Media Release

State Water Board Addresses Environmental Concerns In New Desalination Facility Standards

For Immediate Release
May 6, 2015

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SACRAMENTO -- The State Water Resources Control Board today approved an amendment to the state's Water Quality Control Plan for the Ocean Waters of California (Ocean Plan) to address effects associated with the construction and operation of seawater desalination facilities.

"Desalination is one of several tools communities can use in appropriate circumstances to gain greater water security," said State Water Board Chair Felicia Marcus. "This amendment will provide a consistent framework for communities and industry as they consider desalination, while protecting the coastal marine environment."

The amendment sets criteria for the use of ocean water as a supplement to traditional water supplies while protecting marine life and water quality. The desalination amendment will provide direction for regional water boards when permitting desalination facilities by providing a statewide, uniform and consistent process. The amendment also provides specific implementation, monitoring, and reporting requirements.

Several relatively small desalination plants already exist in California, and several larger ones have been proposed along the coast, including one in Carlsbad that is nearing completion.

While desalination plants offer potential benefits for the state, the seawater intakes have the potential to harm marine life. For example, screened ocean water intakes can trap fish on the intake screens and allow much smaller marine life like larvae and plankton to be drawn into the plant. Marine life does not survive passage through desalination plants that use traditional technology. Subsurface intakes can draw water through pipes that are installed underground or under the seafloor and do not trap marine life, but these intakes may not be feasible for all projects.

The desalination process, which involves forcing seawater through membranes that remove salt and other contaminants, produces residual brine that is much saltier than ocean water. Discharging that brine back into the ocean can result in toxic effects to bottom-dwelling marine life as the dense brine settles on the ocean floor. It can also cause hypoxia, which is oxygen

deficiency in the ocean floor environment. These impacts can be prevented by diluting brine with municipal wastewater prior to discharging into the ocean or disposing brine through diffusers that rapidly mix and dilute brine.

To address these issues for coastal desalination facilities in California, this amendment was developed through a multi-year process that included commissioning experts in the field to study the best methods to minimize and mitigate the impacts of seawater intakes and effects of brine discharges. The amendment underwent an external scientific peer review to evaluate the validity of the scientific conclusions in the policy.

A number of public workshops were held to gather stakeholder feedback. In addition to the stakeholder outreach, the State Water Board held a public hearing and two public comment periods during which stakeholders were able to provide additional feedback on the amendment. Based on this feedback, the amendment was designed to provide flexibility for site-specific considerations and allow for future innovations that provide protection equivalent to current technologies.

The amendment requires new or expanded seawater desalination plants to use the best available site, design, technology, and mitigation measures feasible to minimize intake and mortality of all forms of marine life. Based on the best available science, the amendments identify preferred technologies; however, alternative intake and disposal methods can be used if demonstrated to be as protective of marine life as the preferred technologies. Additionally, mitigation measures are required in order to address damage to marine life that occurs after the best available site, design, and technology feasible are used.

A fact sheet on the draft amendment is located here.

The draft amendment language is located here.

To learn more about the draft amendment and desalination issues, visit the State Water Board's website here.

To learn more about the state's drought response, visit Drought.CA.Gov.

Every Californian should take steps to conserve water. Find out how at SaveOurWater.com.

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