying to set up a new one, feel free.

Tara, there's a question here from Missouri, says, the square foot cost here quoted is \$15 per square foot only for tidal wetland mitigations?

Yes, I think I responded on the chat on that one, and that's for, in my area, that's for the tidal wetland mitigation only. Going by the square foot price because typically those impacts are minimal hopefully nonexistent, but yes, that's for tidal wetland impacts is that \$15 per square foot. Banks that set up with non-tidal wetland credits set up per acre per credit, per credit acre pricing.

This is Loren in California. There was a question are banks be considered or develop for other resources like farmland or parks?

While I'm not aware of farmland or parks specifically, certainly there is an interest within the banking community to sell a credit where there's a market created for that credit value. So carbon sequestration credit for example has the looked at. We've talked about hardwood credits for Oak woodlands from a preservation or conservation standpoint. I think in the end it's is there a marketplace, is that marketplace something that can be relied upon and is there a rate of return that is reasonable for that the developer to invest in your community. And if the credit can be sold they are going to sell it to you.

Another question from Puerto Rico. Can -- can we buy credits for a project that is out of the watershed in where the bank is? That's different again based on your Corps of Engineers office if they would actually approve it, but I'm not going to say it is definite but if you go to the Corps of Engineers and say I have a project and it is just outside the service area of an approved bank, and if you need, justify to them why it would be good for that watershed to buy credits at the bank versus trying to the permittee mitigation then the Corps may approve it. There's no guarantee, no promises it is going to happen, but it has happened in the past. Since a lot of the local public agencies their impacts are smaller and it might be a very small amount so it might be better for the whole watershed to buy credits at a bank that you are outside the service area so you need to justify that to the Corps of Engineers or whoever the permitting Agency is and say this is why I want to buy credits I think versus trying to do permittee mitigation.

We do have a couple questions from the phone audience.

All right, thanks.

Please go ahead.

This is Donnie in North Carolina, I just posted a question in the chat box for Loren. In Placer County in your presentation you talked about mitigating for indirect impacts and I was curious for transportation projects, who's funding the mitigation when you are -- when its related to indirect impacts for transportation projects?

We've gone through this recently or twice in the past 10 years, once for a state highway project which was a bypass facility for a state highway and we are going through this again on a local project, local highway and in one case was funded by the state of California and I believe there's some Federal Highway dollars associated with the project. The one we are going through now is largely a locally funded project through in-lieu fees paid from individual projects. The indirect effect issue is interesting. It is the growth that's induced by the facility that has got the attention

of the wildlife agencies, and the Corps and EPA. The mitigation for that will largely come from the growth itself so while there's been an indirect effect issue identified, the mitigation will largely be on the back of the individuals who build and develop and occupy those future homes in Placer County. It will be a pass-through mitigation implemented over time. It may or may not include use of banks.

Thank you for the clarification.

We do have another question. Please go ahead.

This is Ken Sargeant with ODOT. I have a question I noticed that many of the -- most of the banks are in rural areas and I was wondering if there's going to be a big export of urban wetlands to rural areas and urban wetlands can be really critical in doing water quality functions. They have the most opportunity to do that and could also be isolation wildlife populations with urban areas. Has anybody addressed those issues?

Hold on. Just trying to look over your question. This is Tara in Chesapeake. I think ideally we like to see the larger continuous or contiguous tracts of wetlands and those protected areas that have already been approved, but even with these TMDL regulations coming down the pipe here in the Chesapeake Bay area we are going to be as a city, as all the cities that are involved in this Chesapeake Bay TMDL which is a total maximum daily load for water pollutants in the Chesapeake Bay needs to be cleaned up basically. All the cities are looking into doing these smaller even bio-retention basins and incorporating wetland benches into projects more and things like that within the urban settings. That's more for water quality like you said, those things are definitely becoming more and more common. It is not necessarily wetland mitigation for impacts, but a lot of times just doing retrofits to our existing storm water facilities and incorporating these wetland areas into them to help with the water quality.

I don't know if that answered your question, sidestepped a little bit but that's my only experience with that.

In California, or at least in Placer County, we are taking a second look with the Sacramento district of the Corps of Engineers at avoidance and minimization on-site, in beginning to consider shifting that hierarchy to the landscape. So rather than avoiding and minimizing each time at the partial level as the highest priority, it is are there opportunities to avoid and minimize and then compensate within the landscape. So while historically in the past we've had these isolated patchy wetlands left behind, we are starting to question the value of those as always being the highest priority in favor of moving into the landscape. What you find in the landscape is an opportunity for mitigation adjacent to, so it is not rural, it is anywhere from right in proximity to urban element or within 3 miles away, but also we are seeing we have the opportunity to do compensatory work within a larger landscape of conservation. At the project sites we are replacing the lost value from the water quality perspective of that resource that would traditionally be left behind through the implementation of low impact development standards. We are pushing the wildlife function and value into a larger landscape of conservation, replacing the water quality value of what would normally have been a left behind wetland with low impact development standards.

To chime in on the subject, I've heard this called the separation of functions kind of concept and I think it makes a lot of sense in a lot of situations. ODOT's right-of-way can certainly provide water quality and quantity functions, but wildlife habitat generally don't want to tract them to the right-of-way, but the point is good that there are urban wetlands that have extremely high values based on rarity.

Another reminder for the audience if you would like to ask a question please press *1 at this time.

I have no questions at this time everyone.

Okay. I'm reading the question really quick. Utah asked me to describe the process of mitigation banking. I don't want to get into too much detail, but it is pretty much you find a site and if somebody's interested in setting up a bank, you find a site, go to the Corps of Engineers and propose the site and what you plan on doing and how you plan on creating it. You set up a mitigation bank instrument with them and a lot of the other resource agencies, the EPA, water quality Agency and any of the county or local representatives and then once it is approved and then you can actually sell credits and I believe there's another question if you can sell credits to a public Agency. If a public agency sets up a bank can it sell credits to private and it is up to your public Agency of how you set up your bank and if your funding allows it. I think most of them are probably no, but it is up to whatever your laws and your county ordinance tell you that you can do.

We are going to answer all the questions online and they will be available on the community of practice website so I think we should go ahead and wrap it up and unless there's any more phone questions.

No questions at this time.

Okay, we will stay on time and wrap it up. Thank you all for coming. Just a brief summary, Tara Fisher gave a great summary from the city of Chesapeake of how they actually do a lot of their purchasing credits at banks whenever it is possible and how it saves the city time and money versus doing their own permittee mitigation. Loren Clark spoke about Placer County and the benefits of banks in Placer County and how they do conservation at a larger scale. He also spoke about their in-lieu fee programs that they utilize. Then Brad Livingston from Oregon Department of Transportation spoke great about how ODOT set up some of the mitigation conservation banks and how they use banks in areas where they don't have banks set up. The question of the day which was presented was mitigation banking and in-lieu fees, can they really save you time and money? My earlier example was using the toll lane versus sitting in traffic and again, I think all 3 presenters gave a good example of how banks and in-lieu fees can save you a lot of time and money by just paying the fee and bypassing all the time it would take to do your own permittee mitigation because that involves identifying the site and making sure that you identified the proper plants and the soils and hydrology on the mitigation sites and getting approved through the agencies and we all know how hard it is to get permits in the first place so trying to get the mitigation approved is another fun little obstacle you have to pass. Buying

credits at a bank or in-lieu fee program, you bypass all that and the other big thing is the 2008 regulation from the Corps of Engineers and EPA that says you need to have long term management on all permittee mitigation sites so no matter how big your site is you need to have some sort of a long-term management plan but it. Mitigation banks have long-term management plans with it so that when the price they give you includes long-term management so if you calculate out how much it cost you to do you're permittee mitigation it will probably come out to be more than just buying credits at a bank or in-lieu fee program. With that, I want to thank everybody for coming and thank you very much.

Thank you.

[Event concluded]