

Transcript for California Artificial Reef Program Plan
Pre-Project Open Listening Session asynchronous recording

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Hello. My name is Cyndi Dawson, and I'm a senior environmental scientist for the California Department of Fish and Wildlife Marine Region Habitat Conservation Program. This is an asynchronous recording of the information presented at open listening sessions for the California Artificial Reef Program plan that were held in February and March of 2025.

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Today I'm going to cover some basics about artificial reefs, including some important definitions. As well as history of the department's involvement in artificial reefs. And then some specifics on the California artificial reef program plan, including the timeline and some general information about the content of the plan.

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We'll also go over some basics about what we know about California artificial reefs in California. So to ground us all in the same spot, we need to start with a definition of artificial reef. There are many definitions out there, but in California, we have adopted Fish and game code 6421 that specifically defines some key elements of an artificial reef.

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And I pulled some of those key elements here on the slide, and we're just going to go one by one and read right off the slide, since this is a foundational piece of what we will building on for the California Artificial reef plan. So, an artificial reef is defined in California as something that is intentionally placed by humans in the marine environment.

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The materials can be man-made or natural objects. The materials need to duplicate conditions on natural reefs and rough bottoms. The artificial reef needs to induce the production of fishes and invertebrates and stimulate the growth of kelp or other midwater plant life.

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And the artificial reef needs to create natural habitat. Now that we know what an artificial reef is and have a shared understanding of the definition, let's look back into the past and to the Department of Fish and Wildlife's involvement with artificial reefs, which extends way back into the 50s.

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In the late 1950s, Department of Fish and Wildlife scientists began experimenting with building artificial reefs. In those early days, they primarily used materials of convenience. You can see in the lower left of the slide some clean car bodies going into.

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The marine environment in Southern California. This experimentation extended and building extended through the 1950s, 60s and 70s. And during that time, there was some important learning that happened, including learning pretty quickly that certain materials don't produce high quality habitat, especially materials that degrade quickly, like wood or metal, or are toxic, like car tires.

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So as that learning was progressing, that takes us up into the 80s, which. Has some. Action that were taken at both the federal and the state level. Based on increasing interest. To use artificial reefs as a tool to restore sport fish populations.

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So in 1984, the federal legislature passed the National Fisheries Enhancement act, and an important part of that act directed the national oceanic and Atmospheric Administration to create a National Artificial Reef Plan to help guide states across the country in building artificial reefs in their state waters.

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This spurred action across the country, and many states began adopting. Artificial reef state plans, and it spurred action at the California state Legislature, which passed the California Fisheries Restoration act in 1985.

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And then that is also when the California Artificial Reef Program was created. So, this program was created to. Use artificial tools, artificial reefs as a tool to. Restore and bolster sport fish populations.

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The legislation also designated the department as the administrator for the California Artificial Reef Program. So, there was a one-time infusion of funds when that legislation passed in 1985. And with those funds, the department continued to expand and build throughout the 80s, bringing us up into the 90s.

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When the department published the. State plan, and you can see that plan is in quotation marks in the slide because it was less of a plan and more of an aggregation of the findings of the building that the Department had done up to those states.

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So there was important information in the document. It talked about the things that the Department had learned about building and design, had some information about materials, but it was lacking some key elements that were required by both the National Artificial Reef Plan as well as the existing adopted Fish and Game Code that described the elements of the California Artificial Reef Program.

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Although this was a good jumping off point, it did not really fulfill all the things needed to have a programmatic guide and document. Document to help implement the California Artificial Reef Program plan. So. Reef building by the department really tapered off in the 90s, and by the late 90s, the department had.

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No funds and was not building any reefs. And Moving into the 2000s, we have seen increasing interest across stakeholder sectors about using artificial reefs for a variety of reasons. And this continued interest has led to this new effort to create a comprehensive plan that meets the standards, both the national standards as well as those in the Fish and Game Code, to create a programmatic plan guidance document.

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At the end of 2024. Last September, the Ocean Protection Council funded a partnership between the Ocean Protection Council, the California Sea Grant, and the California Department of Fish and Wildlife to build a carp plan.

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And that's what we're here to talk about today. So, moving on to what the California Artificial Reef Plan is. What we hope to achieve with the California Artificial Reef Plan is a shared understanding among agencies, regulators, tribes, and stakeholders of the best practices for building effective artificial reef projects.

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One of the ways that we are going to ensure that we provide. Relevant, useful and accessible guidance is by creating definitions and a shared understanding of terms related to the types of artificial reefs.

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So the CARP Plan is going to focus on three main types of reefs reefs that are created for species or biodiversity enhancement or restoration. This is a reminder that the CARP Plan is a programmatic guidance document.

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It is not constructability guidance, and it is not a siting plan. So, when we talk about the types of reef and we look at a reef for species, biodiversity enhancement or restoration, this could be for any variety of species or species groups like native oyster or kelp.

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And the carp plan will include information about some of the important high-level considerations that developers should be thinking about. To design an effective reef to meet those goals. The second type is to improve recreational opportunities like fishing or recreational diving.

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This was really the impetus for the original legislations that was passed at the federal and state level is to specifically improve fishing opportunities as well as. Recreational scuba diving opportunities.

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So, we want to discuss those key elements for those types of reef. And then the third type is becoming. The most popular reef we are getting requests on is a multi-benefit or multi-purpose reef. These are reefs that are trying to achieve multiple goals concurrently.

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Some of the projects that you might hear about are living shoreline projects that have goals for maybe shoreline protection as well as species enhancement or coastal resilience. These types of reefs are becoming very popular.

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It as projects that want to move forward. So having a shared understanding is particularly important with kind of this new emerging type of artificial reef. So that's going to be something that's included. As many of you know, many agencies are involved in permitting artificial reefs that you can see at the bottom there.

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And we believe that one of the great benefits of the CARP Plan itself is that it's going to be not only a crucial resource for developers of these projects, but it's also going to be a key resource among regulators.

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And having a shared understanding among regulators and project developers of terminology and information needs is going to really provide an opportunity for us to help make the existing permitting process more efficient.

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So, let's talk about the Carp Plan timeline itself. If we look at the left of the slide, you can see a green square there. That's where we are here in the winter of 2024 with the listening sessions. We had tribal listening sessions in January, and then we had two public listening sessions, one in February and one in March.

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These are pre project listening sessions to ensure that we get all of the information we need to begin constructing the carpet. In the spring of 2025, we're going to begin gathering technical experts that are going to be tackling these questions and definitions and terminology based on the best available science, and begin the writing process of the carp.

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We're going to come back out to the public and to tribes about a year from now, in the winter of 2025, to report out on content development and receive feedback and make any course corrections needed to make sure that we're continuing to develop a CARP that's relevant, useful, and accessible.

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And then that will take us to the spring of 2026, where an early draft of the California Artificial Reef Program plan will go out to tribes and moving into the summer of 2026, that will have the public release of the draft.

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And that public release of the draft will trigger two. Important elements of the review process. It will open up a public comment period where we'll receive comments from anyone who would like to share them.

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And secondly, it will trigger simultaneously a scientific peer review that will happen concurrently with the public. Public comment period. Once that comment period is over, We will give ourselves the fall of 2026 to respond and integrate all the feedback that we receive.

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And that will include creating an appendix in the document itself. Summarizing the comments received and how they were responded to, and that will lead to a final cart plan in the winter of 2026. So I wanted to.

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Wrap up today. With information about what we know about artificial reefs in California and around the world. In summary, when you look across the literature, We've gained a lot of information since the 50s about artificial reefs and the different components that make artificial reefs a success.

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And. When you look across all of the information available, there are variable results. But one thing that is consistently clear is there are some key elements that really are good predictors about how well an artificial reef performs.

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The materials that they're made out of, the design and the location of the artificial reef itself. And those should sound familiar because those are really some of the basic key elements that we're going to be focusing on in the California artificial reef program plan.

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So if we look on the slide here and we start on the left hand box, we have maybe one of the most studied reefs in the world, but certainly the most studied reef in California. And the Wheeler North Reef, located off San Clemente.

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And this was a mitigation reef constructed for the San Onofre Nuclear Generating Station. And the impacts to kelp and kelp forest fishes. So this reef has been studied exhaustively since 1999, and really, it provides us with an amazing wealth of knowledge that.

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For us to build on and integrate into the carp. If we're moving along the slide to the box on the middle left, we have many different types of reefs in many different stages. Some reefs that have been down for decades, and then some newer reefs like the Goleta Fish Reef Project in Goleta Bay off Santa Barbara.

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This is a small pilot project that is testing how artificial reefs may be used in relation to kelp for kelp restoration. And so this project is underway and again giving us learning that we want to include into the carpet.

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We also have quite a few examples in our bays and estuaries of these multi-purpose reefs. The giant marsh. Project in San Francisco Bay, located off Hayward, has multiple goals. So it has shoreline protection goals, it had goals around eelgrass and native oysters.

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And so this is a great example of these multi-purpose reefs which we're seeing more and more commonly, especially in our bays and estuaries. And then all the way on the right-hand side of the slide there we have the Yukon, which was a cleaned ship that was sunk to increase.

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Recreational diving opportunities. So this is just a few examples of the reefs we have in California. Which put us in a really good position to take learning not just in artificial reefs in general, but how they perform in California waters and integrate and synthesize that information to.

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Produce the California Artificial Reef Program plan. In summary, just generally for artificial reefs, we know under certain conditions they can provide increases in local biomass for species found on natural reefs, like kelp, finfish and invertebrates.

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So this learning is going to be invaluable in ensuring that we create a carp that is going to have the best science available and going to be able to be useful for both project developers and regulators. And finally, I want to.

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End today with just a brief summary of kind of the high level. Information that we know is going to be included in the California Artificial Reef program plan. These elements ensure that we align with the national Artificial Reef Plan as well as the requirements in the Fish and Game code for the California Artificial Reef Program.

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So we know we need to have a brief history of the artificial reefs in California, summarize the learning. From that. Those reefs as well as the reefs globally. We want to be able to create some general criteria and guidelines for the design, the materials and locations, which we know are very predictive of the success.

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Of artificial reefs. Siting and connectivity how well these reefs can receive recruitment of. Species, as well as push species out into other habitats, is a really important element of success.

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Habitat conversion is also an important element that we know is of interest. Based on previous scoping. For the most part, artificial reefs convert soft sediment to artificial hard substrate, and that conversion from soft sediment to hard substrate.

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Is an emerging area of interest related to siting artificial reefs. And that's something that we will be covering in the plan. And then we want to make sure that again we create this typology of the types of artificial reefs and some of the high-level important things developers should be thinking about when they're developing so reefs for species restoration and enhancement reefs relate focus on recreational opportunities and these more and more common multi benefit projects or multipurpose projects.

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We'll look at the benefits and risks of artificial reefs and then also talk about some of the monitoring requirements that we'll need. So, if you would like additional information related to artificial reefs in California, you can visit our website or.

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Contact the artificialreefs@wildlife.ca.gov or the phone number you see on the screen. Thank you for listening.