June 27, 2013

Mr. Mark Nechodom, Director
California Department of Conservation
801 K Street, MS 24-01
Sacramento, CA 95814

Mr. Tim Kustic, Supervisor
Division of Oil, Gas, and Geothermal Resources (“DOGGR”)
California Department of Conservation
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Via electronic mail: comments@conservation.ca.gov

Re: Comments on December 17, 2012 Discussion Draft of Proposed Hydraulic Fracturing Regulations

Dear Director Nechodom and Supervisor Kustic:

Thank you for the opportunity to provide comments on the California Department of Conservation’s (“Department of Conservation” or the “Department”) discussion draft regulations for hydraulic fracturing (“fracking”) operations in California (“Discussion Draft”). These comments are submitted on behalf of Los Angeles Waterkeeper (“Waterkeeper”)1 and our more than 3,000 members and supporters who have a vital interest in preventing fracking from continuously endangering our air, water, climate, and public health. To guarantee public health and natural resources are not compromised, we urge the Department to impose a fracking moratorium during which a thorough study of fracking impacts on natural resources and public health in California should be conducted. In the absence of a moratorium, we believe the Discussion Draft must be substantially revised as set forth in our recommendations below to ensure adequate protection of California’s residents and environment.2

Nationwide, fracking has developed an extensive record of causing water contamination, air pollution, earthquakes, and property damage.3 The well-documented negative impacts of fracking in other parts of the country indicate the real danger of similar environmental damage occurring in California and serve as a warning sign that should not be ignored by the Department of Conservation. While we agree that the direct impacts of fracking in California must be further

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1 Founded in 1993 as the Santa Monica Baykeeper, Waterkeeper’s mission is to ensure water quality protections in waterways throughout L.A. County through enforcement, fieldwork, and community action.
2 On all issues not covered by our letter, Waterkeeper supports the recommendations provided by a coalition of environmental organizations, including the Baldwin Hills Oil Watch, Clean Water Action, the Natural Resources Defense Council and the Sierra Club in a February 22, 2013 letter to DOGGR.
studied, the lack of information cannot support the oil and gas industry’s claims that fracking is safe because there has been no reported environmental damage attributable to fracking in California. As a result, we strongly disapprove of plans to significantly expand fracking in California\(^4\) without the necessary information to evaluate its impacts.

To address and adequately evaluate all the known and unknown environmental and public health impacts of fracking in California, we believe a fracking moratorium is necessary while the Department of Conservation develops regulations to allow for further study and evaluation of the impacts of fracking on natural resources and public health. Pursuant to Section 3106 of the California Public Resources Code, the Department has the appropriate authority to prohibit fracking because the main responsibility of the Department is to “prevent, as far as possible, damage to life, health, property, and natural resources… and damage to underground and surface waters suitable for irrigation or domestic purposes by the infiltration of, or the addition of, detrimental substances.” A moratorium on fracking would ensure the Department complies with its legal duties to provide the maximum protection to our citizens and the environment while regulations are developed and adopted over months or years-long period. For this reason, we urge the Department of Conservation and the California legislature to impose a moratorium on any new and existing fracking operations pending: 1) an independent investigation into the potential impacts of fracking in California, and 2) revision and adoption of regulations sufficiently protective of our environment, and the public health and safety of our citizens.

While Waterkeeper strongly supports a moratorium on all fracking activities in California until adequate studies to assess impacts have been conducted, in lieu of a moratorium, we find it necessary to engage in the Department’s draft fracking regulations process to support the adoption of rules that protect the health of Californians and our natural resources. After reviewing carefully the Discussion Draft, we believe the draft falls significantly short from achieving these two goals and must be substantially revised and improved.

Our key recommendations on the Discussion Draft and any future fracking regulations are:

- Fracking regulations must, at a minimum, comply with the requirements of the Underground Injection Program pursuant to the Federal Safe Drinking Water Act, and must not attempt to exempt all fracking operations (including fracking using diesel fuels) from regulation under California’s Underground Injection Control (“UIC”) Program.
- Fracking regulations must address the disposal of fracking wastewater via underground injection wells, as this type of disposal method poses significant risks of ground and surface water contamination.

\(^4\) Occidental Corporation (Oxy), in a presentation to shareholders in 2010, stated that “in 10 years, California Shale could become Oxy’s largest business unit.” In Venoco Inc.’s 2011 report to shareholders, the company stated that it continues to expand its onshore Monterey acreage lease holdings across three basins: Santa Maria, Salinas Valley, and San Joaquin.
• Fracking regulations must require operators to disclose the sources and volumes of water used in fracking, as well as the disposition, volume, and composition of wastewater associated with fracking operations.
• Fracking regulations should contain provisions that encourage the recycling/reuse of fracking flowback.
• Fracking regulations must require the collection of baseline water quality data before commencement of a fracking operation; groundwater testing must be conducted during and after completion of the fracking operation.
• Operators should be required to notify the Department of Conservation and other applicable agencies and the public at least 60 business days prior to commencement of a fracking operation and all interested parties must be provided with opportunity to comment on proposed fracking operations and any permits/approvals. Notification to residents in the vicinity of the fracking operation should be provided directly.
• In the event of an unauthorized release of fracking fluids, the regulations must require operators to provide immediate direct notification to the Department of Conservation and the public.
• Fracking regulations must require an affirmative review/approval process before allowing any fracking operation to commence.
• The regulations should also require public disclosure of chemicals to be used during the fracking process before the commencement of a fracking operation; this information should be included in an operator’s Form HF1.

Each of these points is discussed in detail below.

Analysis/Recommendations on the Discussion Draft Regulations

This portion of our letter offers Waterkeeper’s analysis of the major deficiencies in the Discussion Draft regulations, followed by our recommendations to remedy these shortcomings.

I. Fracking Operations Must Comply with the Requirements of the UIC Program Pursuant to the SDWA

Under the SDWA, and independently under California’s UIC Program, all injection projects must obtain a permit prior to injection that falls under the UIC program requirements. Fracking, which involves the high-pressure and subsurface injection of large amounts of water and potentially harmful substances, clearly falls within the State’s UIC Program, which covers “any subsurface injection or disposal project.” Pursuant to §1781 of the Discussion Draft, however, well stimulation operations, including hydraulic fracturing, are defined as “not underground injection or disposal projects and are not subject to Sections 1724.6 through 1724.10. By defining fracking as a type of “well stimulation operation” instead of as an “underground injection” project, the Discussion Draft effectively exempts all fracking operations, including those using diesel fuels, from California’s UIC Program.

5 40 C.F.R. § 144.11; 14 C.C.R. § 1724.6.
The federal Safe Drinking Water Act (“SDWA”) requires the regulation of underground injection of fluids so as to prevent such underground injection programs from endangering drinking water sources.\(^7\) In 2005, Congress amended the SDWA, through the Energy Policy Act of 2005 (more commonly referred to as the “Halliburton Loophole”) to exempt fracking from SDWA regulation, unless the operation uses diesel fuels, from the reach of the federal UIC program.\(^8\) At a minimum, however, the SDWA requires the regulation of fracking operations using diesel as an underground injection activity. By defining all fracking operations, even those using diesel fuel, as well stimulation rather than as an underground injection project, it appears that the Discussion Draft does not provide even the minimum requirements of the SDWA.

To comply with both the federal SDWA and the State UIC Program and to protect groundwater resources, the Department of Conservation should strike §1781 of the Discussion Draft in its entirety and replace it with a provision that employs the current UIC program as the regulatory baseline and even expand upon it with additional protections. After the adoption of the Energy Policy Act of 2005, while fracking operations, except those using diesel fuels, may be excluded from the UIC program, this exclusion is not required by the Halliburton Loophole. A state’s regulatory program must meet the minimum requirements of the SDWA, but may be stricter than the federal regulations.\(^9\) In other words, there is nothing in the federal statute that compels California to exclude fracking that uses non-diesel substances from the UIC program. Hence, the Department has the legal authority to use the current UIC program as the baseline regulatory framework for its fracking regulations. Moreover, to address fracking’s inherently dangerous risks, the Department must, through its fracking regulations, bring all types of fracking operations, not just ones that use diesel fuels, within the control of California’s UIC program.

II. The Department Must Strictly Regulate the Disposal of Fracking Wastewater Via Underground Injection Wells as This Disposal Method Poses Significant Risks of Ground and Surface water Contamination.

There are three common methods of disposal of “produced water” or flowback from fracking operations. Flowback can be disposed of: 1) through industrial wastewater treatment facilities, 2) via injection into a subsurface well, or 3) by direct discharge to surface waters. The methods of disposal via industrial wastewater treatment plants and via direct discharge are governed by the Clean Water Act (CWA), and thus are under the jurisdiction of the applicable regional water quality control board.\(^10\)

DOGGR is the responsible agency to regulate flowback disposal via underground injection wells in California.\(^11\) As provided in the SDWA, states may enact their own standards for disposal of flowback via underground injection wells.\(^12\) Thus, DOGGR and the Department

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\(^7\) 42 U.S.C. § 300h.

\(^8\) California did not amend its own independent UIC program to incorporate the “Halliburton loophole.”

\(^9\) 40 C.F.R. § 145.11.

\(^10\) Although these activities are not directly within its jurisdiction, the Department should nevertheless indicate in its regulations the appropriate governmental agency and applicable statute that govern the disposal of fracking wastewater via treatment plants.

\(^11\) 40 C.F.R. § 147.250

\(^12\) 42 U.S.C. § 300h-4.
of Conservation can and should issue rules to strictly regulate the disposal of fracking flowback via groundwater injection wells.

In fact, several states have adopted their own UIC programs, and some administer programs jointly with the EPA. Colorado, for example, regulates fracking flowback through the Colorado Oil and Gas Conservation Commission (“COGCC”).\textsuperscript{13} The COGCC regulations provide for the disposal of flowback via Class II injection wells. Such wells must be permitted by the COGCC, which requires the operator to provide details on the proposed injection well including: 1) a description of the formation into which flowback will be injected (including the depth); 2) any potential water sources that may be affected by the injection, and any other oil or gas wells surrounding the proposed injection site; 3) a resistivity log of the formation; 4) a casing and cement plan for the well; and 5) estimated amount of water to be injected in the well daily.\textsuperscript{14}

Similar to COGCC’s regulations, California’s regulations should also include provisions for governing the disposal of flowback via underground injection wells. In light of the uncertainty in fracking’s impacts on our communities, more, rather than less, regulatory oversight is urgently needed. For this reason, we urge DOGGR to impose more than just the minimally required safeguards in order to adequately address fracking’s inherent risks.

\textbf{III. Operators Must Disclose the Sources and Volumes of Water Used in Fracking, As Well As the Disposition, Volume, and Composition of Wastewater Associated with Fracking Operations.}

Fracking operators should be required to disclose the total amount and source of water to be used in the proposed fracking operation so that the Department of Conservation and other responsible agencies can determine whether or not the withdrawal will have a negative impact on existing municipal and irrigation water needs. Large volumes of water are required for fracking operations. Fracking poses a serious threat to California’s water supply because it is an extremely water intensive practice, using up to 5 million gallons to frack a single well, enough to supply water to 100 households for a whole year. Based on a conservative estimate that about 700 wells are fracked every year (as was the case in 2011) at 3 million gallons per well, the fracking industry will use 210 million gallons of water annually.\textsuperscript{15} In a state that is home to 35 million people and the largest agricultural industry in the country, there is simply not enough water to accommodate such high levels of water usage for oil and gas drilling. Fracking has an especially high impact on water resources because most contaminated wastewater from fracking is effectively removed from the water cycle. Permanent loss of water from fresh water sources not only has an adverse impact on water quality and availability, but also adversely affects aquatic species and their habitat.\textsuperscript{16}

\textsuperscript{13} Operators must ensure that waste from fracking operations, including flowback, is treated, recycled, or disposed of to prevent any impact to the environment, and to comply with surface and groundwater standards under federal and Colorado laws. See 2 Colo. Code Regs. § 404-1-907(a)-(c).

\textsuperscript{14} 2 Colo. Code Regs. § 404-1-325(c)-(d).


\textsuperscript{16} Id at 7.
The Discussion Draft does not require operators to disclose the amount of water to be used in the fracking operation, the source of the water, method of removal, and process by which the resulting wastewater will be safely disposed. The regulations should be revised to require operators to report this information to the Department before commencement of a fracking operation.

IV. The Regulations Must Encourage the Recycling/Reuse of Fracking Fluids and Flowback.

While we strongly support a moratorium on fracking until studies to assess its environmental and public health effects have been conducted, we believe that any future fracking regulations must incentivize conservation and recycling of water used in oil and gas extraction. In fact, states like Pennsylvania and Texas have started implementing regulations to encourage the recycling and reuse of fracking fluids.17

The Discussion Draft lacks any provisions governing the recycling and reuse of fracking fluids. The process of recycling fracking fluids, however, just like any other injection activity, has the potential to cause ground and surface water contamination.18 Consequently, it is imperative that the Department of Conservation impose adequate safeguards for the recycling/reuse of fracking fluids so as to prevent any water quality harm from such procedures. The requirements for the recycling/reuse of fracking fluids should be no less stringent than the standards governing the procedures for a new fracking operation since the same methods are presumably employed—the only difference being the reuse of fracking fluids.

If the Department decides to proceed with the regulations rather than impose a moratorium, which Waterkeeper believes to be the safest and most protective approach, we strongly urge the Department to include provisions encouraging and regulating the recycling and reuse of fracking flowback to ensure protection of water resources and to reduce the strain on California’s water resources.

V. The Regulations Must Require the Collection of Baseline Water Quality Data before Commencement As Well As During and After Completion of the Fracking Operation.

The Discussion Draft has no requirements for operators to collect and disclose baseline water quality data prior to fracking operations. Moreover, there are no requirements for operators to monitor and collect water quality data during the fracking process, as well as after completion of the operations. This is a major deficiency in the Discussion Draft regulations, because any effective regulatory system must include collection, analysis, and disclosure of baseline data in order to ensure the ability to track and objectively evaluate the impact of the regulated activity. Groundwater and surface water testing before the commencement of a fracking operation is necessary to establish a baseline against which changes in water level and quality can be

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18 *Fracking Our Future* at 15.
compared. Without such a requirement, it would be difficult to show that the fracking operation was the cause of the contamination, rather than some other source. Furthermore, such data is also necessary to effectively verify that no harm has occurred from fracking.

For the above reasons, Waterkeeper recommends that DOGGR’s regulations require operators to perform baseline water quality testing for all groundwater basins, drinking wells and surface waters in the vicinity of a fracking operation, which may be impacted by the procedure. Where there is currently existing water quality data, operators should include the current data in their Form HF1 to DOGGR. No fracking operation should be approved or formally permitted in the absence of adequate baseline data.

In addition to collecting baseline data, monitoring of water quality in the vicinity during, and periodically after fracking should be required in order to ensure that problems will be detected as soon as possible and remedied before the damage becomes irreversible. Water quality monitoring should be conducted and data should be submitted to DOGGR on a quarterly basis after the completion of a fracking operation for a period of 5 years.

VI. Operators Should Notify the Department of Conservation, Other Responsible Agencies and the Public At Least 60 Days Prior to Commencement of a Fracking Operation

The Discussion Draft’s notice provisions are inadequate and must be significantly revised to allow for meaningful evaluation of the proposed fracking operation and its impact and give the interested public and regulatory agencies an opportunity to comment. Under the Discussion Draft, operators must notify DOGGR at least 10 days prior to the actual fracking operation. DOGGR is then required to post that information online within seven days, giving the public potentially only three-day notice of a proposed fracking operation.19 However, this information would only be available to the public only at a specific industry website and in all likelihood will reach its intended recipient only if an interested community member has access to the website and already anticipates fracking in the area. Assuming residents are actively on the lookout for information on fracking operations that may commence near their homes, there is no mechanism allowing the public opportunity to express its concerns about proposed fracking to DOGGR or other regulators.

The lack of adequate notice and comment period is particularly baffling in light of the fact that, because of the preparation and resources involved in fracking, the fracking operator has adequate time to engage the regulator and the public in the process. Furthermore, and perhaps more importantly, when compared against the real environmental and public health dangers from fracking and the substantial disruption to nearby residents from the fracking operation (fracking one well generally requires a five-acre construction site; the clearing of the site; the hauling of cement; construction of miles of steel pipe, drill rigs, and fencing; installation of powerful generators and night lights; and, when the well is complete and ready for fracking, the transportation of approximately five million gallons of water and chemicals to the site of the well by trucks)20 any concern with slowing down and/or complicating the fracking approval

19 Pre-Rulemaking Discussion Draft § 1783(a)-(d).
20 Fracking notices going unnoticed, Cincinnati.com (May 20, 2012).
process is significantly outweighed by the potentially significant impact to the public and the environment.

The shortcomings of the Discussion Draft provisions for advanced fracking notification were highlighted by the State Water Resources Control Board (“SWRCB”) February 8, 2013 letter to Senators Fran Pavley and Michael Rubio, in which SWRCB Executive Director Thomas Howard stated, “I would note that the draft regulation’s pre-notification deadline of ten days prior to fracturing provides too little time for the Regional Board to review the proposed fracturing operation and the potential threat to groundwater quality.”

To address this deficiency, Waterkeeper recommends that the operator notify DOGGR, other interested regulatory agencies and the public at least 60 days prior to commencement of fracking operations. The fracking operator should provide direct written pre-fracking notification to the public in the immediate vicinity of the proposed fracking. Furthermore, if a fracking operation proposes to employ horizontal drilling, information regarding the horizontal drilling project should be made available to any and all potentially-affected individual(s) who reside/work above the path of the horizontal wellbore. In addition, Waterkeeper recommends that a written notice should be directly mailed to any water purveyor who uses the groundwater that will be drilled through in the fracking procedure.

Finally, the regulations should prohibit DOGGR from granting any fracking approvals until the Division has evaluated all comments received, responded to the submitted concerns, posted its responses on DOGGR’s website, and allowed at least 14 business days for interested agencies, organizations, and other entities to evaluate DOGGR’s responses to the comments received.

**VII. The Regulations Must Require Operators to Provide Immediate Direct Notification to the Department and the Public in the Event of an Unauthorized Release of Fracking Fluids.**

The Discussion Draft gives a fracking operator up to five days to report an unauthorized release of fracturing fluids. Five days is unjustifiably long to notify the public that chemical-laden fracking fluids have either been spilled onto land and/or into surface or drinking water.

Waterkeeper recommends that, just like the notification required for marine oil spills or sewage spills, the regulations provide for immediate notification of unauthorized release. A written report should be submitted to the Department within 24 hours of the occurrence, and the Department should be required to directly notify the public about the spill within 24 hours of receiving the information from the operator. To encourage timely reporting of dangerous spills and releases, significant fines should be imposed for the failure to timely report unauthorized releases. Waterkeeper also recommends that the Department should investigate all unauthorized releases as soon as possible, and no later than 48 hours after the initial notification of the spill. The Department should also be required to verify and approve the steps taken by the operator to stop, control and respond to the release.

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21 State Water Resources Control Board responses to California State Senate Members Pavley and Rubio (February 18, 2013).
With respect to the report\(^{22}\) that an operator needs to submit to Department after an unauthorized release, in addition to the five items listed in the Discussion Draft, the operator should also be required to include the effects of the spill – i.e. migration pathway of the spilled fluids, which bodies of surface or groundwater received or likely received the spilled fluids, etc. Such information is necessary to ensure that cleanup is both appropriately targeted and conducted in a timely fashion so as to mitigate the effects of the surface spill.

**VIII. The Regulations Must Require an Affirmative Review/Approval Process Before Allowing any Fracking Operation to Commence.**

The Discussion Draft lacks any affirmative review or approval process for proposed fracking operations. At the February 19\(^{th}\) Public Workshop, the Department of Conservation staff confirmed that there is no approval process *per se*, but an operator’s Form HFI may be deemed “incomplete” if, for example, certain well integrity requirements were not satisfied or other required data is lacking. However, Department representatives were not at all clear regarding the consequences of filing an incomplete Form HFI. Staff did go on to say that if an operator continues with the fracking operations after its application is deemed incomplete, the operator would be subject to civil penalties. Unfortunately, it is not clear what the regulatory basis for imposing the penalties is, what would the penalties be and who will impose them.

Of most concern, as currently written, the Discussion Draft provides that if the Department fails to respond to the notice of intent within 10 days, the operator’s application is automatically deemed approved. As a result, so long as a fracking operator submits a facially “complete” application, it appears that neither the Department of Conservation nor the public has any recourse and the fracking may proceed in the absence of any review of the proposed operation.

Waterkeeper urges the Department to condition the approval of any fracking operation upon a formal finding by the Department that no harm to public health and safety, the environment, and natural resources will be caused by the proposed fracking project. The regulations must contain clear provisions on the Department’s duty to review, evaluate, and approve all testing results and analyses submitted by the operator before allowing the proposed fracking to proceed. If the Department cannot make this determination within the specified timeframe (Waterkeeper recommends 60 days to allow the public and other agencies with the opportunity to review and comment), the proposed operation should be placed on hold until the Department is provided all the necessary information to make an informed decision. The Department of Conservation cannot fulfill its mandate to “prevent, as far as possible, damage to life, health, property and the environment” by relying on industry self-regulation but must instead thoroughly review and approve proposed fracking operations after it has considered all the information submitted by the operator, received comments by interested agencies and the public and has concluded, based on all the evidence, that the proposed fracking operation will not harm public health and the environment.

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\(^{22}\) See § 1786(6) of the Discussion Draft.
IX. Public Disclosure of Chemicals to be Used During the Fracking Process Must be Made Before the Commencement of a Fracking Operation and Included in an Operator’s Form HF1.

The Discussion Draft inexplicably requires public disclosure of all chemicals used in the fracking operation to be made within 60 days after the cessation of hydraulic fracturing operations. Disclosure after the completion of a fracking job is both unjustifiable and unacceptable and will fail to adequately protect public health and natural resources. It is well-known and documented that fracking fluids may contain extremely dangerous chemicals, including radioactive constituents. Operators should therefore be required to disclose chemical information prior to the commencement of a fracking operation. Such information should be included in an operator’s Form HF1 and the Department must take this information into consideration when deciding whether or not a fracking operation may proceed. Full chemical disclosure must include, at a minimum, the name of each chemical compound and its chemical abstract service number, trade name, volume and density or mass concentration, each chemical ingredient used and whether the chemical is a hazardous pollutant.

X. The Department Should Indicate in its Regulations the Agencies Responsible for Any Fracking-related Activities and Impacts That Are Outside of DOGGR’s Jurisdiction.

To ensure maximum environmental and public health protection, the regulations should list other agencies which may have jurisdiction over resources affected or potentially affected by fracking activities. This is prudent as it will alert companies engaged in fracking of the need to obtain other regulatory permits and approvals required to protect public health and the environment. It will also help provide clarity to the public regarding which state and local agencies have jurisdiction over the many adverse consequences of fracking.

Conclusion

Waterkeeper appreciates the opportunity to submit comments on the Discussion Draft. As stated throughout our comments, we strongly believe that all fracking operations in California should be prohibited until fracking’s impacts on our environment and public health are thoroughly studied and analyzed. Fracking regulations should be passed if and only the studies of fracking’s impacts show fracking can be conducted with no harm to California’s residents and natural resources. We urge the Department of Conservation to impose a moratorium on fracking

23 See § 1788(a) of the Discussion Draft.
25 Waterkeeper strongly objects to the trade secrets loophole contained in the Discussion Draft, which allows operators to avoid disclosing the use of dangerous fracking chemicals by asserting a trade secret claim. Permitting unknown chemicals to be injected under a claim of trade secrets is counter to the health of the workers, surrounding communities, and the environment. Trade secret protection, if permitted at all, must be sought prior to fracking and be submitted for review by DOGGR for a determination of the validity of such a claim. DOGGR must engage in an appropriate balancing analysis to ensure that public safety concerns are not outweighed by the need to protect trade secrets.
or, in the absence of a moratorium, to revise the Discussion Draft according to our recommendations. We look forward to hearing your responses to our recommendations and to working with the Department of Conservation on developing the kind of regulations on fracking that will ensure both humans and nature are not harmed by fracking. Please do not hesitate to contact us if you have any questions or would like to discuss these issues further.

Sincerely,

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Los Angeles Waterkeeper

Liz Crosson
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