EXHIBIT B

ASSOCIATE MEMBERS

United States Department of the Interior
Bureau of Land Management

United States Navy
Naval Air Weapons Station China Lake

APPENDIX 1-B

IWVGA BY-LAWS

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BYLAWS

of the

INDIAN WELLS VALLEY

GROUNDWATER AUTHORITY

May 18, 2017

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BYLAWS OF THE
INDIAN WELLS VALLEY GROUNDWATER AUTHORITY

PREAMBLE

These Bylaws are adopted pursuant to Section 8.05 of the Joint Exercise of Powers Agreement creating the Indian Wells Valley Groundwater Authority (the "Agreement").

ARTICLE 1. THE AUTHORITY

1.1 NAME OF THE AGENCY. The name of the Agency created by the Agreement shall be the Indian Wells Valley Groundwater Authority ("Authority").

1.2 SEAL. The seal of the Authority shall be in the form of a circle and shall bear the name of the Authority and the year 2016, which is the year of its organization.

1.3 PRINCIPAL OFFICE OF THE AUTHORITY. The principal office of the Authority shall be at the offices of the Indian Wells Valley Water District, located at 500 W. Ridgecrest Boulevard, Ridgecrest, California, 93555.

1.4 AUTHORITY POWERS. The powers of the Authority are established in accordance with Article VI of the Agreement and vested in the Authority's Board of Directors ("Board"). The Board reserves the right to delegate such powers as are appropriate and permissible by law.

ARTICLE 2. MEETINGS

2.1 OPEN MEETINGS. Meetings of the Board and any Authority committees, including those with telephonic participation, shall be held in accordance with the Ralph M. Brown Act (California Government Code sections 54950, et seq.). No action shall be taken by secret ballot at such meetings. Meetings of the Board and Authority committees shall be held within the geographical boundaries of the Basin, except as permitted by the Brown Act.

2.2 REGULAR MEETINGS. The regular meetings of the Authority shall be held at a location within the geographical boundaries of the Basin on a day and time, which the Authority's Board may from time-to-time designate. In the event a regular meeting would take place on a legal holiday, the meeting may be rescheduled to another date and time as determined by the Board.

2.3 SPECIAL MEETINGS. Special meetings of the Board shall be conducted pursuant to California Government Code section 54956, and they may be called by the Chairperson or by the concurrence of any two Primary Directors.

2.4 EMERGENCY MEETINGS. Emergency meetings of the Board shall be conducted pursuant to California Government Code section 54956.5, and they may be called by the Chairperson or by the concurrence of any two Primary Directors.

2.5 AGENDA. The General Manager, in consultation with IWVGA General Counsel and staff of the Members, shall prepare the draft agenda, which must be reviewed and approved by the General Counsel. In the event there is a disagreement between the General Manager and the General Counsel on any topic, the Board Chairperson will be consulted to provide the necessary direction. The Chairperson or his or her delegate shall then approve the draft agenda before its finalization and posting in accordance with the Ralph M. Brown Act.

2.6 QUORUM. A quorum of the Board shall consist of a majority of the Directors representing the then active General Members. In the absence of a quorum, no business may be transacted beyond the adjournment of a meeting by the remaining Directors. A Director shall be deemed present for the determination of a quorum if the Director is present at the meeting in person or if they participate in the meeting telephonically as provided for by the Ralph M. Brown Act.

2.7 OFFICIAL ACT. Except as otherwise provided by statute, the Authority shall adopt every official act by a vote of the Board in accordance with the applicable provisions of the Agreement.

2.8 VOTING. As set forth in the Agreement, the affirmative vote of a majority of the Board shall be required for the approval of any Board action. In addition, no action may be approved by the Board unless it receives the affirmative vote from no less than two of the then voting Directors representing the County of Kern, the City of Ridgecrest, and/or the Indian Wells Valley Water District.

Notwithstanding the foregoing, the Board may approve the Regular Monthly Receivables by a simple majority vote so long as the routine costs and bills making up the Regular Monthly Receivables have not been objected to by any Director. While a Director may voice an oral objection at the meeting, a Director's presence is not required and they may also file an objection in writing prior to the meeting. Likewise, any meeting of the Board may be adjourned by a simple majority vote of the then present Directors.

The voting on all matters of the Board and Committees, including minute orders, resolutions, and ordinances shall be reported on the minutes and accomplished in a manner that readily signifies the action taken and the vote or abstention on that action of each member present for the action.

2.9 RULES OF ORDER. All rules of order not otherwise provided for in these Bylaws shall be determined, to the extent practicable, in accordance with "Robert's Rules of Order;" provided, however, that no action shall be invalidated or its legality otherwise affected by the failure or omission to observe or follow "Robert's Rules of Order."

2.10 MINUTES. The Secretary shall prepare written minutes of the Board meetings, which shall be available for public inspection when approved by the Board. The record shall contain the votes and abstentions on each matter for which a vote is taken.

ARTICLE 3. OFFICERS

3.1 OFFICERS OF THE BOARD. Officers of the Authority's Board shall consist of a Chairperson and Vice-Chairperson. The Chairperson shall preside at all meetings of the Board, while the Vice-Chairperson shall perform the duties of the Chairperson in the absence or disability of the Chairperson. The Chairperson and Vice-Chairperson shall exercise and perform such other powers and duties as may be assigned by the Board.

3.2 APPOINTMENT OF OFFICERS OF THE BOARD. The Chairperson and Vice-Chairperson shall hold office for a term of one year commencing on January 1 of each and every calendar year. Beginning in 2017, the Chairperson and Vice-Chairperson shall rotate annually between the Board members representing the County of Kern, City of Ridgecrest, and the Indian Wells Valley Water District. The Board member representing the County of Kern shall be the first Chairperson followed in order by the City of Ridgecrest and then the Indian Wells Valley Water District. The Board member representing the City of Ridgecrest shall be the first Vice-Chairperson followed in order by the Indian Wells Valley Water District and then the County of Kern. Officers of the Board may be removed and replaced at any time, with or without cause by a vote of the Board. In the event that an Officer of the Board loses their position as a Primary Director, that Officer of the Board position shall become vacant and the Board shall elect a new individual to serve the remaining term.

3.3 GENERAL MANAGER. The General Manager shall have general supervision over the administration of Authority business and affairs, subject to the direction of the Board. The General Manager or designee may execute contracts, deeds, and other documents and instruments as authorized by the Board.

Until an General Manager is appointed, and except for the Authority's General Counsel and Treasurer functions, Authority administration and management will be conducted using a collaborative staffing model in which the professional and technical staff of the member agencies work together to provide staff leadership, management, and administration of the Authority.

3.4 BOARD SECRETARY. The Secretary shall be elected by and serve at the discretion of the Board. The Secretary shall keep the administrative records of the Authority, act as secretary at meetings of the Authority, recording all votes and keep a record of the proceedings of the Authority to be kept for such purpose, and perform all duties incident to the Secretary's office. The Secretary shall maintain a record of all official proceedings of the Board. The Secretary shall also establish and maintain a list of persons interested in receiving notices regarding plan preparation, meeting announcements, and availability of draft plans, maps, and other relevant documents pursuant to Water Code Section 10723.4.

3.5 GENERAL COUNSEL. The Authority's General Counsels shall be the attorneys appointed by the County of Kern, the City of Ridgecrest, and the Indian Wells Valley

Water District. The primary responsibility to act as the Authority's General Counsel during public meetings shall rotate annually and be in coordination with who is the then acting Chairperson. For example, when the Chairperson is Kern County's representative, Kern County's attorney will act as the Authority's General Counsel during public meetings, or as otherwise directed by the Board. General Counsel shall be appointed by the Board, and shall be directly responsible to the Board. The General Counsel shall give advice or written opinions as needed and/or directed by the Board, and shall prepare proposed resolutions, laws, rules, contracts, and other legal documents for the Authority when requested to do so by the Authority. The General Counsel shall attend to all lawsuits and other matters to which the Authority is a part or in which the Authority may be legally interested and do such other things pertaining to the General Counsel's office as the Authority may request. Authority Counsel will recommend appointment of Special Counsel for matters involving more specialized legal service as required. The Board will set the compensation of Special Counsel.

3.5.1 RETAINER AGREEMENTS. The Board of Directors shall execute a retainer agreement with the Authority's General Counsels which shall expressly provide that each attorney acting as General Counsel shall be afforded the full and complete opportunity to represent their General Member in any dispute or action regardless of any actual or perceived conflicts with the Authority or any of its other Members. Additionally, the General Counsel shall, when deemed appropriate or called upon, seek the advice and consultation of the legal counsels, and possibly staff, from Members of the Authority on legal issues facing the Authority; in such an instance, the communications shall be confidential and protected to the fullest extent possible in law and said communications shall not in any way preclude staff or legal counsels from fulfilling their duties and obligations to their Member, including representation in any dispute or action.

3.6 OFFICER COMPENSATION. Officers of the Authority which are not Directors shall receive compensation as designated by the Board in written contract. When, and only if, specifically called upon by the Board in advance, non-Director officers may receive reimbursement of their actual and necessary expense at the then current IRS reimbursement rate.

3.7 FISCAL AGENT AND TREASURER. The County of Kern shall serve as the Fiscal Agent and Treasurer for the Authority unless otherwise directed by a vote of the Board. The Fiscal Agent shall be depository for and shall have the responsibility for all money of the Authority from whatever source. All funds of the Authority shall be strictly and separately accounted for and regular reports shall be rendered of all receipts and disbursements during the Fiscal Year as designated by the Board. The books and records of the Authority shall be open to inspection by the General and Associate Members and the Treasurer shall provide strict accountability of said funds in accordance with Government Code sections 6505 and 6505.5 and all other applicable provisions of law, including any amendments thereto.

3.8 WATER RESOURCES MANAGER. The Authority shall hire a consultant or consultants with the appropriate technical background, expertise, and experience to prepare and implement a Groundwater Sustainably Plan ("GSP"). This position shall be named the Water Resources Manager and they shall be responsible for preparing and implementing the GSP as directed by the Board. An engineering, or other technical firm, may perform these duties, but, in the event that they are performed by a firm, an individual shall be appointed to serve as the primary project manager. In preparing the GSP, the Authority's Water Resources Manager will consult with the Policy Advisory Committee and the Technical Advisory Committee as directed by the Board. The Authority's Water Resources Manager shall also provide technical information and reports to the Board as needed and/or directed by the Board. Following the adoption of the GSP, the Authority's Water Resources Manager shall be responsible for all work needed to implement the terms of the GSP as directed by the Board, including, if so directed, the preparation of an annual report.

ARTICLE 4. DIRECTOR COMPENSATION AND EXPENSES

4.1 COMPENSATION. Currently, the Directors are not compensated for their service by the Authority. In the event that changes, the Board will set Director compensation pursuant to a written policy adopted by the Board and included herein.

4.2 EXPENSES. If previously approved by the Board, a Director shall receive actual, reasonable, and necessary reimbursement for travel, meals, lodging, registration, and similar expenses incurred on Authority business. The reimbursement rates for lodging shall not exceed the posted rates for a trade conference, but if lodging at the posted rates is not available, the reimbursement rate shall be comparable to the posted rates. For travel of 250 miles or less, Directors shall be reimbursed at the IRS mileage rate. For travel over 250 miles, Directors shall be reimbursed at a rate determined by the Board. As used herein, "transportation" includes travel to and from terminals. Automobile rental expenses shall be approved in advance. Reimbursement for meals, other than alcoholic beverages, shall be at the rate established by the IRS or actual reasonable cost not to exceed $90 per day. Directors may declare the amount of the meal under penalty of perjury in lieu of receipts if the amount is less than the IRS rate. Claims for expense reimbursement shall be submitted to the Board on forms provided by the Authority within 30-days after the expense has been incurred. The General Manager shall determine whether the claim satisfies the requirements of this section and if the claim is denied, the claimant may appeal to the Board.

ARTICLE 5. STANDING COMMITTEES

5.1 ESTABLISHMENT OF STANDING COMMITTEES. In accordance with Section 7.04 of the Agreement, the Board may from time to time establish standing committees for the purpose of making recommendations to the Board on the various activities of the Authority. The establishment of any standing committee and its general duties shall require a vote of the Board, and the activities of the standing committee shall be subject

to the provisions of the Ralph M. Brown Act (California Government Code sections 54950, et seq.). Standing committees shall exist for the term specified in the action creating the committee and, the Board may dissolve a committee at any time through a vote of the Board.

5.2 CONDUCT OF STANDING COMMITTEES. All standing committee meetings shall be noticed, held, and conducted in accordance with the provisions of the Ralph M. Brown Act (California Government Code sections 54950, et seq.). Except as set forth below, the Board shall appoint the respective committee chairs in consultation with the committee members and the Board may further establish rules of conduct for said standing committees. The Board shall, in consultation with the committee members, establish a time and provide a place for regular meetings of any standing committee. The Board Chairperson may call a special meeting of a standing committee as the need arises. The Standing Committee's chairperson, vice chairperson, or three members may make the request to the Board for calling a special meeting. Standing committee meeting minutes shall be recorded and upon approval shall be distributed to the Board. Unless determined by General Counsel that a legal conflict, a public records exemption, or other privilege exists, standing committee members shall have access to and may inspect the records of the Authority, including, but not limited to, the accounting books and records and minutes of the proceedings of the Board and other committees of the Board, at any reasonable time. A designated representative of the committee member may make any inspection under this Section and the right of inspection includes the right to copy.

A quorum of a committee shall be a majority of the appointed committee members that hold a vote. As provided in the Brown Act, no meeting of a standing committee shall occur without the attendance of a quorum of its committee members. The affirmative vote of the majority of the members present at a standing committee meeting is necessary for the passage of any motion. The voting on all matters of standing committees, including minute orders, resolutions, and ordinances shall be reported on the minutes and accomplished in a manner that readily signifies the action taken and the vote or abstention on that action of each member present for the action. All rules of order for a standing committee not otherwise provided for in these Bylaws shall be determined, to the extent practical, in accordance with "Robert's Rules of Order;" provided, however, that no action shall be invalidated or its legality otherwise affected by the failure or omission to observe or follow "Robert's Rules of Order." The Authority's General Counsel shall resolve all questions of compliance with "Robert's Rules of Order."

5.3 STANDING COMMITTEE MEMBERSHIP. Standing committee appointments and removal shall be made at the Board's discretion.

5.4 STANDING COMMITTEE DIRECTION. The Board shall assign tasks to its standing committees, the expected duration for completion of a particular task, and a summary of the resources, including staff or consultant support available to the standing committee in performing the task.

5.5 POLICY ADVISORY COMMITTEE. As authorized by California Water Code Section 10727.8, which provides that a "groundwater sustainability agency may appoint and consult with an advisory committee consisting of interested parties for the purposes of developing and implementing a groundwater sustainability plan," the Board hereby establishes a standing committee named the Policy Advisory Committee (PAC). The PAC is the primary advisory body to the Board on all policy-related matters of the Board that are appropriate for the PAC input. The Board shall provide tasks to the PAC and the PAC shall report directly to the Board. As set forth Section 5.9, the PAC shall be provided an opportunity to advise the Board on the development of the Indian Wells Valley Groundwater Sustainability Plan (GSP) including all components that, in the aggregate, comprise the GSP, including, but not limited to, substantive components required of a GSP under California Water Code Division 6, Part 2.74, Chapters 6 and 8, and under California Code of Regulations, Title 23, Division 2, Chapter 1.5, Subchapter 2 ("GSP Elements."), prior to the Board's approval of each GSP Element. Upon adoption of the GSP, the PAC shall continue to meet regularly as provided by the Board and, where legally appropriate, advise the Board concerning the policy matters pertaining to the implementation of the GSP. In the event that the GSP is subject to modification, such modifications shall be made in accordance with these Bylaws. The PAC shall not discuss or influence any enforcement aspects of GSP implementation, so as to avoid conflicts of interest and other legal limitations. Sections 5.3 through 5.13 shall be subject to annual review by the Board.

5.6 POLICY ADVISORY COMMITTEE MISSION AND OBJECTIVES. As required by California Water Code Section 10723.2, the Authority as a Groundwater Sustainability Agency must consider the interests of all beneficial uses and users of groundwater within the Basin. To assist the Authority with meeting this requirement, the objectives of the PAC are to: (1) provide all water users in the Basin with a meaningful voice and representation on policy matters of the Board associated with SGMA; (2) work collaboratively for the benefit of the Basin as a whole; (3) provide input and recommendations to the Board, in collaboration with the Water Resources Manager, and other committees of the Board, in support of actions that facilitate bringing the Basin into compliance with SGMA; and (4) work in good faith to achieve consensus and make unified recommendations to develop a GSP and for management actions to achieve groundwater sustainability in accordance with the requirements of SGMA.

5.7 POLICY ADVISORY COMMITTEE MEMBERSHIP. The Board shall appoint voting PAC members to the following constituent groups:

2 representatives from Large Agriculture
1 representative from Small Agriculture
2 representatives from Business Interests
2 representatives from Domestic Well Owners
2 representatives from residential customers of a public agency water supplier
1 representative from Eastern Kern County Resource Conservation District
1 representative from Wholesaler and Industrial User

At least one of the appointed voting PAC members shall, in addition to representing one of the above listed constituent groups, shall also represent Disadvantaged Communities as defined by California Public Resources Code Section 75005(g), by residing or conducting business within a Disadvantaged Community or serving water to a Disadvantaged Community.

An individual may qualify as a Domestic Well Owner representative if they own a well used for residential purposes only, if they are part of a well sharing agreement, or if they are a shareholder/member of a mutual water company.

Individuals seeking appointment to a voting position on the PAC must be a citizen of the United States that is at least 18 years of age and either a registered voter, landowner, authorized representative of a landowner, or a person that relies on groundwater from the in Indian Wells Valley Groundwater Basin. Individuals seeking membership to a voting position on the PAC must submit an application which will be reviewed and acted upon by the Board. However, since the Eastern Kern County Resource Conservation District is a public agency, its Board will be allowed to submit a request for the appointment of an individual from their agency.

The Board shall also provide non-voting membership on the PAC for the following:

1 representative from the Indian Wells Valley Water District
1 representative from the Department of the Navy
1 representative from the Bureau of Land Management

Additionally, while not considered official members of the PAC and not holding any voting rights on matters before the PAC, one representative from Kern County Planning and Natural Resources Department shall be appointed to provide land use expertise.

The public entities and Departments set forth above may request the appointment of a PAC member representative that is a member of their Board or organization.

Having already conducted an application process and upon the proper and thorough review of the applications submitted, the Board has chosen the initial PAC membership set forth in Authority Resolution _____. Said Resolution may be amended in the future as the need arises to reflect changes in PAC membership.

5.8 POLICY ADVISORY COMMITTEE CHAIRPERSON AND VICE-CHAIRPERSON, AND MEMBERSHIP TERMS. The PAC shall appoint a PAC Chairperson and PAC Vice-chairperson in consultation with the Board. The non-voting members of the PAC and the Eastern Kern County Resource Conservation District may change their PAC member representatives without Board approval. All other changes in PAC membership shall require Board approval. Changes in individual PAC members should generally coincide with the annual membership review process. In the event that a PAC member

needs to step down outside of this timeframe, the member should notify the PAC Chair (or, as warranted, the Vice-Chair) in writing of the need for change no less than two weeks prior to the next PAC meeting. If the member desires, they may provide a recommendation to the Board on replacement member to the PAC.

The initial term of PAC member representatives shall be until the GSP is completed and approved by DWR. Subsequent terms shall be two years, culminating at the end of a calendar year.

5.9 POLICY ADVISORY COMMITTEE ROLES AND RESPONSIBILITES. The PAC, in consultation with the Water Resources Manager, shall be tasked by the Board to develop non-binding proposals on policy matters pertaining to each GSP Element ("PAC Proposals"). The PAC shall strive for consensus in all of its decision-making, particularly when crafting PAC Proposals. If the PAC is unable to reach consensus, the range of opinions provided, including areas of agreement and disagreement, will be documented in meeting summaries ("PAC Meeting Summaries"). PAC Proposals and PAC Meeting Summaries shall be submitted to the Water Resources Manager for initial review and comment. After considering all comments provided by the Water Resources Manager, and incorporating such comments to the extent deemed appropriate by the PAC, the PAC shall submit final PAC Proposals and any final PAC Meeting Summaries to the Board for consideration. If the PAC deems it inappropriate to include any comments or concerns of the Water Resources Manager, the PAC will provide the Board with a detailed reasoning to support its determination.

The Board shall consider all PAC Proposals and PAC Meeting Summaries, as well as any technical information and reports provided by the Water Resources Manager that are requested by the Board, and after such consideration, the Board shall make a final approval of each GSP Element and direct the Water Resources Manager to prepare the GSP Element in accordance with the Board's approval.

5.10 PAC ATTENDANCE. PAC member representatives must regularly attend all meetings of the PAC. PAC member representatives who regularly miss PAC meetings may be removed by the action of the Board. PAC member representatives agree to: (1) arrive at each meeting fully prepared to discuss the issues on the agenda, where such preparation includes reviewing meeting minutes, policy information, and draft documents distributed in advance of each PAC meeting; (2) present and represent the views of their constituent group on the issues being discussed and be willing to engage in respectful, constructive dialogue with other members of the PAC; (3) develop a problem-solving approach in which they consider the interests and viewpoints of all stakeholders in the Basin; (4) keep their constituent group informed about ongoing issues and actively seek their input; and (5) pursue the PAC's purpose and goals and support GSP development and where legally appropriate implementation. An individual appointed by the Board shall prepare written minutes of all PAC meetings, which shall be available for public inspection once reviewed and approved by the PAC.

5.11 TECHNICAL ADVISORY COMMITTEE. The Board hereby establishes a standing committee named the Technical Advisory Committee (TAC) which will assist the Water

Resources Manager in the preparation of the GSP and will work collaboratively with other committees of the Board.

5.12 TECHNICAL ADVISORY COMMITTEE MEMBERSHIP. The TAC shall be comprised of individuals representing PAC members, PAC membership categories, and the interests of the Basin landowners and water users. Members of the TAC must have a formal education and experience in a groundwater related field and an understanding of the technical aspects of the Basin or similar groundwater basins in California. Each member of the PAC may nominate one member of the TAC for review and possible approval by the Board. The Board may also appoint members to the TAC that are not affiliated with any PAC members to ensure proper stakeholder representation. The initial TAC membership shall be adopted by Authority Resolution. Said Resolution may be amended in the future as the need arises to reflect changes in appointment of TAC representatives consistent with these Bylaws. The initial term of membership for the TAC shall be until the GSP is completed and approved by DWR. Subsequent terms of membership shall be two years, culminating at the end of a calendar year. The TAC shall appoint a TAC Chairperson and a TAC Vice-Chairperson in consultation with the Water Resources Manager.

5.13 TECHNICAL ADVISORY COMMITTEE ROLES AND RESPONSIBILITES. As required by law and as directed by the Board, the Water Resources Manager shall be responsible for the preparation of each technical element of the GSP. The Water Resources Manager shall attend and set the agenda of each TAC meeting so that each technical element of the GSP is presented to the TAC, in draft, to afford the TAC a reasonable opportunity to review and conduct a thorough evaluation prior to finalization of that technical element. In the course of evaluating each draft technical element of the GSP, the TAC shall strive for consensus in preparing written recommendations to the Water Resources Manager ("TAC Proposals"). The TAC shall submit its TAC Proposals to the Water Resources Manager, as well as written summaries of the range of TAC comments reflecting any areas of disagreement for consideration in the final preparation of any GSP Element. If any TAC member disagrees with any proposed GSP element following discussion with the Water Resources manager, that member (or members) may submit a written analysis and objection to the Board no later than 72 hours before that GSP element is considered by the Board. In the event that the GSP is subject to modification, such modifications shall be made in accordance with these Bylaws. The TAC shall not discuss or influence any enforcement aspects of GSP implementation, so as to avoid conflicts of interest and other legal limitations.

ARTICLE 6. BUDGET AND FINANCES

6.1 BUDGET. The Authority shall operate pursuant to an operating budget adopted in accordance with Section 9.07 of the Agreement. The Authority shall endeavor to operate each year pursuant to an annually balanced budget so that projected annual expenses do not exceed projected annual revenues. If the General Manager or Chairperson determines the approved budget is inadequate, he or she shall submit recommended modifications to the Board for consideration and action. The General

Manager shall implement the approved or revised budget, provided all expenditures for capital improvements shall be approved by the Board before they are undertaken.

6.2 APPROVAL OF WARRANTS AND SIGNATURE OF CHECKS. The Board shall approve all warrants and authorize issuance of checks in payment thereof. A check register showing the check number, payee, amount, and the purpose of each check, as prepared by the Treasurer, will be sent to the Board as required by the Brown Act. Checks in payment of utility bills, postage, payroll, payroll taxes, credit union collections, petty cash, emergency repairs, and invoices subject to discount and interfund transfers may be disbursed prior to Board approval. Such items shall be set forth on the next regular check register and presented to the Board.

6.3 GENERAL AND SPECIAL BOOKS OF ACCOUNT. The Treasurer shall maintain books of account in accordance with accepted accounting principles showing the status of all monies received and disbursed. Such general and special fund accounts shall be maintained as are necessary to accomplish the purpose of the Authority.

6.4 FUND DEPOSITORIES. Currently the County of Kern is Fiscal Agent and Treasurer for the Authority and all funds of the Authority are deposited with the County of Kern. If the Board desires to designate a new depository for Authority funds, the Board shall do so through a written policy included herein.

ARTICLE 7. DEBTS AND LIABILITIES

7.1 DEBTS AND LIABILITIES. Except as may be specifically provided for in the Agreement and/or California Government Code Section 895.2 as amended or supplemented, the debts, liabilities, and obligations of the Authority are not, and will not be, the debts, liabilities, or obligations of any or all of the Members. However, nothing in this Article or in the Agreement prevents, or impairs the ability of, a Member or Members, from agreeing, in a separate agreement, to be jointly and/or severally liable, in whole or in part, for any debt, obligation, or liability of the Authority, including, but not limited to, any bond or other debt instrument issued by the Authority.

ARTICLE 8. RECORDS RETENTION

8.1 RECORDS RETENTION POLICY. The Authority shall adopt a records retention policy. This policy will provide criteria and procedures for the retention or destruction of Authority records.

8.2 MAINTENANCE AND INSPECTION OF AGREEMENT AND BYLAWS. The Authority will keep at its principal executive office the original or copy of the Agreement and these Bylaws as amended to date, which will be open to inspection by the Authority or any Member at all reasonable times during office hours.

8.3 INSPECTION RIGHTS OF MEMBERS. Provided that upon the advice of General Counsel no legal conflict exists, any Member may inspect any record of the Authority, including, but not limited to, the accounting books and records and minutes of the proceedings of the Board and committees of the Board, at any reasonable time. A designated representative of the entity may make any inspection and copying under this Section, and the right of inspection includes the right to copy.

8.4 INSPECTION BY DIRECTORS. Provided that upon the advice of General Counsel no legal conflict exists, any Director may inspect any record of the Authority, including but not limited to the accounting books and records and minutes of the proceedings of the Board and committees of the Board, at any reasonable time. A designated representative of the entity may make any inspection and copying under this Section and the right of inspection includes the right to copy.

8.5 INSPECTION BY THE PUBLIC. As directed and permitted by law, Authority records are open to inspection by the public.

8.6 WEBSITE POLICY. The Authority shall establish a public website where all pertinent documentation, not specifically protected by law, may be openly inspected by the public. Documents shall generally include, but are not limited to: all agendas, minutes, resolutions, and ordinances of the Board and its standing committees; all public written briefings, presentations, and correspondence of the Board and its standing committees; and all public financial and technical reports that are not protected by law.

ARTICLE 9. CODE OF ETHICS

9.1 DECLARATION OF POLICY. The proper operation of democratic government requires that public officials and employees be independent, impartial, and responsible to the people; that government decisions and policy be made in the proper channels of the governmental structure; that public office not be used for personal gain; and the public have confidence in the integrity of its government. In recognition of these goals, there is hereby established a Code of Ethics for all officers and employees, whether elected or appointed, paid or unpaid. This Article establishes ethical standards of conduct for Authority officers and employees by setting forth those acts or actions that are incompatible with the best interests of the Authority and by directing the officers' disclosure of private financial or other interests in matters affecting the Authority.

9.2 RESPONSIBILITIES OF PUBLIC OFFICE. Public officials and employees are agents of public purpose and hold office for the benefit of the public. They are bound to uphold the United States and State Constitution and to carry out impartially the laws of the nation, State, and the Authority, thus to foster respect for all governments. They are bound to observe, in their official acts, the highest standards of performance and to discharge faithfully the duties of their office, regardless of personal considerations. Recognizing that the public interests must be their primary concern, their conduct in both their official and private affairs should be above reproach.

9.3 DEDICATED SERVICE. Officers and employees owe a duty of loyalty to the political objectives expressed by the electorate and the programs developed by the Board to attain those objectives. Appointive officers and employees should adhere to the rules of work and performance established as the standards for their positions by the appropriate authority. Officers and employees should not exceed their authority or breach the law, or ask others to do so, and owe a duty to cooperate fully with other public officers and employees unless prohibited from so doing by law or by the officially recognized confidentiality of their work.

9.4 FAIR AND EQUAL TREATMENT. The canvassing of members of the Board, directly or indirectly, to obtain preferential consideration in connection with any appointment to the municipal service, shall disqualify the candidate for appointment except with reference to positions filled by appointment by the Board. Officers and employees shall not request or permit the use of Authority-owned vehicles, equipment, materials, or property for personal convenience or profit, except when such services are available to the public generally or are provided for the use of such officer or employee in the conduct of official business. Officers and employees shall not grant special consideration, treatment, or advantage to a member of the public beyond what is available to every other member of the public.

9.5 POLITICAL ACTIVITIES. Officers and employees shall not solicit or participate in soliciting an assessment; subscription of contribution to a political party during working hours on property owned by the Authority and shall conform to Government Code Sections 3202 and 3203. Officers and employees shall not promise appointment to a position with the Authority.

9.6 EX PARTE COMMUNICATIONS. A written communication received by an officer or employee shall be made part of the record of decision. A communication concerning only the status of a pending matter shall not be regarded as an ex parte communication.

9.7 AVOIDANCE OF IMPRESSIONS OF CORRUPTIBILITY. Officers and employees shall conduct their official and private affairs so as not to give a reasonable basis for the impression that they can be improperly influenced in performance of public duties. Officers and employees should maintain public confidence in their performance of the public trust in the Authority. They should not be a source of embarrassment to the Authority and should avoid even the appearance of conflict between their public duties and private interests.

9.8 NO DISCRIMINATION IN APPOINTMENTS. No person shall be appointed to, removed from, or in any way favored or discriminated against with respect to any appointive administrative office because of such person's race, color, age, religion, gender identification, national origin, political opinions, affiliations, or functional limitation as defined by applicable State or Federal laws, if otherwise qualified for the position or office. This provision shall not be construed to impair administrative discretion in determining the requirements of a position or in a job assignment of a person holding such a position, subject to review by the Board.

9.9 AUTHORITY ALLEGIANCE AND PROPER CONDUCT. Officers and employees shall not engage in or accept any private employment, or render services for private interest, when such employment or service is incompatible with proper discharge of official duties or would tend to impair independence or judgment or action in the performance of those duties. Officers and employees shall not disclose confidential information concerning the property, government, or affairs of the Authority, and shall not use confidential information for personal financial gain. Officers and employees shall not accept a gift in excess of limits established by State law. Officers and employees shall not accept any gift contingent upon a specific action by the Board. Officers and employees shall not appear on behalf of business or private interests of another before the Board where such appearance would create a potential of having to abstain from Officers participating on that matter or be incompatible with official duties. Officers and employees shall not represent a private interest of another person or entity in any action or proceeding against the interest of the Authority in any litigation to which the Authority is a party. A Director may appear before the Authority on behalf of constituents in the course of duties as a representative of the electorate or in the performance of public or civic obligations.

9.10 PENALTIES. In addition to any other penalties or remedies provided by law, violation of this Article shall constitute a cause for suspension, removal from office or employment, or other disciplinary action after notice and hearing conducted by the appropriate appointed authority or, in the case of the Board, a majority of such Board.

ARTICLE 10. CLAIMS AGAINST THE AUTHORITY

10.1 [RESERVED]

ARTICLE 11. PURCHASING POLICY

11.1 [RESERVED]

ARTICLE 12. INVESTMENT POLICY

12.1 [RESERVED]

ARTICLE 13. CONFLICT OF INTEREST CODE

13.1 [RESERVED]

ARTICLE 14. AMENDMENT

14.1 AMENDMENT. These Bylaws may be amended from time to time by resolution of the Board.

ARTICLE 15. DEFINITIONS AND CONSTRUCTION

15.1 DEFINITIONS AND CONSTRUCTION. Unless specifically defined in these Bylaws, all defined terms shall have the same meaning ascribed to them in the Agreement. If any term of these Bylaws conflicts with any term of the Agreement, the Agreement's terms shall prevail, and these Bylaws shall be amended to eliminate such conflict of terms. Unless the context or reference to the Agreement requires otherwise, the general provisions, rules of construction, and definitions in the California Civil Code will govern the interpretation of these Bylaws.

APPENDIX 1-C

CWC SECTIONS 10725, 10726, 10730, AND 10731

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Sustainable Groundwater Management Act

[And Related Statutory Provisions from
SB1168 (Pavley), AB1739 (Dickinson), and SB1319 (Pavley)
as Chaptered]

2015 Amendments (effective January 1, 2016) are shown in **underline** and ~~strikeout~~. **BOLD-SMALL CAPS** section headings are provided for convenience and reference and are not part of the California Code.

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Sustainable Groundwater Management Act

[And Related Statutory Provisions from
SB1168 (Pavley), AB1739 (Dickinson), and SB1319 (Pavley)
as Chaptered]

Newly added code sections are shown in black text. Where existing code sections were amended, those modifications are shown in **underline** and ~~**strikeout**~~. **BOLD-SMALL CAPS** section headings are provided for convenience and reference and are not part of the California Code.

UNCODIFIED FINDINGS

(a) The Legislature finds and declares as follows:

(1) The people of the state have a primary interest in the protection, management, and reasonable beneficial use of the water resources of the state, both surface and underground, and that the integrated management of the state's water resources is essential to meeting its water management goals.

(2) Groundwater provides a significant portion of California's water supply. Groundwater accounts for more than one-third of the water used by Californians in an average year and more than one-half of the water used by Californians in a drought year when other sources are unavailable.

(3) Excessive groundwater extraction can cause overdraft, failed wells, deteriorated water quality, environmental damage, and irreversible land subsidence that damages infrastructure and diminishes the capacity of aquifers to store water for the future.

(4) When properly managed, groundwater resources will help protect communities, farms, and the environment against prolonged dry periods and climate change, preserving water supplies for existing and potential beneficial use.

(5) Failure to manage groundwater to prevent long-term overdraft infringes on groundwater rights.

(6) Groundwater resources are most effectively managed at the local or regional level.

(7) Groundwater management will not be effective unless local actions to sustainably manage groundwater basins and subbasins are taken.

(8) Local and regional agencies need to have the necessary support and authority to manage groundwater sustainably.

(9) In those circumstances where a local groundwater management agency is not managing its groundwater sustainably, the state needs to protect the resource until it is determined that a local groundwater management agency can sustainably manage the groundwater basin or subbasin.

(10) Information on the amount of groundwater extraction, natural and artificial recharge, and groundwater evaluations are critical for effective management of groundwater.

(11) Sustainable groundwater management in California depends upon creating more opportunities for robust conjunctive management of surface water and groundwater resources. Climate change will intensify the need to recalibrate and reconcile surface water and groundwater management strategies.

(12) Sustainability groundwater management is part of implementation of the California Water Action Plan.[†]

(b) It is, therefore, the intent of the Legislature to do all of the following:

(1) To provide local and regional agencies the authority to sustainably manage groundwater.

(2) To provide that if no local groundwater agency or agencies provide sustainable groundwater management for a groundwater basin or subbasin, the state has the authority to develop and implement an interim plan until the time the local groundwater sustainability agency or agencies can assume management of the basin or subbasin.

(3) To require the development and reporting of those data necessary to support sustainable groundwater management, including those data that help describe the basin's geology, the short- and long-term trends of the basin's water balance, and other measures of sustainability, and those data necessary to resolve disputes regarding sustainable yield, beneficial uses, and water rights.

(4) To respect overlying and other proprietary rights to groundwater*, consistent with Section 1200 of the Water Code*.[†]

(5) To recognize and preserve the authority of cities and counties to manage groundwater pursuant to their police powers.

Government Code

65350.5. REVIEW AND CONSIDERATION OF GROUNDWATER REQUIREMENTS

Before the adoption or any substantial amendment of a city's or county's general plan, the planning agency shall review and consider all of the following:

(a) An adoption of, or update to, a groundwater sustainability plan or groundwater management plan pursuant to Part 2.74 (commencing with Section 10720) or Part 2.75 (commencing with Section 10750) of Division 6 of the Water Code or groundwater management court order, judgment, or decree.

(b) An adjudication of water rights.

[†] *Italicized findings language represents finding language included in AB1739 (Dickinson) that does not appear in SB1168 (Pavley).*

(c) An order or interim plan by the State Water Resources Control Board pursuant to Chapter 11 (commencing with Section 10735) of Part 2.74 of Division 6 of the Water Code.

65352. REFERRAL OF PROPOSED GENERAL PLAN UPDATES TO OTHER AGENCIES

(a) Before a legislative body takes action to adopt or substantially amend a general plan, the planning agency shall refer the proposed action to all of the following entities:

(1) A city or county, within or abutting the area covered by the proposal, and any special district that may be significantly affected by the proposed action, as determined by the planning agency.

(2) An elementary, high school, or unified school district within the area covered by the proposed action.

(3) The local agency formation commission.

(4) An areawide planning agency whose operations may be significantly affected by the proposed action, as determined by the planning agency.

(5) A federal agency, if its operations or lands within its jurisdiction may be significantly affected by the proposed action, as determined by the planning agency.

(6) (A) The branches of the United States Armed Forces that have provided the Office of Planning and Research with a California mailing address pursuant to subdivision (d) of Section 65944, if the proposed action is within 1,000 feet of a military installation, or lies within special use airspace, or beneath a low-level flight path, as defined in Section 21098 of the Public Resources Code, and if the United States Department of Defense provides electronic maps of low-level flight paths, special use airspace, and military installations at a scale and in an electronic format that is acceptable to the Office of Planning and Research.

(B) Within 30 days of a determination by the Office of Planning and Research that the information provided by the Department of Defense is sufficient and in an acceptable scale and format, the office shall notify cities, counties, and cities and counties of the availability of the information on the Internet. Cities, counties, and cities and counties shall comply with subparagraph (A) within 30 days of receiving this notice from the office.

(7) A public water system, as defined in Section 116275 of the Health and Safety Code, with 3,000 or more service connections, that serves water to customers within the area covered by the proposal. The public water system shall have at least 45 days to comment on the proposed plan, in accordance with subdivision (b), and to provide the planning agency with the information set forth in Section 65352.5.

(8) Any groundwater sustainability agency that has adopted a groundwater sustainability plan pursuant to Part 2.74 (commencing with Section 10720) of Division 6 of the Water Code or local agency that otherwise manages groundwater pursuant to other provisions of law or a court order, judgment, or decree within the planning area of the proposed general plan.

(9) The State Water Resources Control Board, if it has adopted an interim plan pursuant to Chapter 11 (commencing with Section 10735) of Part 2.74 of Division 6 of the Water Code that includes territory within the planning area of the proposed general plan.

(10) The Bay Area Air Quality Management District for a proposed action within the boundaries of the district.

(11) A California Native American tribe that is on the contact list maintained by the Native American Heritage Commission and that has traditional lands located within the city's or county's jurisdiction.

(12) The Central Valley Flood Protection Board for a proposed action within the boundaries of the Sacramento and San Joaquin Drainage District, as set forth in Section 8501 of the Water Code.

(b) An entity receiving a proposed general plan or amendment of a general plan pursuant to this section shall have 45 days from the date the referring agency mails it or delivers it to comment unless a longer period is specified by the planning agency.

(c) (1) This section is directory, not mandatory, and the failure to refer a proposed action to the entities specified in this section does not affect the validity of the action, if adopted.

(2) To the extent that the requirements of this section conflict with the requirements of Chapter 4.4 (commencing with Section 65919), the requirements of Chapter 4.4 shall prevail.

65352.5. REQUIREMENT TO PROVIDE WATER-RELATED DOCUMENTS TO GENERAL PLAN AGENCY

(a) The Legislature finds and declares that it is vital that there be close coordination and consultation between California's water supply or management agencies and California's land use approval agencies to ensure that proper water supply and management planning occurs to accommodate projects that will result in increased demands on water supplies or impact water resource management.

(b) It is, therefore, the intent of the Legislature to provide a standardized process for determining the adequacy of existing and planned future water supplies to meet existing and planned future demands on these water supplies and the impact of land use decisions on the management of California's water supply resources.

(c) Upon receiving, pursuant to Section 65352, notification of a city's or a county's proposed action to adopt or substantially amend a general plan, a public water system, as defined in Section 116275 of the Health and Safety Code, with 3,000 or more service connections, shall provide the planning agency with the following information, as is appropriate and relevant:

(1) The current version of its urban water management plan, adopted pursuant to Part 2.6 (commencing with Section 10610) of Division 6 of the Water Code.

(2) The current version of its capital improvement program or plan, as reported pursuant to Section 31144.73 of the Water Code.

(3) A description of the source or sources of the total water supply currently available to the water supplier by water right or contract, taking into account historical data concerning wet, normal, and dry runoff years.

(4) A description of the quantity of surface water that was purveyed by the water supplier in each of the previous five years.

(5) A description of the quantity of groundwater that was purveyed by the water supplier in each of the previous five years.

(6) A description of all proposed additional sources of water supplies for the water supplier, including the estimated dates by which these additional sources should be available and the quantities of additional water supplies that are being proposed.

(7) A description of the total number of customers currently served by the water supplier, as identified by the following categories and by the amount of water served to each category:

(A) Agricultural users.

(B) Commercial users.

(C) Industrial users.

(D) Residential users.

(8) Quantification of the expected reduction in total water demand, identified by each customer category set forth in paragraph (7), associated with future implementation of water use reduction measures identified in the water supplier's urban water management plan.

(9) Any additional information that is relevant to determining the adequacy of existing and planned future water supplies to meet existing and planned future demands on these water supplies.

(d) Upon receiving, pursuant to Section 65352, notification of a city's or a county's proposed action to adopt or substantially amend a general plan, a groundwater sustainability agency, as defined in Section 10721 of the Water Code, or an entity that submits an alternative under Section 10733.6 shall provide the planning agency with the following information, as is appropriate and relevant:

(1) The current version of its groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720) of Division 6 of the Water Code.

(2) If the groundwater sustainability agency manages groundwater pursuant to a court order, judgment, decree, or agreement among affected water rights holders, or if the State Water Resources Control Board has adopted an interim plan pursuant to Chapter 11 (commencing with Section 10735) of Part 2.74 of Division 6 of the Water Code, the groundwater sustainability agency shall provide the planning agency with maps of recharge basins and percolation ponds, extraction limitations, and other relevant information, or the court order, judgment, or decree.

(3) A report on the anticipated effect of proposed action to adopt or substantially amend a general plan on implementation of a groundwater sustainability plan pursuant to Part 2.74 (commencing with Section 10720) of Division 6 of the Water Code.

Water Code

113. STATE POLICY OF SUSTAINABLE, LOCAL GROUNDWATER MANAGEMENT

It is the policy of the state that groundwater resources be managed sustainably for long-term reliability and multiple economic, social, and environmental benefits for current and future beneficial uses. Sustainable groundwater management is best achieved locally through the development, implementation, and updating of plans and programs based on the best available science.

348. EMERGENCY REGULATIONS FOR ELECTRONIC FILING

(a) The department or the board may adopt emergency regulations providing for the electronic filing of reports of water extraction or water diversion or use required to be filed with the department or board under this code, including, but not limited to, any report required to be filed under Part 5.1 (commencing with Section 5100) or Part 5.2 (commencing with Section 5200) of Division 2 and any report required to be filed by a water right permittee or licensee.

(b) Emergency regulations adopted pursuant to this section, or any amendments thereto, shall be adopted by the department or the board in accordance with Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code. The adoption of these regulations is an emergency and shall be considered by the Office of Administrative Law as necessary for the immediate preservation of the public peace, health, safety, and general welfare. Notwithstanding Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code, any emergency regulations or amendments to those regulations adopted under this section shall remain in effect until revised by the department or the board that adopted the regulations or amendments.

1120. RECONSIDERATION OF STATE WATER BOARD DECISIONS AND ORDERS

This chapter applies to any decision or order issued under this part or Section 275, Part 2 (commencing with Section 1200), Part 2 (commencing with Section 10500) of Division 6, Chapter 11 (commencing with Section 10735) of Part 2.74 of Division 6, Article 7 (commencing with Section 13550) of Chapter 7 of Division 7, or the public trust doctrine.

1529.5. FEES FOR GROUNDWATER EXTRACTION REPORTS FILED WITH THE STATE WATER BOARD

(a) The board shall adopt a schedule of fees pursuant to Section 1530 to recover costs incurred in administering Chapter 11 (commencing with Section 10735) of Part 2.74 of Division 6. Recoverable costs include, but are not limited to, costs incurred in connection with investigations, facilitation, monitoring, hearings, enforcement, and administrative costs in carrying out these actions.

(b) The fee schedule adopted under this section may include, but is not limited to, the following:

(1) A fee for participation as a petitioner or party to an adjudicative proceeding.

(2) A fee for the filing of a report pursuant to Part 5.2 (commencing with Section 5200) of Division 2.

(c) Consistent with Section 3 of Article XIII A of the California Constitution, the board shall set the fees under this section in an amount sufficient to cover all costs incurred and expended from the Water Rights Fund for the purposes of Part 5.2 (commencing with Section 5200) and Chapter 11 (commencing with Section 10735) of Part 2.74 of Division 6. In setting these fees, the board is not required to fully recover these costs in the year or the year immediately after the costs are incurred, but the board may provide for recovery of these costs over a period of years.

1552. AUTHORIZED EXPENDITURES FOR THE WATER RIGHTS FUND

The money in the Water Rights Fund is available for expenditure, upon appropriation by the Legislature, for the following purposes:

(a) For expenditure by the State Board of Equalization in the administration of this chapter and the Fee Collection Procedures Law (Part 30 (commencing with Section 55001) of Division 2 of the Revenue and Taxation Code) in connection with any fee or expense subject to this chapter.

(b) For the payment of refunds, pursuant to Part 30 (commencing with Section 55001) of Division 2 of the Revenue and Taxation Code, of fees or expenses collected pursuant to this chapter.

(c) For expenditure by the board for the purposes of carrying out this division, Division 1 (commencing with Section 100), Part 2 (commencing with Section 10500) and Chapter 11 (commencing with Section 10735) of Part 2.74 of Division 6, and Article 7 (commencing with Section 13550) of Chapter 7 of Division 7.

(d) For expenditures by the board for the purposes of carrying out Sections 13160 and 13160.1 in connection with activities involving hydroelectric power projects subject to licensing by the Federal Energy Regulatory Commission.

(e) For expenditures by the board for the purposes of carrying out Sections 13140 and 13170 in connection with plans and policies that address the diversion or use of water.

1831. CEASE AND DESIST ORDERS

(a) When the board determines that any person is violating, or threatening to violate, any requirement described in subdivision (d), the board may issue an order to that person to cease and desist from that violation.

(b) The cease and desist order shall require that person to comply forthwith or in accordance with a time schedule set by the board.

(c) The board may issue a cease and desist order only after notice and an opportunity for hearing pursuant to Section 1834.

(d) The board may issue a cease and desist order in response to a violation or threatened violation of any of the following:

(1) The prohibition set forth in Section 1052 against the unauthorized diversion or use of water subject to this division.

(2) Any term or condition of a permit, license, certification, or registration issued under this division.

(3) Any decision or order of the board issued under this part, Section 275, Chapter 11 (commencing with Section 10735) of Part 2.74 of Division 6, or Article 7 (commencing with Section 13550) of Chapter 7 of Division 7, in which decision or order the person to whom the cease and desist order will be issued, or a predecessor in interest to that person, was named as a party directly affected by the decision or order.

(4) A regulation adopted under Section 1058.5.

(5) Any extraction restriction, limitation, order, or regulation adopted or issued under Chapter 11 (commencing with Section 10735) of Part 2.74 of Division 6.

(e) This article does not authorize the board to regulate in any manner, the diversion or use of water not otherwise subject to regulation of the board under this part.

PART 5.2. Groundwater Extraction Reporting for Probationary Basins and Basins Without a Groundwater Sustainability Agency

5200. FINDINGS

The Legislature finds and declares that this part establishes groundwater reporting requirements for the purposes of subdivision (b) of Section 10724 and Chapter 11 (commencing with Section 10735) of Part 2.74 of Division 6.

5201. DEFINITIONS

As used in this part:

(a) “Basin” has the same meaning as defined in Section 10721.

(b) “Board-designated local area” has the same meaning as defined in Section 5009.

(c) “De minimis extractor” has the same meaning as defined in Section 10721.

(d) “Groundwater” has the same meaning as defined in Section 10721.

(e) “Groundwater extraction facility” has the same meaning as defined in Section 10721.

(f) “Groundwater sustainability agency” has the same meaning as defined in Section 10721.

(g) “Person” has the same meaning as defined in Section 10735.

(h) “Personal information” has the same meaning as defined in Section 1798.3 of the Civil Code.

(i) “Probationary basin” has the same meaning as defined in Section 10735.

(j) “Water year” has the same meaning as defined in Section 10721.

5202. APPLICABILITY OF EXTRACTION REPORTING REQUIREMENTS

(a) This section applies to a person who does either of the following:

(1) Extracts groundwater from a probationary basin 90 days or more after the board designates the basin as a probationary basin pursuant to Section 10735.2.

(2) Extracts groundwater on or after July 1, 2017, in an area within a ~~basin~~**high- or medium-priority basin subject to the requirements of subdivision (a) of Section 10720.7** that is not within the management area of a groundwater sustainability agency and where the county does not assume responsibility to be the groundwater sustainability agency, as provided in subdivision (b) of Section 10724.

(b) Except as provided in subdivision (c), a person subject to this section shall file a report of groundwater extraction by December 15 of each year for extractions made in the preceding water year.

(c) Unless reporting is required pursuant to paragraph (2) of subdivision (c) of Section 10735.2, this section does not apply to any of the following:

(1) An extraction by a de minimis extractor.

(2) An extraction excluded from reporting pursuant to paragraph (1) of subdivision (c) of Section 10735.2.

(3) An extraction reported pursuant to Part 5 (commencing with Section 4999).

(4) An extraction that is included in annual reports filed with a court or the board by a watermaster appointed by a court or pursuant to statute to administer a final judgment determining rights to water. The reports shall identify the persons who have extracted water and give the general place of use and the quantity of water that has been extracted from each source.

(d) Except as provided in Section 5209, the report shall be filed with the board.

(e) The report may be filed by the person extracting water or on that person’s behalf by an agency that person designates and that maintains a record of the water extracted.

(f) Each report shall be accompanied by the fee imposed pursuant to Section 1529.5.

5203. EXTRACTION REPORTING REQUIREMENTS

Each report shall be prepared on a form provided by the board. The report shall include all of the following information:

(a) The name and address of the person who extracted groundwater and of the person filing the report.

(b) The name of the basin from which groundwater was extracted.

(c) The place of groundwater extraction. The location of the groundwater extraction facilities shall be depicted on a specific United States Geological Survey topographic map or shall be identified using the California Coordinate System or a latitude and longitude measurement. If assigned, the public land description to the nearest 40-acre subdivision and the assessor's parcel number shall be provided.

(d) The capacity of the groundwater extraction facilities.

(e) Monthly records of groundwater extractions. The measurements of the extractions shall be made by a methodology, water-measuring device, or combination thereof satisfactory to the board.

(f) The purpose of use.

(g) A general description of the area in which the water was used. The location of the place of use shall be depicted on a specific United States Geological Survey topographic map or on any other maps with identifiable landmarks. If assigned, the public land description to the nearest 40-acre subdivision and the assessor's parcel number shall also be provided.

(h) As near as is known, the year in which the groundwater extraction was commenced.

(i) Any information required pursuant to paragraph (3) of subdivision (c) of Section 10735.2.

(j) Any other information that the board may require by regulation and that is reasonably necessary for purposes of this division or Part 2.74 (commencing with Section 10720) of Division 6.

5204. FAILURE TO FILE EXTRACTION REPORT; AUTHORITY OF THE BOARD TO INVESTIGATE

(a) If a person fails to file a report as required by this part, the board may, at the expense of that person, investigate and determine the information required to be reported pursuant to this part.

(b) The board shall give a person described in subdivision (a) notice of its intention to investigate and determine the information required to be reported pursuant to this part and 60 days in which to file a required report without penalty.

5205. REPORT IS NOT EVIDENCE OF RIGHT TO DIVERT OR USE

A report submitted under this part or a determination of facts by the board pursuant to Section 5104 shall not establish or constitute evidence of a right to divert or use water.

5206. PERSONAL INFORMATION TREATED LIKE UTILITY INFORMATION

Personal information included in a report of groundwater extraction shall have the same protection from disclosure as is provided for information concerning utility customers of local agencies pursuant to Section 6254.16 of the Government Code.

5207. LIMITATIONS ON CLAIMS OF PERSONS NOT FILING REQUIRED EXTRACTION REPORTS

A right to extract groundwater that may otherwise occur shall not arise or accrue to, and a statute of limitations shall not operate in favor of, a person required to file a report pursuant to this part until the person files the report.

5208. ENFORCEMENT

Section 5107 applies to a report or measuring device required pursuant to this part. For purposes of Section 5107, a report of groundwater extraction, measuring device, or misstatement required, used, or made pursuant to this part shall be considered the equivalent of a statement, measuring device, or misstatement required, used, or made pursuant to Part 5.1 (commencing with Section 5100).

5209. SUBMITTAL OF REPORTS TO LOCAL ENTITIES IN CERTAIN CIRCUMSTANCES

For groundwater extractions in a board-designated local area, reports required pursuant to this part shall be submitted to the entity designated pursuant to subdivision (e) of Section 5009 if both of the following occur:

(a) The board determines that the requirements of subdivision (e) of Section 5009 have been satisfied with respect to extractions subject to reporting pursuant to this part, in addition to any groundwater extractions subject to Part 5 (commencing with Section 4999).

(b) The designated entity has made satisfactory arrangements to collect and transmit to the board any fees imposed pursuant to paragraph (2) of subdivision (b) of Section 1529.5.

PART 2.74. Sustainable Groundwater Management

CHAPTER 1. General Provisions

10720. TITLE

This part shall be known, and may be cited, as the "Sustainable Groundwater Management Act."

10720.1. LEGISLATIVE INTENT

In enacting this part, it is the intent of the Legislature to do all of the following:

(a) To provide for the sustainable management of groundwater basins.

(b) To enhance local management of groundwater consistent with rights to use or store groundwater and Section 2 of Article X of the California Constitution. It is the intent of the Legislature to preserve the security of water rights in the state to the greatest extent possible consistent with the sustainable management of groundwater.

(c) To establish minimum standards for sustainable groundwater management.

(d) To provide local groundwater agencies with the authority and the technical and financial assistance necessary to sustainably manage groundwater.

(e) To avoid or minimize subsidence.

(f) To improve data collection and understanding about groundwater.

(g) To increase groundwater storage and remove impediments to recharge.

(h) To manage groundwater basins through the actions of local governmental agencies to the greatest extent feasible, while minimizing state intervention to only when necessary to ensure that local agencies manage groundwater in a sustainable manner.

(i) To provide a more efficient and cost-effective groundwater adjudication process that protects water rights, ensures due process, prevents unnecessary delay, and furthers the objectives of this part.

10720.3. Applicability of Part and Participation of Other Sovereigns

(a) This part applies to all groundwater basins in the state.

(b) To the extent authorized under federal or tribal law, this part applies to an Indian tribe and to the federal government, including, but not limited to, the United States Department of Defense.

(c) The federal government or any federally recognized Indian tribe, appreciating the shared interest in assuring the sustainability of groundwater resources, may voluntarily agree to participate in the preparation or administration of a groundwater sustainability plan or groundwater management plan under this part through a joint powers authority or other agreement with local agencies in the basin. A participating tribe shall be eligible to participate fully in planning, financing, and management under this part, including eligibility for grants and technical assistance, if any exercise of regulatory authority, enforcement, or imposition and collection of fees is pursuant to the tribe's independent authority and not pursuant to authority granted to a groundwater sustainability agency under this part.

(d) In an adjudication of rights to the use of groundwater, and in the management of a groundwater basin or subbasin by a groundwater sustainability agency or by the board, federally reserved water rights to groundwater shall be respected in full. In case of conflict between federal and state law in that adjudication or management, federal law shall prevail. The voluntary or involuntary participation of a holder of rights in that adjudication or management shall not subject that holder to state law regarding other proceedings or matters not authorized by federal law. This subdivision is declaratory of existing law.

10720.5. No Modification of Water rights or Priorities, and No Determination of Water Rights Pursuant to this Part

(a) Groundwater management pursuant to this part shall be consistent with Section 2 of Article X of the California Constitution. Nothing in this part modifies rights or priorities to use or store groundwater consistent with Section 2 of Article X of the California Constitution, except that in basins designated medium- or high-priority basins by the department, no extraction of groundwater between January 1, 2015, and the date of adoption of a groundwater sustainability plan pursuant to this part~~,~~ **or the approval by the department of an alternative submitted under Section 10733.6,** whichever is sooner, may be used as evidence of, or to establish or defend against, any claim of prescription.

(b) Nothing in this part, or in any groundwater management plan adopted pursuant to this part, determines or alters surface water rights or groundwater rights under common law or any provision of law that determines or grants surface water rights.

(c) Water rights may be determined in an adjudication action pursuant to Chapter 7 (commencing with Section 830) of Title 10 of Part 2 of the Code of Civil Procedure.

10720.7. PLANNING DEADLINES

(a) (1) By January 31, 2020, all basins designated as high- or medium-priority basins by the department that have been designated in Bulletin 118, as it may be updated or revised on or before January 1, 2017, as basins that are subject to critical conditions of overdraft shall be managed under a groundwater sustainability plan or coordinated groundwater sustainability plans pursuant to this part.

(2) By January 31, 2022, all basins designated as high- or medium-priority basins by the department that are not subject to paragraph (1) shall be managed under a groundwater sustainability plan or coordinated groundwater sustainability plans pursuant to this part.

(b) The Legislature encourages and authorizes basins designated as low- and very low priority basins by the department to be managed under groundwater sustainability plans pursuant to this part. Chapter 11 (commencing with Section 10735) does not apply to a basin designated as a low- or very low priority basin.

10720.8. INAPPLICABILITY OF PART TO ADJUDICATED BASINS; REPORTING REQUIREMENTS FOR ENTITY ADMINISTERING ADJUDICATION

(a) Except as provided in subdivision (e), this part does not apply to the following adjudicated areas or a local agency that conforms to the requirements of an adjudication of water rights for one of the following adjudicated areas:

(1) Beaumont Basin.

(2) Brite Basin.

(3) Central Basin.

(4) Chino Basin.

(5) Cucamonga Basin.

(6) Cummings Basin.

(7) Goleta Basin.

(8) Lytle Basin.

(9) Main San Gabriel Basin.

(10) Mojave Basin Area.

(11) Puente Basin.

(12) Raymond Basin.

(13) Rialto-Colton Basin.

(14) Riverside Basin.

(15) San Bernardino Basin Area.

(16) San Jacinto Basin.

(17) Santa Margarita River Watershed.

(18) Santa Maria Valley Basin.

(19) Santa Paula Basin.

(20) Scott River Stream System.

(21) Seaside Basin.

(22) Six Basins.

(23) Tehachapi Basin.

(24) Upper Los Angeles River Area.

(25) Warren Valley Basin.

(26) West Coast Basin.

(b) The Antelope Valley basin at issue in the Antelope Valley Groundwater Cases (Judicial Council Coordination Proceeding Number 4408) shall be treated as an adjudicated basin pursuant to this section if the superior court issues a final judgment, order, or decree.

(c) Any groundwater basin or portion of a groundwater basin in Inyo County managed pursuant to the terms of the stipulated judgment in City of Los Angeles v. Board of Supervisors of the County of Inyo, et al. (Inyo County Case No. 12908) shall be treated as an adjudicated area pursuant to this section.

(d) The Los Osos Groundwater Basin at issue in Los Osos Community Service District v. Southern California Water Company [Golden State Water Company] et al. (San Luis Obispo County Superior Court Case No. CV 040126) shall be treated as an adjudicated basin pursuant to this section if the superior court issues a final judgment, order, or decree.

(e) If an adjudication action has determined the rights to extract groundwater for only a portion of a basin, subdivisions (a), (b), (c), and (d) apply only within the area for which the adjudication action has determined those rights.

(f) The watermaster or a local agency within a basin identified in subdivision (a) shall do all of the following:

(1) By April 1, 2016, submit to the department a copy of a governing final judgment, or other judicial order or decree, and any amendments entered before April 1, 2016.

(2) Within 90 days of entry by a court, submit to the department a copy of any amendment made and entered by the court to the governing final judgment or other judicial order or decree on or after April 1, 2016.

(3) By April 1, 2016, and annually thereafter, submit to the department a report containing the following information to the extent available for the portion of the basin subject to the adjudication:

(A) Groundwater elevation data unless otherwise submitted pursuant to Section 10932.

(B) Annual aggregated data identifying groundwater extraction for the preceding water year.

(C) Surface water supply used for or available for use for groundwater recharge or in-lieu use.

(D) Total water use.

(E) Change in groundwater storage.

(F) The annual report submitted to the court.

10720.9. Requirement of State Agencies to Consider this Part and Plans Developed Under this Part

All relevant state agencies, including, but not limited to, the board, the regional water quality control boards, the department, and the Department of Fish and Wildlife, shall consider the policies of this part, and any groundwater sustainability plans adopted pursuant to this part, when revising or adopting policies, regulations, or criteria, or when issuing orders or determinations, where pertinent.

CHAPTER 2. Definitions

10721. Definitions

10721. Unless the context otherwise requires, the following definitions govern the construction of this part:

(a) “Adjudication action” means an action filed in the superior or federal district court to determine the rights to extract groundwater from a basin or store water within a basin, including, but not limited to, actions to quiet title respecting rights to extract or store groundwater or an action brought to impose a physical solution on a basin.

(b) “Basin” means a groundwater basin or subbasin identified and defined in Bulletin 118 or as modified pursuant to Chapter 3 (commencing with Section 10722).

(c) “Bulletin 118” means the department’s report entitled “California’s Groundwater: Bulletin 118” updated in 2003, as it may be subsequently updated or revised in accordance with Section 12924.

(d) “Coordination agreement” means a legal agreement adopted between two or more groundwater sustainability agencies that provides the basis for coordinating multiple agencies or groundwater sustainability plans within a basin pursuant to this part.

(e) “De minimis extractor” means a person who extracts, for domestic purposes, two acre-feet or less per year.

(f) “Governing body” means the legislative body of a groundwater sustainability agency.

(g) “Groundwater” means water beneath the surface of the earth within the zone below the water table in which the soil is completely saturated with water, but does not include water that flows in known and definite channels.

(h) “Groundwater extraction facility” means a device or method for extracting groundwater from within a basin.

(i) “Groundwater **recharge” or “**recharge” means the augmentation of groundwater, by natural or artificial means.

(j) “Groundwater sustainability agency” means one or more local agencies that implement the provisions of this part. For purposes of imposing fees pursuant to Chapter 8 (commencing with Section 10730) or taking action to enforce a groundwater sustainability plan, “groundwater sustainability agency” also means each local agency comprising the groundwater sustainability agency if the plan authorizes separate agency action.

(k) “Groundwater sustainability plan” or “plan” means a plan of a groundwater sustainability agency proposed or adopted pursuant to this part.

(*l*) “Groundwater sustainability program” means a coordinated and ongoing activity undertaken to benefit a basin, pursuant to a groundwater sustainability plan.

(m**) “In-lieu use” means the use of surface water by persons that could otherwise extract groundwater in order to leave groundwater in the basin.**

(n) “Local agency” means a local public agency that has water supply, water management, or land use responsibilities within a groundwater basin.

(~~n~~**o**) “Operator” means a person operating a groundwater extraction facility. The owner of a groundwater extraction facility shall be conclusively presumed to be the operator unless a satisfactory showing is made to the governing body of the groundwater sustainability agency that the groundwater extraction facility actually is operated by some other person.

(~~o~~p) “Owner” means a person owning a groundwater extraction facility or an interest in a groundwater extraction facility other than a lien to secure the payment of a debt or other obligation.

(~~p~~q) “Personal information” has the same meaning as defined in Section 1798.3 of the Civil Code.

(~~q~~r) “Planning and implementation horizon” means a 50-year time period over which a groundwater sustainability agency determines that plans and measures will be implemented in a basin to ensure that the basin is operated within its sustainable yield.

(~~r~~s) “Public water system” has the same meaning as defined in Section 116275 of the Health and Safety Code.

(~~s~~t) “Recharge area” means the area that supplies water to an aquifer in a groundwater basin.

(~~t~~u) “Sustainability goal” means the existence and implementation of one or more groundwater sustainability plans that achieve sustainable groundwater management by identifying and causing the implementation of measures targeted to ensure that the applicable basin is operated within its sustainable yield.

(~~u~~v) “Sustainable groundwater management” means the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results.

(~~v~~w) “Sustainable yield” means the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing an undesirable result.

(~~w~~x) “Undesirable result” means one or more of the following effects caused by groundwater conditions occurring throughout the basin:

(1) Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon. Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and **groundwater** recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods.

(2) Significant and unreasonable reduction of groundwater storage.

(3) Significant and unreasonable seawater intrusion.

(4) Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies.

(5) Significant and unreasonable land subsidence that substantially interferes with surface land uses.

(6) Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

(~~x~~y) "Water budget" means an accounting of the total groundwater and surface water entering and leaving a basin including the changes in the amount of water stored.

(~~y~~z) "Watermaster" means a watermaster appointed by a court or pursuant to other law.

(~~z~~aa) "Water year" means the period from October 1 through the following September 30, inclusive.

(~~aa~~ab) "Wellhead protection area" means the surface and subsurface area surrounding a water well or well field that supplies a public water system through which contaminants are reasonably likely to migrate toward the water well or well field.

CHAPTER 3. Basin Boundaries

10722. USE OF BULLETIN 118 BASIN BOUNDARIES

Unless other basin boundaries are established pursuant to this chapter, a basin's boundaries shall be as identified in Bulletin 118.

10722.2. PROCESS FOR REQUESTING AND APPROVING BASIN BOUNDARY REVISIONS

(a) A local agency **or an entity directed by the court in an adjudication action to file the request** may request that the department revise the boundaries of a basin, including the establishment of new subbasins. A ~~local agency's~~ request shall be supported by the following information:

(1) Information demonstrating that the proposed adjusted basin can be the subject of sustainable groundwater management.

(2) Technical information regarding the boundaries of, and conditions in, the proposed adjusted basin.

(3) Information demonstrating that the entity proposing the basin boundary adjustment consulted with interested local agencies and public water systems in the affected basins before filing the proposal with the department.

(4) Other information the department deems necessary to justify revision of the basin's boundary.

(b) By January 1, 2016, the department shall adopt regulations regarding the information required to comply with subdivision (a), including the methodology and criteria to be used to evaluate the proposed revision. The department shall adopt the regulations, including any amendments thereto, authorized by this section as emergency regulations in accordance with the Administrative Procedure Act (Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code). The adoption of these regulations is an emergency and shall be considered by the Office of Administrative Law as necessary for the immediate preservation of the public peace, health and safety, or general welfare. Notwithstanding the Administrative Procedure Act, emergency regulations adopted by the

department pursuant to this section shall not be subject to review by the Office of Administrative Law and shall remain in effect until revised by the department.

(c) Methodology and criteria established pursuant to subdivision (b) shall address all of the following:

(1) How to assess the likelihood that the proposed basin can be sustainably managed.

(2) How to assess whether the proposed basin would limit the sustainable management of adjacent basins.

(3) How to assess whether there is a history of sustainable management of groundwater levels in the proposed basin.

(d) Prior to adopting ~~and finalizing~~ the regulations pursuant to subdivision (b), the department shall conduct three public meetings to consider public comments. The department shall publish the draft regulations on its Internet Web site at least 30 days before the public meetings. One meeting shall be conducted at a location in northern California, one meeting shall be conducted at a location in the central valley of California, and one meeting shall be conducted at a location in southern California.

(e) The department shall provide a copy of its draft revision of a basin's boundaries to the California Water Commission. The California Water Commission shall hear and comment on the draft revision within 60 days after the department provides the draft revision to the commission.

10722.4. PRIORITIZATION OF BASINS

(a) Pursuant to Section 10933, for the purposes of this part the department shall categorize each basin as one of the following priorities:

(1) High priority.

(2) Medium priority.

(3) Low priority.

(4) Very low priority.

(b) The initial priority for each basin shall be established by the department pursuant to Section 10933 no later than January 31, 2015.

(c) Any time the department updates Bulletin 118 boundaries pursuant to subdivision (b) of Section 12924, the department shall reassess the prioritization pursuant to Section 10933.

(d) ~~Any time~~If the department changes ~~the basin~~ priorities pursuant to Section ~~10933, if~~10933 to elevate a basin ~~is elevated~~from a low- or very low priority basin to a medium- or high-priority basin after January 31, 2015, ~~a~~the agency formation and planning deadlines of this part shall be extended as follows:

(1) A local agency shall have two years from the date of reprioritization to either establish a groundwater sustainability agency pursuant to Chapter 4 (commencing with Section 10723) ~~and five years from the date of reprioritization to adopt a groundwater sustainability plan pursuant to Chapter 6 (commencing with Section 10727)~~ or two years to satisfy the requirements of Section 10733.6.

(2) A groundwater sustainability agency shall have five years from the date of reprioritization to meet the requirements of subdivision (a) of Section 10720.7, except that if the reprioritization occurs before January 31, 2017, a groundwater sustainability agency subject to paragraph (2) of subdivision (a) of Section 10720.7 shall have until January 31, 2022.

CHAPTER 4. Establishing Groundwater Sustainability Agencies

10723. ELECTION OF GROUNDWATER SUSTAINABILITY AGENCY; STATUTORILY DESIGNATED AGENCIES AND OPT OUT PROVISION

(a) Except as provided in subdivision (c), any local agency or combination of local agencies overlying a groundwater basin may ~~elect~~decide to ~~be~~become a groundwater sustainability agency for that basin.

(b) Before ~~electing~~deciding to ~~be~~become a groundwater sustainability agency, and after publication of notice pursuant to Section 6066 of the Government Code, the local agency or agencies shall hold a public hearing in the county or counties overlying the basin.

(c) (1) Except as provided in paragraph (2), the following agencies created by statute to manage groundwater shall be deemed the exclusive local agencies within their respective statutory boundaries with powers to comply with this part:

(A) Alameda County Flood Control and Water Conservation District, Zone 7.

(B) Alameda County Water District.

(C) Desert Water Agency.

(D) Fox Canyon Groundwater Management Agency.

(E) Honey Lake Valley Groundwater Management District.

(F) Long Valley Groundwater Management District.

(G) Mendocino City Community Services District.

(H) Mono County Tri-Valley Groundwater Management District.

(I) Monterey Peninsula Water Management District.

(J) Ojai Groundwater Management Agency.

(K) Orange County Water District.

(L) Pajaro Valley Water Management Agency.

(M) Santa Clara Valley Water District.

(N) Sierra Valley ~~Water~~Groundwater Management District.

(O) Willow Creek Groundwater Management Agency.

(2) An agency identified in this subdivision may ~~elect to~~ opt out of being the exclusive groundwater management agency within its statutory boundaries by sending a notice to the department, which shall be posted ~~pursuant to Section 10733.3.~~on the department's Internet Web site within 15 days of receipt. If an agency identified in paragraph (1) ~~elects to opt~~opts out of being the exclusive groundwater management agency, any other local agency or combination of local agencies operating within the statutory boundaries of the agency that has ~~elected to opt~~opted out may notify the department pursuant to ~~subdivision (d)~~Section 10723.8 of its ~~election~~decision to be the groundwater sustainability agency.

(3) A local agency listed in paragraph (1) may comply with this part by meeting the requirements of Section 10733.6 or ~~electing~~opting to become a groundwater sustainability agency pursuant to this section. A local agency with authority to implement a basin-specific management plan pursuant to its principal act shall not exercise any authorities granted in this part in a manner inconsistent with any prohibitions or limitations in its principal act unless the governing board of the local agency makes a finding that the agency is unable to sustainably manage the basin without the prohibited authority.

(d) ~~A~~The decision of a local agency or combination of ~~local~~ agencies ~~that elects~~ to ~~be the~~become a groundwater sustainability agency shall ~~submit a notice of intent to the department, which shall be posted pursuant to Section 10733.3. The notice of intent shall include a description of the proposed boundaries of the basin or portion of the basin that the local agency or combination of local agencies intends to manage pursuant to this part.~~take effect as provided in Section 10723.8.

10723.2. CONSIDERATION OF ALL INTERESTS OF ALL BENEFICIAL USES AND USERS OF GROUNDWATER

The groundwater sustainability agency shall consider the interests of all beneficial uses and users of groundwater, as well as those responsible for implementing groundwater sustainability plans. These interests include, but are not limited to, all of the following:

(a) Holders of overlying groundwater rights, including:

(1) Agricultural users.

(2) Domestic well owners.

(b) Municipal well operators.

(c) Public water systems.

(d) Local land use planning agencies.

(e) Environmental users of groundwater.

(f) Surface water users, if there is a hydrologic connection between surface and groundwater bodies.

(g) The federal government, including, but not limited to, the military and managers of federal lands.

(h) California Native American tribes.

(i) Disadvantaged communities, including, but not limited to, those served by private domestic wells or small community water systems.

(j) Entities listed in Section 10927 that are monitoring and reporting groundwater elevations in all or a part of a groundwater basin managed by the groundwater sustainability agency.

10723.4. MAINTENANCE OF INTERESTED PERSONS LIST

The groundwater sustainability agency shall establish and maintain a list of persons interested in receiving notices regarding plan preparation, meeting announcements, and availability of draft plans, maps, and other relevant documents. Any person may request, in writing, to be placed on the list of interested persons.

10723.6. COLLECTIVE ACTION TO SERVE AS GROUNDWATER SUSTAINABILITY AGENCY; PARTICIPATION BY PUC-REGULATED WATER COMPANIES

(a) A combination of local agencies may form a groundwater sustainability agency by using any of the following methods:

(1) A joint powers agreement.

(2) A memorandum of agreement or other legal agreement.

(b) A water corporation regulated by the Public Utilities Commission **or a mutual water company** may participate in a groundwater sustainability agency ~~**if the local agencies approve**~~**through a memorandum of agreement or other legal agreement. The authority provided by this subdivision does not confer any additional powers to a nongovernmental entity**.

10723.8. NOTIFICATION OF DEPARTMENT AND POSTING BY DEPARTMENT

(a) Within 30 days of ~~**electing**~~**deciding** to ~~**be**~~**become** or ~~**forming**~~**form** a groundwater sustainability agency, the ~~**groundwater sustainability**~~**local** agency **or combination of local agencies** shall inform the department of its ~~**election or formation**~~**decision** and its intent to undertake sustainable groundwater management. The notification shall include the following information, as applicable:

(1) The service area boundaries, the **boundaries of the basin or portion of the** basin the agency ~~**is managing**~~**intends to manage pursuant to this part**, and the other **agencies managing or proposing to manage** groundwater ~~**sustainability agencies operating**~~ within the basin.

(2) A copy of the resolution forming the new agency.

(3) A copy of any new bylaws, ordinances, or new authorities adopted by the local agency.

(4) A list of interested parties developed pursuant to Section 10723.2 and an explanation of how their interests will be considered in the development and operation of the groundwater sustainability agency and the development and implementation of the agency's sustainability plan.

(b) **The department shall post all complete notices received under this section on its Internet Web site within 15 days of receipt.**

(c) The decision to become a groundwater sustainability agency shall take effect 90 days after the department posts notice under subdivision (b) if no other local agency submits a notification under subdivision (a) of its intent to undertake groundwater management in all or a portion of the same area. If another notification is filed within the 90-day period, the decision shall not take effect unless the other notification is withdrawn or modified to eliminate any overlap in the areas proposed to be managed. The local agencies shall seek to reach agreement to allow prompt designation of a groundwater sustainability agency. If agreement is reached involving a material change from the information in the posted notice, a new notification shall be submitted under subdivision (a) and the department shall post notice under subdivision (b).

(d) Except as provided in ~~**subdivision (d), 90 days following the posting of the notice pursuant to this section**~~**subdivisions (e) and (f), after the decision to be a groundwater sustainability agency takes effect**, the groundwater sustainability agency shall be presumed **to be** the exclusive groundwater sustainability agency within the area of the basin ~~**the**~~**within the service area of the local agency that the local** agency is managing as described in the notice~~**, provided that no other notice was submitted**~~.

(~~**c**~~**e**) A groundwater sustainability agency may withdraw from managing a basin by notifying the department in writing of its intent to withdraw.

(~~**d**~~**f**) This section does not preclude the board from taking an action pursuant to Section 10735.6.

~~**(e) The department shall post all notices received under this section in accordance with Section 10733.3.**~~

10724. PRESUMPTION THAT COUNTY WILL MANAGE AREAS NOT COVERED BY A GROUNDWATER SUSTAINABILITY AGENCY; EXTRACTION REPORTING TO STATE BOARD IF COUNTY DOES NOT MANAGE THOSE AREAS

(a) In the event that there is an area within a **high- or medium-priority** basin that is not within the management area of a groundwater sustainability agency, the county within which that unmanaged area lies will be presumed to be the groundwater sustainability agency for that area.

(b) A county described in subdivision (a) shall provide notification to the department pursuant to Section 10723.8 unless the county notifies the department that it will not be the groundwater sustainability agency for the area. Extractions of groundwater made on or after July 1, 2017, in that area shall be

subject to reporting in accordance with Part 5.2 (commencing with Section 5200) of Division 2 if the county does either of the following:

(1) Notifies the department that it will not be the groundwater sustainability agency for an area.

(2) Fails to provide notification to the department pursuant to Section 10723.8 for an area on or before June 30, 2017.

CHAPTER 5. Powers and Authorities

10725. AUTHORITY PURSUANT TO THIS PART SUPPLEMENTARY TO EXISTING POWERS

(a) A groundwater sustainability agency may exercise any of the powers described in this chapter in implementing this part, in addition to, and not as a limitation on, any existing authority, if the groundwater sustainability agency adopts and submits to the department a groundwater sustainability plan or prescribed alternative documentation in accordance with Section 10733.6.

(b) A groundwater sustainability agency has and may use the powers in this chapter to provide the maximum degree of local control and flexibility consistent with the sustainability goals of this part.

10725.2. AUTHORITY OF GROUNDWATER SUSTAINABILITY AGENCY; NOTICE

(a) A groundwater sustainability agency may perform any act necessary or proper to carry out the purposes of this part.

(b) A groundwater sustainability agency may adopt rules, regulations, ordinances, and resolutions for the purpose of this part, in compliance with any procedural requirements applicable to the adoption of a rule, regulation, ordinance, or resolution by the groundwater sustainability agency.

(c) In addition to any other applicable procedural requirements, the groundwater sustainability agency shall provide notice of the proposed adoption of the groundwater sustainability plan on its Internet Web site and provide for electronic notice to any person who requests electronic notification.

10725.4. INVESTIGATIONS

(a) A groundwater sustainability agency may conduct an investigation for the purposes of this part, including, but not limited to, investigations for the following:

(1) To determine the need for groundwater management.

(2) To prepare and adopt a groundwater sustainability plan and implementing rules and regulations.

(3) To propose and update fees.

(4) To monitor compliance and enforcement.

(b) An investigation may include surface waters and surface water rights as well as groundwater and groundwater rights.

(c) In connection with an investigation, a groundwater sustainability agency may inspect the property or facilities of a person or entity to ascertain whether the purposes of this part are being met and compliance with this part. The local agency may conduct an inspection pursuant to this section upon obtaining any necessary consent or obtaining an inspection warrant pursuant to the procedure set forth in Title 13 (commencing with Section 1822.50) of Part 3 of the Code of Civil Procedure.

10725.6. REGISTRATION OF EXTRACTION FACILITIES

A groundwater sustainability agency may require registration of a groundwater extraction facility within the management area of the groundwater sustainability agency.

10725.8. MEASUREMENT DEVICES AND REPORTING; INAPPLICABILITY OF SECTION TO DE MINIMIS EXTRACTORS

(a) A groundwater sustainability agency may require through its groundwater sustainability plan that the use of every groundwater extraction facility within the management area of the groundwater sustainability agency be measured by a water-measuring device satisfactory to the groundwater sustainability agency.

(b) All costs associated with the purchase and installation of the water-measuring device shall be borne by the owner or operator of each groundwater extraction facility. The water measuring devices shall be installed by the groundwater sustainability agency or, at the groundwater sustainability agency's option, by the owner or operator of the groundwater extraction facility. Water-measuring devices shall be calibrated on a reasonable schedule as may be determined by the groundwater sustainability agency.

(c) A groundwater sustainability agency may require, through its groundwater sustainability plan, that the owner or operator of a groundwater extraction facility within the groundwater sustainability agency file an annual statement with the groundwater sustainability agency setting forth the total extraction in acre-feet of groundwater from the facility during the previous water year.

(d) In addition to the measurement of groundwater extractions pursuant to subdivision (a), a groundwater sustainability agency may use any other reasonable method to determine groundwater extraction.

(e) This section does not apply to de minimis extractors.

10726. REPORTING OF DIVERSION OF SURFACE WATER TO UNDERGROUND STORAGE

An entity within the area of a groundwater sustainability plan shall report the diversion of surface water to underground storage to the groundwater sustainability agency for the relevant portion of the basin.

10726.2. ADDITIONAL AUTHORITIES OF GROUNDWATER SUSTAINABILITY AGENCY RELATING TO ACQUISITIONS; AUGMENTATION OF LOCAL WATER SUPPLIES; TRANSFERS AND EXCHANGES OF WATER; AND TREATMENT

A groundwater sustainability agency may do the following:

(a) Acquire by grant, purchase, lease, gift, devise, contract, construction, or otherwise, and hold, use, enjoy, sell, let, and dispose of, real and personal property of every kind, including lands, water rights, structures, buildings, rights-of-way, easements, and privileges, and construct, maintain, alter, and

operate any and all works or improvements, within or outside the agency, necessary or proper to carry out any of the purposes of this part.

(b) Appropriate and acquire surface water or groundwater and surface water or groundwater rights, import surface water or groundwater into the agency, and conserve and store within or outside the agency that water for any purpose necessary or proper to carry out the provisions of this part, including, but not limited to, the spreading, storing, retaining, or percolating into the soil of the waters for subsequent use or in a manner consistent with the provisions of Section 10727.2. As part of this authority, the agency shall not alter another person's or agency's existing groundwater conjunctive use or storage program except upon a finding that the conjunctive use or storage program interferes with implementation of the agency's groundwater sustainability plan.

(c) Provide for a program of voluntary fallowing of agricultural lands or validate an existing program.

(d) Perform any acts necessary or proper to enable the agency to purchase, transfer, deliver, or exchange water or water rights of any type with any person that may be necessary or proper to carry out any of the purposes of this part, including, but not limited to, providing surface water in exchange for a groundwater extractor's agreement to reduce or cease groundwater extractions. The agency shall not deliver retail water supplies within the service area of a public water system without either the consent of that system or authority under the agency's existing authorities.

(e) Transport, reclaim, purify, desalinate, treat, or otherwise manage and control polluted water, wastewater, or other waters for subsequent use in a manner that is necessary or proper to carry out the purposes of this part.

(f) Commence, maintain, intervene in, defend, compromise, and assume the cost and expenses of any and all actions and proceedings.

10726.4. ADDITIONAL AUTHORITIES OF GROUNDWATER SUSTAINABILITY AGENCY

(a) A groundwater sustainability agency shall have the following additional authority and may regulate groundwater extraction using that authority:

(1) To impose spacing requirements on new groundwater well construction to minimize well interference and impose reasonable operating regulations on existing groundwater wells to minimize well interference, including requiring extractors to operate on a rotation basis.

(2) To control groundwater extractions by regulating, limiting, or suspending extractions from individual groundwater wells or extractions from groundwater wells in the aggregate, construction of new groundwater wells, enlargement of existing groundwater wells, or reactivation of abandoned groundwater wells, or otherwise establishing groundwater extraction allocations. Those actions shall be consistent with the applicable elements of the city or county general plan, unless there is insufficient sustainable yield in the basin to serve a land use designated in the city or county general plan. A limitation on extractions by a groundwater sustainability agency shall not be construed to be a final determination of rights to extract groundwater from the basin or any portion of the basin.

(3) To authorize temporary and permanent transfers of groundwater extraction allocations within the agency's boundaries, if the total quantity of groundwater extracted in any water year is consistent with the provisions of the groundwater sustainability plan. The transfer is subject to applicable city and county ordinances.

(4) To establish accounting rules to allow unused groundwater extraction allocations issued by the agency to be carried over from one year to another and voluntarily transferred, if the total quantity of groundwater extracted in any five-year period is consistent with the provisions of the groundwater sustainability plan.

(b) This section does not authorize a groundwater sustainability agency to issue permits for the construction, modification, or abandonment of groundwater wells, except as authorized by a county with authority to issue those permits. A groundwater sustainability agency may request of the county, and the county shall consider, that the county forward permit requests for the construction of new groundwater wells, the enlarging of existing groundwater wells, and the reactivation of abandoned groundwater wells to the groundwater sustainability agency before permit approval.

10726.5. AGREEMENTS WITH PRIVATE PARTIES

In addition to any other authority granted to a groundwater sustainability agency by this part or other law, a groundwater sustainability agency may enter into written agreements and funding with a private party to assist in, or facilitate the implementation of, a groundwater sustainability plan or any elements of the plan.

10726.6. VALIDATION PROCEEDINGS; VENUE; TIME LIMITATIONS FOR BRINGING CERTAIN ACTIONS

(a) A groundwater sustainability agency that adopts a groundwater sustainability plan may file an action to determine the validity of the plan pursuant to Chapter 9 (commencing with Section 860) of Title 10 of Part 2 of the Code of Civil Procedure no sooner than 180 days following the adoption of the plan.

(b) Subject to Sections 394 and 397 of the Code of Civil Procedure, the venue for an action pursuant to this section shall be the county in which the principal office of the groundwater management agency is located.

(c) Any judicial action or proceeding to attack, review, set aside, void, or annul the ordinance or resolution imposing a new, or increasing an existing, fee imposed pursuant to Section 10730, 10730.2, or 10730.4 shall be commenced within 180 days following the adoption of the ordinance or resolution.

(d) Any person may pay a fee imposed pursuant to Section 10730, 10730.2, or 10730.4 under protest and bring an action against the governing body in the superior court to recover any money that the governing body refuses to refund. Payments made and actions brought under this section shall be made and brought in the manner provided for the payment of taxes under protest and actions for refund of that payment in Article 2 (commencing with Section 5140) of Chapter 5 of Part 9 of Division 1 of the Revenue and Taxation Code, as applicable.

(e) Except as otherwise provided in this section, actions by a groundwater sustainability agency are subject to judicial review pursuant to Section 1085 of the Code of Civil Procedure.

10726.8. Relationship of this Part to Other Laws

(a) This part is in addition to, and not a limitation on, the authority granted to a local agency under any other law. The local agency may use the local agency's authority under any other law to apply and enforce any requirements of this part, including, but not limited to, the collection of fees.

(b) Nothing in this part shall be construed as authorizing a local agency to make a binding determination of the water rights of any person or entity**, or to impose fees or regulatory requirements on activities outside the boundaries of the local agency**.

(c) Nothing in this part is a limitation on the authority of the board, the department, or the State Department of Public Health.

(d) Notwithstanding Section 6103 of the Government Code, a state or local agency that extracts groundwater shall be subject to a fee imposed under this part to the same extent as any nongovernmental entity.

(e) Except as provided in subdivision (d), this part does not authorize a local agency to impose any requirement on the state or any agency, department, or officer of the state. State agencies and departments shall work cooperatively with a local agency on a voluntary basis.

(f) Nothing in this chapter or a groundwater sustainability plan shall be interpreted as superseding the land use authority of cities and counties, including the city or county general plan, within the overlying basin.

10726.9. Requirement of Plan to Take Account of General Plan Assumptions

A groundwater sustainability plan shall take into account the most recent planning assumptions stated in local general plans of jurisdictions overlying the basin.

CHAPTER 6. Groundwater Sustainability Plans

10727. Requirement to Develop Groundwater Sustainability Plan for Medium- and High-Priority Basins; Form of Plan

(a) A groundwater sustainability plan shall be developed and implemented for each medium- or high-priority basin by a groundwater sustainability agency to meet the sustainability goal established pursuant to this part. The groundwater sustainability plan may incorporate, extend, or be based on a plan adopted pursuant to Part 2.75 (commencing with Section 10750).

(b) A groundwater sustainability plan may be any of the following:

(1) A single plan covering the entire basin developed and implemented by one groundwater sustainability agency.

(2) A single plan covering the entire basin developed and implemented by multiple groundwater sustainability agencies.

(3) Subject to Section 10727.6, multiple plans implemented by multiple groundwater sustainability agencies and coordinated pursuant to a single coordination agreement that covers the entire basin.

10727.2. REQUIRED PLAN ELEMENTS

A groundwater sustainability plan shall include all of the following:

(a) A description of the physical setting and characteristics of the aquifer system underlying the basin that includes the following:

(1) Historical data, to the extent available.

(2) Groundwater levels, groundwater quality, subsidence, and groundwater-surface water interaction.

(3) A general discussion of historical and projected water demands and supplies.

(4) A map that details the area of the basin and the boundaries of the groundwater sustainability agencies that overlie the basin that have or are developing groundwater sustainability plans.

(5) A map identifying existing and potential recharge areas for the basin. The map or maps shall identify the existing recharge areas that substantially contribute to the replenishment of the groundwater basin. The map or maps shall be provided to the appropriate local planning agencies after adoption of the groundwater sustainability plan.

(b) (1) Measurable objectives, as well as interim milestones in increments of five years, to achieve the sustainability goal in the basin within 20 years of the implementation of the plan.

(2) A description of how the plan helps meet each objective and how each objective is intended to achieve the sustainability goal for the basin for long-term beneficial uses of groundwater.

(3) (A) Notwithstanding paragraph (1), at the request of the groundwater sustainability agency, the department may grant an extension of up to 5 years beyond the 20-year sustainability timeframe upon a showing of good cause. The department may grant a second extension of up to five years upon a showing of good cause if the groundwater sustainability agency has begun implementation of the work plan described in clause (iii) of subparagraph (B).

(B) The department may grant an extension pursuant to this paragraph if the groundwater sustainability agency does all of the following:

(i) Demonstrates a need for an extension.

(ii) Has made progress toward meeting the sustainability goal as demonstrated by its progress at achieving the milestones identified in its groundwater sustainability plan.

(iii) Adopts a feasible work plan for meeting the sustainability goal during the extension period.

(4) The plan may, but is not required to, address undesirable results that occurred before, and have not been corrected by, January 1, 2015. Notwithstanding paragraphs (1) to (3), inclusive, a groundwater sustainability agency has discretion as to whether to set measurable objectives and the timeframes for achieving any objectives for undesirable results that occurred before, and have not been corrected by, January 1, 2015.

(c) A planning and implementation horizon.

(d) Components relating to the following, as applicable to the basin:

(1) The monitoring and management of groundwater levels within the basin.

(2) The monitoring and management of groundwater quality, groundwater quality degradation, inelastic land surface subsidence, and changes in surface flow and surface water quality that directly affect groundwater levels or quality or are caused by groundwater extraction in the basin.

(3) Mitigation of overdraft.

(4) How recharge areas identified in the plan substantially contribute to the replenishment of the basin.

(5) A description of surface water supply used or available for use for groundwater recharge or in-lieu use.

(e) A summary of the type of monitoring sites, type of measurements, and the frequency of monitoring for each location monitoring groundwater levels, groundwater quality, subsidence, streamflow, precipitation, evaporation, and tidal influence. The plan shall include a summary of monitoring information such as well depth, screened intervals, and aquifer zones monitored, and a summary of the type of well relied on for the information, including public, irrigation, domestic, industrial, and monitoring wells.

(f) Monitoring protocols that are designed to detect changes in groundwater levels, groundwater quality, inelastic surface subsidence for basins for which subsidence has been identified as a potential problem, and flow and quality of surface water that directly affect groundwater levels or quality or are caused by groundwater extraction in the basin. The monitoring protocols shall be designed to generate information that promotes efficient and effective groundwater management.

(g) A description of the consideration given to the applicable county and city general plans and a description of the various adopted water resources-related plans and programs within the basin and an assessment of how the groundwater sustainability plan may affect those plans.

10727.4. ADDITIONAL PLAN ELEMENTS

In addition to the requirements of Section 10727.2, a groundwater sustainability plan shall include, where appropriate and in collaboration with the appropriate local agencies, all of the following:

(a) Control of saline water intrusion.

(b) Wellhead protection areas and recharge areas.

(c) Migration of contaminated groundwater.

(d) A well abandonment and well destruction program.

(e) Replenishment of groundwater extractions.

(f) Activities implementing, opportunities for, and removing impediments to, conjunctive use or underground storage.

(g) Well construction policies.

(h) Measures addressing groundwater contamination cleanup, **groundwater** recharge**, in-lieu use**, diversions to storage, conservation, water recycling, conveyance, and extraction projects.

(i) Efficient water management practices, as defined in Section 10902, for the delivery of water and water conservation methods to improve the efficiency of water use.

(j) Efforts to develop relationships with state and federal regulatory agencies.

(k) Processes to review land use plans and efforts to coordinate with land use planning agencies to assess activities that potentially create risks to groundwater quality or quantity.

(*l*) Impacts on groundwater dependent ecosystems.

10727.6. REQUIREMENTS FOR COORDINATED PLANS, WHEN MULTIPLE PLANS COVER A BASIN

Groundwater sustainability agencies intending to develop and implement multiple groundwater sustainability plans pursuant to paragraph (3) of subdivision (b) of Section 10727 shall coordinate with other agencies preparing a groundwater sustainability plan within the basin to ensure that the plans utilize the same data and methodologies for the following assumptions in developing the plan:

(a) Groundwater elevation data.

(b) Groundwater extraction data.

(c) Surface water supply.

(d) Total water use.

(e) Change in groundwater storage.

(f) Water budget.

(g) Sustainable yield.

10727.8. Public Notification and Participation; Advisory Committee

(a) Prior to initiating the development of a groundwater sustainability plan, the groundwater sustainability agency shall make available to the public and the department a written statement describing the manner in which interested parties may participate in the development and implementation of the groundwater sustainability plan. The groundwater sustainability agency shall provide the written statement to the legislative body of any city, county, or city and county located within the geographic area to be covered by the plan. The groundwater sustainability agency may appoint and consult with an advisory committee consisting of interested parties for the purposes of developing and implementing a groundwater sustainability plan. The groundwater sustainability agency shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the groundwater basin prior to and during the development and implementation of the groundwater sustainability plan.

(b) For purposes of this section, interested parties include entities listed in Section 10927 that are monitoring and reporting groundwater elevations in all or a part of a groundwater basin managed by the groundwater sustainability agency.

10728. Annual Reporting by Groundwater Sustainability Agency to Department

On the April 1 following the adoption of a groundwater sustainability plan and annually thereafter, a groundwater sustainability agency shall submit a report to the department containing the following information about the basin managed in the groundwater sustainability plan:

(a) Groundwater elevation data.

(b) Annual aggregated data identifying groundwater extraction for the preceding water year.

(c) Surface water supply used for or available for use for groundwater recharge or in-lieu use.

(d) Total water use.

(e) Change in groundwater storage.

10728.2. Periodic Review and Assessment

A groundwater sustainability agency shall periodically evaluate its groundwater sustainability plan, assess changing conditions in the basin that may warrant modification of the plan or management objectives, and may adjust components in the plan. An evaluation of the plan shall focus on determining whether the actions under the plan are meeting the plan's management objectives and whether those objectives are meeting the sustainability goal in the basin.

10728.4. ADOPTION OR AMENDMENT OF PLAN FOLLOWING PUBLIC HEARING

A groundwater sustainability agency may adopt or amend a groundwater sustainability plan after a public hearing, held at least 90 days after providing notice to a city or county within the area of the proposed plan or amendment. The groundwater sustainability agency shall review and consider comments from any city or county that receives notice pursuant to this section and shall consult with a city or county that requests consultation within 30 days of receipt of the notice. Nothing in this section is intended to preclude an agency and a city or county from otherwise consulting or commenting regarding the adoption or amendment of a plan.

10728.6. CEQA NOT APPLICABLE TO PLAN PREPARATION AND ADOPTION

Division 13 (commencing with Section 21000) of the Public Resources Code does not apply to the preparation and adoption of plans pursuant to this chapter. Nothing in this part shall be interpreted as exempting from Division 13 (commencing with Section 21000) of the Public Resources Code a project that would implement actions taken pursuant to a plan adopted pursuant to this chapter.

CHAPTER 7. Technical Assistance

10729. TECHNICAL ASSISTANCE BY DEPARTMENT AND GROUNDWATER SUSTAINABILITY AGENCY; DEPARTMENT ESTIMATE OF WATER AVAILABLE FOR REPLENISHMENT; DEPARTMENT BEST MANAGEMENT PRACTICES

(a) The department or a groundwater sustainability agency may provide technical assistance to entities that extract or use groundwater to promote water conservation and protect groundwater resources.

(b) The department may provide technical assistance to any groundwater sustainability agency in response to that agency's request for assistance in the development and implementation of a groundwater sustainability plan. The department shall use its best efforts to provide the requested assistance.

(c) The department shall prepare and publish a report by December 31, 2016, on its Internet Web site that presents the department's best estimate, based on available information, of water available for replenishment of groundwater in the state.

(d) (1) By January 1, 2017, the department shall publish on its Internet Web site best management practices for the sustainable management of groundwater.

(2) The department shall develop the best management practices through a public process involving one public meeting conducted at a location in northern California, one public meeting conducted at a location in the San Joaquin Valley, one public meeting conducted at a location in southern California, and one public meeting of the California Water Commission.

10729.2. GUIDELINE, CRITERION, BULLETIN; ADMINISTRATIVE PROCEDURE ACT EXCEPTION

With the exception of regulations required by Sections 10722.2 and 10733.2, a guideline, criterion, bulletin, or other technical or procedural analysis or guidance prepared by the department as required by this part is not subject to the Administrative Procedure Act (Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code).

CHAPTER 8. Financial Authority

10730. REGULATORY FEES AUTHORITY; LIMITED EXCEPTION FOR DE MINIMIS EXTRACTORS

(a) A groundwater sustainability agency may impose fees, including, but not limited to, permit fees and fees on groundwater extraction or other regulated activity, to fund the costs of a groundwater sustainability program, including, but not limited to, preparation, adoption, and amendment of a groundwater sustainability plan, and investigations, inspections, compliance assistance, enforcement, and program administration, including a prudent reserve. A groundwater sustainability agency shall not impose a fee pursuant to this subdivision on a de minimis extractor unless the agency has regulated the users pursuant to this part.

(b) (1) Prior to imposing or increasing a fee, a groundwater sustainability agency shall hold at least one public meeting, at which oral or written presentations may be made as part of the meeting.

(2) Notice of the time and place of the meeting shall include a general explanation of the matter to be considered and a statement that the data required by this section is available. The notice shall be provided by publication pursuant to Section 6066 of the Government Code, by posting notice on the Internet Web site of the groundwater sustainability agency, and by mail to any interested party who files a written request with the agency for mailed notice of the meeting on new or increased fees. A written request for mailed notices shall be valid for one year from the date that the request is made and may be renewed by making a written request on or before April 1 of each year.

(3) At least 10 days prior to the meeting, the groundwater sustainability agency shall make available to the public data upon which the proposed fee is based.

(c) Any action by a groundwater sustainability agency to impose or increase a fee shall be taken only by ordinance or resolution.

(d) (1) As an alternative method for the collection of fees imposed pursuant to this section, a groundwater sustainability agency may adopt a resolution requesting collection of the fees in the same manner as ordinary municipal ad valorem taxes.

(2) A resolution described in paragraph (1) shall be adopted and furnished to the county auditor-controller and board of supervisors on or before August 1 of each year that the alternative collection of the fees is being requested. The resolution shall include a list of parcels and the amount to be collected for each parcel.

(e) The power granted by this section is in addition to any powers a groundwater sustainability agency has under any other law.

10730.2. ADDITIONAL FEE AUTHORITY FOLLOWING ADOPTION OF A PLAN

(a) A groundwater sustainability agency that adopts a groundwater sustainability plan pursuant to this part may impose fees on the extraction of groundwater from the basin to fund costs of groundwater management, including, but not limited to, the costs of the following:

(1) Administration, operation, and maintenance, including a prudent reserve.

(2) Acquisition of lands or other property, facilities, and services.

(3) Supply, production, treatment, or distribution of water.

(4) Other activities necessary or convenient to implement the plan.

(b) Until a groundwater sustainability plan is adopted pursuant to this part, a local agency may impose fees in accordance with the procedures provided in this section for the purposes of Part 2.75 (commencing with Section 10750) as long as a groundwater management plan adopted before January 1, 2015, is in effect ~~for the basin~~.

(c) Fees imposed pursuant to this section shall be adopted in accordance with subdivisions (a) and (b) of Section 6 of Article XIII D of the California Constitution.

(d) Fees imposed pursuant to this section may include fixed fees and fees charged on a volumetric basis, including, but not limited to, fees that increase based on the quantity of groundwater produced annually, the year in which the production of groundwater commenced from a groundwater extraction facility, and impacts to the basin.

(e) The power granted by this section is in addition to any powers a groundwater sustainability agency has under any other law.

10730.4. AUTHORITY TO USE FEES FOR ACTIVITIES PURSUANT TO PART 2.75

A groundwater sustainability agency may fund activities pursuant to Part 2.75 (commencing with Section 10750) and may impose fees pursuant to Section 10730.2 to fund activities undertaken by the agency pursuant to Part 2.75 (commencing with Section 10750).

10730.6. FEE COLLECTION AND ENFORCEMENT

(a) A groundwater fee levied pursuant to this chapter shall be due and payable to the groundwater sustainability agency by each owner or operator on a day established by the groundwater sustainability agency.

(b) If an owner or operator knowingly fails to pay a groundwater fee within 30 days of it becoming due, the owner or operator shall be liable to the groundwater sustainability agency for interest at the rate of 1 percent per month on the delinquent amount of the groundwater fee and a 10-percent penalty.

(c) The groundwater sustainability agency may bring a suit in the court having jurisdiction against any owner or operator of a groundwater extraction facility within the area covered by the plan for the collection of any delinquent groundwater fees, interest, or penalties imposed under this chapter. If the groundwater sustainability agency seeks an attachment against the property of any named defendant in the suit, the groundwater sustainability agency shall not be required to furnish a bond or other undertaking as provided in Title 6.5 (commencing with Section 481.010) of Part 2 of the Code of Civil Procedure.

(d) In the alternative to bringing a suit pursuant to subdivision (c), a groundwater sustainability agency may collect any delinquent groundwater charge and any civil penalties and interest on the delinquent groundwater charge pursuant to the laws applicable to the local agency or, if a joint powers authority, to the entity designated pursuant to Section 6509 of the Government Code. The collection shall be in the same manner as it would be applicable to the collection of delinquent assessments, water charges, or tolls.

(e) As an additional remedy, a groundwater sustainability agency, after a public hearing, may order an owner or operator to cease extraction of groundwater until all delinquent fees are paid. The groundwater sustainability agency shall give notice to the owner or operator by certified mail not less than 15 days in advance of the public hearing.

(f) The remedies specified in this section for collecting and enforcing fees are cumulative and may be pursued alternatively or may be used consecutively as determined by the governing body.

10730.8. NO LIMITATION ON OTHER AUTHORITIES; PERSONAL INFORMATION TREATED LIKE UTILITY INFORMATION

(a) Nothing in this chapter shall affect or interfere with the authority of a groundwater sustainability agency to levy and collect taxes, assessments, charges, and tolls as otherwise provided by law.

(b) Personal information included in a report or record pursuant to this chapter has the same protection from disclosure as is provided for information concerning utility customers of local agencies pursuant to Section 6254.16 of the Government Code.

10731. AUTHORITY TO DETERMINE AMOUNTS EXTRACTED

(a) Following an investigation pursuant to Section 10725.4, the governing body may make a determination fixing the amount of groundwater production from the groundwater extraction facility at an amount not to exceed the maximum production capacity of the facility for purposes of levying a groundwater charge. If a water-measuring device is permanently attached to the groundwater extraction facility, the record of production as disclosed by the water-measuring device shall be presumed to be accurate unless the contrary is established by the groundwater sustainability agency after investigation.

(b) After the governing body makes a determination fixing the amount of groundwater production pursuant to subdivision (a), a written notice of the determination shall be mailed to the owner or operator of the groundwater extraction facility at the address as shown by the groundwater sustainability agency's records. A determination made by the governing body shall be conclusive on the owner or operator and the groundwater charges, based on the determination together with any interest and penalties, shall be payable immediately unless within 20 days after the mailing of the notice the owner or operator files with the governing body a written protest setting forth the ground for protesting the amount of production or the groundwater charges, interest, and penalties. If a protest is filed pursuant to this subdivision, the governing body shall hold a hearing to determine the total amount of the groundwater production and the groundwater charges, interest, and penalties. Notice of the hearing shall be mailed to each protestant at least 20 days before the date fixed for the hearing. Notice of the determination of the governing body hearing shall be mailed to each protestant. The owner or operator

shall have 20 days from the date of mailing of the determination to pay the groundwater charges, interest, and penalties determined by the governing body.

CHAPTER 9. Groundwater Sustainability Agency Enforcement Powers

10732. CIVIL PENALTIES

(a) (1) A person who extracts groundwater in excess of the amount that person is authorized to extract under a rule, regulation, ordinance, or resolution adopted pursuant to Section 10725.2, shall be subject to a civil penalty not to exceed five hundred dollars ($500) per acre-foot extracted in excess of the amount that person is authorized to extract. Liability under this subdivision is in addition to any liability imposed under paragraph (2) and any fee imposed for the extraction.

(2) A person who violates any rule, regulation, ordinance, or resolution adopted pursuant to Section 10725.2 shall be liable for a civil penalty not to exceed one thousand dollars ($1,000) plus one hundred dollars ($100) for each additional day on which the violation continues if the person fails to comply within 30 days after the local agency has notified the person of the violation.

(b) (1) A groundwater sustainability agency may bring an action in the superior court to determine whether a violation occurred and to impose a civil penalty described in subdivision (a).

(2) A groundwater sustainability agency may administratively impose a civil penalty described in subdivision (a) after providing notice and an opportunity for a hearing.

(3) In determining the amount of the penalty, the superior court or the groundwater sustainability agency shall take into consideration all relevant circumstances, including, but not limited to, the nature and persistence of the violation, the extent of the harm caused by the violation, the length of time over which the violation occurs, and any corrective action taken by the violator.

(c) A penalty imposed pursuant to this section shall be paid to the groundwater sustainability agency and shall be expended solely for purposes of this part.

(d) Penalties imposed pursuant to this section are in addition to any civil penalty or criminal fine under any other law.

10732.2. STATE ENTITY COOPERATION

If a groundwater sustainability agency finds that a state entity is not working cooperatively regarding implementation of a groundwater sustainability plan, the groundwater sustainability agency may file notice with the board regarding its finding. The board shall notice proceedings to investigate the finding of the groundwater sustainability agency. If the board determines that the failure of the state entity to work cooperatively regarding implementation of a groundwater sustainability plan compromises the ability of the groundwater sustainability agency to implement the plan in a manner that will likely achieve the sustainability goal, the board may direct the state entity to cooperate in the implementation of the groundwater sustainability plan unless the state entity indicates its

authority for not complying with a groundwater sustainability plan in the same manner as subdivision (f) of Section 10735.8.

CHAPTER 10. State Evaluation and Assessment

10733. DEPARTMENT REVIEW OF PLANS

(a) The department shall periodically review the groundwater sustainability plans developed by groundwater sustainability agencies pursuant to this part to evaluate whether a plan conforms with Sections 10727.2 and 10727.4 and is likely to achieve the sustainability goal for the basin covered by the groundwater sustainability plan.

(b) If a groundwater sustainability agency develops multiple groundwater sustainability plans for a basin, the department shall evaluate whether the plans conform with Sections 10727.2, 10727.4, and 10727.6 and are together likely to achieve the sustainability goal for the basin covered by the groundwater sustainability plans.

(c) The department shall evaluate whether a groundwater sustainability plan adversely affects the ability of an adjacent basin to implement their groundwater sustainability plan or impedes achievement of sustainability goals in an adjacent basin.

10733.2. DEPARTMENT TO ADOPT EMERGENCY REGULATIONS CONCERNING PLAN REVIEW AND IMPLEMENTATION

(a) (1) By June 1, 2016, the department shall adopt regulations for evaluating groundwater sustainability plans, the implementation of groundwater sustainability plans, and coordination agreements pursuant to this chapter.

(2) The regulations shall identify the necessary plan components specified in Sections 10727.2, 10727.4, and 10727.6 and other information that will assist local agencies in developing and implementing groundwater sustainability plans and coordination agreements.

(b) (1) The department may update the regulations, including to incorporate the best management practices identified pursuant to Section 10729.

(2) The regulations adopted pursuant to paragraph (1) of subdivision (a) shall identify appropriate methodologies and assumptions for baseline conditions concerning hydrology, water demand, regulatory restrictions that affect the availability of surface water, and unreliability of, or reductions in, surface water deliveries to the agency or water users in the basin, and the impact of those conditions on achieving sustainability. The baseline for measuring unreliability and reductions shall include the historic average reliability and deliveries of surface water to the agency or water users in the basin.

(c) By June 1, 2016, the department shall adopt regulations for evaluating alternatives submitted pursuant to Section 10733.6.

(d) The department shall adopt the regulations, including any amendments thereto, authorized by this section as emergency regulations in accordance with the Administrative Procedure Act (Chapter 3.5

(commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code). The adoption of these regulations is an emergency and shall be considered by the Office of Administrative Law as necessary for the immediate preservation of the public peace, health and safety, or general welfare. Notwithstanding the Administrative Procedure Act, emergency regulations adopted by the department pursuant to this section shall not be subject to review by the Office of Administrative Law and shall remain in effect until revised by the department.

(e) Before adopting ~~and finalizing~~ the regulations **pursuant to this section**, the department shall conduct three public meetings to consider public comments. The department shall publish the draft regulations on its Internet Web site at least 30 days before the public meetings. One meeting shall be conducted at a location in northern California, one meeting shall be conducted at a location in the central valley of California, and one meeting shall be conducted at a location in southern California.

~~10733.3. NOTICE REQUIREMENTS~~

~~**The department shall post all notices it receives pursuant to Section 10723 or 10723.8 on its Internet Web site within 15 days of receipt.**~~

10733.4. SUBMITTAL OF PLANS TO DEPARTMENT FOR EVALUATION

(a) Upon adoption of a groundwater sustainability plan, a groundwater sustainability agency shall submit the groundwater sustainability plan to the department for review pursuant to this chapter.

(b) If groundwater sustainability agencies develop multiple groundwater sustainability plans for a basin, the submission required by subdivision (a) shall not occur until the entire basin is covered by groundwater sustainability plans. When the entire basin is covered by groundwater sustainability plans, the groundwater sustainability agencies shall jointly submit to the department all of the following:

(1) The groundwater sustainability plans.

(2) An explanation of how the groundwater sustainability plans implemented together satisfy Sections 10727.2, 10727.4, and 10727.6 for the entire basin.

(3) A copy of the coordination agreement between the groundwater sustainability agencies to ensure the coordinated implementation of the groundwater sustainability plans for the entire basin.

(c) Upon receipt of a groundwater sustainability plan, the department shall post the plan on the department's Internet Web site and provide 60 days for persons to submit comments to the department about the plan.

(d) The department shall evaluate the groundwater sustainability plan within two years of its submission by a groundwater sustainability agency and issue an assessment of the plan. The assessment may include recommended corrective actions to address any deficiencies identified by the department.

10733.6. ALTERNATIVE SUBMITTALS

(a) If a local agency believes that an alternative described in subdivision (b) satisfies the objectives of this part, the local agency may submit the alternative to the department for evaluation and assessment of whether the alternative satisfies the objectives of this part for the basin.

(b) An alternative is any of the following:

(1) A plan developed pursuant to Part 2.75 (commencing with Section 10750) or other law authorizing groundwater management.

(2) Management pursuant to an adjudication action.

(3) An analysis of basin conditions that demonstrates that the basin has operated within its sustainable yield over a period of at least 10 years. The submission of an alternative described by this paragraph shall include a report prepared by a registered professional engineer or geologist who is licensed by the state and submitted under that engineer's or geologist's seal.

(c) A local agency shall submit an alternative pursuant to this section no later than January 1, 2017, and every five years thereafter.

(d) The assessment required by subdivision (a) shall include an assessment of whether the alternative is within a basin that is in compliance with Part 2.11 (commencing with Section 10920). If the alternative is within a basin that is not in compliance with Part 2.11 (commencing with Section 10920), the department shall find the alternative does not satisfy the objectives of this part.

10733.8. DEPARTMENT REVIEW OF PLANS AT LEAST EVERY FIVE YEARS

At least every five years after initial submission of a plan pursuant to Section 10733.4, the department shall review any available groundwater sustainability plan or alternative submitted in accordance with Section 10733.6, and the implementation of the corresponding groundwater sustainability program for consistency with this part, including achieving the sustainability goal. The department shall issue an assessment for each basin for which a plan or alternative has been submitted in accordance with this chapter, with an emphasis on assessing progress in achieving the sustainability goal within the basin. The assessment may include recommended corrective actions to address any deficiencies identified by the department.

CHAPTER 11. State Intervention

10735. DEFINITIONS

As used in this chapter, the following terms have the following meanings:

(a) "Condition of long-term overdraft" means the condition of a groundwater basin where the average annual amount of water extracted for a long-term period, generally 10 years or more, exceeds the long-term average annual supply of water to the basin, plus any temporary surplus. Overdraft during a period of drought is not sufficient to establish a condition of long-term overdraft if extractions and recharge are

managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods.

(b) "Person" means any person, firm, association, organization, partnership, business, trust, corporation, limited liability company, or public agency, including any city, county, city and county, district, joint powers authority, state, or any agency or department of those entities. "Person" includes, to the extent authorized by federal or tribal law and subject to the limitations described in subdivisions (c) and (d) of Section 10720.3, the United States, a department, agency or instrumentality of the federal government, an Indian tribe, an authorized Indian tribal organization, or interstate body.

(c) "Probationary basin" means a basin for which the board has issued a determination under Section 10735.2.

(d) "Significant depletions of interconnected surface waters" means reductions in flow or levels of surface water that is hydrologically connected to the basin such that the reduced surface water flow or levels have a significant and unreasonable adverse impact on beneficial uses of the surface water.

10735.2. DESIGNATION OF PROBATIONARY BASINS BY STATE WATER BOARD

(a) The board, after notice and a public hearing, may designate a high- or medium-priority basin as a probationary basin, if the board finds one or more of the following applies to the basin:

(1) After June 30, 2017, none of the following have occurred:

(A) A local agency has ~~elected~~decided to ~~be~~become a groundwater sustainability agency that intends to develop a groundwater sustainability plan for the entire basin.

(B) A collection of local agencies has formed a groundwater sustainability agency or prepared agreements to develop one or more groundwater sustainability plans that will collectively serve as a groundwater sustainability plan for the entire basin.

(C) A local agency has submitted an alternative that has been approved or is pending approval pursuant to Section 10733.6. If the department disapproves an alternative pursuant to Section 10733.6, the board shall not act under this paragraph until at least 180 days after the department disapproved the alternative.

(2) The basin is subject to paragraph (1) of subdivision (a) of Section 10720.7, and after January 31, 2020, none of the following have occurred:

(A) A groundwater sustainability agency has adopted a groundwater sustainability plan for the entire basin.

(B) A collection of local agencies has adopted groundwater sustainability plans that collectively serve as a groundwater sustainability plan for the entire basin.

(C) The department has approved an alternative pursuant to Section 10733.6.

(3) The basin is subject to paragraph (1) of subdivision (a) of Section 10720.7 and after January 31, 2020, the department, in consultation with the board, determines that a groundwater sustainability plan is inadequate or that the groundwater sustainability program is not being implemented in a manner that will likely achieve the sustainability goal.

(4) The basin is subject to paragraph (2) of subdivision (a) of Section 10720.7, and after January 31, 2022, none of the following have occurred:

(A) A groundwater sustainability agency has adopted a groundwater sustainability plan for the entire basin.

(B) A collection of local agencies has adopted groundwater sustainability plans that collectively serve as a groundwater sustainability plan for the entire basin.

(C) The department has approved an alternative pursuant to Section 10733.6.

(5) The basin is subject to paragraph (2) of subdivision (a) of Section 10720.7, and either of the following have occurred:

(A) After January 31, 2022, both of the following have occurred:

(i) The department, in consultation with the board, determines that a groundwater sustainability plan is inadequate or that the groundwater sustainability plan is not being implemented in a manner that will likely achieve the sustainability goal.

(ii) The board determines that the basin is in a condition of long-term overdraft.

(B) After January 31, 2025, both of the following have occurred:

(i) The department, in consultation with the board, determines that a groundwater sustainability plan is inadequate or that the groundwater sustainability plan is not being implemented in a manner that will likely achieve the sustainability goal.

(ii) The board determines that the basin is in a condition where groundwater extractions result in significant depletions of interconnected surface waters.

(b) In making the findings associated with paragraph (3) or (5) of subdivision (a), the department and board may rely on periodic assessments the department has prepared pursuant to Chapter 10 (commencing with Section 10733). The board may request that the department conduct additional assessments utilizing the regulations developed pursuant to Chapter 10 (commencing with Section 10733) and make determinations pursuant to this section. The board shall post on its Internet Web site and provide at least 30 days for the public to comment on any determinations provided by the department pursuant to this subdivision.

(c) (1) The determination may exclude a class or category of extractions from the requirement for reporting pursuant to Part 5.2 (commencing with Section 5200) of Division 2 if those extractions are

subject to a local plan or program that adequately manages groundwater within the portion of the basin to which that plan or program applies, or if those extractions are likely to have a minimal impact on basin withdrawals.

(2) The determination may require reporting of a class or category of extractions that would otherwise be exempt from reporting pursuant to paragraph (1) of subdivision (c) of Section 5202 if those extractions are likely to have a substantial impact on basin withdrawals or requiring reporting of those extractions is reasonably necessary to obtain information for purposes of this chapter.

(3) The determination may establish requirements for information required to be included in reports of groundwater extraction, for installation of measuring devices, or for use of a methodology, measuring device, or both, pursuant to Part 5.2 (commencing with Section 5200) of Division 2.

(4) The determination may modify the water year or reporting date for a report of groundwater extraction pursuant to Section 5202.

(d) If the board finds that litigation challenging the formation of a groundwater sustainability agency prevented its formation before July 1, 2017, pursuant to paragraph (1) of subdivision (a) or prevented a groundwater sustainability program from being implemented in a manner likely to achieve the sustainability goal pursuant to paragraph **(2),** (3), (4), or (5) of subdivision (a), the board shall not designate a basin as a probationary basin for a period of time equal to the delay caused by the litigation.

(e) The board shall exclude from probationary status any portion of a basin for which a groundwater sustainability agency demonstrates compliance with the sustainability goal.

10735.4. OPPORTUNITY FOR REMEDY OF ABSENCE OF LOCAL GOVERNANCE BEFORE STATE WATER BOARD PREPARES INTERIM PLAN

(a) If the board designates a basin as a probationary basin pursuant to paragraph (1)**, (2),** or (~~2~~**4**) of subdivision (a) of Section 10735.2, a local agency or groundwater sustainability agency shall have 180 days to remedy the deficiency. The board may appoint a mediator or other facilitator, after consultation with affected local agencies, to assist in resolving disputes, and identifying and implementing actions that will remedy the deficiency.

(b) After the 180-day period provided by subdivision (a), the board may provide additional time to remedy the deficiency if it finds that a local agency is making substantial progress toward remedying the deficiency.

(c) The board may develop an interim plan pursuant to Section 10735.8 for the probationary basin at the end of the period provided by subdivision (a) or any extension provided pursuant to subdivision (b), if the board, in consultation with the department, determines that a local agency has not remedied the deficiency that resulted in designating the basin as a probationary basin.

10735.6. OPPORTUNITY FOR REMEDY OF PLAN INADEQUACY OR LACK OF PLAN IMPLEMENTATION BEFORE STATE WATER BOARD PREPARES INTERIM PLAN

(a) If the board designates a basin as a probationary basin pursuant to paragraph (3**) or (5**) of subdivision (a) of Section 10735.2, the board shall identify the specific deficiencies and identify potential actions to address the deficiencies. The board may request the department to provide local agencies, within 90 days of the designation of a probationary basin, with technical recommendations to remedy the deficiencies.

(b) The board may develop an interim plan pursuant to Section 10735.8 for the probationary basin one year after the designation of the basin pursuant to paragraph (3**) or (5**) of subdivision (a) of Section 10735.2, if the board, in consultation with the department, determines that a local agency has not remedied the deficiency that resulted in designating the basin a probationary basin.

10735.8. INTERIM PLANS

(a) The board, after notice and a public hearing, may adopt an interim plan for a probationary basin.

(b) The interim plan shall include all of the following:

(1) Identification of the actions that are necessary to correct a condition of long-term overdraft or a condition where groundwater extractions result in significant depletions of interconnected surface waters, including recommendations for appropriate action by any person.

(2) A time schedule for the actions to be taken.

(3) A description of the monitoring to be undertaken to determine effectiveness of the plan.

(c) The interim plan may include the following:

(1) Restrictions on groundwater extraction.

(2) A physical solution.

(3) Principles and guidelines for the administration of rights to surface waters that are connected to the basin.

(d) Except as provided in subdivision (e), the interim plan shall be consistent with water right priorities, subject to Section 2 of Article X of the California Constitution.

(e) The board shall include in its interim plan a groundwater sustainability plan, or any element of a plan, that the board finds complies with the sustainability goal for that portion of the basin or would help meet the sustainability goal for the basin. Where, in the judgment of the board, an adjudication action can be relied on as part of the interim plan, either throughout the basin or in an area within the basin, the board may rely on, or incorporate elements of, that adjudication into the interim plan adopted by the board.

(f) In carrying out activities that may affect the probationary basin, state entities shall comply with an interim plan adopted by the board pursuant to this section unless otherwise directed or authorized by statute and the state entity shall indicate to the board in writing the authority for not complying with the interim plan.

(g) (1) After the board adopts an interim plan under this section, the board shall determine if a groundwater sustainability plan or an adjudication action is adequate to eliminate the condition of long-term overdraft or condition where groundwater extractions result in significant depletions of interconnected surface waters, upon petition of either of the following:

(A) A groundwater sustainability agency that has adopted a groundwater sustainability plan for the probationary basin or a portion thereof.

(B) A person authorized to file the petition by a judicial order or decree entered in an adjudication action in the probationary basin.

(2) The board shall act on a petition filed pursuant to paragraph (1) within 90 days after the petition is complete. If the board, in consultation with the department, determines that the groundwater sustainability plan or adjudication action is adequate, the board shall rescind the interim plan adopted by the board for the probationary basin, except as provided in paragraphs (3) and (4).

(3) Upon request of the petitioner, the board may amend an interim plan adopted under this section to eliminate portions of the interim plan, while allowing other portions of the interim plan to continue in effect.

(4) The board may decline to rescind an interim plan adopted pursuant to this section if the board determines that the petitioner has not provided adequate assurances that the groundwater sustainability plan or judicial order or decree will be implemented.

(5) This subdivision is not a limitation on the authority of the board to stay its proceedings under this section or to rescind or amend an interim plan adopted pursuant to this section based on the progress made by a groundwater sustainability agency or in an adjudication action, even if the board cannot make a determination of adequacy in accordance with paragraph (1).

(h) Before January 1, 2025, the state board shall not establish an interim plan under this section to remedy a condition where the groundwater extractions result in significant depletions of interconnected surface waters.

(i) The board's authority to adopt an interim plan under this section does not alter the law establishing water rights priorities or any other authority of the board.

10736. PROCEDURES APPLICABLE TO DESIGNATING PROBATIONARY BASINS AND ADOPTING INTERIM PLANS

(a) The board shall adopt or amend a determination or interim plan under Section 10735.2 or 10735.8 in accordance with procedures for quasi-legislative action.

(b) The board shall provide notice of a hearing described in subdivision (a) of Section 10735.2 or subdivision (a) of Section 10735.8 as follows:

(1) At least 90 days before the hearing, the board shall publish notice of the hearing on its Internet Web site.

(2) At least 90 days before the hearing, the board shall notify the department and each city, county, or city and county in which any part of the basin is situated.

(3) (A) For the purposes of this paragraph, the terms "board-designated local area" and "local agency" have the same meaning as defined in Section 5009.

(B) At least 60 days before the hearing, the board shall mail or send by electronic mail notice to all persons known to the board who extract or who propose to extract water from the basin, or who have made written or electronic mail requests to the board for special notice of hearing pursuant to this part. If any portion of the basin is within a board-designated local area, the records made available to the board by the local agency in accordance with paragraph (4) of subdivision (d) of Section 5009 shall include the names and addresses of persons and entities known to the local agency who extract water from the basin, and the board shall mail or send by electronic mail notice to those persons.

(c) The board shall provide notice of proceedings to amend or repeal a determination or plan under Section 10735.2 or 10735.8 as appropriate to the proceedings, taking into account the nature of the proposed revision and the person likely to be affected.

(d) (1) Except as provided in paragraphs (2) and (3), Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 2 of Title 2 of the Government Code does not apply to any action authorized pursuant to Section 10735.2 or 10735.8.

(2) The board may adopt a regulation in accordance with Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 2 of Title 2 of the Government Code setting procedures for adopting a determination or plan.

(3) The board may adopt a regulation applying or interpreting this part pursuant to Section 1530 if the board determines that the emergency regulation is reasonably necessary for the allocation, administration, or collection of fees authorized pursuant to Section 1529.5.

10736.2. CEQA APPLICABILITY

Division 13 (commencing with Section 21000) of the Public Resources Code does not apply to any action or failure to act by the board under this chapter, other than the adoption or amendment of an interim plan pursuant to Section 10735.8.

10736.4. Extraction in Violation of an Interim Plan Shall Not Be Relied Upon to Support a Water Right Claim

The extraction or use of water extracted in violation of an interim plan under this part shall not be relied upon as a basis for establishing the extraction or use of water to support a claim in an action or proceeding for determination of water rights.

10736.6. Reports and Inspections

(a) The board may order a person that extracts or uses water from a basin that is subject to an investigation or proceeding under this chapter to prepare and submit to the board any technical or monitoring program reports related to that person's or entity's extraction or use of water as the board may specify. The costs incurred by the person in the preparation of those reports shall bear a reasonable relationship to the need for the report and the benefit to be obtained from the report. If the preparation of individual reports would result in a duplication of effort, or if the reports are necessary to evaluate the cumulative effect of several diversions or uses of water, the board may order any person subject to this subdivision to pay a reasonable share of the cost of preparing reports.

(b) (1) An order issued pursuant to this section shall be served by personal service or registered mail on the party to submit technical or monitoring program reports or to pay a share of the costs of preparing reports. Unless the board issues the order after a hearing, the order shall inform the party of the right to request a hearing within 30 days after the party has been served. If the party does not request a hearing within that 30-day period, the order shall take effect as issued. If the party requests a hearing within that 30-day period, the board may adopt a decision and order after conducting a hearing.

(2) In lieu of adopting an order directed at named persons in accordance with the procedures specified in paragraph (1), the board may adopt a regulation applicable to a category or class of persons in accordance with Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 2 of Title 2 of the Government Code.

(c) Upon application of a person or upon its own motion, the board may review and revise an order issued or regulation adopted pursuant to this section in accordance with the procedures set forth in subdivision (b).

(d) In conducting an investigation or proceeding pursuant to this part, the board may inspect the property or facilities of a person to ascertain whether the purposes of this part are being met and to ascertain compliance with this part. The board may obtain an inspection warrant pursuant to the procedures set forth in Title 13 (commencing with Section 1822.50) of Part 3 of the Code of Civil Procedure for the purposes of an inspection pursuant to this subdivision.

CHAPTER 12. Determination of Rights to Groundwater

10737. GROUNDWATER ADJUDICATION

Except as provided in this chapter, an adjudication action to determine rights to groundwater in a basin shall be conducted in accordance with the Code of Civil Procedure, including pursuant to Chapter 7 (commencing with Section 830) of Title 10 of Part 2 of that code.

10737.2. ADJUDICATION PROCEEDINGS AND SUSTAINABILITY PLAN

In an adjudication action for a basin required to have a groundwater sustainability plan under this part, the court shall manage the proceedings in a manner that minimizes interference with the timely completion and implementation of a groundwater sustainability plan, avoids redundancy and unnecessary costs in the development of technical information and a physical solution, and is consistent with the attainment of sustainable groundwater management within the timeframes established by this part.

10737.4. DEPARTMENT REVIEW OF JUDGMENT

(a) Chapter 11 (commencing with Section 10735) shall not apply to a judgment approved by the court pursuant to Section 850 of the Code of Civil Procedure if both of the following apply:

(1) A local agency or a party directed by the court to file the submission submits the judgment to the department for evaluation and assessment pursuant to paragraph (2) of subdivision (b) of Section 10733.6.

(2) The department determines that the judgment satisfies the objectives of this part for the basin.

(b) A party or group of parties proposing a stipulated judgment pursuant to subdivision (b) of Section 850 of the Code of Civil Procedure may submit the proposed stipulated judgment to the department for evaluation and assessment pursuant to paragraph (2) of subdivision (b) of Section 10733.6.

(c) Notwithstanding subdivision (c) of Section 10733.6, a judgment or proposed stipulated judgment pursuant to this section may be submitted to the department after January 1, 2017.

(d) A determination of the department on a submission pursuant to this section is subject to judicial review pursuant to Section 1085 of the Code of Civil Procedure. Venue shall be in the court with jurisdiction over the adjudication action and the case shall be coordinated with the adjudication action.

10737.6. DEPARTMENT ASSESSMENTS AND RECOMMENDATIONS

If the department determines that a judgment satisfies the objectives of this part in accordance with paragraph (2) of subdivision (a) of Section 10737.4, the department shall submit to the court the assessments and any recommended corrective actions that the department issues pursuant to Section 10733.8. The court, after notice and, if necessary, an evidentiary hearing, shall determine whether to amend the judgment pursuant to Section 852 of the Code of Civil Procedure to adopt the department's recommended corrective actions.

10737.8. COURT FINDINGS

In addition to making any findings required by subdivision (a) of Section 850 of the Code of Civil Procedure or any other law, the court shall not approve entry of judgment in an adjudication action for a basin required to have a groundwater sustainability plan under this part unless the court finds that the judgment will not substantially impair the ability of a groundwater sustainability agency, the board, or the department to comply with this part and to achieve sustainable groundwater management.

* * *

[PART 2.75. Groundwater Management]

10750.1. LIMITATION ON AUTHORITY TO ADOPT NEW PLANS

(a) Beginning January 1, 2015, a new plan shall not be adopted and an existing plan shall not be renewed pursuant to this part, except as provided in subdivision (b). A plan adopted before January 1, 2015, shall remain in effect until a groundwater sustainability plan is adopted pursuant to Part 2.74 (commencing with Section 10720).

(b) This section does not apply to a low- or very low priority basin as categorized for the purposes of Part 2.74 (commencing with Section 10720).

(c) This section does not apply to a plan submitted as an alternative pursuant to Section 10733.6, unless the department has not determined that the alternative satisfies the objectives of Part 2.74 (commencing with Section 10720) on or before January 31, 2020, or the department later determines that the plan does not satisfy the objectives of that part.

[PART 2.11. Groundwater Monitoring]

10927. ENTITIES AUTHORIZED TO ASSUME RESPONSIBILITY FOR MONITORING AND REPORTING

Any of the following entities may assume responsibility for monitoring and reporting groundwater elevations in all or a part of a basin or subbasin in accordance with this part:

(a) A watermaster or water management engineer appointed by a court or pursuant to statute to administer a final judgment determining rights to groundwater.

(b) (1) A groundwater management agency with statutory authority to manage groundwater pursuant to its principal act that is monitoring groundwater elevations in all or a part of a groundwater basin or subbasin on or before January 1, 2010.

(2) A water replenishment district established pursuant to Division 18 (commencing with Section 60000). This part does not expand or otherwise affect the authority of a water replenishment district relating to monitoring groundwater elevations.

(3) A groundwater sustainability agency with statutory authority to manage groundwater pursuant to Part 2.74 (commencing with Section 10720).

(c) A local agency that is managing all or part of a groundwater basin or subbasin pursuant to Part 2.75 (commencing with Section 10750) and that was monitoring groundwater elevations in all or a part of a groundwater basin or subbasin on or before January 1, 2010, or a local agency or county that is managing all or part of a groundwater basin or subbasin pursuant to any other legally enforceable groundwater management plan with provisions that are substantively similar to those described in that part and that was monitoring groundwater elevations in all or a part of a groundwater basin or subbasin on or before January 1, 2010.

(d) A local agency that is managing all or part of a groundwater basin or subbasin pursuant to an integrated regional water management plan prepared pursuant to Part 2.2 (commencing with Section 10530) that includes a groundwater management component that complies with the requirements of Section 10753.7.

(e) A local agency that has been collecting and reporting groundwater elevations and that does not have an adopted groundwater management plan, if the local agency adopts a groundwater management plan in accordance with Part 2.75 (commencing with Section 10750) by January 1, 2014. The department may authorize the local agency to conduct the monitoring and reporting of groundwater elevations pursuant to this part on an interim basis, until the local agency adopts a groundwater management plan in accordance with Part 2.75 (commencing with Section 10750) or until January 1, 2014, whichever occurs first.

(f) A county that is not managing all or a part of a groundwater basin or subbasin pursuant to a legally enforceable groundwater management plan with provisions that are substantively similar to those described in Part 2.75 (commencing with Section 10750).

(g) A voluntary cooperative groundwater monitoring association formed pursuant to Section 10935.

10933. GROUNDWATER ELEVATION MONITORING; PRIORITIZATION OF BASINS BY THE DEPARTMENT

(a) The department shall commence to identify the extent of monitoring of groundwater elevations that is being undertaken within each basin and subbasin.

(b) The department shall prioritize groundwater basins and subbasins for the purpose of implementing this section. In prioritizing the basins and subbasins, the department shall, to the extent data are available, consider all of the following:

(1) The population overlying the basin or subbasin.

(2) The rate of current and projected growth of the population overlying the basin or subbasin.

(3) The number of public supply wells that draw from the basin or subbasin.

(4) The total number of wells that draw from the basin or subbasin.

(5) The irrigated acreage overlying the basin or subbasin.

(6) The degree to which persons overlying the basin or subbasin rely on groundwater as their primary source of water.

(7) Any documented impacts on the groundwater within the basin or subbasin, including overdraft, subsidence, saline intrusion, and other water quality degradation.

(8) Any other information determined to be relevant by the department, including adverse impacts on local habitat and local streamflows.

(c) If the department determines that all or part of a basin or subbasin is not being monitored pursuant to this part, the department shall do all of the following:

(1) Attempt to contact all well owners within the area not being monitored.

(2) Determine if there is an interest in establishing any of the following:

(A) A groundwater **sustainability plan pursuant to Part 2.74 (commencing with Section 10720).**

(B) A groundwater management plan pursuant to Part 2.75 (commencing with Section 10750).

(~~B~~**C**) An integrated regional water management plan pursuant to Part 2.2 (commencing with Section 10530) that includes a groundwater management component that complies with the requirements of Section 10753.7.

(~~C~~**D**) A voluntary groundwater monitoring association pursuant to Section 10935.

(d) If the department determines that there is sufficient interest in establishing a plan or association described in paragraph (2) of subdivision (c), or if the county agrees to perform the groundwater monitoring functions in accordance with this part, the department shall work cooperatively with the interested parties to comply with the requirements of this part within two years.

(e) If the department determines, with regard to a basin or subbasin, that there is insufficient interest in establishing a plan or association described in paragraph (2) of subdivision (c), and if the county decides not to perform the groundwater monitoring and reporting functions of this part, the department shall do all of the following:

(1) Identify any existing monitoring wells that overlie the basin or subbasin that are owned or operated by the department or any other state or federal agency.

(2) Determine whether the monitoring wells identified pursuant to paragraph (1) provide sufficient information to demonstrate seasonal and long-term trends in groundwater elevations.

(3) If the department determines that the monitoring wells identified pursuant to paragraph (1) provide sufficient information to demonstrate seasonal and long-term trends in groundwater

elevations, the department shall not perform groundwater monitoring functions pursuant to Section 10933.5.

(4) If the department determines that the monitoring wells identified pursuant to paragraph (1) provide insufficient information to demonstrate seasonal and long-term trends in groundwater elevations, the department shall perform groundwater monitoring functions pursuant to Section 10933.5.

[PART 6. Water Development Projects]

[Chapter 7.5. Protection of Groundwater Basins]

12924. IDENTIFICATION OF GROUNDWATER BASINS

(a) The department, in conjunction with other public agencies, shall conduct an investigation of the state's groundwater basins. The department shall identify the state's groundwater basins on the basis of geological and hydrological conditions and consideration of political boundary lines whenever practical. The department shall also investigate existing general patterns of groundwater extraction and groundwater recharge within those basins to the extent necessary to identify basins that are subject to critical conditions of overdraft.

(b) The department may revise the boundaries of groundwater basins identified in subdivision (a) based on its own investigations or information provided by others.

(c) The department shall report its findings to the Governor and the Legislature not later than January 1, 2012, and thereafter in years ending in 5 or 0.

APPENDIX 1-D

LISTING OF INTERESTED PARTIES

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APPENDIX 1-E

COMMUNICATION AND ENGAGEMENT PLAN (C&E PLAN)

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Background For PAC Development of C&E Plan for GSP

Used DWR Guidance Document for GSP Stakeholder Communication and Engagement June 2017 – Sample Outline, Page 11

Used "Collaborating for Success: Stakeholder Engagement for Sustainable Groundwater Management Act Implementation" document

Reviewed Plans prepared by Sonoma Valley, Santa Cruz, and Ventura areas

Reviewed Stakeholder Communication and Engagement Digital Toolkit at DWR's Sustainable Groundwater Management website,
http://www.water.ca.gov/groundwater/sgm/digital_toolkit.cfm

Referenced Preparation Checklist for GSP Submittal Guidance Document, page 3
GSP Regulation Code Section 354.10 Notice and Communication December 2016

- Description of beneficial uses and users in the basin
- List of public meetings
- GSP comments and responses
- Decision-making process
- Public engagement
- Encouraging active involvement
- Informing the public on GSP implementation progress

Referenced Guidance Document for GSP Annotated Outline, December 2016 page 3
2.1.5 Notice and Communication (Reg. Code Section 354.10)

- Description of beneficial uses and users in the basin
- A Communication Section that describes:
    1. Decision-making process
    2. Public engagement opportunities
    3. Encouraging active involvement
    4. Informing the public on GSP implementation progress

Used as basis of the C&E Plan, CA Water Code Sec. 10723.2: "The groundwater sustainability agency shall consider the interests of all beneficial uses and users of groundwater."

Used as basis of the C&E Plan, CA Water Code Sec. 10727.8(a): "The groundwater sustainability agency shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the groundwater basin."

Prepared by,

Donna Thomas

Donna Thomas, IWVGA PAC Chair April 19, 2018

RESOLUTION NO. 02-18

A RESOLUTION OF THE INDIAN WELLS VALLEY GROUNDWATER AUTHORITY ADOPTING A COMMUNICATION AND ENGAGEMENT PLAN

BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE INDIAN WELLS VALLEY GROUNDWATER AUTHORITY as follows:

WHEREAS, The Indian Wells Valley Groundwater Authority (IWVGA) was formed through a Joint Exercise of Powers Agreement for the purpose of forming a Groundwater Sustainability Agency (GSA) to manage the Indian Wells Valley groundwater basin and to implement Sustainable Groundwater Management Act (SGMA) requirements, including the development of a Groundwater Sustainability Plan (GSP); and,

WHEREAS, Pursuant to the SGMA, prior to initiating the development of a GSP, IWVGA shall make available a written statement describing the manner in which interested parties may participate in the development and implementation of the GSP (Water Code § 10727.8(a)); and,

WHEREAS, the IWVGA Board has created a Policy Advisory Committee (PAC) which provides representation to all types of water users in the Indian Wells Valley groundwater basin on policy matters of the Board associated with SGMA (including the GSP); and,

WHEREAS, Pursuant to Water Code sections 10727.8(a), 10723.2, and Cal. Code Regs. § 354.10(a), the IWVGA PAC has prepared a Communication and Engagement Plan to encourage public and agency participation in GSP development and implementation.

NOW, THEREFORE, BE IT RESOLVED by the Board of the Indian Wells Valley Groundwater Authority that the Communication and Engagement Plan is hereby adopted.

PASSED, APPROVED, AND ADOPTED, by the Indian Wells Valley Groundwater Authority this **19th** day of **April**, 2018.

SIGNED:

President of the Board of Directors

ATTEST:

Communication and Engagement Plan

Indian Wells Valley Groundwater Authority
Policy Advisory Committee
April 19, 2018

POLICY ADVISORY COMMITTEE:

Chairperson - Donna Thomas, Eastern Kern County Resource CD
Secretary - Renee West-Lusk, Residential Customers of Public Water Agency
Rodney Stiefvater, Large Agriculture
Edward Imsand, Large Agriculture
Patricia Quist, Small Agriculture
David Janiec, Business Interests
Carol Wilson, Business Interests
Nick Panzer, Residential Customers of Public Water Agency
West Katzenstein, Domestic Well Owner
Lyle Fisher, Domestic Well Owner
Steve Godard, Wholesaler Industrial User
Tim Carroll, Inyokern Community Services District

NON VOTING MEMBERS:
Don Zdeba, Indian Wells Valley Water District
Ryan Klausch, Bureau of Land Management
John Kersey, Department of the Navy
Lorelei Oviatt, Kern County Planning and Natural Resources

Indian Wells Valley Groundwater Authority Policy Advisory Committee
COMMUNICATION AND ENGAGEMENT PLAN

EXECUTIVE SUMMARY

This document outlines a COMMUNICATION and ENGAGEMENT PLAN to encourage public and agency participation in Groundwater Sustainability Plan development and implementation.

COMMUNICATION
Each stakeholder and agency must have an opportunity to understand the magnitude of the groundwater overdraft problem and how that problem could affect the stakeholders.

ENGAGEMENT
Each stakeholder and agency must have an opportunity to understand the process for participation in developing a plan to solve the overdraft problem.

Authority: Water Code Secs 10727.8 (a) and 10723.2 and Reg. Sec. 354.10(a)

INTRODUCTION

The Indian Wells Valley Groundwater basin is located east of the southern Sierra Nevada Range in southern California with an area of approximately 382,000 acres underlying portions of Inyo, Kern, and San Bernardino Counties. The Indian Wells Valley Groundwater basin is identified by the Department of Water Resources (DWR) as Basin 6-54 in Bulletin No. 118. The Indian Wells Valley groundwater basin is classified as a "medium priority" basin pursuant to the California Statewide Groundwater Elevation Monitoring (CASGEM) program and the Sustainable Groundwater Management Act (SGMA). The Indian Wells Valley groundwater basin is also classified as a "critically overdrafted" basin in Bulletin No. 118 interim update (2016), prepared by the DWR. As required by SGMA, all Bulletin No. 118 basins designated as "high" or "medium priority" and "critically overdrafted" shall be managed under a groundwater sustainability plan (GSP) by January 31, 2020, including the Indian Wells Valley groundwater basin.

GROUNDWATER SUSTAINABILTY AGENCY FORMATION AND PROJECT PROPONENTS

In July 2016, the Indian Wells Valley Groundwater Authority (IWVGA) was formed through a Joint Exercise of Powers Agreement for the purpose of forming a Groundwater Sustainability Agency (GSA) to manage the Indian Wells Valley groundwater basin and to implement SGMA requirements, including the development of a Groundwater Sustainability Agency (GSP). The IWVGA consists of the following voting member agencies:

1. City of Ridgecrest (a public agency)
2. Indian Wells Valley Water District (a California Special District)
3. County of Kern (a public agency)
4. County of Inyo (a public agency)
5. County of San Bernardino (a public agency)

along with the United States Department of the Interior Bureau of Land Management and the United States Navy, Naval Air Weapons Station China Lake as non-voting associate members.

The IWVGA conducts regular Board meetings (on a monthly basis) to support the development of the GSP for the Indian Wells Valley groundwater basin to present information concerning the GSP, and to .receive input from the public attending the meetings. The IWVGA has specific authorities with additional and full powers granted by SGMA upon approval of the GSP by the State of California. The IWVGA has created a Technical Advisory Committee (TAC) which meets on a monthly basis and will assist in the development of the GSP. In addition, the IWVGA Board has created a Policy Advisory Committee (PAC) which meets on a monthly basis and provides representation to all types of water users in the Indian Wells Valley groundwater basin on policy matters of the Board associated with SGMA (including the GSP). Through these committees and other means the public will be engaged to provide input to the GSP. Throughout the development of the GSP, the IWVGA Board will receive input from the TAC, PAC, and the public, including input regarding the key Work Plan tasks which are identified and presented in the sections below.

According to Article 5.7 of the "Bylaws of the Indian Wells Valley Groundwater Authority" (Bylaws), dated May 18, 2017, the voting members of the PAC include water users from the following:

- 2 representatives from Large Agriculture
- 1 representative from Small Agriculture
- 2 representatives from Business Interests
- 2 representatives from Domestic Well Owners
- 2 representatives from residential customers of a public agency water supplier
- 1 representative from Eastern Kern County Resource Conservation District
- 1 representative from Wholesaler and Industrial User
- At least 1 representative from Disadvantaged Communities

One representative each from the Indian Wells Valley Water District, the United States Department of the Interior, Bureau of Land Management – Ridgecrest Field Office , and the United States Navy, Naval Air Weapons Station China Lake and Director of Kern County Planning and Natural Resources Department are also included as non-voting PAC members.

According to Article 5.12 of the Bylaws, the TAC shall be comprised of individuals representing PAC members, PAC membership categories, and the interests of basin landowners and water users. PAC members may nominate a TAC member for their respective membership category.

During the formation of the IWVGA, a comprehensive listing of interested parties (including name, email, and phone number) was developed. The listing includes local community residents (including Disadvantaged Communities, Severely Disadvantaged Communities, and Economically Distressed Areas), businesses, large and small-scale agriculture, domestic well owners, academic institutions, relevant state and local agencies, federal agencies, non-profit organizations, and community organizations. This listing of over 150 stakeholders includes representatives from all types of water users within the Indian Wells Valley groundwater basin and was used during the 17-month long GSA formation process for notification of public meetings, notifications, and updates related to discussions on the SGMA. This stakeholders listing will continue to be updated and used during the development of the GSP.

PURPOSE AND ORGANIZATION

The Indian Wells Valley groundwater basin resources are currently not sustainably managed. Overdraft conditions have existed since the 1960s as a result of groundwater pumping exceeding the sustainable yield. Disadvantaged Communities (DACs), Severely Disadvantaged Communities (SDACs), ~~and~~ Economically Distressed Areas (EDAs) and the large number of shallow domestic water wells overlying the Indian Wells Valley groundwater basin are particularly susceptible to adverse effects resulting from chronic lowering of groundwater levels accordingly, mitigating the chronic lowering of groundwater levels through implementing the GSP is an urgent requirement. As a result of these conditions, and with the purpose of complying with SGMA regulations and DWR standards and guidance, the purpose of the Indian Wells Valley groundwater basin GSP Work Plan was established:

> **Purpose:** Develop a Sustainable Groundwater Management Act (SMGA) compliant Groundwater Sustainability Plan (GSP) that provides sustainable management strategies that culminate in the absence of undesirable and unsustainable groundwater conditions within 20 years in order to provide long-term sustainable groundwater management that provides a viable future for the basin.

GOALS AND DESIRED OUTCOMES

- Desired outcomes include, making use of local knowledge, creating improved outcomes, building trust, reducing conflict, increasing credibility, building partnerships, promoting stakeholder buy-in and broader public awareness, understanding, knowledge, and support for all voices and perspectives.
- Public participation is based on the belief that those who are affected by a decision have a right to be involved in the decision-making process.

- Public participation includes the promise that the public's contribution will influence the decision.
- Public participation promotes sustainable decisions by recognizing and communicating the needs and interests of all.
- Public participation provides all with the information they need to participate in a meaningful way.
- Public participation communicates to all how their input affected the decision.
- Plan for economic development and growth while protecting private property rights, water rights and health and safety.

COMMUNICATION OBJECTIVES

- The guiding principles of the Communication and Engagement plan are:
    - Commitment to open communication,
    - Inclusivity, and respect for all views
    - Assurances of two-way communication
    - Being clear about the process and the details of the problem.
    - Individualizing contact to provide communication with every resident, landowner and business owner to the extent possible and the creation of meaningful opportunities for feedback.
- Enhance understanding and inform the public about water, ~~and~~ groundwater resources, uses and water balance in the Indian Wells Valley and the purpose and need for the GSP.
- Engage a diverse group of interested parties and stakeholders and promote informed community feedback throughout the GSP preparation and implementation process.
- Engage entities and groups that may be instrumental in supporting, influencing and implementing a potential broad array of options and solutions developed under the plan that may contribute together to the goal of reaching groundwater sustainability in the IWV Basin.
- Coordinate communication and involvement between the GSA (Board, Advisory Committees and staff) and other local agencies (including other GSAs) elected and appointed officials and the general public.
- Utilize the Policy Advisory Committee to facilitate a comprehensive public engagement process.
- Employ a variety of outreach methods that make public participation easy and accessible. Hold meetings at times and locations that encourage broad participation.
- Respond to public concerns and provide accurate and up-to-date information.
- Manage the community engagement program in a manner that provides a maximum value to the public and an efficient use of GSA and local agency resources.
- Giving stakeholders an opportunity to understand
    - The quantitative details of the imbalance between current groundwater recharge and groundwater uses (that imbalance being the GSA's overriding challenge)

- The specific manner in which they may help develop a plan to create balance
- Clear explanations of how the plan could affect all uses and users of groundwater in the basin.

PRESENTATION AND COMMUNICATION CONCERNS AND CHALLENGES

A. Use of unfamiliar technical language and terminology
B. Lack of attendance
C. Access for non-English language users, hearing impaired and ADA compliance
D. Lack of access to internet and reference materials
E. Engaging people with privacy concerns
F. Non- interest in the subject and apathy
G. Absentee and out of basin landowners
H. Temporary employees in the basin who own homes
I. Emphasizing the seriousness of the basin condition without being alarmist

OUTREACH METHODS AND NOTIFICATION

The following is guidance for the GSA staff and consultants to design the outreach plan based on the work plan milestones.

The following are methods that should be used beyond legal notifications:

- Individual mailings and newsletters
- Website updates and potential use of social media
- Public notices and display advertisements in newspapers
- Focused workshops
- Speaker Bureau for any organizations requesting presentation. The * indicates those organizations recommended for proactive contact. The bureau should include appointed people by the Board to accept and generate speaker engagement requests and have focused messages and the ability to answer questions.
- Evening GSA Board meetings to discuss milestone recommendations or any tax or regulations
- Hard copy materials along with CD should be placed in County libraries

Guidelines for Workshops:

- Provide a meeting venue large enough to accommodate expected attendance
- Night meetings preferred but focused workshop with a specific organization should be at the time preferred by the organization.
- Anticipate any request for translation and utilize headphone translation equipment if possible.
- Make materials available on the website either in advance or after the workshop.

- Make a clear explanation in any notice to the nature of workshop (Informational only or possible decision made based on public comments).

Notification List (contact names and phone numbers provided under separate cover)
Any mailing of information should include all organizations and contacts on this list. Any persons or organizations that wish to be added to the list should be directed to contact the JPA staff and they should be added to the list for the next notification mailing. Once established people and organizations should not be dropped from the list unless the mailing is returned as undeliverable or they specifically ask to be removed. The * indicates these organizations recommended for proactive contact.

Service Organizations

American Legion*
BPO Elks Lodge*
Desert Area Resources and Training (DART)
Exchange Club*
Fleet & Family Support Center
Friends of the Fair, Inc.
Fraternal Order - Eagles*
Historical Society/Upper Mojave Desert*
IWV Optimist Club*
Kiwanis International*
Knights of Columbus*
Lions Club*
Masonic Lodge
Oasis Garden Club of IWV*
Rotary Club of China Lake*
Salvation Army
United Way of IWV
VFW*
Women's Center – High Desert, Inc.

Business and Advocacy Groups

Agricultural Property Owners Association – IWV
American Pistachio Growers
China Lake Alliance
China Lake Museum Foundation
California Rural Water Association (CRWA)
Democratic Club of IWV*
Domestic Wells Owners Association – IWV
Greater Antelope Valley Economic Alliance – GAVEA
Indian Wells Valley Economic Development Corporation
Inyokern Airport District
Inyokern Chamber of Commerce*

Kern County Farm Bureau
Kern Economic Development Corporation
Maturango Museum
NARFE (National Active and Retired Federal Employees Association*
Ridgecrest Area Convention and Visitors Bureau (RACVB)
RC Republican Women, Federated*
Ridgecrest Area Association of Realtors*
Ridgecrest Chamber of Commerce*
Ridgecrest Regional Hospital
Ridgecrest United
Searles Valley Minerals
Trona Chamber of Commerce*

Schools and Religious Organizations

Adventist Christian School
Balas Montessori School
Calvary Christian School
Cerro Coso Community College
Heritage Montessori School
Immanuel Christian School
Liberty Christian School
Mountain View Christian Academy
Pilgrim Christian
Ridgecrest Charter School
Saint Ann School
Sierra Sands Unified School District
Sierra View Christian School
Soli Deo Gloria Christian Academy
The Bridge Learning Center

Tribal Representation

Cherokee Community of Central CA
Kern Valley Indian Council
Kitanemuk & Yowlumne Tejon Indians
Monache Intertribal Association
Nuui Cunni Cultural Center, Kern River Paiute Council
Tejon Indian Tribe
Timbisha Shoshone Tribal Council
Tubatulabals of Kern County

Utilities

Los Angeles Department of Water and Power
Pacific Gas and Electric
Southern California Edison
Southern California Gas

Local Government

City of Ridgecrest City Council
City of Ridgecrest City Manager
City of Ridgecrest City Attorney
City of Ridgecrest Planning
City of Ridgecrest Public Works
Fremont Valley Integrated Regional Water Management Program
Indian Wells Valley Water District
Inyokern Community Services District
Inyo County Board of Supervisors
Inyo County CAO
Inyo County Counsel
Inyo County Planning Department
Inyo County Water Department
Inyo Mono Integrated Regional Water Management Program
Kern County Board of Supervisors
Kern County CAO
Kern County Counsel
Kern County Planning and Natural Resources Department
Kern County Public Health
Kern County Water Agency
San Bernardino Board of Supervisors
San Bernardino CAO
San Bernardino County Counsel
San Bernardino County Land Use Services Department
San Bernardino County Public Health
Searles Domestic Water Company

State Government

California Department of Food and Agriculture
California Department of Water Resources
California Department of Conservation
Eastern Kern County Resource Conservation District

Ridgecrest
- 16th State Senate District (Jean Fuller)
- 34th State Assembly District (Vince Fong)

Trona (San Bernardino County)
- 16th State Senate District (Jean Fuller)
- 33rd State Assembly District (Jay Olbernolte)

Corner where Kern, San Bernardino and Inyo County meet

8th State Senate District (Tom Berryhill)
16th State Senate District (Jean Fuller)
26th State Assembly District (Devon Mathis)

CA Military Caucus
Governor's Office
Business & Econ Dev
Governor's Military Council
Office of Planning and Research

Federal Government

Ridgecrest
23rd Congressional District (Kevin McCarthy)

Trona (San Bernardino County)
8th Congressional District (Paul Cook)

Corner where Kern, San Bernardino and Inyo County meet
8th US Congressional District (Paul Cook)

Senator Kamala Harris

Bureau of Land Management – Ridgecrest Field Office
Department of Navy-Naval Air Weapons Station China Lake
USDA Natural Resources Conservation Service
USDA Farm Service Agency

APPENDIX 1-F

GSP COMMENTS AND RESPONSES

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Comments and Suggestions concerning the draft IWV GSP Figures prepared by Stetson Engineers and available on 11/4/2019

From Don Decker 11/8/19

Figures for Section 1 no comment

Figures for Section 2

2-1 Why aren't the other sub basins shown? El Paso?
2-2 Adjacent and Neighboring?? Strange wording
2-3 "China Lake Basin" seems to be moving around?
2-4 Showing the Little Dixie Wash as a blue dashed line and then identifying it as a stream or creek is totally misleading. This needs to be corrected.
2-5 The actual municipal wells are mislocated/mislabeled. Have you included mutual wells in municipal?
2-6 This map shows the IWV WD owning property on N Brown Rd. This property was transferred in a trade with Mojave Pistachios a few years ago.
2-7 no comment
2-8 no comment
2-9 colors are hard to distinguish on map in small areas
2-10 no comment
2-11 no comment
2-12 Urban area that is half way between Inyokern and Ridgecrest (China Lake Acres) is shown extending 1 ½ miles too far south.
2-13 no comment
2-14 there is no disposal site west of Hwy 14.
2-15 no comment
2-16 no comment

Figures for Section 3

3-01 no comment
3-02 no comment
3-03 Sierra frontal fault is show as dipping too steeply- it is more like 45deg.
3-04a Sierra frontal fault not shown
3-04b no comment
3-05a does not show the laucustrine clays extending westward much beyond the playa
3-05b no comment
3-06 no comment
3-07 no comment
3-08 map shows stream gages at NAF and Trona?? Does not show the EKCRCD CIMIS station at the China Lake golf course
3-09 no comment
3-10 what do we learn from this spotty record?
3-11 This map is obviously schematic. The Sierra Canyon fans extend out further than shown.

3-12 This is a very useful map with the well water level overlays
3-13 Another very useful map. The largest consistent changes are increase in TDS and are in the N Brown Rd area as expected.
3-14 no comment
3-15 no comment
3-16 No one has mapped the Sierra Canyons?
3-17 Does not show the Sierra frontal fault – all of the maps that show the major Basin faults should include the SFF
3-18 values consistent with other work
3-19 nice plot
3-20 no comment
3-21 very important but hard to understand without some work
3-22 very important modeling results

Figures for Section 4

4-1 change or remove Figure 2 from map
4-2 need to add BoR 10
4-3 need to add BoR 10
4-4 no comment
4-5a no comment
4-5b no comment
4-5c no comment
4-5d no comment
4-5e no comment
4-5f no comment
4-5g no comment
4-5h no comment
4-5i no comment
4-5j no comment
4-6a to 4-6f no comment

Figures for Section 5

5-1 ok as a conceptual route but other possibly better routes exist
5-2 why not use the existing IWC tap? Much shorter pipeline.
5-3 map shows a very expensive purple line project. My suggestion of vigorously pursuing a MOA project with SVM would offer many advantages over this plan
5-4 a ridiculously expensive addition to the project in 5-3
5-4 an even more expensive and unjustifiable project to inject such a small amount of water. Injection well is poorly located technically.

Figures for Section 6
6-1 very little detail at this level

Comments and Suggestions concerning the draft IWV GSP Sections prepared by Stetson Engineers and available on 11/4/2019

From Don Decker 11/8/19

Preliminary comments and suggestions:

1) The Plan as presented is technically functional but not very realistic. The time line available is very short and the projects are complex. There is little specific recognition of this major issue in the draft Plan. For example, the delivery of additional treated waste water for irrigation use is scheduled for 2025. Simply impossible. On close examination there are many more very concerning timeline conflicts that unless resolved will actually effectively destroy the good intentions of the Plan. Extracting significant additional groundwater (GW) and reducing the storage accordingly is simply continuing the already ominous overdraft even if it part of the Plan.

2) The budget estimates are very preliminary and do not have enough detail to make accurate choices. A large amount of time has gone into the Plan creation and some sections are very well researched and written. However, there is a long way yet to go in building out the Implementation Plan and its specific details. The Pumping Plan as described is essentially the Domestic Well Owners Association market force plan offered January 2019, 9 months ago. At the time, the Well Owners Plan was declared to have serious legal issues. So now it has been largely adopted. What has happened? One thing that is obvious- a lot of time has been effectively wasted.

3) Many areas of the draft Plan are detail weak to the point that serious questions still remain as to the actual Plan. For example, an agricultural water rights buy-out is being called a “fallowing” plan which would imply that at some point the farm activity would resume. The “fallowing” would be implemented based on “market price” of the land which would imply a property buy-out. Which is it?

4) There still remains as an unknown a major area of pumping fees, who pays and how much and how these fees are justified in a real budget.

5) The market price buy-out details are completely absent so it is not possible for an affected property owner to reach an understanding to guide his decision. According to the draft Plan, the property owner’s decision to enter into a buy- out will be made not later than August 2020, further compounding the confusing issues here.

6) Stetson Engineers has come a long way in understanding the historic and continuing issues underlying the serious Basin overdraft. However, they are caught up indirectly in the same GA Board conflict of interest disaster that results from the self-same agencies that stood back or even abetted the ongoing GW shortfall who are now being charged by SGMA to execute its repair.

7) The GSP as written takes no account of the political and technical struggles that have occurred over decades between the City and the Navy over the waste water plant. The suggestions to move concentrated pumping out of the SW echoes battles fought with the WD over this very same issue 20 years ago.

8) The inputs from the TAC are to be seen in many aspects of the Plan as a result of the tight coupling between the TAC and Stetson Engineers. However, much of the PAC inputs have been effectively ignored including their Engagement Plan. The critical step of getting the public behind this GSA effort has largely failed.

9) The draft GSP is complete enough that it will likely be accepted by the State. However, the Plan as it is written is much lighter in detail than most of the public expected. Filling out the functional details in a realistic Implementation Plan to the satisfaction of many pumpers will be nearly impossible. The threat of litigation from the major pumpers remains unchanged.

Section 1, Introduction

1) Although this is Section 1 according to the Title page, the pages starting at 3 and beyond misidentify it as Section 2. This error must be fixed.
2) As a matter of customary usage, the word "basin" which appears throughout the entire document dozens of places starting at the bottom of p 3 should be capitalized when it is referring to the IWV Basin. This rule has been followed in other situations, e.g., "City" where a capital C is used as a shorter reference to City of Ridgecrest.
3) The first sentence of the third paragraph of 1.1 on p 3 uses the word "forced". This is an incorrect assertion- no producers have been forced to pump groundwater. The pumpers have simply elected to continue pumping and in so doing ignoring the declining water levels and its effects on themselves and their neighbors.
4) The last sentence of the first paragraph on p 4 implies by omission that public health and safety is a paramount consideration by failing to describe de minimis rights, the Navy FRWR and other early water pumper's rights. This omission has occurred partly from trying to give a short and simple consideration. However, this omission leaves a very inaccurate impression to the reader at this early point.
5) The sustainability goal as stated in the last paragraph on p 4 is concise, accurate and well written.
6) The last paragraph on p 5 uses the metric unit "hectare". There is no need to offer metric units in a US engineering document. I don't think this usage is present anywhere else in the draft.
7) This same paragraph uses NAWS as the descriptor for the Navy facilities at China Lake and goes on to describe the support for the Navy's research, development, acquisition and more on the next page. The Navy command at China Lake that conducts these programs with over 9,600 positions is NAWCWD not NAWS.
8) At the end of the second paragraph on p 6, the word "federal" should be capitalized and elsewhere in the document where the use of the word has a similar context.
9) In the last line of the text on p 8 it is stated the "the WRM *presents* all technical information and reports to the IWVGA. This is not correct. The TAC and PAC largely through chairmen present technical advice at every GA Board meeting. The WRM does provide a level of prior evaluation of this information.
10) The bulletized summary chart on p 9 has two entries which are overly broad and actually incorrect. The first bullet claims that the powers of the GA include the collection and monitoring of all data related to development, adoption and so on. In fact, virtually all of the data in the IWV hydrology data base has been collected and analyzed by professional scientists and engineers working for other agencies going back in time before SGMA was conceived.
11) In bullet item 5, the words "state" and "federal" should be capitalized.
12) In bullet item 6 an overly broad and simplistic claim is made as to GA powers. The claim as written does not recognize the legal powers of the associate Board members, Inyo and SB Counties and the Navy. It also does not recognize the California water rights of the Basin pumpers. The claims are based in SGMA language which is clearly in conflict with existing California and Federal water right law.

13) In the first sentence of the second paragraph on p 10, Tim Carroll's name is spelled out as the Inyokern CSD representative. No other PAC representative is mentioned. This inconsistency should be repaired by dropping his name.
14) The description of the TAC on p 11, no mention is made of voting and non-voting members as are described in the bylaws. This can be described as a minor discrepancy except that the TAC has and continues to vote on various issues as a way to understand the often disparate views of its members.
15) In the first sentence of the last paragraph on p 14, the words "Board or" should be added to the sentence "… to address the respective *Board or* Committee…." And the word "committee" should be capitalized.

Section 2, Plan Area

1) In the chart at the bottom of p 6, remove the "," and add a paren ")".
2) On page 7 reduce the font size in the chart so that all of the digits or letters are on the same line.
3) The last sentence on page 26 contains a statement that "due to a lack of communication among interested parties" is incorrect and very misleading. The Cooperative group was formed as a follow-on to the Technical Committee that guided the Bureau of Reclamation Project. Before that there was a Technical Committee that met regularly for decades that was the interface with the USGS. The Navy and the IWVWD were fully engaged in all of this activity and regular oral and written reports were offered to the public at fully announced IWVWD meetings. All of the USGS activity, the Bureau of Reclamation Study and the subsequent AB 303 study did not come out of a vacuum or exist in a vacuum. There was always an adversarial contingent that claimed that we did not need any additional studies "that we already knew all we needed to know about the IWV groundwater and where it came from". The ignorance and denial of this group existed as a result of their non participation not because the information was not being made available.
4) In the last sentence on p 27, there is a confused statement about the March and October KCWA water level measurements. March and October were selected to be before and after the peak pumping demands.
5) The last sentence on p 28 and first complete sentence at the top of p 29 are false and totally misleading. It is as a result of the lack of *real management* that the Basin finds itself now with 60 or more years of continuous overdraft. Invention of a positive spin on this leadership failure cannot reverse or improve our critical condition as embarrassing as it may be to the parties involved now. *Remove these sentences.*
6) In the bulletized chart on p 29, the first bullet uses the word "Identifies". The present SNMP contains a serious error in its identification of SN sources. There is no evidence except at a few locations that surface waters in the Basin can percolate to the existing groundwater due to the prevalence of very impermeable soils and alluvium. I suggest you modify "Identifies" with "Tentatively identifies". Presumably this error will be corrected in future submissions of the SNMP.
7) The summary of IWVWD Ordinance 103 on p 30 and 31 is correct. However, as a terrible example for the public to observe, the City is exempt from the provisions of this ordinance and fails to follow its own version as summarized on p 31. The continual waste of water by the City irrigation practices is an unacceptable breach of responsibility to the community. It will be hard to place a sentence in the GSP trying to justify this breach but this citizen is placing it here for the record.

8) In the first full paragraph on p 37 it is stated that the Tui chub is located in a GDE that is recognized in the "Natural Communities Commonly Associated with Groundwater dataset". The issue here is that the Tui chub present in Lark Seep are not natural or native to the seep but rather were transported and introduced into the seep by an individual who had no authorization or permits to carry out this action. These fish, through no fault of their own are trespassers. This condition has produced substantial confusion and expenditure of large amounts of money and precious water ever since.
9) On p 39 and following, unit 5.3.3, the description "shallow well" is used with no definition. The term is obviously subjective and is sometimes used in a derisive manner. Many of the existing shallower wells in the Basin are in fact over 400 ft in drilled depth. Compared to Basin wells in other areas, this depth would not be considered shallow. Wells that have been redrilled or deepened here are often over 500 ft. The cost of drilling and completing a well to these depths is the reason there is as much financial and other concern as there is. These "shallow" wells constitute 95% of the total wells in the Basin.
10) On p 40, 2'nd paragraph, we see that a well repair will only be considered for wells drilled after Feb 1, 2020. This means that the existing shallower well abuse that was brought on by the major pumpers including the IWVWD, SVM and the Navy and others over the decades of serious overdraft pumping is not being recognized and will only be addressed in legal action undertaken by the affected parties.
11) On p 40, A general comment: for the new wells that will come under this repair provision, the existing technical evaluation prepared by Stetson Engineers should be adequate. If the additional proposed extraction beyond the Basin sustainable yield actually happens, this well repair compensation element will be important to those recent well owners who can apply. *For the existing 800 + well owners who are already suffering some degree of damage it is a very disappointing change from an earlier version of the shallow well mitigation plan.*
12) On p 43 in the fifth bullet and the paragraph following, an error is made in not recognizing the special de minimis status that was recognized in SGMA. De minimis pumpers are not exempt from registration but are not required to meter, report or pay pumping fees. The fifth bullet and the sentence stating fee requirements must be repaired.
13) On p 46 and elsewhere, the word "well" should be reserved for use to mean "water well". In the title of unit 1.1.1.3 drop the word "well" and substitute "Efficiently".

Section 3, Basin Setting

1) Again, on p 5 and following, the word "basin" should be capitalized when referring to the IWV Basin.
2) In the first paragraph on p 6, no the Owens River did not simply flow through the IWV. At multiple times in the Pleistocene the OR filled the IWV to spillway depth and then the continued flow of the River resulted in an outflow to Searles Valley. SV in turn filled and spilled multiple times into Panamint Valley. A similar filling and then spilling into Death Valley was the final destination in Lake Manix. China Lake was fresh only during the times when the Owens River flow was great enough to fill CL to the point of spill over. The conifer forest aspect was very likely not as important to early man as the broad leaf forests that were near to China Lake on the Valley floor. All of the known early man sites are at the China Lake shore.
3) In page 6 and in the first 3 paragraphs on p 7, too much emphasis is made on early (pre 1900) minor water use by a small number of transient travelers. The first significant water use was associated with the moderate scale agriculture that was started by the development of the Inyo and Kern Land and

Farming Company headquartered in what would later be called Inyokern. Water for this farming was taken from the first drilled wells north of present Inyokern. The proper reference here is the paper by Lee published in 1913. *Lee identified the limited potable groundwater in the IWV Basin in this paper for the first time*. It is this paper that should be given the most space and summarized in 3.2 and a lot less on the historical exploration efforts as interesting as they may be. If the SPRR details are left intact the words "Jaw Bone" should be in capitals.

4) On p 9, the last sentence in footnote 7 should be modified to say "…model update for this GSP *as appropriate*"

5) On p 10, first paragraph first partial sentence, "Blue Max Peak" is not the highest elevation mountain in the IWV Basin watershed. It is Owens Peak by thousands of feet. In this same paragraph, the word "valley" should be capitalized when referring to the IWV.

6) On p 10 and beyond, the summary of IWV geology and hydrology as described in the literature is very well written and summarized.

7) In the first complete paragraph on p 10, the subflow from Rose Valley is mentioned for the first time. Even in recent times, Little lake Creek often reaches significantly down into the IWV. The subsurface flows from Rose Valley are a major component of the Basin recharge. As this author has pointed out repeatedly, Rose Valley should be included as part of the IWV Basin, not a separate entity, politics aside. This Basin should be able to manage all of the important areas involved in the Basin water balance.

8) Starting on p 10, unit 3.3.1 is very well constructed and written. In this unit on p11 it is again mentioned the unique aspect of subflow from Rose Valley that results in an apparent flow gradient in the mapped groundwater levels in the NW area of the Basin. This gradient is unique in this Basin.

9) At the end of the existing wording of the second bullet at the top of p 12, this author suggests the following addition: In the northwest area an unusually thick and extensive deposit of organic clay and silt of Pleistocene age occurs as a continuous unit (BR vol II Technical Report)

10) On p 12 in the first complete paragraph, *all* of the multi-level wells in the Basin today are BoR wells. Most of these wells are being used to support CASGEM reporting. CASGEM has not funded or participated in any well drilling or characterization.

11) On p 13, it is mentioned that the NRCS soil results are not available for the main non Navy areas of the IWV. This author has pointed out previously that in fact, extensive Valley soil sampling took place in the mid 1970's in the Valley. This author actually saw survey maps from this effort at a later time, but has no idea as to where this survey information might be located.

12) On p 13, first paragraph, first sentence, delete the words "not occupied by vegetation or development",

13) There is no mention in unit 3.3.2 of the pervasive presence of cemented soils (caliche) over the Basin that are impermeable to the point of greatly limiting surface water from reaching groundwater. This is occurring even in moderately disturbed alluvium of the canyon fans. This is a hallmark of an arid climate soil.

14) On page 22, first sentence of unit 3.3.4.2, the farming and well data that Lee reports from 1910 (not 1920) is the start of significant Basin GW extraction. Lee reports declines in water levels of 1 ft/yr in the area being pumped in his Report.

15) On p 27 bullet four, I suggest the word "specific" be added to the existing wording for clarity "… *a specific* saturated aquifer is a … ".

16) On p 27 add the word "*effect*ive" to the sentence "… that will increase the *effective* recharge to the …". When talking about recharge that has been augmented by supplemental water it would be clearer in all instances to use the term "effective recharge" or something similar.
16) In the water balance chart on p 28, a growth element is seen to result in a net loss of storage of 4080 ac-ft for 2070. I realize that Stetson Engineers has been given instructions by the GA Board to incorporate a growth element in the sustainability planning. I will point out that SGMA says to consider growth; this is totally different than incorporating growth. Until there is a demonstrated actual sustainable Basin condition there should be no additional growth except that which may be dictated by the Navy. A loss of 4,000 AFY is not a small effect as might be permissible under SGMA. This is not a conservative plan, 4,000 AFY is about 1/6 of the current out of control loss.
17) On p 31, in the first sentence of unit 3.4.4.1, this writer suggests replacement of "particles" by "components".
18) Also in 3.4.4.1, add the words "under some conditions" to the sentence "…These increased concentrations can then *under some conditions* be mobilized …" Thanks to Stetson Engineers for recognizing and adding the next two sentences in the draft text- they are very important.
19) On p 32, first sentence add the words "earlier times" to the expression in parentheses (caused by high evaporation rates *at earlier times*).
20) In the first whole paragraph on p 32, first sentence, delete "and degraded" – it is incorrect.
21) On p 34, last sentence change "lodge" to "restaurant"
22) On p 36, in the second complete paragraph after " City of Ridgecrest" add and "in the southwest".
23) On p 38, in the first complete paragraph, change the first sentence to read "The Water Resources Manager, staff *and TAC* reviewed existing …" .
24) On page 45, project no 2, recycled water, an assumption is made that recycled water would be available for use by 2025. This assumption is unrealistic. The present recycled water use is invisible in the model so this water will not make any difference in model prediction if it is actually not physically present. The artificial recharge quantity assumed is relatively small so again little change will exist if it is not present.
25) On page 46, a summary of the inputs into pumping scenario 6.2 are presented. This author has two comments: i) a yearly loss of storage of 4,000 ac-ft is not a minor loss and will definitely have a significant effect, ii) it is unrealistic to assume that agricultural pumping will continue unchanged through 2070 even as the price of the pumped water will increase dramatically. So this author's concern expressed in i) is cleared up. However, the pumping scenario does not provide an accurate basis for a GA cost analysis.
26) The assumptions made in unit 3.5.6 on p 47 are reasonable and likely the best that can be done.
27) On page 47, unit 3.6, first sentence change Cooperative Group to KCWA. If the second sentence is to be kept, remove "concerned citizens".
28) The description for Cooperative Group coordination in unit 3.6 is *greatly overblown*. The actual work was done by the agencies with real legal authority. The CG had no contracting power or supervisory function at all. The stream gages and weather stations were installed by the USGS and the BLM. The well water depth measurements were organized, planned and executed in modern times by KCWA and earlier by the USGS. The EKCRCD was directly responsible for many projects that the CG has been given credit for. I suggest that this write up describing the CG in unit 3.6 be cut back considerably.

29) On the top of p 48 is a list of instruments and facilities monitoring meteorological and other physical measurements critical to the monitoring of the Basin. The DWR CIMIS station installed at the golf course under EKCRCD sponsorship should be added.
30) Unit 3.1.1.1 describes a number of data gap areas that are being pursued including the El Paso sub Basin. Another area of even greater interest is not being given the attention it should be. The sub flow from Rose Valley in the extreme NW is the largest recharge component in the DRI flow model. The only well in the area is BoR 10 which appears to have been removed from the monitoring well network. *If this is correct it is a major mistake.*
31) Unit 3.1.1.2 in paragraph 2 sentence 3 indicates that a new stream gage is to be installed in Indian Wells Canyon. Why is the scarce Prop 1 money being wasted in this endeavor? IWC is a much dryer canyon than Sand or Grapevine and even in wet years the gage will see only very little water. *The money could be far better spent on a shallow seismic exploration near the mouth of the canyons and out onto the fans as I have recommended over and over. Another valuable asset would come from shallow reference wells drilled in the same areas.*
32) Unit 3.1.1.4 states that the evaporation at the playa is the largest Basin discharge. Is this correct? This author thinks the largest discharge today is actually at the phreatophyte zone west and north of NAF.

Section 4, Sustainable Management Criteria

1) On page 9, the second bullet describes the expanded recycled water project will be online in 2025- *this is unbelievably optimistic*. On the same page in bullet 4, change sentence to read "..water supply *to be available* no later than…)
2) On p10, bullet 1, the sentence uses the word "fallow" incorrectly. I think what is meant is really "discontinued". On the same page at bullet 4 remove the word "Additional"- the word is unnecessary and redundant.
3) On p 11 in the 2'nd bullet, "implemented by 2025" –overly optimistic. Same page in bullet 4, use of the word "fallow" is incorrect.
4) On p 12, 3'rd paragraph, remove the word "for" in the 5'th line.
5) On p 13, item 4.3.1.1 change sentence 3 to read "*Groundwater elevation data and associated* modeling results…"
6) On page 15, bullet 6, the word fallowing is again used incorrectly. Substitute "abandonment"
7) On p 16, bullet 6 again the incorrect use of the word fallowing. Suggest substitute "abandoning". Same page last paragraph suggest a sentence change to read "…due to poor water quality *as a result of natural effects*."
8) On p 17, again incorrect use of the word fallowing and remove "s" from "results" in the same sentence.
9) On p 18, unit 4.3.5, the content of the sentence "Critical information on the relationship …the GSP monitoring program" is incorrect. There is a direct relationship between groundwater levels and the health of GDE's. The only data gap here is lack of detailed monitoring of GDE health.
10) On p 20, unit 4.4.1.1 the word "stimulated" is incorrect. Replace with "simulated". In unit 4.4.1.2, suggest adding "directly" before the word "related in the first sentence.
11) On p21, unit 4.4.1.4, remove the word "and" between the words "impact "*and* "limits".

12) A comment related to unit 4.4.1.5, unfortunately the statement made in the unit is correct relative to the content in GP's. The authorities responsible for these documents have been unwilling to bring forth the resource or infrastructure limitations on growth that have been so obvious for so long.
Big changes are going to have to be made in the truthfulness of these documents as relates to water supplies and other essential resources.
13) On p 22, unit 4.4.1.7, there is an "equation" that needs to be properly formatted to get the entire expression onto one line.
14) On p 23, first sentence is garbled and needs to be reconstructed. It is important to emphasize the central role that *measured* groundwater levels plays in setting Minimum Thresholds.
15) On p 25, the chart of representative monitoring wells has not included BoR 10. This well provides critical water level data in the subflow region at the Little Lake gap. This recharge flow is estimated to be the largest single component in the Basin recharge. *This well was located where it is for a very important reason.*
16) On p 27, in unit 4.4.3.3, no mention is made of the subflow from Rose Valley. *This is a serious omission.*
17) On p29, Table 42 does not have a monitoring well in the Intermediate Well field area. Add BoR 4 to meet this requirement. Except for completeness, BoR 1 will add very little to purpose of this list of wells.
18) On p32, unit 4.5.1 add the words "not more than" between the words "is" and "213,474" in the last sentence of the first paragraph.
19) On p35, in unit 4.6.2, the Table omits BoR 10. For the same reason as was given in comment 15) above BoR 10 should without doubt be added to this Table.

Section 5, Projects and Management Actions

1) On p 9, unit 5.1.1.1, the second sentence implies that the only purpose for setting annual pumping allocations is to set fees! I submit this is a very poor way to describe the allocations. It has the effect of de emphasizing the real purpose of the pumping allocations which is to bring in the Basin into sustainability. On the same page reformat the first sentence of the second paragraph to get the reference superscript in the proper location.
2) On the same page the list of considerations for creating the pumping allocations omits de minimis pumping conditions which are defined in SGMA.
3) On p11, in the first paragraph the word "fallowing" is again used incorrectly. In the last paragraph it is stated that the IWVGA will allow for some *reasonable* overdraft of the IWVGB. There should be some additional clarification and indication that there will be some level of buy- in by the shallow well community. Otherwise, this is a business as usual approach to the Basin overdraft issue.
4) On p 11, line 5 in the last paragraph should actually read: "… 12,000afy plus any agricultural *and industrial* pumping …".
5) On p 13, in the last sentence of the first paragraph the word "fallowing" needs to be removed and replaced by a correct word. In the same sentence with the list of considered parties a number 6) needs to be added: *6) de minimis*
6) A comment for all pages involved. The superscript reference numbers need to be in a larger more readable font.

7) On p 14, the text in the last paragraph correctly identifies the de minimis pumper and the associated pumping conditions- good work
8) On p 15, the second paragraph does not identify the unique de minimis circumstance. The de minimis water rights for a given property were likely established at the time the original Homestead patent was granted. Most of the homestead activity in this Basin occurred in the 1910 to 1930 time frame.
9) On p 15, in the last paragraph the word fallow is again used incorrectly. *The $9M estimated cost for the buyout program seems way too small*. Since this program has not been adequately defined a more accurate estimate is perhaps not possible?
10) On p 16, in unit 5.2.1.4 and 5.2.1.5, a description of a pumping declaration requirement is made with no distinction for de minimis pumpers who by SGMA are not required to meter or report. In the last sentence of 5.2.1.5 a deadline for signing up to the "fallowing" program is given. Without a lot more detail no one is going to be able to form an accurate plan for their property under this program element.
11) On p 20, 2'nd line down, remove the "s" from "transfers" – a typo.
12) On p 25, unit 5.1.1 describes an optimized waste water treatment and distribution system for the IWVGB. This GSP section is seriously remiss in many aspects that appear to not be recognized. There are three substantially intertwined aspects to this problem; 1, the plant itself and 2, the ultimate disposal (use) of the waste water and 3, the political entanglement between the Navy, the City, the IWVWD and now the IWVGA. Under the present circumstances of a Basin wide water supply shortfall, all of the plant water output should be used effectively and not simply disposed.

1. <u>The plant</u> a) The present waste water disposal system has been patched together for decades under a MOA with the Navy since it is on Navy property. b) The City has been unable to renegotiate a new MOA with the Navy for a new larger capacity plant since it is clear to the Navy that the proposed designs more or less on the existing site would increase the already seriously objectionable pond leakage. The new design is not materially different than the original since it was conceived 30 years ago. c) This negotiation has been ongoing at some level for decades through many different City and Navy management cycles. The mistrust is now more or less impenetrable. d) This author will submit that the only way a new plant can be constructed is to build at a different location off of Navy land. e) The original disposal plant is on City property on S County Line Rd. There are multiple serious problems for this site including inadequate available area without condemnation of additional property and a land elevation that requires the majority of the input sewage water to be pumped to the location. *A new location substantially further north needs to be identified and pursued*. It has been discussed privately since the Navy removed and cleared out all of the early housing that a location at or near Satellite Lake would be ideal. The new plant should be designed to produce a high level secondary treated water that would be directly utilized. There would ideally be no evaporation pond loss at all.

2. **<u>The utilization of the plant output water</u>** a) Under the present Basin water supply shortfall condition the new plant represents an opportunity to solve two problems. Searles Valley Minerals (actually its predecessors) have approached the City multiple times in the past with requests for the water presently going to the ponds. Under the present GSP SVM will not have a permanent water allocation. Either the present location or the Satellite Lake locations are close to existing SVM pipeline easements and these easements and perhaps even pipelines could be readily accessed. No complicated expensive purple

pipelines out in the City are required. b) SVM would buy this treated water under an MOA and would be able to take all of the likely future quantity. c) Additional water would be sold to the Navy for the golf course and potentially for the Tui chub. d) The Tc presents yet another opportunity for water savings. As has been stated elsewhere by this author, the Tc is not native to Lark Seep and was introduced there in the 1970's by an individual without any authorization or permits at all – even before the endangered species act was passed. With legal effort, the Navy could negotiate the removal of the existing fish back to their natural habitat. Obviously a very substantial quantity of water could be saved here. A serious incentive to the Navy for moving ahead on the Tc removal action would come from the high expense of buying water for the fish if they were to stay in LS.

3. **The political entanglement between the Navy, the City, the IWVWD and the IWVGA** The City has struggled with the waste water issues for forty years and more. Compounding the problem, the City directed property tax derived waste water fee money into the General Fund until Prop 218 brought that to a halt. It is very clear the City lacks the technical and political strength to carry out this essential facility revitalization. It has been discussed publicly for some time that the waste water system responsibility should be taken over by the IWVWD. The legal steps to be taken may be complicated but could be the step required to actually move ahead on this critical project. The IWVGA has no staff and is incapable of taking on such a project. However, the GA could function as a facilitator in working through the political issues that are so apparent here. The GA would have a nice reward in so doing. SVM would have a stable water supply that would supply about 2/3 of their need with substantially reduced groundwater pumping.

13) The subprojects described on pages 26, 27 and 28 would be unnecessary and the 10's of miles of *very* expensive purple pipeline in the City will be avoided. No money would be wasted on an attempt to recharge what amounts to a very small volume of very expensive water to the aquifer. The permits and regulatory hurdles described in unit 5.3.1.14 will be partially avoided with the elimination of the purple pipe in the City.
14) The project costs summary on p 29 would be substantially changed with the adoption of the plan suggested. The Navy land at Satellite Lake could be deeded to the City or IWVWD in exchange for a quantity of treated waste water that would be supplied for irrigation of the golf course under a MOA that would extend for years with an element for renewal upon expiration. The project as described here is adequate to describe this new approach.
15) On p 43, unit 5.3.4.1, the use of the incorrect word "fallowing" again occurs. *In the second paragraph a description of abandoned field dust control fails to even mention what has repeatedly been shown to be the cheapest and best approach which is to revegitate the fields with native plant cover*. A small amount of water will be required initially to get the seeds germinated reliably and the plants to a size where they are strong enough to stand the wind. The existing irrigation systems should be left intact for this purpose. It took 20+ years for Neal Ranch to revegitate naturally starting from alfalfa stubble. A huge amount of sand and dust came off of the abandoned fields in the early years that could have been avoided if even a small amount of irrigation water had been applied. The ideas of berms, windbreaks, etc are expensive and involve moving lots of fragile soil around. In many aspects they are

counterproductive in a desert environment. The idea here is to do an effective dust control effort without making a major $19M project out of it.
16) On p 46, unit 5.1.1, Pumping Optimization, a discussion is made to move existing IWVWD pumping from the SW where it is having a significant negative effect from over pumping an area with limited recharge. Great idea. These WD SW wells were strongly opposed by this author and many others 20 years ago for the exact same reason. The WD also considered a purchase of Circle M Farms on N Brown Rd in 1986 but declined to do so. We are somehow in an echo chamber with a very long delay time.
17) On p 45, unit 5.4.1, the brackish groundwater project actually holds out little hope for any real benefit even at the very high costs involved. The only shallow brackish water of any quantity in the Basin is in the vicinity of the CL Playa. This area is off limits for any outside development as controlled by Navy interests. The subsidence threat simply cannot be dismissed. This was pointed out clearly by this author 3 years ago when this project was created.
18) On p 49, The present project version is considering brackish water that might be developed at considerable depth in the Pearsonville area. The encouragement for pursuing this area comes from the deep piezometer discoveries in BoR 10. The deeper sediments in this area are coarse enough to presumably limit subsidence at least initially. However, as the project cone of depression spreads to areas to the south and east, including significant area on the Navy North range a huge area of much finer sediment will be dewatered. The shallower thick clay layers displayed in BoR 10 will also be soon dewatered with disastrous effects. Subsidence cannot be avoided by pumping "deep" water. Even if this brackish water could be successfully pumped it is being removed from the same Basin as the potable nearby water which will be adversely affected by its removal. A lot of time and money has been wasted on this project unfortunately.

Section 6, Implementation Plan

1) On page 1, the title page change the section number from "5" to "6" and change the title to "Implementation Plan"
2) This section is obviously in outline form. The detail yet to come will be anxiously awaited. Will the IWVGB have a functional GSP and avoid litigation?

From: Steve P <pennixsteve@gmail.com>
Sent: Monday, January 6, 2020 4:05 PM
To: apriln@iwvwd.com
Subject: Re: IWVGA GSP Public Comment Questions

Ms. Nordenstrom,

GSP comments provided in text below.
Thank you.
Seteve Pennix,
Ridgecrest CA
---

3 Comments-

1. No detail on how the plan can and will be enforced:
Legal enforcement mechanisms of the GSP are not discussed, so therefore the plan has no "teeth". The plan should include a description of legally enforceable options that can be exercised in order to ensure all pumpers with water allocations remain in compliance, such as those using the Transient Pool allocation that is limited to no more than 51,000 AF total (how will this limit be tracked and enforced?), as well as enforcing pumping restrictions to those non-de minimis pumpers that do not have any legal allocation at all. Without an in-depth discussion on the enforcement options available to "monitor and enforce" the GSP, the GSP is meaningless. Without providing details on enforcement options that are legally defensible by the GSP and supported by State of California law, anyone who doesn't agree with the plan will not be compelled to take the GSP's requirements very seriously, and the document will simply be ignored. Since SGMA grants the IWVGA the legal authority to implement the GSP, suggest the GSP outline that authority in further detail as to what that enforcement could consist of, and why it is important for all pumpers to understand this plan should be taken seriously. Otherwise there will be those that will simply ignore the GSP because they will believe GSP pumping restrictions can't be enforced.

2. No clear indication for when the option of imported water should be no longer considered a viable sustainability element:
The Imported Water Project, should it even be feasible, is suggested to begin in 2023 with permitting and design, and end with construction completed in 2035 (a 12-year process). The plan states in Section 5.3.1.7 that "the implementation schedule and feasibility of the options will be examined on a regular schedule, and management actions and projects will be adjusted if needed." Please define the term "regular schedule". Annual? Bi-annual? How long will it take for the GSA to formally determine whether water importation will be feasible or not? No timeline or milestone is provided as to when the search for supplemental water is no longer a feasible option to continue pursuing because it will no longer meet the sustainability goal of the GSP. The clock will simply run out on the option of searching for, obtaining funding, getting permits, and completing the infrastructure necessary for importing water as it relates to the SGMA mandate for sustainability by 2040. Suggest acknowledging a final date for ending the search for imported water.

3. No discussion of a Management Action where the only option is basin-wide mandated (NOT voluntary) conservation, which is a very real possibility:
Considering the very high costs and the likelihood of not being able to afford imported water when all

factors are considered (environmental permits & documentation, infrastructure capital costs, maintenance, costs of negotiating contracts with water suppliers, cost of actual water that may be available to import. etc.), the plan does not address what happens if imported/supplemental water is not obtained. While Section 5.3.3 attempts to address a basin-wide conservation approach, it does so only through "voluntary" coercing conservation. Section ES 5.0 states that reducing immediately to the sustainable yield is "not feasible". I do not agree with that assertion. Difficult yes, but not unrealistic or unfeasible. It can be done. What's missing in the GSP is a frank discussion that there is a very realistic possibility that water conservation may be the only option to get the basin down to an overall sustainable yield of 7,650 AFY . So, if that is the last option available, what does that option look like? The plan is remiss if it does not at least address the potential for having to implement a non-voluntary conservation-only approach for ALL pumpers throughout the entire basin. Getting that option into the plan from the onset is important from a public discourse perspective , should that option be the only viable one remaining over the next few years. I would suggest a "Mandatory Water Conservation Management Action" be added to the plan so the public can at least understand that may be the only option left at some point in the future.

The IWV Groundwater Agency (GA) exists to meet the requirements of the State SGMA law. Currently, the GSP as formulated roughly meets the requirements of SGMA , but without considering whether it is the State's or the IWV resident's responsibility to bear the associated costs of the projects outlined. According to the State Constitution , Article 13B, Section 6 it is lawfully the responsibility of the California State government to fund every mandate it imposes on local governments. That fact is plain to read and understand in the California Constitution. The GA in the implementation and presentation of the GSP needs to address this all important point. It has so far incurred debts of over $5 million dollars and its' future costs could be well over $150 million and cost each of us $1300 to $2200 per year.

Thus far the GA has acted like they expect the Citizens of this Valley pay for this mountain of potential debt. Why? According to the below article of the California Constitution, the State is obligated to provide funding for all the GSP projects. RE:

CALIFORNIA CONSTITUTION
ARTICLE 13B GOVERNMENT SPENDING LIMITATION
SEC. 6. (a) Whenever the Legislature or any state agency mandates a new program or higher level of service on any local government, the State shall provide a subvention of funds to reimburse that local government for the costs of the program or increased level of service, ...

This Article is very clear, giving the GA the power to address this with the State Dept of Water Resources. A suggested statement by the GA to the State immediately after finalizing the GSP plan is:

"The State has mandated a GSP to achieve groundwater sustainability in the Indian Wells Valley (IWV) basin. The IWVGA adopted GSP plan meets SGMA law. Being a mandated action by the California State government, costs are lawfully the States' obligation according to Article 13B of the State Constitution, Sec 6. We therefore present the costs of generating this GSP for reimbursement . Subsequent GSP implementation actions by the IWV GA may entail, when funding is provided. This request shall in no way be interpreted as a request for State intervention in the GSP. The right and authority for providing water to the Citizens of the IWV remain the right of the Citizens of the IWV. The State's role in the IWV GSP now is to fund it. "

Without an action like this by the GA the economic well being of ALL the Citizens in this valley is in jeopardy. Who among us can possibly bear such increases in our yearly expenses? The ripple effect will be widespread, and result in an economic earthquake here far exceeding the effect of the last two physical earthquakes. The GA needs to take the Constitutionally lawful stance outlined in the above paragraph, MAKE our State government behave lawfully and fund the GSP and any further GA actions, and not force an economic tsunami on the People of this Valley. The GA, the County, the City, and Water District need to get educated on the California Constitution to avoid bankrupting this Valley needlessly.

In light of the above delineated facts, the questions I submit for answer from the GA board members are:

1. Is this Board going to have its' lawyers elaborate, before the public, how Article 13B Sec. 6 of the California Constitution applies to the funding of the State mandated GSP?

2. Once clarity on the State's lawful obligation to fund its' mandated programs is delineated, is this Board going to formulate an approach to press the State for full funding of the IWV GSP?

3. When a request for funding is made to the State, will this board suspend pursuing a Proposition 218 action to force payment for the GSP upon the Citizens of the IWV?

4. If this board is NOT going to press the State to fund its' mandated IWV GSP program, are the individual members of this Board each going to explain, in public, why they will not act according to their sworn duty to uphold the California Constitution?

I strongly request that answers to all the above three/four questions be submitted in writing for the record.

Michael Neel

Comment Document No. 5

Pleistocene Foundation

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Environmental Research and Education

Response to draft report IWVGA (draft) Section 2 Plan Area (Dec 15, 2019)

I am resending my Section 2 comments because they were not addressed in the draft IWVGA (Nov 4, 2019)

1. Paragraph 2.5.2.4 is silent relative to how the City of Ridgecrest encourages water conservation via its land use jurisdiction. The paragraph should specifically identify the City's land use ordinances and state the impact of those ordinances on resource conservation. The paragraph should specifically state how each zoning ordinance promotes water conservation and discourages wasteful use of water.
2. Paragraph 2.7.3 does nothing to define a performance measure relative to conservation or a conservation goal. How do we intend to measure our progress toward a goal? Do any of the programs mentioned really help? If so, how? One performance measure in addition to absolute water production could be the ratio of indoor water use to outdoor water use. The Navy and City of Ridgecrest generate about 2,500 acre-feet of effluent (sewage). The sewage contribution ratio between the Navy and the City is about 28% versus 72%. Assuming the Navy uses 1,600 AF of water and the City uses 6,400 AF of water, the indoor use of water is 47% for the Navy and 27% for the City. The Navy uses about as much water for outdoor purposes as indoors. The City uses almost three times as much water outdoors as indoors. The City's outdoors use of water seems high. How do we intend to set a reasonable goal? What conservation program in section 2.7.3 is going to address this?

3. The paragraph 2.7.4.3 statement regarding tiered rates motivating water conservation of is misleading. To determine the impact of IWVWD fees on conservation the overall fee structure, fixed fee and actual water fee, must be analyzed. The fixed fees generate more than sixty per cent of the revenue, while the water fees generate less than forty per cent of the revenue. This establishes a low average unit water fee. The low average water fee encourages water waste.

The water fee structure contains four tiers. Tier one contains nine units of water. Tier two contains fifteen units of water. Tier one water along with tier two water comprise about seventy-five per cent of the water sold. Tiers three and four comprise the remaining twenty-five per cent of the water sold. Both tier one and tier two water sells for less than the average unit water fee. That is, tiers three and four subsidize both tiers one and two.

Tier one, the first nine units, is for health and safety use. Tier two, the next fifteen units is for outdoor landscape use. While tier one water is clearly a necessity, tiers two, three, and four are all discretionary water use. Yet, tier two is being subsidized. The fifteen units allocated in tier two are even more than is allocated for health and safety. The large amount of tier two subsidized water does not encourage conservation.

The combination of a low average water fee combined with a large amount of inexpensive subsidized tier two water encourages the use of water, not water conservation. All water purveyors should have fees that encourage conservation rather than water waste.

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4. Paragraph 2.5.4 discusses local industrial use of groundwater. The discussion ignores water use by Coso Geothermal, a bottled water plant, and a brewery. Please add those three water uses to the discussion.

5.Paragraph 5.3.3.1 indicates the AVEK staff has stated there is currently unused capacity in the California City pipeline. Additional information is needed. How much unused capacity exists? How long is this unused capacity going to be available? Considering California City is going to increase their agricultural water usage in the near future we need to be get a clear understanding of the real long term availability of water from AVEK.

6. Based upon recent newspaper reports the Environmental Protection Agency has changed certain rules regarding the availability of water flow from northern California to southern California. While this will mostly affect western Kern County, the GSP should state any potential side benefit that might be indirectly obtained by us.

7. The most recent water allocation chart indicates the real water usage in the IWV may be less than indicated by some of the early voluntary water data that has been obtained. The GSP should state what impact this might have on analysis and conclusions.

. Due to these noted issues, the draft plan is inadequate.

Raymond Kelso

INDIAN WELLS VALLEY GROUNDWATER BASIN

GROUNDWATER SUSTAINABILITY PLAN

SECTION 5– PROJECTS AND MANAGEMENT ACTIONS

DRAFT

November 4, 2019

SECTION 6: IMPLEMENTATION PLAN

6.1 IMPLEMENTATION PLAN SUMMARY

Due to prolonged overdraft conditions in the IWVGB, the community is currently experiencing the undesirable impacts of prolonged overdraft and will continue to experience increasing environmental, social, and economic impacts if sustainability is not achieved. The IWVGB is currently experiencing unreasonable reduction of groundwater in storage, chronic lowering of groundwater levels which result in shallow wells going dry or being impacted by poorer water quality, degradation of water quality, and localized land subsidence impacting structures/facilities at NAWS China Lake.

Increasing water reliability and preserving groundwater resources are critical tasks of the IWVGA ~~and are critical to accomplishing the mission at NAWS China Lake and sustaining the entire IWV community. The sustainability goal is to preserve the IWVGB groundwater resource as a sustainable water supply. To the greatest extent possible, the goal is~~ to preserve the character of the community, preserve the quality of life of the IWV residents, and sustain the mission at NAWS China Lake. The absence of significant and unreasonable undesirable results throughout the planning horizon will be indicative the sustainability goal has been achieved. The sustainability goal will be accomplished by achieving the following objectives:

- Operate the IWVGB groundwater resource within the sustainable yield.
- Implement projects and management actions to reduce groundwater demands (including pumping reduction and conservation), increase reuse of current supplies (recycled water), and obtain additional supplemental water supplies (imported water).
- Monitor the IWVGB actively and thoroughly and adaptively management the program to ensure the plan is effective and undesirable results are avoided.

A suite of project and management actions have been evaluated and selected to address current and projected undesirable results with the goal of bringing the IWVGB into sustainable balance (see Section 5). There are currently no reliable sources of supplemental water available to help achieve sustainability. Therefore, the initial priority is on demand reductions, at least until a reliable supplemental water supply is secured. These projects and management actions are the following:

- Pumping Limitations Program
- Dust Control Mitigation Program
- Conservation Program including programs that assist Severely Disadvantaged Communities in the IWVGB
- Shallow Well Mitigation Program for shallow well failures due to water quality degradation and lowering of groundwater levels
- Recycled Water Project
- Imported Water Project
- Pumping Optimization Program

In addition to the proposed projects and management actions, GSP implementation requires continual monitoring of the proposed monitoring networks to evaluate IWVGB conditions and the sustainable management criteria, as well as annual and periodic GSP updates to DWR, pursuant to SGMA regulations. Data gaps will continue to be analyzed and monitoring and data management programs will be implemented as necessary. The IWVGA is taking an adaptive management approach to reach sustainability; therefore, additional projects and management actions not discussed in this GSP will be evaluated and implemented over the planning horizon, as necessary.

6.2 SCHEDULE FOR IMPLEMENTATION

The IWVGA will start implementation of the GSP after adoption of the GSP by the IWVGA Board. The anticipated implementation timelines and schedules for the projects and management actions are discussed in Section 5. The anticipated implementation timeline for the projects and management actions range from 2020 to 2035. With this broad range of implementation timelines, there are likewise broad estimates of the project and management action task schedules.

Some of the proposed projects and management actions are dependent on activities and schedule beyond the control of the IWVGA. The schedule for the proposed Recycled Water Project is dependent on the completion of the upgraded City of Ridgecrest's wastewater treatment facility. The schedule for the proposed Imported Water Project is dependent on securing an imported water supply source, completing agreements for the transportation and exchange of water, and obtaining sufficient funding to construct the needed infrastructure. Accordingly, there is uncertainty of project implementation schedules at this stage of planning.

The GSP Implementation Schedule is provided in Figure 6-1. This implementation schedule will be revised as necessary to reflect any changes based on updated information and to provide more specificity as the projects are further developed.

6.3 GSP IMPLEMENTATION COSTS AND FUNDING

6.3.1 Implementation Costs

The GSP Implementation costs can be categorized in the following manner:

- Administrative Costs
    - GSP Reporting
    - Funding Administration
        - Fee Administration
        - Grant/Loan administration
    - Stakeholder Involvement/Outreach
- Program/Project Development and Implementation for Projects and Management Actions
- GSP Monitoring/Data Management System maintenance
- GSP Data Gap Analyses and Updates

The IWVGA may also incur additional costs that include, but are not limited to, additional administrative expenses, salaries and benefits, legal services, etc. These costs, when eligible, will also be funded through the funding sources discussed in 6.3.2.

The estimated costs for each project and management action and IWVGA implementation is provided in Table 6-1. These estimates will be refined and revised during GSP implementation as more information becomes available.

Table 6-1. Estimated GSP Implementation Costs.

Task	Total Development / Capital Costs	Total Annual Costs
Administration	xx	xx
Projects and Management Actions		
Management Action No. 1: Implement Annual Pumping Allocation Plan, Transient Pool and Fallowing Program	$9,200,000	$40,000
Project No. 1: Develop Imported Water Supply		
Option 1:	$226,365,000	$8,140,000
Option 2:	$103,436,000	$4,440,000
Project No. 2: Optimize Use of Recycled Water		
Option 1:	$42,757,200	$395,500
Option 1a:	10,183,200	$129,300
Option 2:	$22,798,000	$480,300
Project No. 3: Basin-wide Conservation Efforts		$20,000
Project No. 4: Shallow Well Mitigation Program	$1,720,000	$20,000
Project No. 5: Dust Control Mitigation Program	$19,000,000	$20,000
Project No. 6: Pumping Optimization Project	$23,000,000	
GSP Monitoring/Data Gap Analyses		$60,000
Annual GSP Reporting		$30,000
GSP 5-Year Updates [1]	$360,000	
Data Management System		$20,000

[1] *Assumes four 5-year updates through 2040.*

6.3.2 Potential Funding Sources

Development of this GSP was funded through the following sources:

- Proposition 1 Sustainable Groundwater Planning Grant
- Pump Fee applicable to all non de minimis pumpers in the IWVGB (with the exception of U.S. Navy pumping to support NAWS China Lake)
- Local Contributions by IWVGA Member Agencies
- In-kind Services by IWVGA Member Agencies and other local agencies

GSP Implementation costs will require a broad variety of funding sources, from federal, state, and local sources. Supplemental water supplies, as required for the IWVGB to be sustainable, are extremely costly and limited. Even if supplemental water supplies are available, the IWV community is not financially capable of supporting an imported water supply without significant public funding. As such, the IWVGA will pursue all reasonable funding opportunities to support GSP implementation tasks. Federal and state funding sources that have been identified as potential options for GSP implementation funding include the following:

- Federal Sources
    - Water Infrastructure Financing and Integration Act (WIFIA)
    - Reclamation Integration Financing and Integration Act (RIFIA)
    - Bureau of Reclamation – WaterSMART Program
    - Department of Defense – Defense Communities Infrastructure Program
    - Department of Defense – Readiness and Environmental Protection Integration Act (REPI)
    - Water Resources Development Act (WRDA)
    - U.S. Department of Agriculture
        - Community Facilities program
        - Regional Conservation Program
- State Sources
    - State Water Resources Control Board Loans and Grants
        - Clean Water State Revolving Fund (CWSRF)
        - Drinking Water State Revolving Fund (DWSRF)
        - Small Community Grant Fund
        - Groundwater Grant Fund (Chapter 10, Prop 1)
        - Parks and Water Bond (Chapter 11, Prop 68)
    - Legislative Appropriations

Local sources of funding will include administering a pump fee on groundwater production, similar to the fee that was used to partially fund the GSP preparation. The pump fee structure may have multiple components such as an administration fee, a remediation fee (for mitigation for impacted shallow wells, and an augmentation fee (for imported water supplies). With that said, the remediation and augmentation fees may be combined into one fee since those that will be subject to these fees are likely the same. Additionally, the administration fee may not be adopted at the outset because the current structure and operation of the IWVGA is such that there is limited, if any, costs for general administration.

The U.S. Navy receives royalties from the sale of electricity generated at the geothermal power plants located on NAWS China Lake in the Coso Geothermal Field. A portion of those funds are available each year to fund local energy or water security initiatives that support the NAWS China Lake mission. GSP implementation projects and related tasks may be eligible to receive funding from these royalties if deemed necessary and a priority to support the NAWS China Lake mission.~~The U.S. Navy receives royalties from the sale of electricity generated at the geothermal power plants located on NAWS China Lake in the Coso Geothermal Field to fund local energy or water security initiatives that support the NAWS China Lake mission. GSP implementation projects and related tasks may be eligible to receive funding from these royalties if deemed necessary and a priority to support the NAWS China Lake mission.~~

6.4 PROGRESS ASSESSMENT AND REPORTING

6.4.1 Annual Reports

As required by SGMA, the IWVGA will prepare an annual report which will describe the progress being made toward implementation of this GSP and reaching sustainability. The content of the annual report will include, but is not limited to, progress made toward implementation of the planned projects, progress made on achieving the interim milestones identified in the GSP, and a discussion on sustainability progress.

6.4.2 Periodic Evaluations and Assessments

The IWVGA recognizes that IWVGB management requires an adaptive management approach and supports the necessity of periodic updates to the GSP. Accordingly, in five-year increments, the IWVGA

will evaluate the GSP and prepare a Five-Year Evaluation Report. The Five-year Evaluation Report will include discussions on 1) Sustainability Evaluation, 2) GSP Implementation Progress, 3) GSP Elements Evaluation, 4) Monitoring Network and Data Gaps, 5) New Information and Data, 6) Instituted Regulations, Ordinances, and Legal Actions, 7) GSP Amendments, and 8) On-going coordination.

- Sustainability Evaluation: A summary of the groundwater conditions for each of the identified sustainability indicators and a summary of progress toward IWVGB sustainability will be provided. A discussion of progress on each of the identified milestones and a summary of the measurable objectives in relation to the minimum thresholds will be included.
- GSP Implementation Progress: A summary of the implementation of GSP projects and management actions, including an updated implementation schedule and summary of the quantifiable benefits realized from implementation of projects and management actions, will be provided.
- GSP Elements Evaluation: If new or additional data from the monitoring program or the implementation of projects and management actions is available, GSP elements, including the suitability of the established sustainable management criteria, will be evaluated and reconsidered. Based on the findings, the IWVGA may suggest revisions to the GSP.
- Monitoring Network and Data Gaps: A description of the monitoring network will be provided. Data gaps that have been identified and efforts to fill those gaps will be described. An assessment of the effectiveness of the monitoring programs will be provided, along with a schedule to address the data gaps.
- New Information and Data: New data obtained since the last GSP update will be provided.
- Regulations, Ordinances, and Legal Actions: A summary of regulations and/or ordinances the IWVGA has implemented to assist with implementation of the GSP will be provided. IWVGA legal actions and enforcement activities will be discussed.
- GSP Amendments: Any approved or proposed GSP amendments will be discussed.
- On-going Coordination: A summary of the coordination between the IWVGA and other agencies within the IWVGB will be provided.

Comment Document No. 7

Volume	Page	Line	Comment	notes
1	34	14-25	This paragraph should include the four non-voting members of the PAC. That includes the Navy, IWVWD, BLM, and Kern County.	addressed
1	35	7	United States Navy needs to be identified as a non-voting member.	addressed
1	42	16-17	"The recharge zones identified by DRI are shown in ?" Where are the recharge zones shown?	addressed
1	69	14	Need to change to Naval Air Weapons Station (NAWS).	addressed
1	77	8	United States Navy needs to be identified as a non-voting member.	addressed
1	115	12-18	The last sentence in section 2.6.4 needs to be removed and that section will be more accurate as figure 2-13 is actually representing KCWA monitored wells and not necessarily the wells in the BGMP. Figure 2-13 is first mentioned at the end of section 2.6.2 and having it referenced again here makes the figure even more misleading than it already is. The figure is misleading in that it attempts to distinguish what KCWA monitors and what the Navy monitors. The reality is the Navy collects groundwater levels semi-annually from all of the wells on Navy property and reports those levels to KCWA. However, the monitor wells that are analyzed for groundwater quality for CERCLA may or may not overlap with some of those wells that are reported to KCWA for groundwater levels. The figure itself needs to be changed to show all wells on the installation in green as the Navy measures everything on the installation and simply reports that data to KCWA.	addressed
1	207	15	Make this a new paragraph. "In areas in the IWV where the groundwater levels have been steadily declining, the water levels have dropped enough to impact shallow wells, requiring wells to be deepened, re-drilled, or abandoned as a water source. As discussed in Section 3.4.2, an analysis was conducted on the IWVGB well inventory to estimate the number of shallow wells impacted due to the chronic lowering of groundwater levels, which is related to the significant and unreasonable reduction of groundwater in storage (Appendix 3-E). It is estimated 97 shallow wells were impacted from 1980 to 2018 based on preliminary analysis. By 2070, an additional approximately 800 wells are estimated to be impacted under the baseline, “no action”, conditions. (Additional shallow wells are anticipated to be impacted due to water quality degradation.)"	addressed
1	210	8	Delete the extra bullet.	addressed

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04 January 2020

Public Comments Regarding the Indian Wells Valley Groundwater Sustainment Plan January 2020

We are told by the local Groundwater Authority and our regional political leaders that there is no way we can conserve our way out of our current groundwater overdraft situation and that we have no alternative but to import water into our valley at great cost to all of us. I am going to suggest this is not necessarily the case. All of the planning I have seen assumes we will continue to use as much water in the future as we do today, perpetuating wasteful water use practices as if this is the only alternative we have. I will suggest this is not the case at all. We are told we may have to spend upwards of $200 million to build a water conveyance system, aka an aqueduct, to bring imported water to our basin and then spend upwards of $15 million per year to buy and move this water, or "wheel" the water to use the industry term, into the indefinite future. History suggests the final price will be much higher than that. I will suggest we can invest less than half that amount of money and avoid importing water altogether. Based on available data from the Todd Engineering report, Indian Wells Valley Land Use Management Plan DEIR, census data and readily available prices of solar systems and ductless air conditioning systems I am going to paint a little bit different picture of our future than valley political leaders have painted so far

One other comment regarding groundwater rights in California. Prior to SGMA there was no formal system of groundwater rights in this state. A property owner could pump any amount of water they wished out of the ground until a judge told them to stop or the well ran dry. Land owners are said to have overlying rights. "Appropriators" are those who pump water from the ground for use on property outside the location of the well, and the California courts have ruled that this includes municipal water districts who distribute water over tens or even hundreds of square miles from wells located inside and outside their distribution area. For a long time in the state overlying rights were assumed to have priority over appropriative rights. This changed with a California Supreme Court case called Pasadena v Alhambra. When groundwater basins experiencing overdraft led to litigation, the courts in California including the California Supreme Court have instead used a doctrine called "mutual prescription", where all water users in the basin have to reduce their draw on the aquifer in some proportion. This was done to protect municipal water utilities from being cut off from water supplies by landowners with wells in adjudicated basins claiming their overlying rights had priority over municipal users prescriptive rights. The California Supreme Court also ruled that "beneficial use" has to be considered in determining the degree of prescription. Not all users suffer the same degree of prescription depending on how a judge or court appointed water master determines how beneficial a particular party's water use is. There are some who even argue for example that growing alfalfa in the desert is not a beneficial use of water. We have heard some current users assert that since their water use predates the incorporation of Ridgecrest or the establishment of NAWS China Lake they are not required to surrender any of their current water use. Temporal

rights, the “first in use is first in right”, doctrine that generally governs surface water rights in the west does not apply to groundwater under California law. The Mojave Adjudication ruling from the California Supreme Court set a strict standard for adjudicating groundwater disputes in California. And as seen in the ongoing Antelope Valley Adjudication case, Federal water users can be sued in a state court. It is so far the only sort of case where a Federal entity has to be part of a lawsuit heard in a state court. Typically Federal agencies may not be sued in state courts. Water disputes are an exception.

First my ground rules and assumptions.

The population of Ridgecrest is 29,000, with 10,781 households (US Census data).

The population of the Indian Wells Valley including Ridgecrest is 36,000 (the DEIR claims the valley has “less than 35000 residents, I’m being conservative and assuming there may be more than that).

Current annual recharge into our ground water basin is 7300 Acre Feet Per Year (AFY). This is the lowest of several numbers being quoted for the sake of being conservative in my estimate.

The Navy / Ridgecrest wastewater treatment plant processes 2500 AFY of wastewater.

Current annual water use is as follows (from the Todd report)

Private Domestic Wells	1000 AFY
IWVWD and ICSD	8000 AFY
Ridgecrest Area Parks	350 AFY
NAWS China Lake	1800 AFY
Searls Valley Minerals	2600 AFY
Evapotranspiration	630 AFY
Domestic / Industrial subtotal	14,380 AFY
Domestic / Industrial Overdraft	7080 AFY

Domestic and Industrial water use at our current level of use is almost twice annual recharge and the reason our leaders claim we have no alternative but to import water. 9,000 AFY spread across 36,000 residents tells me we are, on average, using about 223 gppd. That corresponds to my experience with my first home here where I had a big Mastercool evaporative cooler and a front lawn. This is excessive water use.

I am not including the 20,000 AFY of agricultural water use predicted when the existing pistachio orchards reach maturity. More on that subject later.

With air conditioning instead of evaporative cooling, it is easy to achieve water use measured in Gallons Per Person Per Day (gppd) of 85 to at most 100 gppd . We achieve 85 - 90 gppd in our own home now with no special conservation measures.

City of Los Angeles currently realizes 78 gppd.

Los Angeles County currently realizes 105 gppd (unincorporated LA County including Antelope Valley).

An Acre Foot of water is the amount of water required to cover one acre of surface to a depth of one foot, which is equal to 325851 gallons.

Assume 90% of households use evaporative cooling, 10% us air conditioning (best assumption I could come up with from extensive reading).

California solar power in 2020 with rebates costs $3.07 per watt.

A 23,000 BTU ductless air conditioning system suitable for a 1200-1700 square foot home costs $5000 installed.

1000 watts of rooftop solar would produce enough power to make the switch from evaporative cooling to air conditioning energy neutral. User should not experience increased electric utility charges.

Here is what our water use would look like at 100 gppd and 85 gppd in AFY:

	100 gppd	85 gppd
Private Domestic well users, IWVWD , ICSD	4032	3428
Ridgecrest Area Parks	350	350
NAWS China Lake	1800	1800
Searls Valley Minerals	2600	2600
Evapotranspiration	630	630
Domestic / Industrial Subtotal	8750	8178
Domestic / Industrial Overdraft	1450	878

Domestic / Industrial use still causes a small overdraft but I have not mentioned using treated waste water yet. The wastewater plant co-owned by the US Navy and city of Ridgecrest processes about 2500 AFY of waste water. Assume with water conservation measures only 2000 AFY would be available for treatment. That is conservative because I am assuming indoor water use, the water that ends up going down our drains to the treatment plant, does not need to change to get us to 100 gppd or even 85 gppd. We do it now in our own home and we are not taking sea showers. The only differences between my current home and the old one aside from the new one being twice the size are lack of a front lawn and ac instead of evaporative cooling. Those two changes cut our water use by more than half. But for the sake of a very conservative estimate I will assume only 2000 AFY of wastewater will be available for treatment. For more than three decades the Orange County Water Authority has been treating their wastewater to a potable standard. It comes out so pure you can drink it. They even bottle it and serve it at meetings, plant tours and trade shows. This water is then pumped back into their

aquifer from which 75% of the county's drinking water is drawn. There needs to be a discussion with Searls Valley Minerals about how much treatment they would need for the water used in their process. Maybe they don't need potable water for their process and they can get by with less treated sewage? It is a question that needs an answer. They need to put some of their money into the pot to achieve this and not simply expect IWV residents to foot the entire bill for them. There also needs to be a discussion with San Bernardino County regarding domestic water use in Trona and Pioneer Point. It's not a lot of people but maybe San Bernardino County would want to do something like I am proposing to bring water use down there since their water comes from our basin. At 85 gppd there is almost no need to treat wastewater and no need to import water. Also note that if you subtract the water use by Searls Valley Minerals we are no longer in overdraft even at 100 gppd.

I think now the reader can see it is possible to realistically bring local domestic and industrial water use down below annual recharge. All it takes is the political will to do so. The State of California has a goal of bringing domestic water use down to only 55 gppd. That will be hard to achieve. At that level total domestic water use in the valley, meaning private domestic wells, IWVWD and ICSD falls from 2428 AFY at 85 gppd to only 2218 AFY. Total water use falls from 8178 AFY to 7977 AFY. At that level we are even closer to not even needing treated wastewater, especially if the Trona area is able to experience similar low water use (which I haven't calculated). I believe it would be foolish indeed for this region to spend hundreds of millions of dollars on new infrastructure that ends up being unnecessary in a decade or two.

By now you are asking how do we get to such low water use, since assumes both xeriscape and the elimination of evaporative cooling from homes. Good question. It will not be costless to accomplish, but it will be less than half the cost being proposed to build infrastructure to import water and that cost could be further reduced by a few ideas I will propose.

First off go back to our ground rules and assumptions. Ridgecrest has a population of 29,000 and 10,781 households. If the proportion of households to residents for the entire region matches that of Ridgecrest, the 36,000 residents of the valley should live in 13,383 households. I cannot find a census number for the number of households in the whole valley, only for Ridgecrest so I have to estimate it. Of those households, 90% or 12,045 will have evaporative coolers. The remaining 10% have ac. All of those evaporative coolers would need to be replaced to bring water use down to 85 gppd or lower and all new construction would have to use ac instead of evaporative cooling. To accomplish this I am proposing to replace existing evaporative cooling systems in households with a 23,000 BTU ductless air conditioning system sufficient to cool a 1,200 - 1,700 square foot home and add 1000 watts of roof top solar to generate the electricity necessary to make up the difference in the switch from evaporative cooling to ductless ac. I am not trying to cover all the electrical needs of the home, just keep the electric bill constant when ac is installed. Average installed cost of a 23,000 btu ductless ac system ranges from $3000 to $7000. Average cost is $5000. The current installed cost of solar power in California with rebates is $3.07 per watt. A 1000 watt rooftop solar installation therefore would cost $3070. A ductless ac system and 1 Kw of solar installed on a home would cost $8070. The full cost to convert every household in the valley with evaporative cooling, 12,045 households, to ductless ac and rooftop solar is $97.2 million. That is not a trivial number but it is less than half the cost we are being told is necessary to build a water conveyance system to our valley and after the money is spent there are no ongoing annual costs such as

those we would face to import water each year. Since we have 20 years to reach sustainability that $97.2 million would be spent over 20 years, meaning we would spend roughly $4.86 million a year. Keep in mind that after building a $200 million aqueduct imported water will cost us $15 million a year and there is no end to that cost. It's forever. Once homes are converted to ductless ac there are no more annual charges.

The public might not have to pay all of this cost. A program could be designed such that an owner would receive a subsidy to convert from evaporative cooling to ductless ac and solar if they agreed not to sell the property for some period of time, say five years or maybe seven years. Otherwise the home would have to be converted before it could be sold with the cost included in the sale price. If the owner sold before their five or seven years were up the water district or whichever agency paid for the installation would be authorized to recoup their costs from the sale of the property. The rules have to have some teeth. If we chose to use a 2/3 subsidy for home owners who agreed not to sell this would cost $64.8 million assuming all current owners agreed to not sell ($3.24 million per year). In reality many homes will change hands over time and those won't benefit from the subsidy therefore reducing the expense to the public. Perhaps instead we could agree to subsidize only half of the cost or less if the conversion is part of a change of ownership. The local real estate industry could provide us with an average number of sales of existing homes per year to use to refine this estimate. There are lots of possible subsidy scenarios with different menus of costs, all of which are lower than a system to import water. My complaint is that no serious conservation program has even been suggested much less analyzed in detail. We are told by valley leadership we need to import water to sustain excessive domestic water use in excess 200 gppd and that's that. End of conversation. No it isn't and my intuition tells me the state will reject our current plan, which it very much should.

I have not discussed the 20,000 AFY of agricultural water use. Non irrigated farm land in California sells for $3550 an acre. Prime irrigated farm land sells for $12,500 per acre. We have 1000 acres in alfalfa and 2500 acres in pistachios in this valley according to the Todd report. 3500 acres total. That land is worth $12.4 million if it is considered to be non-irrigated and $43.75 million if the land is considered irrigated. Our valley is not considered to be prime farmland according to the DEIR. The farmers expect us to build a $200 million aqueduct to water land worth at most $43.75 million, probably less. If one accepts that it is possible to import water for as little as $2000 per acre foot, the 20,000 AFY that will be required to irrigate our farmland would cost $40 million per year. At $4000 an acre foot farms would require $80 million per year for water. So we are expected to pay $200 million up front and the farms will pay $40 million to $80 million a year to irrigate land worth at most $43.75 million. Do those farms have the kind of revenues to afford $40 million a year for water? I don't think so, meaning that after we foot the bill for such an aqueduct the farmers won't be able to afford this imported water and will go out of business anyway.

Last point, we are told imported water might cost $2000 to $4000 an acre foot. Southern California water users pay MWD $10,000 to $12,000 an acre foot for the same water. Ask why our local leaders think we would be able to buy water at such a steep discount. $4000 an acre foot for imported water is not a believable number.

The purpose of this paper is to facilitate discussion in a direction our valley leadership has not even hinted at. All of the discussion to date has assumed we absolutely ***must*** build an expensive water conveyance system and pay many millions of dollars per year to import water to our valley so we can continue to use in excess of 200 gppd in our homes. Our leaders are proposing this to the state government in a state where the major

metropolitan areas under heavy pressure by that very same state government have all brought their water use down to half of what we use per person per day or less in many cases. I hope I have opened some eyes to the thought that we may not actually need to import water to have a sustainable future water supply and that it might be the wrong choice to do so.

Ralph Lachenmaier (Ridgecrest Resident) Comments on GSP

1 The GSP (on the web site) is far from being a plan. It needs to present the items I list below: It seems to me that the GSP is hiding what the cost increase to Water District residential customers will be. I understand that the GSA will be charging the Water District, and the Water District will be charging residential customers. However, the GSP should be able to estimate how the costs will be passed on by the water district.

1.1 The GSP should specify the date, when the GSA will begin charging the Water District for water. My understanding is that this may be as soon as June, 2020. I assume that the Water District will pass that charge along, and Ridgecrest residences will see an increase in their water bill. The GSP should give an estimate of how much an average Water District residential customer's bill will go up.

1.2 The GSP should also give estimated dates, when additional GSA charges will take place and how much each of those will be. Again the GSP should give an estimate of what the average Water District residential customer's increase will be.

1.3 The GSP needs to specify whether Water District increased charges will be to the base rate (a fixed charge), or whether the charges will be a "per gallon" volumetric charge. Obviously volumetric charges will encourage water conservation and are the preferred way of charging.

1.4 The GSP should specify exactly what the ~$9M cost is for pumping allocation. Is it to pay the farmers for their water or something else? The components making up this number and how they were estimated should be given.

1.5 For the GSP to be a realistic plan, an alternative to importing water should be specified. It is unlikely that the ~38,000 people served by IWV water can afford the cost of importing water (AV-$226M, LA-103M) plus the annual cost (AV-$8M, LA-4.4M). There are many unanswered questions in the plan: Can the GSA issue bonds for the capital cost? Who would buy them? Can the GSA find water to import that is reliable? Water is the most critical resource in California. Everybody is competing for it. Can the GSA find it at a reasonable price? An alternative plan to importing needs to be specified in case water importing cannot be done.

Comments on Dec 11, 2019 draft GSP Stan Rajtora, Jan 6, 2019

Disclaimer: The comments below are my personal comments. They have not been endorsed by the IWV WD. If you have questions, call me at cell: 760-793-6854.

1. The draft GSP contains a set of potential management actions and projects that are being considered to create a sustainable IWV groundwater basin. The document does not clearly demonstrate how the various actions and projects will be integrated together to accomplish the intended goal at an affordable cost. The GSP implementation plan should be updated to include a baseline set of projects and management actions that meet the overall objectives and a decision tree with appropriate branch criteria to non-baseline projects that ensures success of the GSP acknowledging the large uncertainty inherent to some projects.

1.a. Water importation is one of the higher risk projects proposed, but it is pivotal relative to the total plan. The success or failure of this project has major implications for the demands placed upon the remainder of the proposed projects or the need to add additional projects. The GSP needs to have a fall back plan available in case the imported water project does not materialize by a specified deadline or is found to be unaffordable. It is not difficult to show that both imported water projects, depending upon financing, could be well outside the financial means of many IWV residents. The GSP needs to comprehend the limited fiscal resources of many valley residents.

1.b. Conversely, if affordable financing does materialize for the imported water project, many other proposed projects could and should be deleted. While the cost of the imported water is high, the costs of many proposed projects show a very low cost to benefit ratio. Scrubbing some projects could eliminate a significant amount of capital funding, which would be better spent on the imported water project. The decision tree mentioned above should be an integral part of the project deletion strategy.

2. The public has been waiting four years to find out the financial impact of the GSA and GSP. The GSP should identify the financial impact on the various classes of water users. Since the IWV Water District is by far the largest class of residential water users, the GSP should be as specific as possible regarding WD customer impact. The GSP should also state the financial impact on Kern County and the City of Ridgecrest. The GSP should be updated to make it clear who is paying for each project.

2.a. Paragraph 5.2 introduces the concept of an ‘augmentation fee’. The GSP is not clear as to how the fee is set, who pays the fee, or to what water the fee applies. GSP fees need to be clear. The GSP should be updated to provide a clear statement defining the augmentation fee and some examples showing how it is calculated for the various classes of water users for the various projects.

2.b. The GSP should discuss possible unintended consequences of all management actions and projects and provide appropriate mitigation. The entire IWV needs to be sustainable; water is only one aspect of sustainability. The GSP must document both the short term and long-term impact of the plan on our economy and quality of life. For instance, some Measure V funding will be needed for roads and police even after the anticipated water fee increases. What is the possible impact?

3. There has been a lot of controversy the last thirty or more years over potential untapped water resources in the El Paso subarea and the northwest. Paragraph 3.6.1.1 addresses a shortfall of monitoring wells in the El Paso subarea. The monitoring well shortfall is a side issue. The real issue is the potential availability of an additional water source in the El Paso subarea. The near term availability of as little as 1,000 AFY could make the difference between near term economic prosperity and economic stagnation for the IWV. Availability of 3,000 AFY of new water could totally change the overall GSP narrative. The GSP should be updated with this potential water source a priority.

3.a. As an example, one well included in the IWVGSP website, AB303-06, indicates the well water level has increased monotonically 3.3 feet according to the last four data points recorded during an eighteen month period. The last measurement point, nominally performed in Oct 2019, has yet to be

recorded. If that last measurement point also indicates raising water level, we clearly have a phenomenon that needs to be explored in the very near future. The flow model also needs to be reviewed for consistency.

4. Section 6 is supposed to include a schedule for the various projects including a timetable for expected initiation and completion (see section 5.1). The GSP is also supposed to include along with the timetable an accrual of expected benefits. Section 6.2 explains why there is a significant amount of uncertainty with the schedule, but then the GSP does provide a schedule without identifying schedule risk. The GSP should state what is being done to resolve the schedule uncertainty as well as indicate when a firm schedule will be available. The GSP should quantify the schedule risk. The GSP should also be updated to include the required timetable of accrued expected benefits.

5. Paragraph 5.1 contains a list of requirements for the GSP originating from CWC §354.44 including an **explanation of benefits** and a **description of estimated cost** for all projects and management actions. Both the benefits and the costs need to be quantified to a level that supports a clear understanding of the cost/benefit of each project or management action. The basis for the cost estimates need to be provided. The GSP needs to justify the expense of each project or management action based upon the benefit provided individually as well as the expense of the collective set of planned projects and management actions. The GSP needs to include more than a simple statement of benefits and a statement of estimated cost.

6. The GSP recycled water discussion, paragraph 5.3.2 and subsections, does not clearly define the quality of the recycled water that is being used for the various recycled water projects. Since the quality of the recycled water impacts the cost of the projects, the GSP should be updated to clearly define the required water quality for each project and the impact on cost.

6.a. The GSP should also clearly identify the quality of water needed to support the industrial water needs of Searles Valley Minerals.

6.b. Paragraph 5.3.2.1 should use the most current data for the effluent flows available for water recycling. Ridgecrest's 2018 annual SWRCB sewer report states processing of 820.2 million gallons of effluent; equal to 2,500 AF. Water production of the IWVWD is down slightly for 2019 indicating that effluent processing is also likely to be down in 2019. If the conservation project, see paragraph 5.3.3, is even a little successful, the future could see available effluent below 2,400 AF. A serious conservation project could create modest reductions in both groundwater production and WWTF effluent for several years. The GSP should be updated using current data.

6.c. The GSP recycled water discussion does not address seasonal versus non-seasonal use. A major benefit of recycled water use is a major reduction in the needed evaporation pond capacity. We need a year round market for the recycled water. The GSP should be updated to address this issue.

7. Paragraph 5.3.2.4 states the City's new WWTF includes a new tertiary treatment facility, and therefore the GSP does not include the cost of a tertiary treatment facility. The City's latest WWTF design document, Provost and Pritchard, dated October 2015, does NOT include a tertiary component in the baseline design. It does, however, include a recommendation for new evaporation/percolation ponds to accommodate the expected future increase in effluent. The tertiary discussion in the P&P report is limited to future growth options. The GSP should be updated using the correct assumptions.

7.a. Paragraph 2.7.5.3 indicates the City WWTF site contains 4 evaporation/percolation ponds. According to the latest WWTF report, P&P, dated 2015, the City WWTF includes 11 ponds at the NAWS site and 4 more ponds at the old City site. Many of the total 15 evaporation/percolation ponds would not be needed if the effluent were recycled. New ponds would certainly not be needed; thus creating a corresponding cost savings.

8. Paragraph 5.3.2 is entitled: Project No. 2: Optimize Use of Recycled Water. Optimization can

mean many different things. The performance index used for the optimization needs to be well defined. That is, what was the logic used? What are the set of pros and the set of cons that established the allocation? As a minimum, the GSP should be updated to provide a cost/benefit analysis for each recycled water project and the rationale for the allocation of recycled water.

8.a. Figures 5.3, 5.4, and 5.5 show the location of the recycled water source being at the Navy sewage site. The City of Ridgecrest has not yet selected the site for the new wastewater treatment plant. The two options are the Navy site and the older City site. Not including both options in the trade study may well skew the results.

8.b. The recycled water generated by the wastewater treatment plant is the property of the wastewater fund, an enterprise fund. The recycled water is a commodity that should be sold to defray the cost of the wastewater treatment. That commodity cost does not appear to be included in any of the GSP cost analysis. The analysis needs to be updated appropriately.

8.c. Recycled Water Subproject 1 is for landscape irrigation of Ridgecrest and China Lake. Assuming a thirty-year loan for the capital expense at 2% interest, the yearly cost of the project is $2,295,811. Based upon the latest “Sustainable Yield Allocation” chart the City pumps either 115 AFY or 339 AFY of groundwater. Assuming 115 AFY of pumped groundwater, the cost of reducing ground pumping one AFY is $19,964. Assuming 339 AFY of pumped groundwater, the cost of reducing ground pumping one AFY is $6,772. Both numbers appear to be a nonstarter. Has the City agreed to fund the over two million dollars per year? If the City does not pay for the City’s recycled water project, who is going to pay? The same questions need to be answered for Cerro Coso’s recycled water.

8.c.1. The GSP discussion indicates that a portion of the recycled landscape water is to be used by the Navy. Has the Navy committed to sharing the cost of the project?

8.c.2. The GSP (see page 5-25) states the combined irrigation needs of the City and the Navy is 930 AFY with the large majority of the irrigation occurring in the City. This disagrees with the latest Sustainable Yield Allocation that has a maximum City allocation of 339 AFY and current usage of 115 AFY. There is a major disconnect somewhere. The numbers are not consistent. The Stetson recycled water report dated July 2018 indicates the City has 53.4 acres of landscape area requiring 416.5 AFY of water. The GSP needs to be updated to make all assumptions logical, clear and consistent.

8.d. Recycled Water Subproject 2 is for groundwater recharge. Assuming a thirty-year loan for the capital expense at 2% interest, the yearly cost of the project is $1,493,544. The cost of this 352 AFY alternate water supply is $4,243 per acre-foot. Comparing that cost with the cost of importing water, the feasibility of this effort needs to be questioned. If less than 352 AFY is available, the cost escalates dramatically.

8.d.1. It appears one reason for the high cost of the groundwater recharge is the small quantity of water being recharged. Since no information is given for the basis of the cost estimate, it is impossible to identify cost drivers. The analysis should be updated looking parametrically at capacities of 1000, 1500, 2000, and 2500 AFY, and it should base the calculations on using both the Navy WWTF site and the older City WWTF site.

8.d.2. My calculations show availability of roughly 2,200 to 2,400 AFY of recycled wastewater that could be recharged. The most recent Sustainable Yield Allocation shows the IWVWD needs 2,046 AFY water augmentation. It is pretty obvious that the first 2,100 AFY of recycled water should be dedicated to augmenting the WD water supply. This is a simple matter of beneficial use priority.

9. The draft GSP (see page 5-14) relies on a prior imported water study (see appendix 5-B) to justify the assumed 5,000 AFY of required imported water. However, the study does not account for

pumpers pumping more water than allocated if they pay the augmentation fee, which leaves the actual required amount of alternate water supply unknown. The prior water study does not account for ET, which can be thousands of AFY. The prior study was not clear regarding growth in the valley. Last, the numbers presented in the prior study are not consistent with the numbers in the latest Sustainable Yield Allocation Chart. The alternate water requirement should be updated to account for possible additional over allocation water pumping, ET, and planned residential and industrial growth.

9.a. The draft GSP does not discuss potential synergism between the imported water project and deep well recycled water project. The AVEK water supply is presumably direct use water; but years where additional water is available at good rates it might be beneficial to store extra water in an injection well. The LADWP water supply would presumably be a recharge effort. However, the water could be treated and injected into a recharge well. Alternately, the water from the recycled effort could be spread with the LADWP water. The recycled water would presumably require less treatment. There may not be synergism that can be exploited, but the GSP should explain the various issues.

10. Paragraph 5.3.3.1 states the GA will encourage additional voluntary and rebate-based conservation efforts for domestic beneficial uses. The entire valley has been encouraged for the last ten years to conserve water. That effort has been very successful with one segment of the local residents. Unfortunately, voluntary conservation has been very unsuccessful with other local residents. The current year WD water production appears to show a slight decrease, but we may be close to the limit of what can be attained by voluntary conservation.

10.a. The State is currently formulating mandatory conservation ordinances. Indoor water usage regulations are already formulated. Outdoor water regulations are in process. The GA should be able to use available information to form an estimate of water savings due to State mandate. The GSP should be updated to have a conservation goal, voluntary or otherwise. If conservation is going to be included in the projected accrual of reduced pumping, there needs to be a goal.

10.b. Water purveyors' fee structure can have a major role encouraging water conservation. The laws of supply and demand will always apply. This needs to be addressed in the GSP. The GSP should quantitatively describe how each of the primary water purveyors, including the larger mutuals, encourages conservation via their water fee structure.

10.c. The impact of fees paid by both de minimis and non de minimis well owners also needs to be discussed relative to conservation.

11. Paragraph 5.3.6.1, page 5-46, indicates the pumping optimization will be performed to minimize localized declining water levels. According to paragraph 3.3.4.3, page 3-22,the current ET is 4,850 AFY or 63% of our entire recharge. ET is wasted water. Reducing the ET would reduce outflows, which is critical to the overall water budget. The pumping optimization project needs to redistribute water pumping to both minimize localized declining water levels and reduce ET. The GSP should be updated to address both aspects of pumping optimization and include an ET goal. The GSP should also provide a quantitative cost benefit justification for the twenty-three million dollar capital expense.

12. Paragraph 5.4.2, Direct Potable Reuse Project, gives the impression that Direct Potable Reuse is a futuristic concept that is not compatible with the IWV timetable. We need to be sustainable by 2040, more than 20 years from now. DPR is a State priority, which is being vigorously pursued by the SWRCB. It is logical to expect the State to make both grants and low cost loans readily available for DPR. DPR needs to be a priority. We need to consider the synergism and compatibility of initial projects with future integration with a DPR strategy. The GSP should describe appropriate synergism between the currently proposed recycled water projects and a future DPR strategy.

The Nature Conservancy
Protecting nature. Preserving life.

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December 27, 2019

Indian Wells Valley Groundwater Authority
c/o Heather Steele, Stetson Engineers

Submitted via email to heathers@stetsonengineers.com

Re: Indian Wells Valley Groundwater Sustainability Plan (GSP), Public Review Draft

Dear Ms. Steele,

The Nature Conservancy (TNC) appreciates the opportunity to comment on the Indian Wells Valley Groundwater Sustainability Plan (GSP) being prepared under the Sustainable Groundwater Management Act (SGMA).

TNC as a Stakeholder Representative for the Environment

TNC is a global, nonprofit organization dedicated to conserving the lands and waters on which all life depends. We seek to achieve our mission through science-based planning and implementation of conservation strategies. For decades, we have dedicated resources to establishing diverse partnerships and developing foundational science products for achieving positive outcomes for people and nature in California. TNC was part of a stakeholder group formed by the Water Foundation in early 2014 to develop recommendations for groundwater reform and actively worked to shape and pass SGMA.

Our reason for engaging is simple: California's freshwater biodiversity is highly imperiled. We have lost more than 90 percent of our native wetland and river habitats, leading to precipitous declines in native plants and the populations of animals that call these places home. These natural resources are intricately connected to California's economy providing direct benefits through industries such as fisheries, timber and hunting, as well as indirect benefits such as clean water supplies. SGMA must be successful for us to achieve a sustainable future, in which people and nature can thrive within the McMullin Area and California.

We believe that the success of SGMA depends on bringing the best available science to the table, engaging all stakeholders in robust dialog, providing strong incentives for beneficial outcomes and rigorous enforcement by the State of California.

Given our mission, we are particularly concerned about the inclusion of nature, as required, in GSPs. The Nature Conservancy (TNC) has developed a suite of tools based on best available science to help GSAs, consultants, and stakeholders efficiently incorporate nature into GSPs. These tools and resources are available online at GroundwaterResourceHub.org. TNC's tools and resources are intended to reduce costs, shorten timelines, and increase benefits for both people and nature.

Addressing Nature's Water Needs in GSPs

SGMA requires that all beneficial uses and users, including environmental users of groundwater, be considered in the development and implementation of GSPs (Water Code § 10723.2).

The GSP Regulations include specific requirements to identify and consider groundwater-dependent ecosystems (GDEs) [23 CCR §354.16(g)] when determining whether groundwater conditions are having potential effects on beneficial uses and users. GSAs must also assess whether sustainable management criteria may cause adverse impacts to beneficial uses and users, which include environmental uses, such as plants and animals. TNC has identified each part of GSPs where consideration of beneficial uses and users are required. That list is available here: https://groundwaterresourcehub.org/importance-of-gdes/provisions-related-to-groundwater-dependent-ecosystems-in-the-groundwater-s. Please ensure that environmental beneficial users are addressed accordingly throughout the GSP. Adaptive management is embedded within SGMA and provides a process to work toward sustainability over time by beginning with the best available information to make initial decisions, monitoring the results of those decision, and using data collected through monitoring to revise decisions in the future. Over time, GSPs should improve as data gaps are reduced and uncertainties addressed.

To help ensure that GSPs adequately address nature as required under SGMA, TNC has prepared a checklist (**Attachment A**) for GSAs and their consultants to use. TNC believes the following elements are foundational for 2020 GSP submittals. For detailed guidance on how to address the checklist items, please also see our publication, *GDEs under SGMA: Guidance for Preparing GSPs*[1].

1. Environmental Representation

SGMA requires that groundwater sustainability agencies (GSAs) consider the interests of all beneficial uses and users of groundwater. To meet this requirement, we recommend actively engaging environmental stakeholders by including environmental representation on the GSA board, technical advisory group, and/or working groups. This could include local staff from state and federal resource agencies, nonprofit organizations and other environmental interests. By engaging these stakeholders, GSAs will benefit from access to additional data and resources, as well as a more robust and inclusive GSP.

2. Basin GDE and ISW Maps

SGMA requires that GDEs and interconnected surface waters (ISWs) be identified in the GSP. We recommend using the Natural Communities Commonly Associated with Groundwater Dataset (NC Dataset) provided online[2] by the Department of Water Resources (DWR) as a starting point for the GDE map. The NC Dataset was developed through a collaboration between DWR, the Department of Fish and Wildlife and TNC. We also recommend using GDE Pulse, which is also available on the internet at https://gde.codefornature.org/#/home.

3. Potential Effects on Environmental Beneficial Users

SGMA requires that potential effects on GDEs and environmental surface water users be described when defining undesirable results. In addition to identifying GDEs in the basin, TNC

[1]GDEs under SGMA: Guidance for Preparing GSPs is available at: https://groundwaterresourcehub.org/public/uploads/pdfs/GWR_Hub_GDE_Guidance_Doc_2-1-18.pdf

[2] The Department of Water Resources' Natural Communities Commonly Associated with Groundwater dataset is available at: https://gis.water.ca.gov/app/NCDatasetViewer/

recommends identifying beneficial users of surface water, which include environmental users. This is a critical step, as it is impossible to define "significant and unreasonable adverse impacts" without knowing *what* is being impacted. For your convenience, we've provided a list of freshwater species within the boundary of the Indian Wells Valley Basin (Basin) in **Attachment C**. Our hope is that this information will help your GSA better evaluate the impacts of groundwater management on environmental beneficial users of surface water. We recommend that after identifying which freshwater species exist in your basin, especially federal- and state-listed species, that you contact staff at the California Department of Fish and Wildlife (CDFW), United States Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Services (NMFS) to obtain their input on the groundwater and surface water needs of the organisms on the GSA's freshwater species list. We also refer you to the Critical Species Lookbook[3] prepared by TNC and partner organizations for additional background information on the water needs and groundwater reliance of critical species. Since effects to plants and animals are difficult and sometimes impossible to reverse, we recommend erring on the side of caution to preserve sufficient groundwater conditions to sustain GDEs and ISWs.

4. Biological and Hydrological Monitoring

If sufficient hydrological and biological data in and around GDEs is not available in time for the 2020/2022 plan, data gaps should be identified along with actions to reconcile the gaps in the monitoring network.

TNC has reviewed the Indian Wells Valley Public Review Draft GSP and appreciates the work that has gone into the preparation of this plan. We acknowledge and applaud the use of the NC Dataset as a starting point for GDE identification. However, we consider the GSP to be **incomplete** under SGMA since key environmental beneficial uses and users are not adequately considered. Specifically, ISWs and GDEs are not considered in the Basin's Sustainable Management Criteria. **Please consider ISWs and GDEs when defining Sustainable Management Criteria and identifying future monitoring needs**.

Our specific comments related to the Indian Wells Valley GSP are provided in detail in **Attachment B** and are in reference to the numbered items in **Attachment A. Attachment C** provides a list of the freshwater species located in the Indian Wells Valley Basin. **Attachment D** describes six best practices that GSAs and their consultants can apply when using local groundwater data to confirm a connection to groundwater for DWR's NC Dataset. **Attachment E** provides an overview of a new, free online tool (i.e., GDE Pulse) that allows GSAs to assess changes in GDE health using satellite, rainfall, and groundwater data.

Thank you for fully considering our comments as you develop your GSP.

Best Regards,

Sandi Matsumoto
Associate Director, California Water Program
The Nature Conservancy

[3] Available online at: https://groundwaterresourcehub.org/sgma-tools/the-critical-species-lookbook/

Attachment A

Environmental User Checklist

The Nature Conservancy is neither dispensing legal advice nor warranting any outcome that could result from the use of this checklist. Following this checklist does not guarantee approval of a GSP or compliance with SGMA, both of which will be determined by DWR and the State Water Resources Control Board.

GSP Plan Element*		GDE Inclusion in GSPs: Identification and Consideration Elements	Check Box
Admin Info	**2.1.5 Notice & Communication** *23 CCR §354.10*	**Description of the types of environmental beneficial uses of groundwater that exist within GDEs and a description of how environmental stakeholders were engaged throughout the development of the GSP.**	1
Planning Framework	**2.1.2 to 2.1.4 Description of Plan Area** *23 CCR §354.8*	**Description of jurisdictional boundaries, existing land use designations, water use management and monitoring programs; general plans and other land use plans relevant to GDEs and their relationship to the GSP.**	2
		Description of instream flow requirements, threatened and endangered species habitat, critical habitat, and protected areas.	3
		Summary of process for permitting new or replacement wells for the basin, and how the process incorporates any protection of GDEs	4
Basin Setting	**2.2.1 Hydrogeologic Conceptual Model** *23 CCR §354.14*	**Basin Bottom Boundary:** Is the bottom of the basin defined as at least as deep as the deepest groundwater extractions?	5
		Principal aquifers and aquitards: Are shallow aquifers adequately described, so that interconnections with surface water and vertical groundwater gradients with other aquifers can be characterized?	6
		Basin cross sections: Do cross-sections illustrate the relationships between GDEs, surface waters and principal aquifers?	7
	2.2.2 Current & Historical Groundwater Conditions *23 CCR §354.16*	**Interconnected surface waters:**	8
		Interconnected surface water maps for the basin with gaining and losing reaches defined (included as a figure in GSP & submitted as a shapefile on SGMA portal).	9
		Estimates of current and historical surface water depletions for interconnected surface waters quantified and described by reach, season, and water year type.	10
		Basin GDE map included (as figure in text & submitted as a shapefile on SGMA Portal).	11

		If NC Dataset *was* used:	Basin GDE map denotes which polygons were kept, removed, and added from NC Dataset (Worksheet 1, can be attached in GSP section 6.0).	12
			The basin's GDE shapefile, which is submitted via the SGMA Portal, includes two new fields in its attribute table denoting: 1) which polygons were kept/removed/added, and 2) the change reason (e.g., why polygons were removed).	13
			GDEs polygons are consolidated into larger units and named for easier identification throughout GSP.	14
		If NC Dataset *was not* used:	Description of why NC dataset was not used, and how an alternative dataset and/or mapping approach used is best available information.	15
		Description of GDEs included:		16
		Historical and current groundwater conditions and variability are described in each GDE unit.		17
		Historical and current ecological conditions and variability are described in each GDE unit.		18
		Each GDE unit has been characterized as having high, moderate, or low ecological value.		19
		Inventory of species, habitats, and protected lands for each GDE unit with ecological importance (Worksheet 2, can be attached in GSP section 6.0).		20
	2.2.3 Water Budget *23 CCR §354.18*	Groundwater inputs and outputs (e.g., evapotranspiration) of native vegetation and managed wetlands are included in the basin's historical and current water budget.		21
		Potential impacts to groundwater conditions due to land use changes, climate change, and population growth to GDEs and aquatic ecosystems are considered in the projected water budget.		22
Sustainable Management Criteria	**3.1 Sustainability Goal** *23 CCR §354.24*	**Environmental stakeholders/representatives were consulted.**		23
		Sustainability goal mentions GDEs or species and habitats that are of particular concern or interest.		24
		Sustainability goal mentions whether the intention is to address pre-SGMA impacts, maintain or improve conditions within GDEs or species and habitats that are of particular concern or interest.		25
	3.2 Measurable Objectives *23 CCR §354.30*	**Description of how GDEs were considered and whether the measurable objectives and interim milestones will help achieve the sustainability goal as it pertains to the environment.**		26
	3.3 Minimum Thresholds *23 CCR §354.28*	**Description of how GDEs and environmental uses of surface water were considered when setting minimum thresholds for relevant sustainability indicators:**		27
		Will adverse impacts to GDEs and/or aquatic ecosystems dependent on interconnected surface waters (beneficial user of surface water) be avoided with the selected minimum thresholds?		28
		Are there any differences between the selected minimum threshold and state, federal, or local standards relevant to the species or habitats residing in GDEs or aquatic ecosystems dependent on interconnected surface waters?		29
	3.4 Undesirable Results *23 CCR §354.26*	**For GDEs, hydrological data are compiled and synthesized for each GDE unit:**		30
		If hydrological data *are available* within/nearby the GDE	Hydrological datasets are plotted and provided for each GDE unit (Worksheet 3, can be attached in GSP Section 6.0).	31
			Baseline period in the hydrologic data is defined.	32

			GDE unit is classified as having high, moderate, or low susceptibility to changes in groundwater.	33
			Cause-and-effect relationships between groundwater changes and GDEs are explored.	34
		If hydrological data *are not available* within/nearby the GDE	Data gaps/insufficiencies are described.	35
			Plans to reconcile data gaps in the monitoring network are stated.	36
		For GDEs, biological data are compiled and synthesized for each GDE unit:		37
		Biological datasets are plotted and provided for each GDE unit, and when possible provide baseline conditions for assessment of trends and variability.		38
		Data gaps/insufficiencies are described.		39
		Plans to reconcile data gaps in the monitoring network are stated.		40
		Description of potential effects on GDEs, land uses and property interests:		41
		Cause-and-effect relationships between GDE and groundwater conditions are described.		42
		Impacts to GDEs that are considered to be "significant and unreasonable" are described.		43
		Known hydrological thresholds or triggers (e.g., instream flow criteria, groundwater depths, water quality parameters) for significant impacts to relevant species or ecological communities are reported.		44
		Land uses include and consider recreational uses (e.g., fishing/hunting, hiking, boating).		45
		Property interests include and consider privately and publicly protected conservation lands and opens spaces, including wildlife refuges, parks, and natural preserves.		46
Sustainable Management Criteria	**3.5 Monitoring Network** *23 CCR §354.34*	Description of whether hydrological data are spatially and temporally sufficient to monitor groundwater conditions for each GDE unit.		47
		Description of how hydrological data gaps and insufficiencies will be reconciled in the monitoring network.		48
		Description of how impacts to GDEs and environmental surface water users, as detected by biological responses, will be monitored and which GDE monitoring methods will be used in conjunction with hydrologic data to evaluate cause-and-effect relationships with groundwater conditions.		49
Projects & Mgmt Actions	**4.0. Projects & Mgmt Actions to Achieve Sustainability Goal** *23 CCR §354.44*	Description of how GDEs will benefit from relevant project or management actions.		50
		Description of how projects and management actions will be evaluated to assess whether adverse impacts to the GDE will be mitigated or prevented.		51

* In reference to DWR's GSP annotated outline guidance document, available at: https://water.ca.gov/LegacyFiles/groundwater/sgm/pdfs/GD_GSP_Outline_Final_2016-12-23.pdf

Attachment B

TNC Evaluation of the
Indian Wells Valley Groundwater Sustainability Plan, Public Review Draft

A complete draft of the Indian Wells Valley Groundwater Sustainability Plan (GSP) was provided for public review in December 2019. This attachment summarizes our comments on the complete Public Review Draft GSP. Comments are provided in the order of the checklist items included as Attachment A.

Checklist Item 1 - Notice & Communication (23 CCR §354.10)

[Section 1.3 Beneficial Uses and Users (p. 1-3 to 1-4)]

- We appreciate that the beneficial uses and users of groundwater stated in the GSP include "Environmental (including wildlife habitat and Groundwater Dependent Ecosystems)" (p. 1-4). Users of groundwater, including DACS, SDACs, economically distressed areas, businesses, large and small-scale agriculture, domestic users, federal, state and local agencies, tribal groups, non-profit organizations, community organizations, and environmental groups, were identified during the development of the GSP. The listing of over 150 stakeholders is included as Appendix 1-D, and the Communications & Engagement Plan is provided in Appendix 1-E. **Please identify whether or not the following beneficial uses and users of groundwater are present: Protected Lands, including refuges, conservation areas, and recreational areas; and Public Trust Uses, including wildlife, aquatic habitat, fisheries, and recreation.**
- The types and locations of environmental uses, species and habitats supported, instream flow requirements, and other designated beneficial environmental uses of surface waters that may be affected by groundwater extraction in the Basin should be specified. **To identify environmental users, please refer to the following:**
    - The NC Dataset (https://gis.water.ca.gov/app/NCDatasetViewer/) which identifies potential presence of groundwater dependent ecosystems in this basin.
    - The list of freshwater species located in the Indian Wells Valley Basin in Attachment C of this letter. Please take particular note of the species with protected status.
    - CDFW's California Natural Diversity Database (CNDDB) - https://www.wildlife.ca.gov/Data/CNDDB
    - USFWS's IPAC report for the Indian Wells Valley Area, if available - https://ecos.fws.gov/ipac/

Checklist Items 2 to 4 - Description of general plans and other land use plans relevant to GDEs and their relationship to the GSP (23 CCR §354.8)

[Section 2.5.2 Summary of General Plans and Other Land Use Plans (p. 2-15 to 2-24)]

- The Kern, Inyo and San Bernardino Counties General Plans were adopted prior to the development of the Indian Wells Valley Groundwater Authority. The provided summaries of the plans emphasize policies that relate to water supply and groundwater, but do not include discussion of goals and policies related to the protection and management of GDEs that could be affected by groundwater withdrawals. **Please include a discussion of how implementation of the GSP may affect and be coordinated with General Plan policies and procedures regarding the protection of aquatic habitats and other environmental users.**

[Section 2.6 Existing Water Resources Monitoring Programs (p. 2-25 to 2-27)]

- Locations of monitoring wells in the IWV Groundwater Basin are shown on Figure 2-13, but there is no listing of well attributes such as screened interval or well depth. **Please provide a table with well construction information for the wells currently monitored.**

[Section 2.7.7 Well Permitting and Procedures (p. 2-38 to 2-42]

- Well permitting is handled by Kern, Inyo, and San Bernardino counties, the three counties that encompass the basin. **Please include a discussion of how future well permitting will be coordinated with the GSP to assure achievement of the Plan's sustainability goals.**
- The State Third Appellate District recently found that Counties have a responsibility to consider the potential impacts of groundwater withdrawals on public trust resources when permitting new wells near streams with public trust uses (ELF vs. SWRCB and Siskiyou County, No. C083239). **Compliance of well permitting programs with this requirement should be stated in the GSP.**

<u>Checklist Items 5, 6, and 7 – Hydrogeologic Conceptual Model (23 CCR §354.14)</u>

[Section 3.3.1 Geology and Hydrogeology (p. 3-7 to 3-9)]

- The GSP describes two principal aquifers on p. 3-9, the shallow aquifer and deeper aquifer. The GSP describes a strong connection between the two aquifers in portions of the Basin, with confinement or artesian conditions in other areas of the Basin. The GSP also describes springs and seeps on p. 3-14. However, the GSP does not clearly describe the hydrologic dynamics between surface expressions of groundwater (springs and seeps) and the two principle aquifers. The basin-wide cross sections provided in Figures 3-5a & 3-5b are regional and do not include a graphical representation of the manner in which shallow groundwater may interact with GDEs, nor does the HCM shown on Figure 3-3. **Please include further description and/or an example near-surface cross section that depicts the conceptual understanding of hydrologic dynamics that govern communication between the principal aquifers and surface expressions of groundwater.**
- The GSP states (p. 3-8): "For the GSP, the groundwater depletion that is of concern in the IWVGB is from the water in unconsolidated alluvial deposits. These water-bearing sediments store and transmit water and are divided into the following hydrostratigraphic features that are important for analyzing sustainability criteria and

groundwater budgets." **Please include a discussion of the basin bottom in this section.** As noted on page 9 of DWR's Hydrogeologic Conceptual Model BMP (https://water.ca.gov/LegacyFiles/groundwater/sgm/pdfs/BMP_HCM_Final_2016-12-23.pdf) "the definable bottom of the basin should be at least as deep as the deepest groundwater extractions". **Thus, groundwater extraction well depth data should be included in the determination of the basin bottom.** Properly defining the bottom of the basin will prevent the possibility of extractors with wells deeper than the basin boundary from claiming exemption from SGMA due to their well residing outside the vertical extent of the basin boundary.

Checklist Items 8, 9, and 10 – Interconnected Surface Waters (ISW) (23 CCR §354.16)

[Section 3.3.3.2 Streamflow and Mountain Front Recharge (p. 3-13 to 3-14)]
[Section 3.4.6 Interconnected Surface Water Systems (p. 3-33)]
[4.3.5 Depletions of Interconnected Surface Water Undesirable Results]

- The GSP states (p. 3-14): "There are no significant interconnected surface water systems which interact with groundwater in IWVGB" and goes on to state (p. 3-33): "Streams in the valley are typically ephemeral and the majority of recharge occurs as mountain front recharge. Additionally, there are multiple natural springs in the mountain and canyon areas surrounding the IWV (see Figure 3-11)." However, p. 4-15 states: "Groundwater is critical to sustaining springs, wetlands, and perennial flow (baseflow) in streams as well as to sustaining vegetation such as phreatophytes that directly tap groundwater." The GSP dismisses ISWs due to the ephemeral nature of streams in the valley, yet as noted above in the comments for Checklist Items 5-7, there is very little description of the interaction between principle aquifers and surface expression of groundwater. Without further documented evidence, ISWs should be retained for the consideration of sustainable management criteria. **This section of the GSP could be improved by providing further analysis of ISWs. Please note the following best practices for analyzing ISWs provided in the subsequent bullets.**
    - ISWs are best estimated by first determining which reaches are completely disconnected from groundwater. This approach would involve comparing groundwater elevations with a land surface Digital Elevation Model that could identify which surface waters have groundwater consistently below surface water features, such that an unsaturated zone would separate surface water from groundwater. **Please evaluate stream reaches with depth to groundwater contour maps (please see Attachment D for best practices for completing this step). Please reconcile any data gaps (shallow monitoring wells, stream gauges, and nested/clustered wells) along surface water features in the Monitoring Network section of the GSP to improve ISW mapping.**
    - The regulations [23 CCR §351(o)] define ISWs as "surface water that is hydraulically connected at any point by a continuous saturated zone to the underlying aquifer and the overlying surface water is not completely depleted". "At any point" has both a spatial and temporal component. Even short durations of interconnections of groundwater and surface water can be

crucial for surface water flow and supporting environmental users of groundwater and surface water. **Please provide a cross-section and/or corresponding hydrographs to show the relationship between the stream channels and the depth to groundwater at wells near the stream.**

Checklist Items 11 to 15, Identifying and Mapping GDEs (23 CCR §354.16)

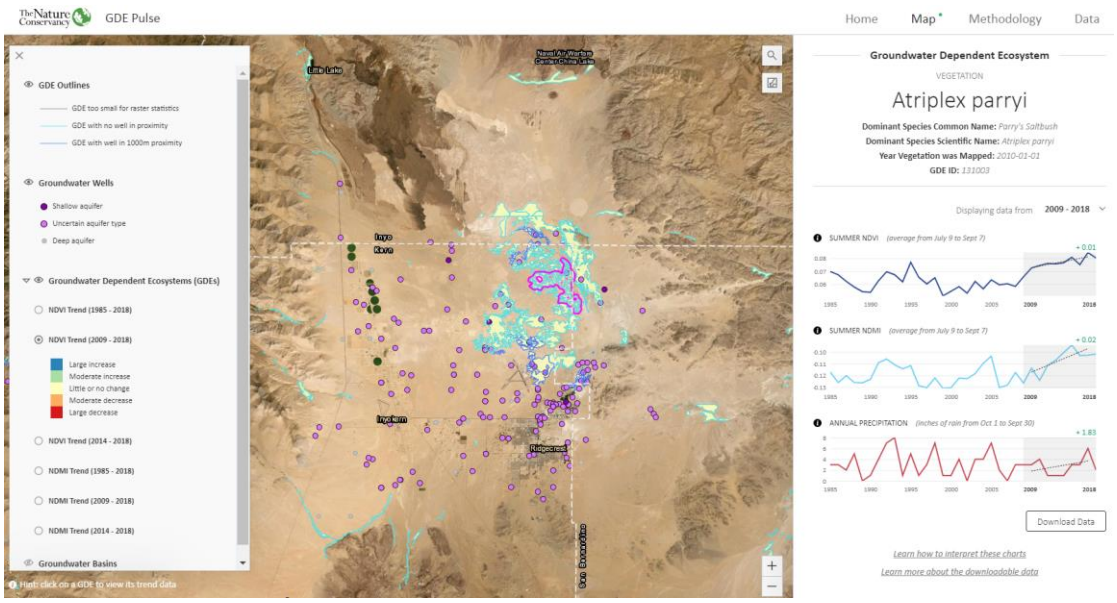
[Section 3.4.7 Groundwater-Dependent Ecosystems (GDEs) (p. 3-34)]

- TNC acknowledges and applauds IWVGA for the use of the NC dataset, as mapped on Figure 3-16. We also appreciate the inclusion of species type on Figure 3-16. The following suggestions could be used to clarify the analysis of the presence of potential GDEs in the Basin.
- The NC dataset is a starting point for GSAs to identify GDEs in their basin. **Please map the original NC dataset, and clearly document which polygons were added (and what local sources were used to identify them), removed (and the removal reason), and kept (from the original NC dataset)**. The basin's GDE shapefile, which is submitted via the SGMA Portal, should also include two new fields in its attribute table denoting: 1) which polygons were kept/removed/added, and 2) the change reason (e.g., why polygons were added or removed). **Please clarify what the legend on Figure 3-16 means by "Not Applicable". If this represents a removed GDE Unit, please state the removal reason.**
- **Please provide one map to denote the most accurate picture of potential GDEs in the Basin showing the source of the data. For example, please note if any GDEs were added or removed based on the November 2018 field visit. Additionally, note if any GDEs were added or removed based on the US Navy mapping of GDEs on NAWS China Lake.**
- **On the final map figure, please use more easily distinguishable colors or patterns to distinguish the GDE Units from one another.**

Checklist Items 16 to 20, Describing GDEs (23 CCR §354.16)

[Section 3.4.7 Groundwater-Dependent Ecosystems (GDEs) (p. 3-34)]

- **Please provide information on the historical or current groundwater conditions in the GDEs or the ecological conditions present**. Refer to GDE Pulse (https://gde.codefornature.org; See Attachment E of this letter for more details) or any other locally available data to describe depth to groundwater trends in and around GDE areas, as well as trends in plant growth (e.g., NDVI) and plant moisture (e.g., NDMI). Below is a screenshot example of data available in GDE Pulse for NC dataset polygons found in the Indian Wells Valley Basin:



- **Please identify whether any endangered or threatened freshwater species of animals and plants, or areas with critical habitat are located in or near any of the GDEs, since some organisms rely on uplands and wetlands during different stages of their lifecycle**. Resources for this include the list of freshwater species located in the Indian Wells Valley Basin that can be found in Attachment C of this letter, the Critical Species Lookbook, and CDFW's CNDDB database. For example, please note where the endangered Mohave Tui Chub are located in reference to the GDE units.

<u>Checklist Items 21 and 22 – Water Budget (23 CCR §354.18)</u>

[Section 3.3.4 Water Budget and Overdraft Conditions (p. 3-15 to 3-25)]

- The GSP states (p. 3-20): "DRI performed a hydraulic analysis of the Salt Wells Valley and concluded that it is possible that currently approximately 50 AFY of the groundwater flow in the Salt Wells Valley originates as underflow from the IWV as distinguished from mountain front recharge from the Argus Range." The historical average budget in Table 3-6 shows the interbasin outflow as 60 AFY, while in the current budget in Table 3-7 the interbasin outflow is 50 AFY. **Please clarify the basis for the estimated amounts of interbasin outflow in the historical and current water budgets.**
- The current estimate of evapotranspiration (ET) in the basin is given as 4,850 ac-ft/yr (Table 3-7). The ET of saltgrass, pickleweed, greasewood and bare playa are discussed individually, but the basis of the total estimated evapotranspiration is not provided. **Please clarify how the total ET was calculated in the current water budget.**
- The projected water budgets were simulated for the years 2035, 2040, and 2070 using the IWV groundwater model (Pohlman et al, 2019) with the projects and management actions implemented. The future budgets are shown in Table 3-8 with

a new term Artificial Recharge included, representing the recharge by the projects and management actions. **In addition to the Predicted Water Budgets with Projects shown, please provide a baseline future budget without the projects and management actions.**

- It appears that climate change was not considered in the projected water budgets. The GSP states (p. 3-47): "DRI (McGraw et al, 2016) examined the predicted precipitation quantities for several published IPCC climate models and documented conflicting results; ie, some models predicted decreases and some predicted increases in precipitation in the future with the assumed driver of CO2 increase. This GSP does not incorporate any precipitation change in model simulations into the future other than annual fluctuations similar to those that have been observed in the past record." The regulations [23 CCR §354.18(e)] state that "Each Plan shall rely on the best available information and best available science to quantify the water budget for the basin in order to provide an understanding of historical and projected hydrology, water demand, water supply, land use, population, climate change, sea level rise, groundwater and surface water interaction, and subsurface groundwater flow" (p. 12 of DWR BMP for Water Budgets[4]). DWR's Guidance for Climate Change Data[5] is intended as a source of guidance for climate change factors. **Please further elaborate on the decision to not consider climate change in the projected water budget considering the regulations and DWR guidance. Please further describe the methodology for future precipitation that was employed.**

Checklist Items 23 to 25 – Sustainability Goal (23 CCR §354.24)

[Section 4.2 Sustainability Goal (p. 4-2)]

- The GSP states the Sustainability Goal as (p. 4-3): "The sustainability goal is to manage and preserve the IWVGB groundwater resource as a sustainable water supply. To the greatest extent possible, the goal is to preserve the character of the community, preserve the quality of life of IWV residents, and sustain the mission at NAWS China Lake." There is no mention of environmental users or uses (GDEs and ISWs) in the Sustainability Goal. **Since GDEs are present in the Subbasin, they should be recognized as beneficial users of groundwater and should be included in the Sustainability Goal.**

Checklist Items 26-29 – Measurable Objectives (23 CCR §354.30) and Minimum Thresholds (23 CCR §354.28)

[Sections 4.4.2 Chronic Lowering of Groundwater Levels Minimum Threshold (p. 4-19)]
[Sections 4.5.2 Chronic Lowering of Groundwater Levels Measurable Objective and Interim Milestones (p. 4-32)]

[4] DWR Best Management Practice for Water Budgets. https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents
[5] DWR Guidance for Climate Change Data Use During GSP Development: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Sustainable-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents/Files/Climate-Change-Guidance-Final_ay_19.pdf

- This Minimum Threshold and Measurable Objective do not consider GDEs. Because GDEs rely on shallow groundwater, further groundwater monitoring in the shallow zone is necessary to determine potential effects on GDEs. The representative monitoring sites for chronic lowering of groundwater level SMC are wells that monitor the deeper aquifer and thus do not monitor potential effects on GDEs. **Please include GDEs in these sections and state whether the minimum thresholds, measurable objectives and interim milestones will help achieve the sustainability goal as it pertains to the environment.**

[Sections 4.4.3 Degraded Water Quality Minimum Threshold (p. 4-24)]
[Sections 4.5.3 Degraded Water Quality Measurable Objective and Interim Milestones (p. 4-32)]

- This Minimum Threshold and Measurable Objective do not consider the water quality needs of GDEs. As previously stated, because GDEs rely on shallow groundwater, further groundwater monitoring in the shallow zone is necessary to determine potential effects on GDEs. The representative monitoring sites for degraded water quality SMC are wells that monitor the deeper aquifer and thus do not monitor potential effects on GDEs. **Please include a discussion about GDEs and water quality and state whether the minimum thresholds, measurable objectives and interim milestones will help achieve the sustainability goal as it pertains to environmental users and uses of groundwater.**

Checklist Item 30-46 – Undesirable Results (23 CCR §354.26)

[Section 4.3.2 Chronic Lowering of Groundwater Levels Undesirable Results (p. 4-11)]

- This section only describes potential effects relating to human beneficial uses of groundwater and neglects environmental beneficial uses that could be adversely affected by chronic groundwater level decline. **Please add "potential adverse impacts to environmental uses and users" to the list of potential effects presented in Section 4.3.2.3.**
- This section refers to the shallow well impact analysis in Appendix 3E and states that the number of shallow wells that would be impacted if the proposed projects and management actions are implemented is estimated to be 22, which IWVGA considers a feasible number of wells that can be mitigated. GDEs, however, are not considered in this analysis. Damage to GDEs can occur within a relatively short period of time and can be irreversible, leading to the permanent loss of an environmental resource. **Please elaborate on how the criteria for determining Undesirable Results would be applied in a way that is protective of significant and unreasonable harm to GDEs. A procedure could be included for violation of minimum thresholds that includes early identification of potential GDE impacts and appropriate response actions. This could be accomplished efficiently and cost-effectively using remote sensing tools, such as GDE Pulse. Refer to Appendix E of this letter for an overview of GDE Pulse, an online tool for monitoring the health of GDEs over time.**

- **Please provide more specifics on what biological responses (e.g., extent of habitat, growth, recruitment rates) would best characterize a significant and unreasonable impact to GDEs.** The definition of 'significant and unreasonable' is a qualitative statement that is used to describe when undesirable results would occur in the basin, such that a minimum threshold can be quantified. Potential effects on all beneficial users of groundwater in the basin need to be taken into consideration. According to the California Constitution Article X, §2, water resources in California must be "put to beneficial use to the fullest extent of which they are capable". **Please identify appropriate biological indicators that can be used to monitor potential impacts to environmental beneficial users due to groundwater conditions. Refer to Appendix E of this letter for an overview of GDE Pulse, an online tool for monitoring the health of GDEs over time.**

[Section 4.3.3 Degraded Water Quality Undesirable Results (p. 4-12)]

- This section only describes potential effects relating to human beneficial uses of groundwater and neglects environmental beneficial uses that could be adversely affected by degraded water quality. **Please add "potential adverse impacts to environmental uses and users" to the list of potential effects presented in Section 4.3.3.3.**

[Section 4.3.5 Depletions of Interconnected Surface Water Undesirable Results (p. 4-14)]

- GDEs are often adjacent to streams or associated with riparian corridors where ISWs exist, even if only seasonally or are discontinuous along a longitudinal profile. ISWs that are not continuously connected spatially and/or temporally are still ISWs and should not be excluded from this GSP. The regulations [23 CCR §351(o)] define interconnected surface waters as "surface water that is hydraulically connected at any point by a continuous saturated zone to the underlying aquifer and the overlying surface water is not completely depleted". **Please include ISWs in the Sustainable Management Criteria and state how they will help achieve the Sustainability Goal as it pertains to the environment.**
- The GSP states (p. 4-15): "Groundwater is critical to sustaining springs, wetlands, and perennial flow (baseflow) in streams as well as to sustaining vegetation such as phreatophytes that directly tap groundwater." It further states (p. 4-15): "Due to limited data on the relationship of interconnected surface water (springs) to GDEs and GDE's direct use of groundwater, no additional sustainable management criteria are proposed at this time." This section does not consider Undesirable Results for Interconnected Surface Water systems. **Even though data is lacking on ISWs, they should be included in the Sustainable Management Criteria and Undesirable Results. The analysis for potential depletion of ISWs should include beneficial users of surface water that could be affected by groundwater withdrawals, including environmental users. Please discuss the data gap for ISWs in the Monitoring Network section of the GSP and discuss future plans to fill the data gap. Possible monitoring could include shallow monitoring wells, stream gauges, and nested/clustered wells along surface water features to improve ISW mapping.**

Checklist Items 47, 48 and 49 – Monitoring Network (23 CCR §354.34)

[Section 4.7.1 Proposed Monitoring Network and Schedule (p. 4-36 to 4-37)]

- The GSP states (p. 4-15): "Specifics regarding the relationship between groundwater levels and the health of GDEs is currently not known, including extinction root depths, and there is no current monitoring program to track GDE health; therefore, GDE monitoring, currently a data gap, is proposed as part of the GSP monitoring program." However, this monitoring is not described in Section 4.7. **Please describe the GDE monitoring program and address how the need to link and correlate groundwater level declines to biological responses and significant and adverse impacts to GDEs and ISWs will be addressed by the monitoring program.**
- Section 4.7.1 states that wells to monitor water levels near the GDEs will be added to the monitoring program, however no further details are provided. **For adequate characterization of groundwater conditions near GDE Units, please provide a detailed plan for filling this data gap. Please propose the locations of wells near GDE Units. the screened interval, and the schedule for installation.**
- The GSP states (p. 3-50): "Data gaps in the groundwater level monitoring program exist outside of the pumping areas. There are only a few monitoring wells in the El Paso area, mostly open space managed by BLM. Groundwater resources in this area have not been fully characterized or quantified. The largest ephemeral stream system in IWV commences from this area in Freeman and Little Dixie Washes. Additional well drilling to characterize the aquifer structure and properties, and groundwater level monitoring could provide a better understanding of the occurrence and movement of water in this area." **Please discuss this data gap in the Monitoring Network section of the GSP and discuss future plans to fill this data gap. Possible monitoring could include shallow monitoring wells, stream gauges, and nested/clustered wells along surface water features to improve ISW mapping.**
- The GSP states (p. 4-36): "The existing groundwater level monitoring network is very robust for establishing changes in groundwater levels over time throughout the Indian Wells Valley basin and will continue throughout the planning horizon. As discussed in Section 3.6, depth to water is, and will continue to be, measured biannually at 198 wells during Spring (March) and Fall (October) to observe seasonal changes in groundwater levels. Water levels measured at these wells will also be used to determine the change of storage in the Basin annually." The ten proposed representative wells to be used for monitoring groundwater levels, shown in Figure 4-2 and listed in Table 4-1, are predominantly deep wells which will not adequately monitor impacts to GDEs. **Please expand the shallow groundwater monitoring network through shallow and/or nested wells to further understand the potential for GDEs to be supported by shallow groundwater or upward vertical gradients that produce surface expression of groundwater in the form of springs and seeps. If existing wells cannot be used to monitor the shallow aquifer, propose installing new wells.**
- The GSP states (p. 3-49): "Ten multi-level monitoring wells provide vertical gradients of groundwater flow, identifying some of the recharge and discharge areas within the

Basin." **Please show the location of these wells on a map and present the well hydrographs, along with an analysis of the vertical gradients that can be determined from the data.**

Checklist Items 50 and 51 – Projects and Management Actions to Achieve Sustainability Goal (23 CCR §354.44)

[Section 5. Projects and Management Actions (p. 5-1)]

- We appreciated that the IWVGB includes GDEs that are beneficial environmental uses and users of groundwater. To strengthen management of Environmental beneficial users and uses, they should be considered in establishing project priorities. In addition, consistent with existing grant and funding guidelines for SGMA-related work, consideration should be given to multi-benefit projects that can address water quantity as well as providing environmental benefits or benefits to disadvantaged communities. **Please include environmental benefits and multiple benefits as criteria for assessing project priorities. For the projects already identified, please consider stating how ISWs and GDEs will benefit or be protected, or what other environmental benefits will accrue.**
- Recharge basins, reservoirs and facilities for managed stormwater recharge projects can be designed as multi-benefit projects to include elements that act functionally as wetlands and provide a benefit for wildlife and aquatic species. In some cases, such multiple-benefit projects and facilities have been incorporated into local Habitat Conservation Plans (HCPs) and Natural Community Conservation Plans (NCCPs), more fully recognizing the value of the habitat that they provide and the species they support. **For projects that construct recharge basins, please consider identifying if there is habitat value incorporated into the design and how the recharge basins could be managed to benefit environmental users**. Grant and funding priorities for SGMA-related work may be given to multi-benefit projects that can address water quantity as well as provide environmental benefits. **Therefore, please include environmental benefits and multiple benefits as criteria for assessing project priorities.**
- For examples of case studies on how to incorporate environmental benefits into groundwater projects, please visit our website: https://groundwaterresourcehub.org/case-studies/recharge-case-studies/

[Section 5.2.1 Management Action No. 1: Implement Annual Pumping Allocation Plan, Transient Pool and Fallowing Program (p. 5-4 to 5-13)]

- The IWVGA proposes an Annual Allocation Plan, Transient Pool and Fallowing Program to address the critical overdraft in the Basin. "The IWVB does not have the legal authority to restrict, assess, or regulate production for NAWS China Lake, therefore NAWS China Lake groundwater production is considered highest of beneficial use" (p. 5-10). "Implementation of the Annual Pumping Allocation Plan, Transient Pool and Fallowing Program may be subject to environmental regulations and could require the preparation of environmental studies. The IWVGA will follow all regulatory requirements associated with the environmental processes including

public noticing and review requirements" (p. 5-11). **Please include environmental users in the list of beneficial uses of groundwater on p. 5-10 and describe how GDEs will be protected after this management action is implemented.**

[Section 5.3.1 Project No. 1 Develop Imported Water Supply (p. 5-13 to 5-22)]

- The IWVGA is considering two options for importing water into the Basin, thereby reducing reliance on groundwater. Project benefits include increasing groundwater levels and groundwater storage, improved water quality, and reduced land subsidence, however there is no mention of potential environmental benefits. **Please state what environmental benefits would accrue from this project.**

[Section 5.3.2 Project No. 2 Optimize Use of Recycled Water (p. 5-23 to 5-33)]

- Two projects have been proposed to increase the quantity of recycled water at the City of Ridgefield treated wastewater and use it for landscaping at several locations shown in Figure 5-3 and 5-4. The purpose of these projects is to replace use of groundwater with use of non-potable recycled water, benefitting groundwater levels and storage. However, the recycled water currently benefits the Tui Chub habitat. Increased use of recycled water for other purposes would decrease return flows that are a significant source of water for Tui Chub habitat. **Please describe how the habitat of the Tui Chub will be protected if this project is implemented.**

[Section 5.4.3 Additional Projects (5-52)]

- The GSP states (5-52): "The IWVGA is taking an adaptive management approach to IWVGB management over the planning horizon. Consequently, potential projects and management actions will continuously be considered and evaluated over the planning horizon to ensure that the most beneficial and economically feasible projects and management actions are implemented to reach sustainability in the IWVGB." **Please discuss the protection of environmental users and environmental benefits in the evaluation process.**

Attachment C

Freshwater Species Located in the Indian Wells Valley Basin

To assist in identifying the beneficial users of surface water necessary to assess the undesirable result "depletion of interconnected surface waters", Attachment C provides a list of freshwater species located in the Indian Wells Valley Basin. To produce the freshwater species list, we used ArcGIS to select features within the California Freshwater Species Database version 2.0.9 within the GSA's boundary. This database contains information on ~4,000 vertebrates, macroinvertebrates and vascular plants that depend on fresh water for at least one stage of their life cycle. The methods used to compile the California Freshwater Species Database can be found in Howard et al. 2015[6]. The spatial database contains locality observations and/or distribution information from ~400 data sources. The database is housed in the California Department of Fish and Wildlife's BIOS[7] as well as on TNC's science website[8].

Scientific Name	Common Name	Legally Protected Species		
		Federal	State	Other
Birds				
Actitis macularius	Spotted Sandpiper			
Aechmophorus clarkii	Clark's Grebe			
Aechmophorus occidentalis	Western Grebe			
Agelaius tricolor	Tricolored Blackbird	Bird of Conservation Concern	Special Concern	BSSC - First priority
Aix sponsa	Wood Duck			
Anas acuta	Northern Pintail			
Anas americana	American Wigeon			
Anas clypeata	Northern Shoveler			
Anas crecca	Green-winged Teal			
Anas cyanoptera	Cinnamon Teal			
Anas discors	Blue-winged Teal			
Anas platyrhynchos	Mallard			
Anas strepera	Gadwall			
Anser albifrons	Greater White-fronted Goose			
Ardea alba	Great Egret			
Ardea herodias	Great Blue Heron			
Aythya affinis	Lesser Scaup			
Aythya americana	Redhead		Special Concern	BSSC - Third priority
Aythya collaris	Ring-necked Duck			
Aythya marila	Greater Scaup			
Aythya valisineria	Canvasback		Special	

[6] Howard, J.K. et al. 2015. Patterns of Freshwater Species Richness, Endemism, and Vulnerability in California. PLoSONE, 11(7). Available at: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0130710
[7] California Department of Fish and Wildlife BIOS: https://www.wildlife.ca.gov/data/BIOS
[8] Science for Conservation: https://www.scienceforconservation.org/products/california-freshwater-species-database

Botaurus lentiginosus	American Bittern			
Bucephala albeola	Bufflehead			
Bucephala clangula	Common Goldeneye			
Butorides virescens	Green Heron			
Calidris alpina	Dunlin			
Calidris mauri	Western Sandpiper			
Calidris minutilla	Least Sandpiper			
Chen caerulescens	Snow Goose			
Chen rossii	Ross's Goose			
Chlidonias niger	Black Tern		Special Concern	BSSC - Second priority
Chroicocephalus philadelphia	Bonaparte's Gull			
Cistothorus palustris palustris	Marsh Wren			
Cygnus columbianus	Tundra Swan			
Egretta thula	Snowy Egret			
Empidonax traillii	Willow Flycatcher	Bird of Conservation Concern	Endangered	
Fulica americana	American Coot			
Gallinago delicata	Wilson's Snipe			
Grus canadensis	Sandhill Crane			
Haliaeetus leucocephalus	Bald Eagle	Bird of Conservation Concern	Endangered	
Himantopus mexicanus	Black-necked Stilt			
Icteria virens	Yellow-breasted Chat		Special Concern	BSSC - Third priority
Ixobrychus exilis hesperis	Western Least Bittern		Special Concern	BSSC - Second priority
Limnodromus scolopaceus	Long-billed Dowitcher			
Lophodytes cucullatus	Hooded Merganser			
Megaceryle alcyon	Belted Kingfisher			
Mergus merganser	Common Merganser			
Mergus serrator	Red-breasted Merganser			
Numenius americanus	Long-billed Curlew			
Numenius phaeopus	Whimbrel			
Nycticorax nycticorax	Black-crowned Night-Heron			
Oreothlypis luciae	Lucy's Warbler		Special Concern	BSSC - Third priority
Oxyura jamaicensis	Ruddy Duck			

Pelecanus erythrorhynchos	American White Pelican		Special Concern	BSSC - First priority
Phalacrocorax auritus	Double-crested Cormorant			
Phalaropus tricolor	Wilson's Phalarope			
Piranga rubra	Summer Tanager		Special Concern	BSSC - First priority
Plegadis chihi	White-faced Ibis		Watch list	
Pluvialis squatarola	Black-bellied Plover			
Podiceps nigricollis	Eared Grebe			
Podilymbus podiceps	Pied-billed Grebe			
Porzana carolina	Sora			
Rallus limicola	Virginia Rail			
Recurvirostra americana	American Avocet			
Riparia riparia	Bank Swallow		Threatened	
Rynchops niger	Black Skimmer			
Setophaga petechia	Yellow Warbler			BSSC - Second priority
Tachycineta bicolor	Tree Swallow			
Tringa melanoleuca	Greater Yellowlegs			
Tringa semipalmata	Willet			
Tringa solitaria	Solitary Sandpiper			
Vireo bellii	Bell's Vireo			
Xanthocephalus xanthocephalus	Yellow-headed Blackbird		Special Concern	BSSC - Third priority
Crustaceans				
Branchinecta gigas	Giant Fairy Shrimp			
Fishes				
Siphatales mohavensis	Mojave tui chub	Endangered	Endangered	Endangered - Moyle 2013
Herps				
Anaxyrus boreas boreas	Boreal Toad			
Anaxyrus punctatus	Red-spotted Toad			
Thamnophis couchii	Sierra Gartersnake			
Insects and Other Invertebrates				
Argia vivida	Vivid Dancer			
Ischnura barberi	Desert Forktail			
Libellula composita	Bleached Skimmer			
Sympetrum corruptum	Variegated Meadowhawk			
Plants				
Alnus rhombifolia	White Alder			
Amphiscirpus nevadensis				Not on any status lists

Anemopsis californica	Yerba Mansa			
Baccharis salicina				Not on any status lists
Berula erecta	Wild Parsnip			
Eleocharis parishii	Parish's Spikerush			
Hosackia oblongifolia	NA			1.B.3
Juncus dubius	Mariposa Rush			
Juncus rugulosus	Wrinkled Rush			
Juncus xiphioides	Iris-leaf Rush			
Mimulus guttatus	Common Large Monkeyflower			
Phacelia distans	NA			
Salix laevigata	Polished Willow			
Salix lasiolepis lasiolepis	Arroyo Willow			
Schoenoplectus pungens longispicatus	Three-square Bulrush			
Stachys albens	White-stem Hedge-nettle			
Typha domingensis	Southern Cattail			
Veronica anagallis-aquatica	NA			

Notes:
ARSSC = At-Risk Species of Special Concern
BCC = Bird of Conservation Concern
BSSC = Bird Species of Special Concern
CRPR = California Rare Plant Rank
CS = Currently Stable
IUCN = International Union for Conservation of Nature
SSC = Species of Special Concern

Attachment D

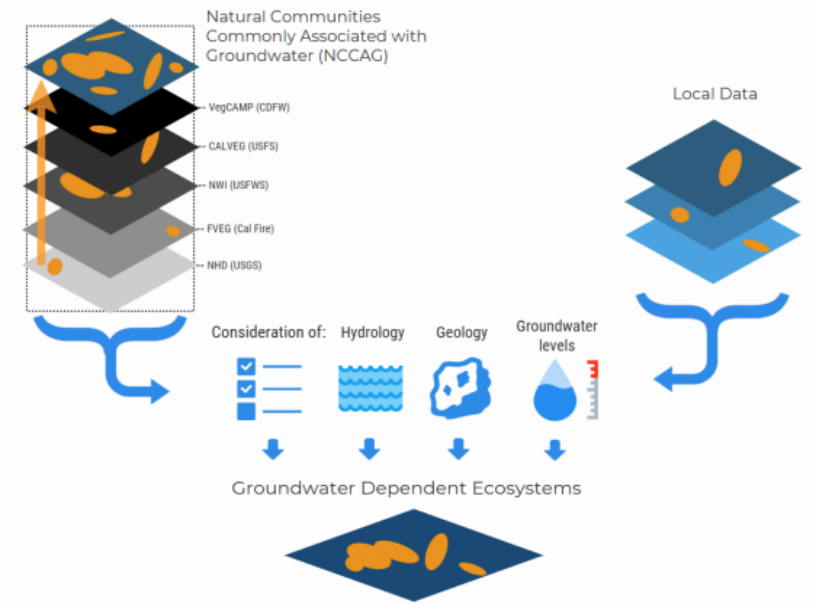
The Nature Conservancy

July 2019

IDENTIFYING GDEs UNDER SGMA

Best Practices for using the NC Dataset

The Sustainable Groundwater Management Act (SGMA) requires that groundwater dependent ecosystems (GDEs) be identified in Groundwater Sustainability Plans (GSPs). As a starting point, the Department of Water Resources (DWR) is providing the Natural Communities Commonly Associated with Groundwater Dataset (NC Dataset) online[9] to help Groundwater Sustainability Agencies (GSAs), consultants, and stakeholders identify GDEs within individual groundwater basins. To apply information from the NC Dataset to local areas, GSAs should combine it with the best available science on local hydrology, geology, and groundwater levels to verify whether polygons in the NC dataset are likely supported by groundwater in an aquifer (Figure 1)[10]. This document highlights six best practices for using local groundwater data to confirm whether mapped features in the NC dataset are supported by groundwater.



[9] *NC Dataset Online Viewer: https://gis.water.ca.gov/app/NCDatasetViewer/*

[10] California Department of Water Resources (DWR). 2018. Summary of the "Natural Communities Commonly Associated with Groundwater" Dataset and Online Web Viewer. Available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Data-and-Tools/Files/Statewide-Reports/Natural-Communities-Dataset-Summary-Document.pdf

The NC Dataset identifies vegetation and wetland features that are good indicators of a GDE. The dataset is comprised of 48 publicly available state and federal datasets that map vegetation, wetlands, springs, and seeps commonly associated with groundwater in California[11]. It was developed through a collaboration between DWR, the Department of Fish and Wildlife, and The Nature Conservancy (TNC). TNC has also provided detailed guidance on identifying GDEs from the NC dataset[12] on the Groundwater Resource Hub[13], a website dedicated to GDEs.

BEST PRACTICE #1. Establishing a Connection to Groundwater

Groundwater basins can be comprised of one continuous aquifer (Figure 2a) or multiple aquifers stacked on top of each other (Figure 2b). In unconfined aquifers (Figure 2a), using the depth-to-groundwater and the rooting depth of the vegetation is a reasonable method to infer groundwater dependence for GDEs. If groundwater is well below the rooting (and capillary) zone of the plants and any wetland features, the ecosystem is considered disconnected and groundwater management is not likely to affect the ecosystem (Figure 2d). However, it is important to consider local conditions (e.g., soil type, groundwater flow gradients, and aquifer parameters) and to review groundwater depth data from multiple seasons and water year types (wet and dry) because intermittent periods of high groundwater levels can replenish perched clay lenses that serve as the water source for GDEs (Figure 2c). Maintaining these natural groundwater fluctuations are important to sustaining GDE health.

Basins with a stacked series of aquifers (Figure 2b) may have varying levels of pumping across aquifers in the basin, depending on the production capacity or water quality associated with each aquifer. If pumping is concentrated in deeper aquifers, SGMA still requires GSAs to sustainably manage groundwater resources in shallow aquifers, such as perched aquifers, that support springs, surface water, domestic wells, and GDEs (Figure 2). This is because vertical groundwater gradients across aquifers may result in pumping from deeper aquifers to cause adverse impacts onto beneficial users reliant on shallow aquifers or interconnected surface water. The goal of SGMA is to sustainably manage groundwater resources for current and future social, economic, and environmental benefits. While groundwater pumping may not be currently occurring in a shallower aquifer, use of this water may become more appealing and economically viable in future years as pumping restrictions are placed on the deeper production aquifers in the basin to meet the sustainable yield and criteria. Thus, identifying GDEs in the basin should done irrespective to the amount of current pumping occurring in a particular aquifer, so that future impacts on GDEs due to new production can be avoided. A good rule of thumb to follow is: *if groundwater can be pumped from a well - it's an aquifer*.

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[11] *For more details on the mapping methods, refer to: Klausmeyer, K., J. Howard, T. Keeler-Wolf, K. Davis-Fadtke, R. Hull, A. Lyons. 2018. Mapping Indicators of Groundwater Dependent Ecosystems in California: Methods Report. San Francisco, California. Available at: https://groundwaterresourcehub.org/public/uploads/pdfs/iGDE_data_paper_20180423.pdf*

[12] "Groundwater Dependent Ecosystems under the Sustainable Groundwater Management Act: Guidance for Preparing Groundwater Sustainability Plans" is available at: https://groundwaterresourcehub.org/gde-tools/gsp-guidance-document/

[13] *The Groundwater Resource Hub: www.GroundwaterResourceHub.org*

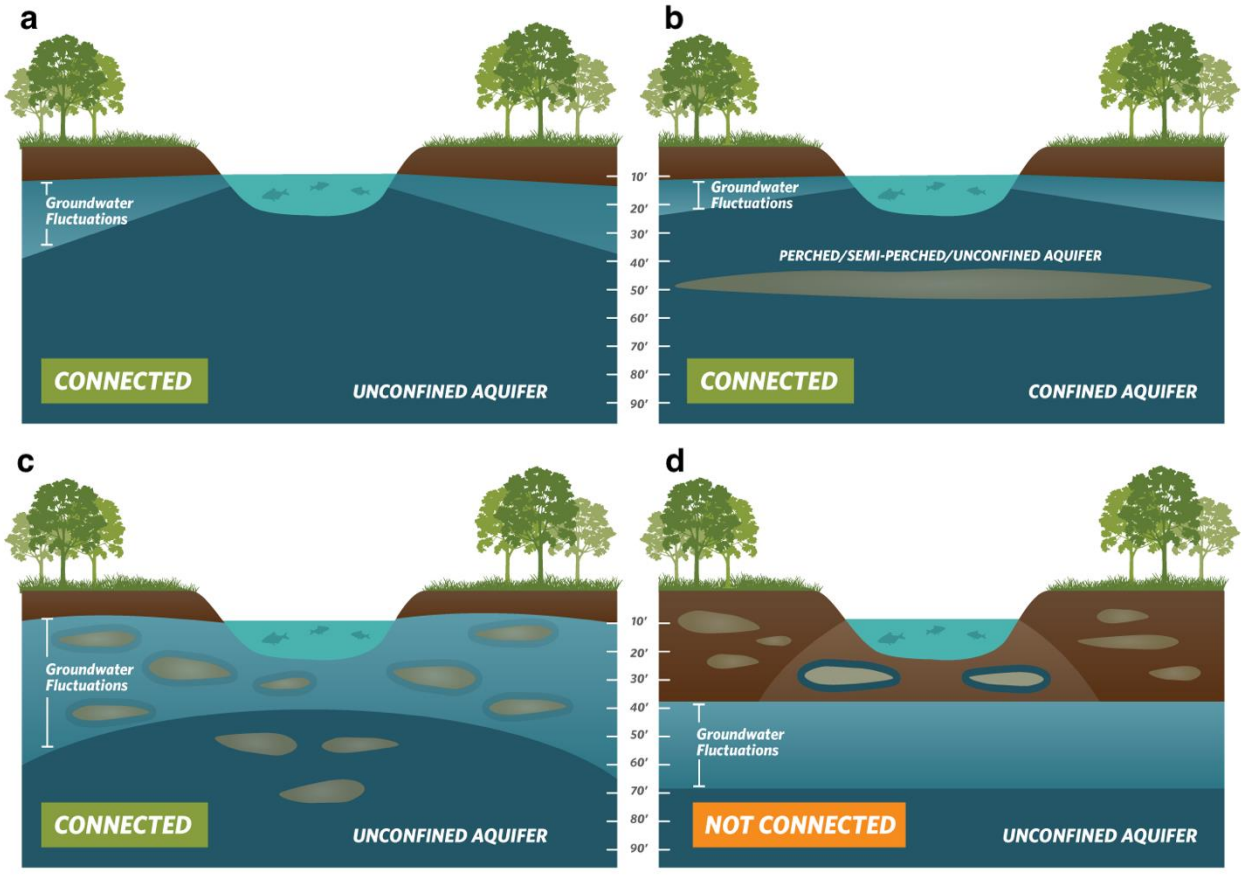


Figure 2. Confirming whether an ecosystem is connected to groundwater. Top: (a) Under the ecosystem is an unconfined aquifer with depth-to-groundwater fluctuating seasonally and interannually within 30 feet from land surface. **(b)** Depth-to-groundwater in the shallow aquifer is connected to overlying ecosystem. Pumping predominately occurs in the confined aquifer, but pumping is possible in the shallow aquifer. **Bottom: (c)** Depth-to-groundwater fluctuations are seasonally and interannually large, however, clay layers in the near surface prolong the ecosystem's connection to groundwater. **(d)** Groundwater is disconnected from surface water, and any water in the vadose (unsaturated) zone is due to direct recharge from precipitation and indirect recharge under the surface water feature. These areas are not connected to groundwater and typically support species that do not require access to groundwater to survive.

BEST PRACTICE #2. Characterize Seasonal and Interannual Groundwater Conditions

SGMA requires GSAs to describe current and historical groundwater conditions when identifying GDEs [23 CCR §354.16(g)]. Relying solely on the SGMA benchmark date (January 1, 2015) or any other single point in time to characterize groundwater conditions (e.g., depth-to-groundwater) is inadequate because managing groundwater conditions with data from one time point fails to capture the seasonal and interannual variability typical of California's climate. DWR's Best Management Practices document on water budgets[14] recommends using 10 years of water supply and water budget information to describe how historical conditions have impacted the operation of the basin within sustainable yield, implying that a baseline[15] could be determined based on data between 2005 and 2015. Using this or a similar time period, depending on data availability, is recommended for determining the depth-to-groundwater.

GDEs depend on groundwater levels being close enough to the land surface to interconnect with surface water systems or plant rooting networks. The most practical approach[16] for a GSA to assess whether polygons in the NC dataset are connected to groundwater is to rely on groundwater elevation data. As detailed in TNC's GDE guidance document[4], one of the key factors to consider when mapping GDEs is to contour depth-to-groundwater in the aquifer that is supporting the ecosystem (see Best Practice #5).

Groundwater levels fluctuate over time and space due to California's Mediterranean climate (dry summers and wet winters), climate change (flood and drought years), and subsurface heterogeneity in the subsurface (Figure 3). Many of California's GDEs have adapted to dealing with intermittent periods of water stress, however if these groundwater conditions are prolonged, adverse impacts to GDEs can result. While depth-to-groundwater levels within 30 feet[4] of the land surface are generally accepted as being a proxy for confirming that polygons in the NC dataset are supported by groundwater, it is highly advised that fluctuations in the groundwater regime be characterized to understand the seasonal and interannual groundwater variability in GDEs. Utilizing groundwater data from one point in time can misrepresent groundwater levels required by GDEs, and inadvertently result in adverse impacts to the GDEs. Time series data on groundwater elevations and depths are available on the SGMA Data Viewer[17]. However, if insufficient data are available to describe groundwater conditions within or near polygons from the NC dataset, include those polygons in the GSP until data gaps are reconciled in the monitoring network (see Best Practice #6).

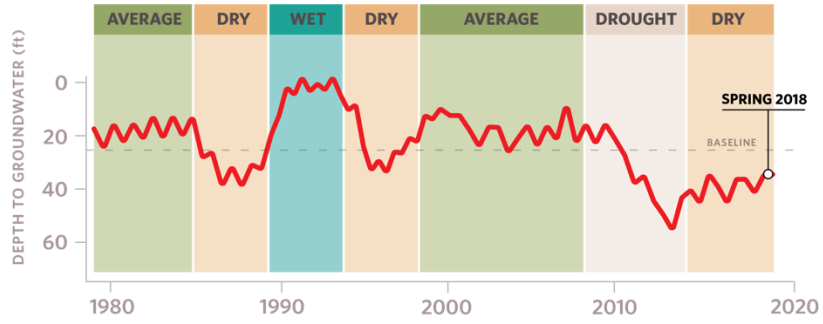


Figure 3. Example seasonality and interannual variability in depth-to-groundwater over time. Selecting one point in time, such as Spring 2018, to characterize groundwater conditions in GDEs fails to capture what groundwater conditions are necessary to maintain the ecosystem status into the future so adverse impacts are avoided.

[14] DWR. 2016. Water Budget Best Management Practice. Available at: https://water.ca.gov/LegacyFiles/groundwater/sgm/pdfs/BMP_Water_Budget_Final_2016-12-23.pdf

[15] *Baseline is defined under the GSP regulations as "historic information used to project future conditions for hydrology, water demand, and availability of surface water and to evaluate potential sustainable management practices of a basin." [23 CCR §351(e)]*

[16] Groundwater reliance can also be confirmed via stable isotope analysis and geophysical surveys. For more information see The GDE Assessment Toolbox (Appendix IV, GDE Guidance Document for GSPs[4]).

[17] *SGMA Data Viewer: https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer*

BEST PRACTICE #3. Ecosystems Often Rely on Both Groundwater and Surface Water

GDEs are plants and animals that rely on groundwater for all or some of its water needs, and thus can be supported by multiple water sources. The presence of non-groundwater sources (e.g., surface water, soil moisture in the vadose zone, applied water, treated wastewater effluent, urban stormwater, irrigated return flow) within and around a GDE does not preclude the possibility that it is supported by groundwater, too. SGMA defines GDEs as "ecological communities and species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface" [23 CCR §351(m)]. Hence, depth-to-groundwater data should be used to identify whether NC polygons are supported by groundwater and should be considered GDEs. In addition, SGMA requires that significant and undesirable adverse impacts to beneficial users of surface water be avoided. Beneficial users of surface water include environmental users such as plants or animals[18], which therefore must be considered when developing minimum thresholds for depletions of interconnected surface water.

GSAs are only responsible for impacts to GDEs resulting from groundwater conditions in the basin, so if adverse impacts to GDEs result from the diversion of applied water, treated wastewater, or irrigation return flow away from the GDE, then those impacts will be evaluated by other permitting requirements (e.g., CEQA) and may not be the responsibility of the GSA. However, if adverse impacts occur to the GDE due to changing groundwater conditions resulting from pumping or groundwater management activities, then the GSA would be responsible (Figure 4).

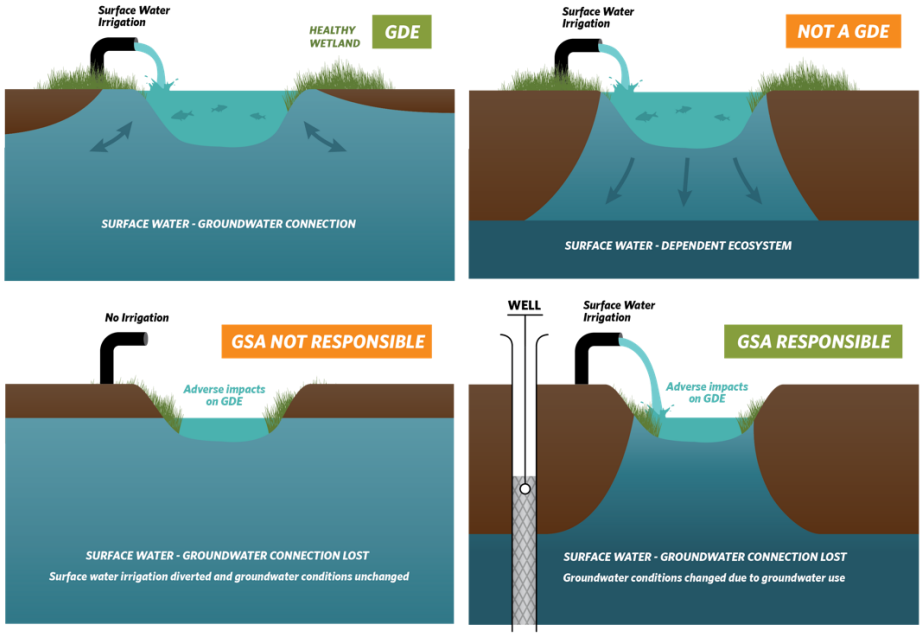


Figure 4. Ecosystems often depend on multiple sources of water. Top: (Left) Surface water and groundwater are interconnected, meaning that the GDE is supported by both groundwater and surface water. **(Right)** Ecosystems that are only reliant on non-groundwater sources are not groundwater-dependent. **Bottom: (Left)** An ecosystem that was once dependent on an interconnected surface water, but loses access to groundwater solely due to surface water diversions may not be the GSA's responsibility. **(Right)** Groundwater dependent ecosystems once dependent on an interconnected surface water system, but loses that access due to groundwater pumping is the GSA's responsibility.

[18] *For a list of environmental beneficial users of surface water by basin, visit: https://groundwaterresourcehub.org/gde-tools/environmental-surface-water-beneficiaries/*

BEST PRACTICE #4. Select Representative Groundwater Wells

Identifying GDEs in a basin requires that groundwater conditions are characterized to confirm whether polygons in the NC dataset are supported by the underlying aquifer. To do this, proximate groundwater wells should be identified to characterize groundwater conditions (Figure 5). When selecting representative wells, it is particularly important to consider the subsurface heterogeneity around NC polygons, especially near surface water features where groundwater and surface water interactions occur around heterogeneous stratigraphic units or aquitards formed by fluvial deposits. The following selection criteria can help ensure groundwater levels are representative of conditions within the GDE area:

- Choose wells that are within 5 kilometers (3.1 miles) of each NC Dataset polygons because they are more likely to reflect the local conditions relevant to the ecosystem. If there are no wells within 5km of the center of a NC dataset polygon, then there is insufficient information to remove the polygon based on groundwater depth. Instead, it should be retained as a potential GDE until there are sufficient data to determine whether or not the NC Dataset polygon is supported by groundwater.

- Choose wells that are screened within the surficial unconfined aquifer and capable of measuring the true water table.

- Avoid relying on wells that have insufficient information on the screened well depth interval for excluding GDEs because they could be providing data on the wrong aquifer. This type of well data should not be used to remove any NC polygons.

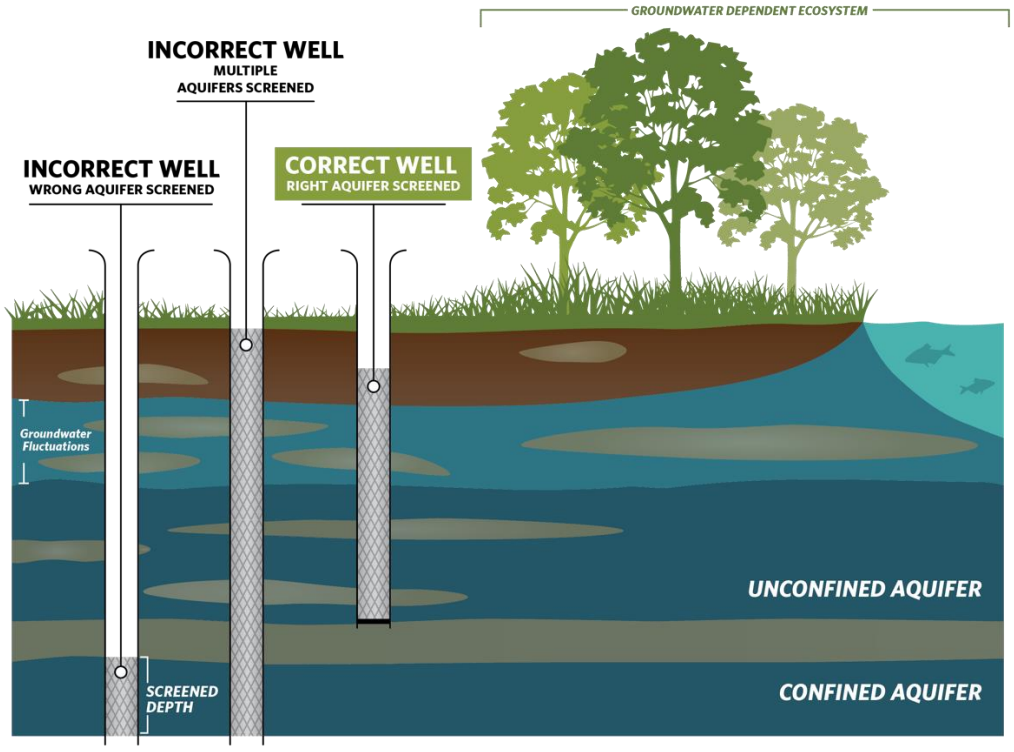


Figure 5. Selecting representative wells to characterize groundwater conditions near GDEs.

BEST PRACTICE #5. Contouring Groundwater Elevations

The common practice to contour depth-to-groundwater over a large area by interpolating measurements at monitoring wells is unsuitable for assessing whether an ecosystem is supported by groundwater. This practice causes errors when the land surface contains features like stream and wetland depressions because it assumes the land surface is constant across the landscape and depth-to-groundwater is constant below these low-lying areas (Figure 6a). A more accurate approach is to interpolate **groundwater elevations** at monitoring wells to get groundwater elevation contours across the landscape. This layer can then be subtracted from land surface elevations from a Digital Elevation Model (DEM)[19] to estimate depth-to-groundwater contours across the landscape (Figure b; Figure 7). This will provide a much more accurate contours of depth-to-groundwater along streams and other land surface depressions where GDEs are commonly found.

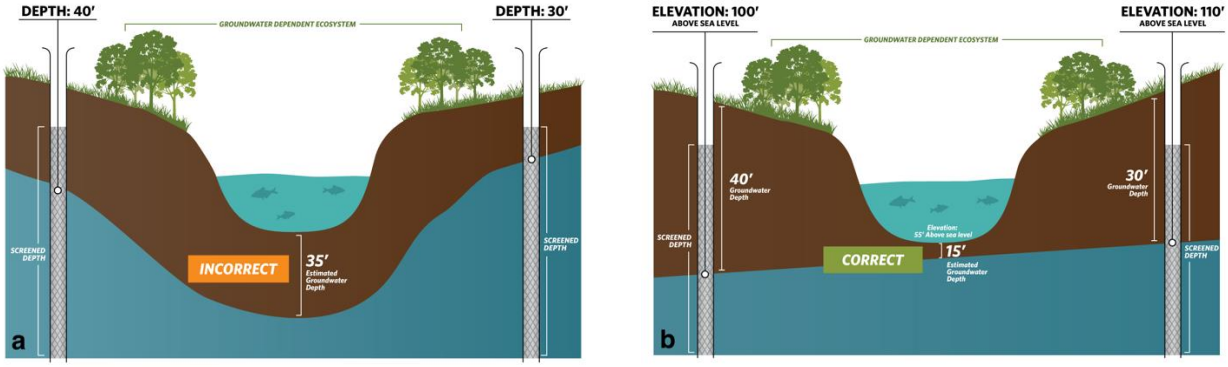


Figure 6. Contouring depth-to-groundwater around surface water features and GDEs. (a) Groundwater level interpolation using depth-to-groundwater data from monitoring wells. **(b)** Groundwater level interpolation using groundwater elevation data from monitoring wells and DEM data.

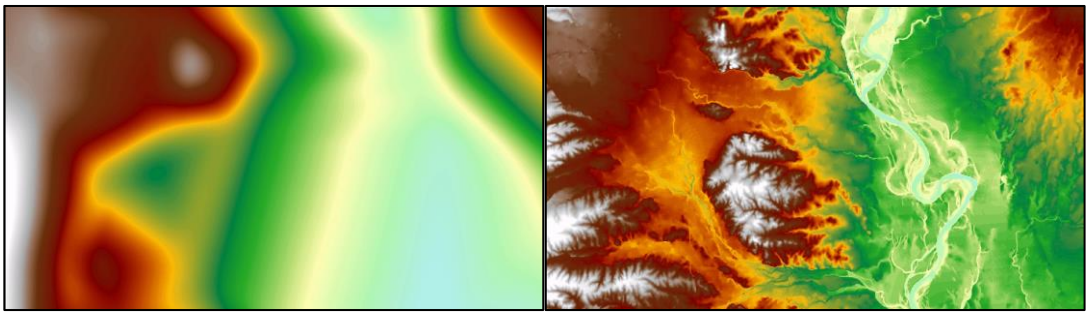


Figure 7. Depth-to-groundwater contours in Northern California. (Left) Contours were interpolated using depth-to-groundwater measurements determined at each well. **(Right)** Contours were determined by interpolating groundwater elevation measurements at each well and superimposing ground surface elevation from DEM spatial data to generate depth-to-groundwater contours. The image on the right shows a more accurate depth-to-groundwater estimate because it takes the local topography and elevation changes into account.

[19] USGS Digital Elevation Model data products are described at: https://www.usgs.gov/core-science-systems/ngp/3dep/about-3dep-products-services and can be downloaded at: https://iewer.nationalmap.gov/basic/

BEST PRACTICE #6. Best Available Science

Adaptive management is embedded within SGMA and provides a process to work toward sustainability over time by beginning with the best available information to make initial decisions, monitoring the results of those decisions, and using the data collected through monitoring programs to revise decisions in the future. In many situations, the hydrologic connection of NC dataset polygons will not initially be clearly understood if site-specific groundwater monitoring data are not available. If sufficient data are not available in time for the 2020/2022 plan, **The Nature Conservancy strongly advises that questionable polygons from the NC dataset be included in the GSP until data gaps are reconciled in the monitoring network.** Erring on the side of caution will help minimize inadvertent impacts to GDEs as a result of groundwater use and management actions during SGMA implementation.

KEY DEFINITIONS

Groundwater basin is an aquifer or stacked series of aquifers with reasonably well-defined boundaries in a lateral direction, based on features that significantly impede groundwater flow, and a definable bottom. *23 CCR §341(g)(1)*

Groundwater dependent ecosystem (GDE) are ecological communities or species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface. *23 CCR §351(m)*

Interconnected surface water (ISW) surface water that is hydraulically connected at any point by a continuous saturated zone to the underlying aquifer and the overlying surface water is not completely depleted. *23 CCR §351(o)*

Principal aquifers are aquifers or aquifer systems that store, transmit, and yield significant or economic quantities of groundwater to wells, springs, or surface water systems. *23 CCR §351(aa)*

ABOUT US

The Nature Conservancy is a science-based nonprofit organization whose mission is *to conserve the lands and waters on which all life depends*. To support successful SGMA implementation that meets the future needs of people, the economy, and the environment, TNC has developed tools and resources (www.groundwaterresourcehub.org) intended to reduce costs, shorten timelines, and increase benefits for both people and nature.

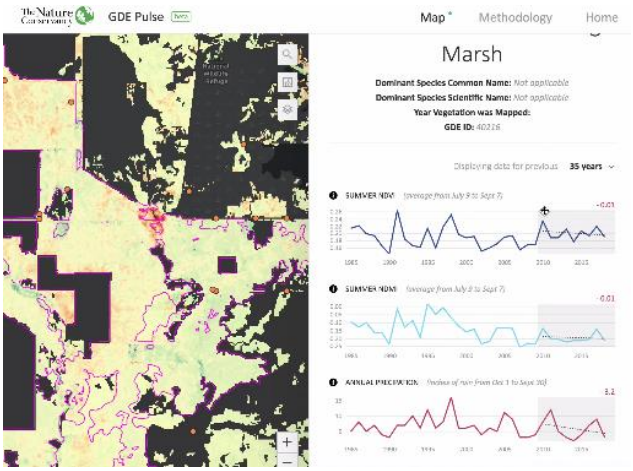
Attachment E

GDE Pulse

A new, free online tool that allows Groundwater Sustainability Agencies to assess changes in groundwater dependent ecosystem (GDE) health using satellite, rainfall, and groundwater data.

The Nature Conservancy
Protecting nature. Preserving life.®

Visit
https://gde.codefornature.org/



Remote sensing data from satellites has been used to monitor the health of vegetation all over the planet. GDE pulse has compiled 35 years of satellite imagery from NASA's Landsat mission for every polygon in the Natural Communities Commonly Associated with Groundwater Dataset[20]. The following datasets are included:

Normalized Difference Vegetation Index (NDVI) is a satellite-derived index that represents the greenness of vegetation. Healthy green vegetation tends to have a higher NDVI, while dead leaves have a lower NDVI. We calculated the average NDVI during the driest part of the year (July - Sept) to estimate vegetation health when the plants are most likely dependent on groundwater.

Normalized Difference Moisture Index (NDMI) is a satellite-derived index that represents water content in vegetation. NDMI is derived from the Near-Infrared (NIR) and Short-Wave Infrared (SWIR) channels. Vegetation with adequate access to water tends to have higher NDMI, while vegetation that is water stressed tends to have lower NDMI. We calculated the average NDVI during the driest part of the year (July–September) to estimate vegetation health when the plants are most likely dependent on groundwater.

Annual Precipitation is the total precipitation for the water year (October 1st – September 30th) from the PRISM dataset[21]. The amount of local precipitation can affect vegetation with more precipitation generally leading to higher NDVI and NDMI.

Depth to Groundwater measurements provide an indication of the groundwater levels and changes over time for the surrounding area. We used groundwater well measurements from nearby (<1km) wells to estimate the depth to groundwater below the GDE based on the average elevation of the GDE (using a digital elevation model) minus the measured groundwater surface elevation.

[20] The Natural Communities Commonly Associated with Groundwater Dataset is hosted on the California Department of Water Resources' website: https://gis.water.ca.gov/app/NCDatasetViewer/#

[21] The PRISM dataset is hosted on Oregon State University's website: http://www.prism.oregonstate.edu/

Comments on Draft GSP

Judie Decker, EKCRCD Representative

November 15, 2019

General Text Comments Each section of this document has a table of contents. The Appendices and the Figures should also be listed in the Table of Contents for each section. All the Figures need to also be identified. For example: Section 1 Figure 1. A proof reader is needed to correct sentence structure, grammar, and other "mechanical" errors. There is much verbiage in the document that seems to be unnecessary or is repetitious. An example is the beginning of Section 3. The history of water is not really necessary unless it is an item that is required or recommended. All California water basins saw use by Native Americans and then by passing explorers, traders, and settlers. However, if the history of water in the IWV is going to be included then mention of early day farming and land settlement in Ridgecrest and the Inyokern/North Brown Rd area needs to be mentioned, This section should include statements regarding the change in climate in this area over the last 100+ years. Long ago the Shoshone/Piute tribes camped along the shores of a much larger China Lake. When DWP built their first aqueduct there were streams flowing into this valley on a year round basis, streams like Dixie Wash and others.

Further Comments In some sentences the draft document states that the Basin has been in overdraft for 50 years and in some sentences it says 60 years. The document needs to be consistent with this number; it is certainly more than 50 years which was 1969. Many technical reports are cited in the GSP that state this fact. These technical reports were made available to the public at the time they were published. The major pumpers have known about the overdraft for over a half century and **chose** to ignore it until the implementation of SGMA law. As a result, it is going to cost the water consumers of this Basin many millions of dollars more than it would have if the problem had been addressed in a timely fashion.

For example, The Water District started pumping from the Ridgecrest Field, moved to the Intermediate Field where they had 3 major producing wells on 40 acres, and then moved to the West and Southwest where they are repeating the process seen in the Intermediate Field. As each area was pumped over time the field became less productive as water levels dropped and water quality declined. They now have 4 wells along Bowman Road west of Highway 395. Each is about one half mile from the other. This practice of the Water District having a series of major wells close to one another has seriously impacted most of the shallow well owners, both those close to District wells and those farther away. This issue needs to be mentioned since there is discussion about the impact on shallow wells by agricultural pumping.

An explanation that some of the projects that are suggested will be the responsibility of individual governing agencies needs to be stated. At the present time the recycled water is under the purview of the City of Ridgecrest. Optimizing pumping and moving wells to the northern portion of the IWV is an item that is solely within the governance of the Indian Wells Valley Water District. These projects, when approved by their Boards, will have to undergo a full CEQA review which takes some time to process, including at least one public hearing as part of the CEQA process. The dates you have put on projects associated with independent governing agencies needs to be removed. The projects need to be deferred to those appropriate agencies. The dates listed in the draft are probably unrealistic.

The critical questions are:

How much longer will our aquifer support the present overdraft pumping?

Is there a hydrological "point of no return" for a water basin?

How long will it take to implement the proposed projects?

The longer all this takes the less water will be available for the future. Litigation will only delay the solution, perhaps for decades. Meanwhile, the status quo will continue, and the Basin will dip even further into overdraft.

Comments on Section 1

Page 3 This sentence is incorrect. "…water producers have been **FORCED** (emphasis mine) to mine the basin in order to meet water demand." Please state the facts of the situation. This sentence should read: "…water producers **have mined the basin** in order to meet water demand."

Page 4 The paragraph about DACs which starts on Page 3 needs an addition. Many of the DAC Community are either customers of the IWVWD or the Inyokern CSD. This paragraph should state this.

Page 10 Regarding the paragraph describing the addition of the Inyokern CSD. Remove Tim Carroll's name. He will not always be the CSD's Representative but they will always have a representative. This is what has been done for the names of other representatives from agencies listed.

Comments on Section 2

Page 9 First sentence reads "However, a number f Navy…". It should state: "However, the **majority** of Navy…"

2.4.6 IWV Cooperative Groundwater Management Group I am uncertain why there is so much written on a group that is no longer in existence and in reality did little. However, if you are going to have this inclusion, it needs to state: The Cooperative Groundwater Group was formed by the major public pumpers as a result of the findings and recommendations from the 1993 Bureau of Reclamation Report. In its later years the group included other entities (some of them are mentioned). Agriculture needs to be added.

2.5 Land Use "Implementation of the GSP may impact land use…" It should say: "Implementation of the GSP **will** impact land use…"

Page 27 Top paragraph Recheck the facts in this paragraph. I believe you will find that the 100 wells monitored were monitored by the IWVWD, the KCWA, and the U.S. Navy-not the co-operative group. The co-operative group did not monitor any wells. Many of the wells monitored are part of a mitigation effort by the IWVWD and have been monitored since the 1980s.

Page 33 2.7.4.1 Fifth Bullet "Prohibit landscape irrigation on the surface.." Check and see if this statement is copied correctly because it doesn't make sense.

Comments on Section 3

Pages 6-7 History of Water Use in the IWV These pages have reference given to various authors. All of the information that is given here is general knowledge and can be found in several publications. All author references should be removed here. It is also general knowledge that sheep used to be driven through this valley every spring. There is no relevance to the GSP in noting that sheep were driven through the valley.

Page 8 Regarding both the text and footnote 6, SKYTEM. SKYTEM findings have **never** been publicly presented or published. This needs to be noted and/or this segment removed.

Page 10 Blue Max Peak is **most definitely not** the highest peak that drains from the Sierras into this Basin –it is Owens Peak.

3.4.4 Overdraft Conditions

Again, there is a need for consistency on when Overdraft first began. There needs to be an emphasis on the time before the 1960s. The need is not for DWR but rather for those members of the public who refuse to believe we have a serious water problem.

Page 34 3.4.6 The last line. Change lodge to restaurant. A lodge implies a hotel/motel. While the facility is called The Indian Wells Lodge it is a restaurant. This may need to be changed elsewhere if the lodge is referred to.

Note to Stetson Staff: Section 3 is of Critical Importance. It must clearly and accurately define the water situation. As it is there are those who will argue to negate its findings and thus, try to weaken the need for action

Comments on Section 4

Pages 8-10 4.2.3 Sustainability Measures: Implement Annual Pumping Allocation Plan, Transient Pool and Voluntary Fallowing Program. There is very little detail in this paragraph. There is so little detail that a reader who had not been closely following the GA Board and committee meetings carefully would have no idea what this is about. Therefore, it is a good way to spread and enforce distrust instead of fostering co-operation. Suggest you separate these three measures and give a short description of each. Also it is important to pair any fallowing effort with dust mitigation because the two issues go together.

Page 10 4.2.4 <u>Explanation of How Goals will be Achieved</u> The title of this section does not match what is written. There are **no details** of how these goals will be achieved. Some possibilities under each category should be listed. They can be listed without going into a lot of detail.

The first bullet has the pumping allocation plant, transient pool and fallowing land as one section. These should be listed separately with an explanation of each.

Under the section on Conservation it should be noted that even extreme conservation will not solve the overdraft problem in this valley.

Several of the items in 4.2.4 list dates when they will be accomplished. These dates are not realistic. For instance, Pumping Optimization is listed as being accomplished by 2025. Yet when one reads further one discovers this project includes the buying out of large agricultural entities, the IWVWD installing new wells, pumping equipment and the necessary pipeline. It would take over 5 years to execute this project without the involvement of land purchase. This is true of the other projects that have dates associated with them

Page 12 It is stated that because of the IWV's location there is no seawater intrusion. However, there **is** saline water intrusion in some areas due to heavy pumping. As the higher quality water is depleted it is replaced with, in most cases, a much lower quality of water. Thus, some de minimis wells have had to be abandoned because they are no longer potable. This should be noted.

Page 14 Second paragraph-last sentence add the phrase at least: " It is estimated **that at least 97 wells…"** Does this number include the shallow wells belonging to co-ops and Mutuals? I don't think so.

Page 14 Check the grammar in the third paragraph, third line.

Page 14 Third paragraph. Will the reader really understand this paragraph? I think not.

Page 20 Number 3. Add a sentence to indicate that Coso Valley, Rose Valley and Salt Wells Valley have no or few residents, and water uses. Also include: Salt Wells Valley is federal land under the jurisdiction of the U.S. Navy as is Coso Valley. Most of Rose Valley is owned by DWP. It seems like Searles Valley needs to be included here also. In a sentence about Searles Valley it would be noted that their water comes from the IWVGB.

4.4.1.1 Fourth line down: change **stimulated to** simulated

Page 21 First paragraph Make sure that the reference to the 40-50 acre feet of outflow to Salt Wellls Valley remains the same in all of the tables and references in this document

4.4.1.5 Relationship with Federal, State and Local Standards

This short paragraph is an understatement in the extreme. It should say that that these entities **must** address the issues of SGMA in their updated General Plans. They should update their General Plans upon adoption of the GSP by the IWVGA Board. The downplaying of this section is a clear indicator of the conflict of interest that exists between individuals from land use entities sitting as groundwater authority board members.

This change needs to also be added to all other sections where General Plans are discussed as in 4.2.5

Page 27 Discussion of poor quality water. It needs to be noted here that degraded water quality occurs throughout the groundwater basin at depth. Thus, as the water levels decline so does the water quality While this problem is more severe in the Northwest part of the valley it is very evident elsewhere. I would note the issue with the cemetery which has removed all of its turf due to an extreme degradation in water quality in their well. Water quality degradation is the very reason that the IWVWD has moved its production wells ever westward. The above information needs to be noted in this section.

Comments on Section 5

Pages 6-7 Introduction. This section is unclear and somewhat confusing. Since Section 5 is a description of the actions that are planned to reach sustainability the introduction needs to contain more information. Perhaps a short outline is needed so the reader can see what will take place, when it will begin and which groups of users will be involved. Here are some questions that need to be answered in this section. Management Action 1 involved 3 parts. Who will be affected by each of these parts? What type of user will pay an Allocation fee? How long will this fee be in place? Which type of user is listed in the Transient Pool? How long will this pool be available? Fallowing land should be combined with dust mitigation because they go together. Where does it fit in? It will take many years to actually receive imported water. This time period needs to be shown. Do de minimis users pay allocation fees? What requirements will be applied to Searles Valley Minerals?

Recycled water. Again this is a city of Ridgecrest project and not a GA project. This should be noted in the discussion of recycled water. There are other projects that would result in a beneficial use of this water besides the ones mentioned. They should be included as possibilities.

Conservation This is Management Action 3. However, conservation by the Navy and by the IWVWD customers has been ongoing for many years. This needs to be noted in this document. Nothing has been mentioned about a conservation effort to replace the aged leaky pipes that carry water from the Indian Wells Valley to Searles Valley. While Searles Valley Minerals is a private company the savings in water loss would benefit all valley water users.

Page 8 Bullet 9 Is this verbiage a direct quotation from the existing law? As stated earlier the IWV lies in the Mojave Desert. A desert is always in a state of drought. If it had enough water it would no longer be a desert.

5.1.1.1 Management Actions Pumping Allocations and Augmentation Fees It is unclear to the reader exactly who will be required to pay these fees. It is clear what the fees will be used for, but it is unclear who will pay them. Do de minimis, co-ops and Mutuals pay? Will public utilities pay? industrial? This needs to be clarified on Page 9 which is the introduction to this section of text.

Page 11 Second paragraph "Groundwater production in excess of Annual Pumping Allocations…" How is this going to be tracked and enforced?

5.2.1.2 Costs Page 15 Administrative costs-do these include legal fees? The legal fees should be separated so the public can know how much they are. This should be done for all the projects listed in the GSP.

5.1.1 Recycled Water Projects This document needs to state that there are other potential use for the recycled water that may be more cost effective. They will be investigated. One possibility is to sell Trona the treated water for their use on brine ponds. A new pipe would have to be built for this project. This proposal would reduce the amount of water used by Searles Valley Minerals for industrial purposes by almost 100%. Sending the water to Trona would be far cheaper than building purple pipe to send the water to Cerro Coso College. Cerro Coso is the largest IWVWD customer. At one point it used 10% of all water pumped by the District. It also pays the most per gallon of water because it must be electrically boosted 4 times to reach the campus. Another factor in considering sending the water to Trona is that

Searles Valley Minerals maintains their water pipeline. Pipes that are installed in the city for recycled water use will have to maintained by a governmental agency like the city of Ridgecrest or the IWVWD. This would cost the public more money in an already very costly endeavor.

5.3.2 Basin Wide Conservation Efforts 2nd paragraph under Project Description "the IWGA will confer…the Water District…" Need to add the Inyokern CSD to this list

Last sentence same paragraph "The IWVGA will **implement** the Water Conservation Strategic Plan…" Here is another example where a description of the placement of authority is needed. The Navy, as listed above, is a Federal agency responsible for its federal lands. The IWVWD, the City of Ridgecrest and the Inyokern CSD regulate the citizens that lie within their boundaries. They are all Special Districts of the State of California. The IWVGA is **not** a Special District. Which governing entity has the top authority? The public needs to know.

5.3.2.8 Legal Authority

Page 39 This paragraph is the same for each management action. .Again, it is important to describe the hierarchy of legal authority between the governing entities in this valley.

Page 40 Second paragraph. Shallow Well Mitigation. Wells usually do not decline instantly. It is a process that happens over time. Your last two sentences indicate that no one with a shallow well in existence will be eligible for mitigation unless their new well is drilled after 2/1/2020. Perhaps you need to add a segment on Shallow Well Buy Out. Many well owners are not the original developers of the property. They will not be able to answer the questions that are listed on this page. Furthermore the questions posed are value judgments. Water levels and water quality has been declining in virtually every shallow well drilled in this valley. The same holds true for major production wells in this valley. Refer to my comments earlier about the practices of the IWVWD with regards to a history of their well placement.

The same holds true for the US Navy. They used to pump wells that were fairly evenly spaced along highway 178, but more recently have been using one well that is located in Section 17. Investigate what that has done to surrounding domestic well owners, who were using wells in the area before the Navy drilled theirs.

The Shallow Well Mitigation Plan as it currently stands is a hollow plan. The words written are true to the situation that has and is being experienced by shallow well owners throughout the valley. Then comes the timeline requirement of 2/1/2020. This is a clear message to those well owners that, in fact, the IWVGA will do nothing to alleviate their well problems.

5.3.4 Dust Mitigation This is listed as Project 5 However, it goes with land fallowing, and should be so noted both here and in the fallowing land portion of the document. Many people still live in this Valley who remember the travesty that occurred when the County of Kern allowed the Arciero Farms to cease operation (because of the over pumping of economical water) and simply walk away. To the east of the farms lies a small community, Cantil, that was literally buried under blowing sand. The problem, though reduced by the recent installation of solar fields, still exists. The County road department must scrape the paved road that passes through the area after every major wind storm so that traveling vehicles do not get stuck in the sand.

Fallowing farm land, especially in the Northwest part of the valley will severely negatively impact the mission of the Navy. Therefore, it needs to be stated in this GSP that land will not be fallowed without a comprehensive dust mitigation plan in place for that parcel of land.

The GSP needs careful examination of different methods that have been used for dust control. Note; that long ago the UP railroad used snow fencing to try to control blowing sand in the area of the Eastern Mojave called the Devil's Playground. Even many years ago one could only see small sections of this fencing because the sand had completely covered it.

5.1.1 Pumping Optimization Project. Again, this project would be one that would be executed by the IWVWD. The cost and efforts to do this would be borne by them. This fact needs to be noted up front. One possibility that is not mentioned is for the Inyokern CSD to join the IWVWD for this project.

5.3.4.13 Regulatory Process Page 48 If this is to be a Water District project why would the IWVGA do a CEQA on it? The IWVWD would have to do a CEQA on their project.

5.3.4.14 Public Notice First line, states Shallow Well Mitigation Plan. Shouldn't it say Pumping Optimization Plan?

5.4.1 Brackish Groundwater Project. Verbiage in this section needs to note that this project will still be pumping groundwater from our Basin. It should also note that this project will be pumping water at a much higher cost because of the methods for pumping that are being proposed. It should also note that there are several negative effects to the area surrounding the pumping project that can occur if this project is implemented These negative facts need to be included with the description of this project.This project is proposed for the farthest northwest part of the IWV.

Comments on Section 6

This section has the wrong title page.

Is a more detailed Implementation Plan going to be written? If so, then this needs to be stated in this section of the GSP. It needs to include some details as to timelines and schedules, the order and priority of projects and how they will be accomplished. One of the first projects is the allocation and augmentation plan. This needs to be detailed to assist those who will be affected by it.

Page 3 Third bullet point Incorrect English: "adaptively management the program"

Pages 3-4. The bullet points do not fit well with the last paragraph on page 3. It would be appropriate to list the proposed projects in order of their priority. It would be clear if the projects were related to one another. For instance, if land is fallowed then a dust mitigation plan must be activated immediately.. The two projects are closely related to one another. It also states that:"…the initial priority is **demand reduction**…" But page 4 has a bullet entitled Pumping Optimization Projects. One is contrary to the other..

The projects/plans need to state their associated costs and timing and value. For a given project what is the cost per acre foot of water saved. In this regard it needs to be noted that some of the projects are under the purview of different agencies and that these agencies will bear all or some of the costs for the project.

An example of this is water reuse. The city of Ridgecrest has been collecting tax dollars for years for the wastewater facility upgrade. They will (and should) bear the cost of this project. When listing it here in Section 6 the cost per acre foot needs to be added. The same hold true for the Well Optimization Plan. This is for the IWVWD

The projects that will be implemented by the GA Board need to be listed with a cost to benefit received comparison. This should be a part of Table 6.1.

They also need to be listed in the order of priority. Which project will save the most water. This exercise should exclude Imported Water with an explanation of its great importance and the complication and cost involved. It is a separate issue and the cost for this water must be borne by every pumper in the valley from the Federal government down to the local level.

In the costs section there is no separation of costs and payments for work already accomplished. What did the Prop 1 grant funding cover? How much money has been spent annually on Administrative Costs? How much money annually has the City, the IWVWD, the three counties contributed? How much has been spent by the agencies involved on legal costs? What are the estimated legal costs yet to be spent-especially in the light of the very strong probability of litigation? It would seem that these potential costs should be added to the GSP.

While a timeline is given for implementation of some of the projects a closer examination of the timeline in relation to GSP approval by the state needs to be given. What projects can be legally and realistically be .undertaken in the interim months while awaiting GSP approval?

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Established 1908

January 8, 2020

Mr. Don Zdeba
IWVGA Acting General Manager
don.zdeba@iwvwd.com

Re: **Searles Valley Minerals's Comments To Public Review Draft**

Dear Mr. Zdeba:

We are attorneys for Searles Valley Minerals. We have the following comments to section 5.2.1 (Annual Pumping Allocation Plan, Transient Pool and Fallowing Program). Camille Anderson will be sending additional comments by Searles Valley Minerals to the document as a whole.

1. **Searles's pre-Navy water rights for industrial use should be respected.**

The Plan recognizes that extraction allocations under Water Code section 10726.4(a)(2) should be consistent with federal and state water rights. That section provides, "A limitation on extractions by a groundwater sustainability agency shall not be construed to be a final determination of rights to extract groundwater from the basin or any portion of the basin." The Plan claims that its Annual Pumping Allocations do not determine water rights because they do not prohibit the pumping of groundwater, but the imposition of a significant Augmentation Fee for pumping over the Allocation has the effect of significantly burdening the exercise of water rights. Therefore, the Allocations should be consistent with water rights.

Searles has provided evidence of its pre-Navy appropriations, and will do so again in connection with the Plan's implementation process. An appropriation that pre-dates the reservation of land for the Navy base has priority over the Federal Reserved Right. (See *Cappaert v. United States* (1976) 426 U.S. 128, 138.) The Plan seems to say that because of sovereign immunity, this priority should be reversed: "The IWVGA does not have legal authority to restrict, assess, or regulate production for NAWS China Lake; therefore, NAWS China Lake groundwater production is considered of highest beneficial use." (page 5-10) But this does not follow. Sovereign immunity is a matter of enforcement and does not affect the IWVGA's obligation to respect priorities established by federal law.

Therefore, Searles should receive an Allocation in the full amount of its pre-Navy appropriation.

2. Searles Domestic Water Company's municipal use priority is separate from Searles's pre-Navy water rights.

The list of groundwater pumpers for domestic use on page 5-10 should include Searles Domestic Water Company, which supplies water for municipal and domestic use in the Searles Valley. The priority for this use does not depend on whether Searles Valley Minerals has a pre-Navy water right for its industrial use. Therefore, Searles Domestic Water Company should receive an allocation equal to its use during the Base Period, in addition to the allocation for Searles's pre-Navy water right.

3. The Water District should not receive any preference based on serving water to the Navy workforce.

On page 5-10, the Plan quotes the Navy's response that "[s]ince the Navy mission at China Lake requires its workforce, the full Navy water requirements are the combination of the on-Station requirements and those of the Navy workforce and their dependents off-Station." Searles is pleased that the Plan does not claim that the Federal Reserved Right extends to production by third parties to serve Navy personnel off-Station, which Searles believes is not supported by any legal authority.

4. The IWVGA does not have authority to impose an Augmentation Fee.

The statutes referred to in section 5.2.1.8, Legal Authority, do not authorize the imposition of an Augmentation Fee. Specifically, Water Code section 10725.4 authorizes *investigations* to propose and update fees, and not the fees themselves. Nothing in SGMA authorizes discriminatory fees to enforce an allocation plan.

5. The Plan does not provide sufficient justification for the limited amount in the Transient Pool nor for its non-transferability.

The Plan states that the purpose of the Transient Pool is to "facilitate coordinated production reductions and to allow groundwater users to plan and coordinate their individual groundwater pumping termination." (page 5-6) But the Plan provides no explanation why the Transient Pool is limited to 51,000 acre-feet, in view of the large amount of groundwater in storage and the economic dislocations that the Allocation will cause. The Plan also does not explain why the Transient Pool water is not transferable. Making the water transferable would allow parties wishing to exit the Basin to be partially compensated for their investment at a negotiated price, while providing other parties with water to support their operations until imported water is available.

6. The anticipated timing of the approval and implementation of the allocation ordinance is inconsistent with Section 10728.6 of the Water Code and the California Environmental Quality Act ("CEQA") requirements.

The Plan states that the Annual Pumping Allocation Plan, Transient Pool and Fallowing Program *may* be subject to environmental review. This statement is misleading as it offers the possibility that such implementation would be exempt from those environmental requirements. Section 10728.6 of the Water Code expressly states that the exemption from the requirements of Division 13 (commencing with Section 21000) of the Public Resources Code applicable to the preparation and adoption of a groundwater sustainability plan (GSP) does not apply to "a project that would implement actions taken pursuant to a plan." Further, an activity qualifies as a "project" subject to CEQA if that activity is undertaken, funded, or approved by a public agency and may cause either a direct, or reasonably foreseeable indirect, physical change in the environment. (Pub. Resources Code, § 21065; *Union of Medical Marijuana Patients, Inc. v. City of San Diego* (2019) 7 Cal.5th 1171.) It is difficult to imagine how the implementation of this management action would not cause a "direct, or reasonably foreseeable indirect, physical change" in the basin. Therefore, Sections 5.2.1.5 and 5.2.1.7 of the Plan must be amended to reflect an affirmative commitment by IWVGA to conduct an environmental review prior to the adoption of an allocation ordinance and an accordingly more realistic implementation timeline.

7. This Management Action No.1 is based on incomplete and inaccurate data and thus its implementation must be deferred until the monitoring network is better developed.

The Plan states in Section 5.2.1.7 that Management Action No.1 would be presented to IWVGA Board for consideration and approval at its June 2020 meeting. This not only is contrary to CEQA requirements, but also ignores the numerous acknowledgements throughout the Plan of serious data gaps which put into question the accuracy of the basin's sustainable yield, water budget, sustainability goal and threshold estimates upon which IWVGA relies in implementing this Management Action No. 1 and the other management actions and projects. The Plan expressly states in several sections that data tracking is fairly recent (mostly since SGMA came into effect; e.g., page ES-15) and that many of the "historical" data points are based on a single measurement recorded at the time of well installation (e.g., see page ES-16.) It is advisable that management actions, including without

limitation Management Action No. 1, be deferred until such time as better monitoring data is in put place but no earlier than the first Plan update is due to DWR, i.e., at least until 2025.

Very truly yours,

Thomas S. Bunn, III

TSB::jlb

cc: Camille Anderson (anderson@svminerals.com)

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January 8, 2020

VIA E-MAIL APRILN@IWVWD.COM

Indian Wells Valley Groundwater Authority (IWVGA), Board of Directors
c/o April Nordenstrom, Clerk of the IWVGA Board
500 W. Ridgecrest Blvd.
Ridgecrest, CA 93555

RE: Comments on the Public Review Draft Groundwater Sustainability Plan

Dear Members of the IWVGA Board of Directors:

This comment letter on the Public Review Draft Groundwater Sustainability Plan (Plan) for the Indian Wells Valley Groundwater Basin (Basin) is respectfully submitted on behalf of Mojave Pistachios, LLC and the Nugent Family Trust (collectively, "Mojave"). The purpose of these comments is to provide input on the Plan and on the Plan development process, more generally. This letter supplements Mojave's prior comments, including those presented at meetings of the IWVGA Board of Directors (Board) and at meetings of advisory committees to the Board, including the Technical Advisory Committee (TAC) and the Policy Advisory Committee (PAC). Mojave reserves the right to supplement these comments as the Board revises the Plan or otherwise takes action.

Mojave objects to the proposed Plan for three principal reasons. First, to-date, many stakeholders, particularly those engaged in the cultivation of agriculture, have been denied procedural and substantive due process in the IWVGA's development of the Plan. Second, Management Action No. 1 and the underlying modeling scenarios prioritize claims to water and allocate available water supplies among water right holders in a manner that is *inconsisten*t with well-established principles of common law water rights and therefore contravene the Sustainable Groundwater Management Act's (SGMA) express prohibition on determining or altering common law water rights. Last, the assumptions set forth in the Plan and the modeling scenarios developed to-date, to the extent that they can be discerned, lack scientific or factual support. In the spirit of collaboration, this letter provides recommendations to rectify the concerns and deficiencies identified herein.

I. Background on Mojave's Operations

Mojave owns and controls lands overlying significant acreage in the Basin and pumps groundwater from the Basin for the irrigation of high value crops on overlying land under efficient water use practices. Use of water for the cultivation of agriculture is enshrined in California law as among the highest and best uses of water in the State. Water Code § 106; see also Plan at 5-10 (citing Water Code section 106).

Mojave uses the least amount of water possible while following best farming practices for pistachios. Specifically, Mojave uses drip hose, pressure compensating emitters, water monitoring, and even use deficit irrigation, a practice whereby Mojave uses less than full tree water demand at key times of the year when it does not hurt the trees' production, but does save water and have other benefits. Mojave is

committed to using the most modern and efficient irrigation system and actively participates in the California Pistachio Research Board, which supports cutting-edge research. Pictures of Mojave's agricultural operations and irrigation systems are included in Attachment A.

Collectively, Mojave owns 83 legal parcels of land overlying the Basin and farms approximately 1,600 acres of pistachios. See Attachment B. All of Mojave's farmed acreage was acquired and put into service for the cultivation of agriculture *prior to the adoption of SGMA*. Each of these parcels overlies the Basin and holds overlying water rights, *City of Barstow v. Mojave Water Agency* (2000) 23 Cal.4th 1224, 1240, and the overlying right is not limited by past water use practices. *Wright v. Goleta Water District* (1985) 174 Cal.App.3d 74, 87. Agriculture is a permitted use of Mojave's lands and all its farmed acreage was placed into cultivation in accordance with applicable state law and local ordinances. At full maturity, the lands placed into production prior to the adoption of SGMA will require approximately 7,000 acre-feet per year (AFY) of water under efficient irrigation practices.

To date, Mojave's cumulative investment-back expectation exceeds $25 million and its operation is a going concern that produces pistachios for commercial sale, pays over $100,000 per year in property taxes,[1] and supports the local economy by, for example, obtaining fencing and irrigation parts from the local hardware store, frequenting local restaurants, purchasing fuel locally, and using local contractors whenever available. Mojave's owners also donate extensively to local community and veteran groups, youth livestock programs, local schools, and the hospital, among other organizations. Mojave also supported the local community after last year's earthquakes. It firmly believes in the role that agriculture will play as a long-term asset to the local economy.

Mojave's shared interest in achieving long-term Basin sustainability is self-evident and it has participated earnestly and cooperatively throughout the entire Groundwater Sustainability Agency (GSA) formation and Plan adoption process. For example, Mojave was a signatory member of the Indian Wells Valley Cooperative Groundwater Management Group, a long-standing local data-sharing group comprised of the major groundwater producers and government agencies in the Indian Wells Valley. This group contributed much of the historical groundwater production information and stream flow data to the IWVGA.

Likewise, in 2015, Mojave formed the Mojave Mutual Water Company and sought membership on the GSA through a Joint Powers Authority or other agreement pursuant to Water Code section 10723.6(b). Mojave felt that a congenial relationship between stakeholders would foster collaboration and compromise.

When Mojave's efforts to have a seat on the GSA were spurned by the future members of the IWVGA, Mojave continued to pursue a positive and working relationship with all stakeholders in the Indian Wells Valley. Mojave actively participates in the PAC as a representative for large agriculture by providing constructive input, through voluntary data sharing, and as a member of several subcommittees. Mojave was pleased to be able to contribute to community outreach plans, to provide feedback on well registration policy recommendations, and to give comments on technical information developed by the GSA.

Mojave is also an active member of the TAC as a representative for large agriculture. Mojave has provided extensive comments and suggestions on groundwater technical issues, including technical memoranda, sustainability criteria, and management goals and objectives. In addition to participating in the subcommittees of the IWVGA, Mojave has given technical support and significant financial funding to the Indian Wells Valley Brackish Groundwater Feasibility Program in an effort to build a bridge to sustainability through treatment of locally produced groundwater.[2] Mojave also worked collaboratively with local

[1] Mojave paid $99,199.23 in property taxes for 2018 and $101,988.55 in 2019.
[2] Of note, Mojave has provided over $100,000 in funds to support the Indian Wells Valley Brackish Water Study Group. This group is evaluating the use of brackish groundwater resources to supplement shallow,

groundwater producers to develop a white paper on Groundwater Management in the Indian Wells Valley under SGMA. The paper presented an approach to achieve sustainability and compliance with SGMA along with long-term viability for the local community and economy.

II. Failure of The IWVGA to Provide Meaningful Opportunities for Diverse Stakeholder Engagement Violates Mojave's Right to Procedural Due Process and Fails to Satisfy the Requirements of SGMA.

Under the requirements of SGMA, the IWVGA must consider the interests of all beneficial uses and users of groundwater in the Plan development process. Water Code § 10723.2. Specifically, SGMA mandates that the IWVGA consider the interests of Mojave, among others, as overlying groundwater rights holders with vested property rights. Water Code § 10723.2(a). The vested rights of overlying landowners include the right to produce groundwater for beneficial use on overlying lands. These vested property rights entitle overlying landowners to due process that is of a wholly different character than a mere customer of a water utility.

The Department of Water Resources' (DWR) SGMA regulations require that the IWVGA document in a communication section of the Plan the opportunities for public engagement and active involvement of diverse stakeholders in the Basin. 23 Cal. Code Regs. § 354.10. The expertise of stakeholders is critical in ensuring that the IWVGA is using the best available information and science throughout the Plan development process.

However, to date, the IWVGA's process for public engagement and involvement has been lacking in several respects. First, the IWVGA's development of modeling scenarios through closed session meetings contravenes SGMA's public participation requirements. IWVGA does not own or even control the groundwater flow model on which the Plan is based. Instead, the United States Navy (Navy), which sits as an "ex-officio" member of the IWVGA, owns and controls the model. This arrangement is made even more peculiar by the fact that the Navy is not subject to the management under SGMA and is immune from regulation by the IWVGA under the Plan. The Navy has allowed the IWVGA to request that the Desert Research Institute (DRI), which developed the model for the Navy, run the model simulations upon which the Plan is based. The Navy model has not been peer reviewed and despite repeated requests, it has not been made available to stakeholders. Mojave renews its prior requests that the Navy model be made available to all stakeholders in the Basin. The situation *might* be viewed in a different light if the Navy were an independent and disinterested stakeholder. Unfortunately, this model—which provides the technical foundation for the Plan itself—is owned by the stakeholder that will obtain the largest groundwater allocation under it.

Although summary information regarding various modeling scenarios has been presented at meetings of the Board, the underlying assumptions for each scenario have been insufficiently documented and explained. Similarly, the IWVGA had not clearly articulated how the modeling scenarios have informed or will ultimately inform the Plan and the management actions to be taken thereunder. These issues frustrate meaningful public participation in the Plan development process and deny stakeholders procedural due process. Therefore, Mojave renews its prior requests that the assumptions for each modeling scenario under consideration be detailed and promptly provided to the public, along with a clear explanation of how the IWVGA has incorporated, or intends to incorporate, the modeling scenarios into the Plan and implementation of Plan Management Action No. 1.

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fresh, groundwater supplies. Indian Wells Valley Water District, Searles Valley Minerals, and Coso Geothermal also contribute funds to this group. Mojave has also funded scientific studies, the purchase of monitoring equipment, and payment of other costs incurred by the TAC or PAC.

Additionally, Mojave notes that the Public Review Draft of the Plan was only available for public review as of December 11, 2019, leaving little time to consider and incorporate public comments. Likewise, as explained above, key foundational information underlying the Plan sections (e.g., model assumptions and the model itself) has not been made available to the public. Given the different versions of Plan sections available on the IWVGA's website, we ask that the Board provide the red-line changes between each available version as soon as is feasible to allow sufficient time for public review and collaboration in advance of the January 31, 2020 deadline for providing the Plan to DWR.

III. Plan Management Action No. 1 Should be Reformulated to Ensure Substantive Due Process, Consistency with Common Law Water Rights Principles, and Provide an Adequate Basis for the IWVGA's Determinations.[3]

As explained above, SGMA requires the IWVGA to consider the interests of all beneficial uses and users of groundwater, including holders of overlying groundwater rights such Mojave. Water Code § 10723.2. SGMA also expressly forbids the IWVGA from determining or altering water rights. Water Code § 10720.5(b) ("Nothing in this part, or in any groundwater management plan adopted pursuant to this part, determines or alters surface water rights or groundwater rights under common law or any provision of law that determines or grants surface water rights."); see also Water Code § 10720.1(b) ("…It is the intent of the Legislature to *preserve the security of water rig*hts in the state to the greatest extent possible consistent with the sustainable management of groundwater.") (emphasis added).

Despite SGMA's clear requirements, Management Action No. 1 (Implement Annual Pumping Allocation Plan, Transient Pool and Fallowing Program), and the underlying modeling scenarios considered by the Board attempt to determine the water rights of the users in the Basin and would unlawfully eviscerate the overlying rights of Mojave, as discussed in more detail below.

Section 5 of the Plan explains that only certain users that produced groundwater during the Base Period, defined as January 1, 2010 through December 31, 2014, will receive an Annual Pumping Allocation. Plan at 5-5 to 5-6. The remaining groundwater users not given an Annual Pumping Allocation will be "eligible" to receive some unspecified share of a 51,000 acre-foot (AF) "Transient Pool Allocation," which is a "limited non-transferable one-time allocation of water to be used prior to 2040." *Id*. at 5-6. Any water production in excess of either an Annual Pumping Allocation or a Transient Pool Allocation will be subject to a yet-undetermined "Augmentation Fee" "in an amount that is determined to be sufficient for the acquisition of supplemental water supplies." *Ibid*. Additionally, those groundwater users that are assigned a Transient Pool Allocation may be enrolled in a "Fallowing Program," under which the user can elect to "sell their Transient Pool Allocation back to the IWVGA." *Ibid*.

The Plan explains that "with the implementation of the Annual Pumping Allocation Plan, Transient Pool and Fallowing Program, [Basin] groundwater production is anticipated to reduce to around 12,000 AFY plus any agricultural pumping as part of the Transient Pool program in the first year of implementation." Plan at 5-7 (emphasis added); see also *id*. at 5-6 (only pumpers assigned a Transient Pool Allocation (i.e., agricultural pumpers) may be enrolled in the Fallowing Program). In other words, the Plan indicates that *agricultural pumpers will not receive any Annual Pumping Allocation*, but must share in some portion of the Transient Pool Allocation or else elect to participate in the Fallowing Program. *Ibid*.

[3] The comments we provide herein are on the December 2019 Public Review Version of the Plan, downloaded from the IWVGA website on December 27, 2019. Since that date, it appears that the IWVGA has removed the individual PDFs of each section of the December 2019 Public Review Version of the Plan from its website, making it unclear whether the December 2019 Public Review Version of the Plan was changed between December 27, 2019 and the date of this comment letter. The apparent changes to the IWVGA website during the comment period raise confusion over which version of the Plan is operative.

A. IWVGA's Actions Violate Mojave's Right to Substantive and Due Process.

SGMA grants IWVGA provisional powers to sustainably manage groundwater. But these powers are not limitless. If government wields its power in an "abusive, irrational or malicious manner" it can cause grave harm and a substantive due process violation. *Sinaloa Lake Owners Assoc. v. Simi Valley* (9th Cir. 1989) 882 F.2d 1398, 1408. The touchstone of a substantive due process claim is a vested property right. Mojave's overlying right fulfills that requirement. *Orange County Water District v. Sabic Innovative Plastics US, LLC* (2017) 14 Cal.App.5th 343, 416.

Generally, to determine whether substantive due process rights have been violated, the court will look at factors including:

- The need for the governmental action;
- The relationship between the need and the action;
- The extent of the harm inflicted; and
- Whether the action was taken in good faith or for the purpose of causing harm.

Here there is a need for a Plan and the sustainable long-term management of groundwater. The statute provides the GSA with a 20 year planning horizon to achieve sustainability. Water Code § 10727.2(b). The statutory definition of "Sustainable Yield" is found in Water Code §10721(w):

> "Sustainable yield" means the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing an undesirable result.

Notably, not present in this definition is a requirement in SGMA or common law that requires that IWVGA adopt a Plan requiring that the Basin be managed in a manner that limits extractions to the recharge rate. But this is what the Plan seeks to accomplish by eliminating agricultural use in utter disregard to the consequences of its action.

Instead the IWVGA must look to the direction provided by Water Code section 10721(x) and the avoidance of the designated "undesirable results" and make use of the available 20 years to achieve its objective rather than inflict the economic devastation on an entire class of users that includes Mojave.

Owners of real property overlying the Basin with vested property rights and the physical ability to extract water for crops planted prior to the adoption of SGMA will receive a **zero** allocation under the Plan. Meanwhile, the Plan "will assign" to the Navy—an entity not subject to the Plan—a priority right to as much as 85 percent of the Basin's available water supplies (6,530 AFY of 7,350 AFY), despite the fact that the Navy is an "ex-officio" member of the IWVGA that is not subject to regulation under the Plan. The City of Ridgecrest, which is provided with water by the Indian Wells Valley Water District—both members of the IWVGA—will also receive the benefit of priority rights ahead of agriculture. However, the Plan makes no effort to distinguish between the Indian Wells Valley Water District's domestic customers, exterior irrigation uses, and industry.

The coincidence of priority in allocation being ascribed to governance of the IWVGA is not overcome by a credible showing of any physical measurable impact that would constitute an "undesirable result" if the proposed curtailment is not put into effect. The Plan does not examine whether reasonably feasible mitigation is available to avoid any potential undesirable results. Projected lowering of the water table over the planning horizon threatens no beneficial uses and there is no evidentiary basis that establishes a causal connection between the continuation of groundwater pumping and avoidable undesirable results of any kind that is sufficient to permanently wipe agriculture from the landscape of the Indian Wells Valley.

B. The Plan is Vague and Should be More Explicit as to Which Users will be Granted an Allocation.

The Plan should be more explicit about which groundwater users the IWVGA has determined will—and will not—share in the Annual Pumping Allocation Plan. The Plan explains that the IWVGA "will assign each qualified groundwater pumper . . . an Annual Pumping Allocation of the safe yield, if any, after consideration of:

1) Federal Reserve Water Rights (FRWR);
2) California water rights;
3) Beneficial use priorities under California Law;
4) Historical groundwater production; and,
5) Municipal requirements for health and safety." Plan at 5-5 (emphasis added).

However, the Plan demonstrates that the IWVGA has already made the preconceived determination that agricultural pumpers will not receive Annual Pumping Allocations and will instead be limited to some unspecified share of the one-time 51,000 AF "Transient Pool Allocation." Plan at 5-7. The Plan should be revised to make explicit the IWVGA's determinations as to which users are "in," and which are "out" of the Annual Pumping Allocation Plan. The Plan should also explain exactly how the five factors set forth above were considered (and will be considered) in determining which water users receive an allocation.

C. As Presently Formulated, the Allocation System is Contrary to SGMA's Mandates Because it Requires Water Rights Determinations by the IWVGA, Prioritizing Some Uses Above Others Based Upon Considerations Inconsistent with Common Law.

The Plan provides that some, but not all, groundwater users will receive Annual Pumping Allocations. It explains: "The IWVGA recognizes that safe yield is significantly lower than current pumping and some groundwater pumpers with inferior rights will not be granted any Annual Pumping Allocations." Plan at 5-6. In other words, the Plan reveals that the IWVGA will determine which groundwater users hold "inferior rights" and these "inferior rights" holders will not be granted Annual Pumping Allocations. This is an application of a priority system among competing claimants to water based upon the perceived relative value of the claimants' water rights.

Indeed, the IWVGA has already made preconceived determinations as to which groundwater users hold "superior" rights. For example, the Plan sets forth determinations that "NAWS China Lake groundwater production is considered of highest beneficial use" and that "the City [of Ridgecrest] and Kern County overlying groundwater production rights are superior to all other overlying rights because public entity rights may not be prescribed against." Plan at 5-10.[4] The Plan then explains that: "The beneficial uses of other groundwater users, including agricultural and industrial users, will subsequently be evaluated based on water rights priorities. . . . Current groundwater production that has existed and has been continuous prior to the establishment of NAWS China Lake will be given priority over more recent pumping that has

[4] The Plan should explain to what extent the City of Ridgecrest and Kern County hold overlying rights in the Basin. In supplying water to the public, municipal water providers act as appropriators even if they provide water service to customers overlying the same basin from which they draw their water supply. See, e.g., *Town of Antioch v. Williams Irr. Dist.* (1922) 188 Cal. 451, 456; *Wright v. Goleta Water District* (1985) 174 Cal.App.3d 74, 81–82 (public water district was an appropriator when it took groundwater from the basin at issue to serve customers overlying the basin). Therefore, the City of Ridgecrest and Kern County only enjoy overlying water rights with respect to the use of water on overlying parcels owned by these agencies (e.g., city parks). *Tehachapi-Cummings County Water Dist. v. Armstrong* (1975) 49 Cal.App.3d 992, 1001 n. 6.

occurred since the [Basin] has been documented to be in overdraft conditions."[5] *Id*. at 5-10 to 5-11. However, it appears that the IWVGA has already determined that agricultural pumpers hold "inferior rights," based on the Plan's revelation that agricultural pumpers will not share in the Annual Pumping Allocation system. See, e.g., Plan at 5-7.

In making such determinations as to inferior and superior water rights, the Plan violates SGMA's mandate that the Plan shall not determine or alter water rights. Water Code §§ 10720.5(b), 10720.1(b).[6]

To avoid making water rights determinations in violation of SGMA, the Annual Pumping Allocation Plan set forth in Management Action No. 1 should be amended to grant proportional allocations to all groundwater users in the Basin that are subject to the IWVGA's jurisdiction. Allocations should be proportional to each user's existing and anticipated uses, taking into account each user's investments in the Valley. Allocations should also allow for ramp down of water use over the SGMA planning horizon and should account for the large amount of water in storage in the Basin.

Proportional allocations would have the added benefit of encouraging water conservation, as compared to the Plan's proposed Annual Pumping Allocation system, which would seem to allocate to certain users with "superior" rights (according to the IWVGA) all of the water utilized during the base period.

D. Management Action No. 1 is Flawed because it Requires Groundwater Users Excluded from the Annual Pumping Allocation Plan to Unlawfully Subsidize Users Awarded an Allocation.

The Plan explains that groundwater production in excess of either an Annual Pumping Allocation or a Transient Pool Allocation (capped at 51,000 AF) will be subject to a yet-undetermined "Augmentation Fee" "in an amount that is determined to be sufficient for the acquisition of supplemental water supplies." Plan at 5-6. In order to continue operations in the Basin, those groundwater users excluded from the Annual Pumping Allocation Plan will need to pay Augmentation Fees once their Transient Pool allocation is used up. Pursuant to certain of the modeling scenarios developed by the IWVGA, this could happen within the course of one year.

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[5] The Plan does not clearly explain how the production rights of these agricultural and industrial users that began production prior to the establishment of NAWS China Lake will be treated vis-à-vis NAWS China Lake. Federal law is clear that a federal reserved water right is superior only to the rights of future appropriators. See, e.g., *Cappaert v. United States* (1976) 426 U.S. 128, 138 ("This Court has long held that when the Federal Government withdraws its land from the public domain and reserves it for a federal purpose, the Government . . . acquires a reserved right in unappropriated water which vests on the date of the reservation and is *superior to the rights of future appropriators*.") (emphasis added).

[6] The Plan attempts to make the case that the "Annual Pumping Allocations are not a determination of water rights in that they do not prohibit the pumping of groundwater" because all groundwater pumpers would continue to possess the right to pump groundwater, provided they pay the Augmentation Fee. Plan at 5-4. The claim fails for at least three reasons. First, the Plan explicitly admits that allocation-setting is based on the IWVGA's water rights determinations, with "inferior" rights holders denied an Annual Pumping Allocation. *Id*. at 5-6. Second, the Plan reveals that the Augmentation Fee will be set at such a level "that the costs associated with the Augmentation Fee will result in voluntary pumping reductions and the implementation of additional conservation measures to lower demands." *Id*. at 5-4. In other words, Management Action No.1 would involve a de facto determination of water rights because only certain types of groundwater users would be forced to reduce their exercise of water rights due to the economic viability of continued groundwater production in the face of Augmentation Fees. Third, in the absence of an appropriator having established prescriptive rights in a court of competent jurisdiction, all overlying owners, including Mojave, hold prior and paramount rights superior to all appropriators *as a matter of law*. *City of Barstow v. Mojave Water Agency* (2000) 23 Cal.4th 1224, 1240–41.

Therefore, the groundwater producers excluded by the IWVGA from participation in the Annual Pumping Allocation Plan would be responsible for payment of the majority of the Augmentation Fees. This, in turn, would result in the excluded users subsidizing the acquisition of supplemental water supplies in the Basin, which will benefit all groundwater producers, not just those that financed the acquisition of the supplemental supplies through payment of Augmentation Fees.

Structuring Management Action No. 1 in such a way as to require certain classes of groundwater users (i.e., those excluded from the Annual Pumping Allocation Plan) to subsidize other classes of users runs afoul of the constitutional requirement that fees shall bear a reasonable relationship to the payor's burdens on, or benefits received from the governmental activity. Cal. Const., art. XIII C, § 1 ("The local government bears the burden of proving by a preponderance of the evidence that . . . the amount [of a levy, charge, or other exaction] is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payor bear a fair or reasonable relationship to the payor's burdens on, or benefits received from, the governmental activity."); Cal. Const., art. XIII D, § 6(b)(3) ("The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel."); *City of San Buenaventura v. United Water Conservation Dist.* (2017) 3 Cal.5th 1191, 1214 ("To qualify as a nontax 'fee' under article XIII C, as amended, a charge must satisfy *both* the requirement that it be fixed in an amount that is 'no more than necessary to cover the reasonable costs of the governmental activity,' *and* the requirement that 'the manner in which those costs are allocated to a payor bear a fair or reasonable relationship to the payor's burdens on, or benefits received from, the governmental activity.'") (emphasis in original).

Again, the solution to rectify this specific constitutional infirmity is to revise Management Action No. 1 so that each groundwater user is awarded a proportional Annual Pumping Allocation, as described above. This revision would ensure that a small class of users would not be required to subsidize the development of imported water supplies. Proportional allocations would also encourage each user to conserve water to avoid paying Augmentation Fees.

E. <u>The Plan Fails to Provide a Reasoned Basis for the Rejection of Proportional Allocations Based Upon the Cumulative Requirements of all Beneficial Uses in Combination with Reasonable Measures Narrowly Tailored to Avoid Undesirable Results During the Planning Horizon.</u>

California common law calls for the management of groundwater in a manner that optimizes the reasonable and beneficial use of water. *City of Santa Maria v. Adam* (2012) 211 Cal.App.4th 266, 288; *California American Water Company v. City of Seaside* (2010) 183 Cal.App.4th 471, 480. SGMA allows a GSA 20 years to attain sustainability. Water Code § 10727.2(b). The Plan ignores the directive of maximizing use within the framework established by SGMA.

It rejects a proportional allocation system among all beneficial uses under reasonable efficiency under the ruse of assumptions unsupported by credible evidence. For example, the Plan makes the claim that "[e]conomically viable agricultural operations cannot be sustained with a greatly reduced water supply (pumping allocation)," Plan at 5-8, but fails to acknowledge that the result of entirely excluding agricultural pumpers from the Annual Pumping Allocation Plan would be to eviscerate the economic viability of agricultural operations in the Basin. Management Action No. 1 should be amended to grant agricultural pumpers an Annual Pumping Allocation that is proportional to their existing and anticipated use, taking into account each user's investments in the Valley.

Likewise, the Plan makes the unsupported claim that "domestic and municipal users would not be able to meet basic health and safety requirements under a proportional reduction allocation." Plan at 5-8 to 5-9. This claim is unsupported by evidence or explanation. There is no differentiation as to the water required for human consumption and basic sanitation. Therefore, the Plan should be updated to include an analysis

that demonstrates that a proportional allocation system would be insufficient to meet "basic health and safety requirements." The Plan should also analyze and explain what those requirements are.

Finally, the Plan makes the argument that "proportional reductions to reach the Current Sustainable Yield are infeasible because the majority of individual groundwater users would not have a large enough allocation to maintain an acceptable quality of life and the drastic community changes would impact the support of NAWS China Lake." Plan at 5-8. Again, the Plan fails to provide support for the finding that a proportional allocation system is infeasible and does not explain what is meant by "an acceptable quality of life," "drastic community changes," and "the support of NAWS China Lake." If the Plan intends to take the overlying rights of Mojave and others for the benefit of NAWS China Lake, compensation should be paid—either by the federal government that enjoys the confiscation of property or by the IWVGA that does its bidding by regulation.

The Plan should be edited to address these deficiencies and should also explain why "the support of NAWS China Lake" is a relevant factor, given that the Plan indicates that NAWS China Lake will be exempt from the payment of any fees or water use restrictions. See Plan at 5-5 (NAWS China Lake will be exempt from payment of fees, has not provided an accounting of its water right, and the Base Period is not applicable to NAWS China Lake), 5-10 (NAWS China Lake's groundwater production will not be restricted or regulated).

Contrary to the Plan's unsupported claims of harm, a proportional allocation system would indeed be feasible. Moreover, the system could be structured so that each groundwater user's proportional allocation is tradable, thereby ensuring that water will go to the highest and best use, while encouraging conservation among beneficial uses. Trend is not destiny and SGMA grants the IWVGA the time to pursue corrective potential strategies over the decimation of farming as a way of life. It would also encourage broad community investment in developing new water supplies, whether it be direct potable reuse or the delivery of imported water from the City of Los Angeles by negotiation or in reparation for the disruption of the historical groundwater inflow into the Basin from the Owens Valley. It is in the public interest that we have a strong Navy. It is also in the public interest that it pay its expenses.

F. <u>The Plan Should More Clearly Explain and Justify Treatment of NAWS China Lake.</u>

The Plan must be updated to explain how NAWS China Lake will be treated under Management Action No. 1 and to explain the basis for this super-priority preferential treatment not previously recognized in any tribunal anywhere. The Plan includes the contradictory assertions that "NAWS China Lake has not provided a final accounting of its FRWR," that in June 2019, the Navy estimated that NAWS China Lake's water "requirement" was 6,530 AFY (i.e., the vast majority of the 7,650 AFY safe yield), and that notwithstanding this 6,530 AFY "requirement," the Navy "requested" that the IWVGA "use 2,041 AFY as a reasonable estimate of current and future annual groundwater production on the installation." Plan at 5-5, 5-9. Additionally, the Plan explains that the January 1, 2010 through December 31, 2014 Base Period will not be used to evaluate groundwater production for NAWS China Lake, that NAWS China Lake, along with other federal agencies, are exempt from Augmentation Fees, and that the IWVGA "does not have legal authority to restrict, assess, or regulate production for NAWS China Lake; therefore, NAWS China Lake groundwater production is considered of highest beneficial use." *Id*. at 5-5, 5-10. Accordingly, under the Plan, the ex-officio IWVGA Board member and possessor of the model—NAWS China Lake—finds itself the beneficiary of a super-priority right to groundwater without any financial obligation whatsoever to support the ongoing costs of "sustainable management" for its unilateral benefit.

The Plan's determination that NAWS China Lake's groundwater production "is considered of highest beneficial use" is a legal conclusion that does not follow from the IWVGA's inability to regulate NAWS China Lake. Moreover, it is contrary to foundational principles of water rights law, under which it is clear

that the priority of a federal reserved water right is determined by the date the federal reservation was established, that the federal reserved water right only enjoys priority vis-à-vis subsequent appropriators, and that the right extends only to the primary purpose of the federal reservation. *Cappaert v. United States* (1976) 426 U.S. 128, 138 ("This Court has long held that when the Federal Government withdraws its land from the public domain and reserves it for a federal purpose, the Government . . . acquires a reserved right in unappropriated water which vests on the date of the reservation *and is superior to the rights of future appropriators*.") (emphasis added); *Agua Caliente Band of Cahuilla Indians v. Coachella Water Dist.* (9th Cir. 2017) 849 F.3d 1262, 1268–69 (explaining that the Supreme Court has emphasized that, under the doctrine of federal reserved rights, the government reserves "only 'that amount of water necessary to fulfill the purpose of the reservation, no more'" and that the United States must "'acquire water in the same manner as any other public or private appropriator'" where "'water is only valuable of a secondary use of the reservation'").

Additionally, although the Plan is somewhat unclear on this point, it appears that the IWVGA intends to award an Annual Pumping Allocation to NAWS China Lake, given the determination that its groundwater production is "of highest beneficial use." If this is not the case, the Plan should state what its rationale is.

Moreover, given the Plan's conclusion that the IWVGA "does not have legal authority to restrict, assess, or regulate production for NAWS China Lake," the Plan should be updated to answer the following questions:

- Whether NAWS China Lake will be granted an Annual Pumping Allocation;
- The basis for the IWVGA's determination that the Base Period should not be used to evaluate groundwater production for NAWS China Lake if it is used to determine the beneficial use of all overlying landowners;
- Whether NAWS China Lake will provide a final accounting of its FRWR;
- Given the Navy's conflicting estimates and the IWVGA's decision not to evaluate NAWS China Lake's water use relative to the Base Period, the basis for NAWS China Lake's Annual Pumping Allocation (if any);
- The legal basis for the IWVGA to grant an Annual Pumping Allocation to NAWS China Lake, given that the IWVGA cannot regulate NAWS China Lake's water use and has no recourse in the event NAWS China Lake exceeds its allocation;
- How the Plan meets the requirements of SGMA to be enforceable if it cannot address NAWS China Lake's water use in excess of its allocation or the assumed quantity of production;
- Given the IWVGA's lack of authority to regulate NAWS China Lake, whether the grant of an allocation by the IWVGA is properly regarded as a taking of private property (overlying water rights) for the benefit of the federal government without compensation in violation of the United States Constitution;
- The legal basis for granting an allocation to NAWS China Lake, but not to certain overlying rights holders, including those that commenced production prior to the establishment of NAWS China Lake;
- How the IWVGA will respond if NAWS China Lake exceeds its Annual Pumping Allocation;
- Whether the IWVGA will further reduce other Annual Pumping Allocations due to exceedances by NAWS China Lake; and
- How NAWS China Lake's water use will be measured and accounted for (i.e., given that the IWVGA cannot regulate NAWS China Lake, how will the IWVGA ensure that it obtains water use data from NAWS China Lake and properly accounts for the Navy's water use?).

Absent clear answers to these questions, Mojave recommends that the IWVGA deal with water use by the federal government outside of the allocation context. In other words, the IWVGA should grant Annual Pumping Allocations only to water users that are subject to regulation by the IWVGA.

G. The Plan "Takes" the Water Rights of Overlying Landowners, Including Mojave's.

The Plan unequivocally takes fully vested overlying water rights and makes them available for use by NAWS China Lake. The proposed action is both a regulatory and a physical taking. See *Casitas Mun. Water Dist. v. United States* (Fed. Cir. 2008) 543 F.3d 1276 ("*Casitas*"); *Tulare Lake Basin Water Storage Dist. v. United States* (2003) 59 Fed.Cl. 246. Mojave is an overlying landowner with overlying water rights. The water available to Mojave for reasonable and beneficial use will be taken by the Plan and made available for use by NAWS China Lake and other users like the Indian Wells Valley Water District. There is little doubt—as reflected by the Plan—that it prioritizes the use of water by NAWS China Lake and the Water District and constitutes a public use. Like the required forbearance of water foisted upon an existing appropriator under environmental regulation in *Casitas,* in the instant case the Plan makes water available for NAWS China Lake and the Water District and effectuates a "physical taking." "This is no different than the government piping the water to a different location. It is no less a physical appropriation." *Casitas*, 543 F.3d at 1294.

H. The Fallowing Program Contemplated by the Plan is Inadequate to Compensate Agricultural Water Users for their Investments.

Management Action No. 1 provides that all groundwater users assigned a Transient Pool Allocation (e.g., agricultural producers) would be eligible for enrollment in a Fallowing Program. Plan at 5-6. Under the Fallowing Program, eligible groundwater pumpers could "elect to sell their Transient Pool Allocation back to the IWVGA." *Ibid*. The Plan explains that the IWVGA and participating groundwater pumpers "may also explore alternative uses for the fallowed land, which may include use as enhanced habitat or grazing lands. *Id*. at 5-7. The Plan estimates that the IWVGA's costs incurred pursuant to the Fallowing Program will be approximately $9 million. *Id*. at 5-11.

The Plan should be updated to explain how the value of the Transient Pool Allocations purchased pursuant to the Fallowing Program would be determined. Additionally, the Plan should explain why the IWVGA anticipates $9 million to be sufficient to fund the Fallowing Program. As explained above, Mojave, has expended in excess of $25 million on their agricultural properties overlying the Basin. Therefore, it appears that the budget for the Fallowing Program should be significantly expanded to protect participating water users' investment-backed expectations and adequately compensate agricultural producers.

I. The Plan Should Include Additional Detail on the Transient Pool Allocation and Provide a Justification for why Shares of the Transient Pool are Non-transferrable.

As presently formulated, Management Action No. 1 includes a 51,000 AF Transient Pool Allocation, which the Plan explains will be allocated among all of the groundwater users not given an Annual Pumping Allocation (i.e., all agricultural pumpers, among others). Plan at 5-6. Each user's share of the Transient Pool is non-transferrable. *Ibid*.

The Plan should be updated to explain the basis and rationale for the IWVGA's determination that shares of the Transient Pool Allocation should be non-transferrable. Ensuring transferability of all allocations, including Transient Pool Allocations would ensure that water goes to the highest and best use.

More fundamentally, the Plan must be revised to explain the scientific and policy rationale for setting the Transient Pool Allocation at 51,000 AF, as opposed to some other number. From an economics standpoint, 51,000 AF is woefully insufficient to allow agricultural production to continue until imported water is available in the Basin, which the Plan estimates will not occur until approximately 2035. Plan at 5-7. Therefore, agricultural pumpers and others denied Annual Pumping Allocations will be heavily impacted by payment of Augmentation Fees. The Plan should include an analysis of the impacts of Management

Action No. 1 on agricultural pumpers and other water users that are excluded from the Annual Pumping Allocation Plan.

Additionally, the Plan should explain how much of the 51,000 AF each user will be granted and whether the Board intends to adopt (or has already incorporated) Model Scenario 6 ("Scenario"), presented at the August 15, 2019 Board meeting (Agenda Item 10.B) into the Plan. Under this Scenario, like the Transient Pool Allocation described in the Plan, each non-domestic user would be assigned a portion of a pool volume[7] that could be used variably until 2040, but total pumping could not exceed an assigned portion. The Scenario assumes that each of the non-domestic group continues to pump at current levels over a "cliff" period until each user's assigned portions are depleted. For Mojave Pistachios, that "cliff" period would last only eight months at current pumping levels. In other words, if the Board were to implement this Scenario, or a similar scenario, through Management Action No. 1, within the course of a year, Mojave Pistachios would be prohibited from exercising its overlying water rights.

Such a proposal would amount to a taking of Mojave's overlying water rights in contravention of SGMA's express protection of common law water rights. As overlying users, Mojave is entitled to protection of their overlying rights. Any proposal that would result in the elimination of agricultural and industrial producers must be rejected as inconsistent with both SGMA and well-established principles of California groundwater rights law.

Moreover, the allocation of the limited pool volume modeled in the Scenario and set forth in the Plan represents only approximately three to four percent of an assumed (and likely **grossly understated**) 1.5 million AF of usable water in storage. Considering the severe economic consequences on members of the agriculture and industry group, this amount is unreasonable. Specifically, as explained above, the proposed allocation fails to provide sufficient water to allow Mojave to continue their operations in the short term and until imported water is available. The proposed allocation does not provide sufficient water for this transition and would eviscerate Mojave's investments in the Indian Wells Valley that now exceed $25 million.

J. The Plan Must be Updated to Reflect that Management Action No. 1 is Subject to the California Environmental Quality Act (CEQA).

The Plan explains that implementation of the Annual Pumping Allocation Plan, Transient Pool and Fallowing Program "may be subject to environmental regulations and could require the preparation of environmental studies." *Id*. at 5-11. Yet, the Plan indicates that Management Action No. 1 will be implemented during summer of 2020, which leaves insufficient time for the environmental review process. *Id*. at 5-12.

The Plan should be updated to reflect that the adoption of the Annual Pumping Allocation Plan, Transient Pool and Fallowing Program is a "project" under CEQA and the implementation schedule should be updated to provide sufficient time for environmental review and public participation.

As the Board is likely aware, CEQA is triggered when a public agency "approves" a project that is subject to CEQA. Pub. Res. Code § 21080. "Approval" is defined as any decision that commits the agency to a "definite course of action in regard to a project." CEQA Guidelines § 15352. The term "project" is defined broadly to include any activity that: (i) may cause a direct (or reasonably foreseeable indirect) physical environmental change; and (ii) is directly undertaken by a public agency, supported in whole or in part by a

[7] Under the Scenario, the pool volume was 63,836 AF, whereas the total Transfer Pool volume set forth in the Plan is only 51,000 AF. The Plan should explain the basis for the reduction in the pool volume, along with the rationale for setting the Transfer Pool volume at 51,000 AF.

public agency, or involves the issuance by a public agency of some form of discretionary entitlement or permit.[8] See Kostka and Zischke, Practice Under the California Environmental Quality Act § 4.5 at 158–59, citing Pub. Res. Code § 21065 and CEQA Guidelines § 15378. There is no doubt that Management Action No. 1 is subject to CEQA—it is an activity that may cause environmental impacts (e.g., impacts on air quality, land use, or biological resources due to land fallowing) and is approved by the IWVGA—a public agency. Therefore, the Plan must be updated to reflect that the IWVGA will conduct CEQA review on Management Action No. 1 prior to its adoption.

Given the massive changes in land use across the Basin and the associated significant environmental impacts that are likely to occur with implementation of the Annual Pumping Allocation Plan, Transient Pool and Fallowing Program, an EIR is required. The EIR must describe the proposed project, its environmental setting, its objectives, identify and analyze significant effects on the environment, state how those impacts can be mitigated or lessened, and identify alternatives to the project. *Federation of Hillside and Canyon Assocs. v. City of Los Angeles* (2004) 126 Cal.App.4th 1180, 1197; CEQA Guidelines §§ 15123–28, 15130. The implementation timetable set forth in Section 5 of the Plan must be amended to accommodate sufficient time for the preparation of an EIR analyzing the impacts of Management Action No. 1.

Finally, the Plan evidences a pre-commitment problem. The Plan explains that the IWVGA will separately determine each groundwater pumper's Annual Pumping Allocation and/or Transient Pool Allocation following adoption of the Plan. Plan at 5-12. Yet, the Plan demonstrates that the IWVGA has already determined that agricultural pumpers will be excluded from the Annual Pumping Allocation Plan. See Plan at 5-7. CEQA forbids pre-commitment by the lead agency to the various approvals constituting the Project. See, e.g., *Save Tara v. City of West Hollywood* (2008) 45 Cal.4th 116; *Cedar Fair, L.P. v. City of Santa Clara* (2011) 194 Cal.App.4th 1150. Pre-commitment to approving a project also violates "the general rule that one legislative body cannot limit or restrict its own power or that of subsequent Legislatures…." *In re Collie* (1952) 38 Cal.2d 396, 398.

IV. The Best Available Scientific Information Demonstrates that the Plan Dramatically Underestimates the Amount of Water in Storage and Recharge Estimates and Consequently Fails to Recognize the Opportunity for Continued Beneficial Use of Groundwater Over the 20 Year Planning Horizon and Beyond.

As Mojave has noted in prior comments, prior to setting any allocations, it is necessary to develop an accurate and supportable estimate of the total amount of usable groundwater in storage in the Basin. However, Mojave is concerned that the assumptions made to date regarding the amount of usable water in storage in the Basin and Basin recharge, to the extent they can be discerned, lack scientific support.

A. The Plan Underestimates the Amount of Water in Storage.

Indian Wells Valley is a geologic basin that has been infilled with up to 6,500-feet of unconsolidated sediments. These sediments contain groundwater under perched, unconfined to semi-confined, and confined conditions. The total volume of groundwater storage is a function of the total volume of the aquifer, including the sediment grains and water in the pore space, and the percentage of that volume that contains available groundwater.

[8] "Public agency" is defined as any "state agency, board, or commission, any county, city and county, regional agency, public district, redevelopment agency, or other political subdivision." Pub. Res. Code § 21063. The IWVGA is a "public agency." Water Code §§ 10721(j), (n).

There are two basic methods for calculating the volume of groundwater storage: analytical calculations using sediment volume and specific yield, and numerical calculations using the structure of the groundwater flow model (DRI, 2016).

The Plan notes (at page 3-26) with respect to total basin storage that three sources were considered:

- Kunkel and Chase (1969) 720,000 AF under 64,000 acres
- Dutcher and Moyle (1973) 2,200,000 AF under 70,800 acres in 1921 in 200 feet of aquifer
- USBR (1993) 1,020,000 AF to 3,020,000 AF under 59,200 acres in 100 to 300 feet of aquifer

It should be noted that all of the above estimates are for limited areas (59,200 to 70,800 acres) in the overall Basin (382,000 acres). If the analysis within each of these studies is expanded to the entire Basin, then the volume of water in storage increases significantly. Further, The DRI model contains the most up to date information available on the basin shape, the hydrostratigraphy, the groundwater levels, and the water quality (both brackish and fresh), and specific yield distribution in all areas, layers, and zones. Regardless of what the historical "estimates" showed, the DRI model should be used to estimate the volume of water contained in the basin as of 2019. DRI has all the information it needs to estimate water volumes in all model layers, in all basin areas, for all water quality criteria.

Questions that should be answered include:

- What is the total volume of the basin within the model domain?
- What is the total volume of water (all qualities) within the basin within the model domain?
- How much water is in Layer 1 of the model?
- How much water is in Layers 2-3 of the model?
- How much water in in Layers 4-6 of the model?
- How much of the water within these layers is fresh versus brackish?
- Where are the fresh versus brackish resources located within the basin volume?

The DRI model is being utilized to determine changes in storage and loss in storage, but the fundamental questions of how much water is in the basin (within the model domain) have not been answered.

B. Recharge

With respect to recharge, Section 3 of the Plan provides:

> The average annual recharge developed by DRI is 7,650 AF per year (McGraw et al, 2016; Garner et al, 2017). The recharge zones identified by DRI are shown in Figure 3-10. The total area of recharge is about 770 square miles. The area and estimated annual recharge in each zone are shown in Table 3-3. Plan at 3-13.

Likewise, the Plan includes the following "selected" recharge estimates in Table 3-4:

Table 3-4: Natural Recharge Estimates from Selected Recharge Studies (AFY).

Recharge Study	Natural Recharge Estimate (AFY)
Brown and Caldwell (2009)	8,900
Epstein et al. (2010)	5,800 to 12,000

Todd Engineers (2014)	6,100 to 8,900
Desert Research Institute (McGraw et al. 2016)	7,650

However, the Plan fails to explain on what basis were these natural recharge estimates were "selected." Do recharge studies that demonstrate significantly higher recharge exist?[9]

Additionally, no explanation is provided as to why the DRI recharge estimate (7,650 AFY) was used as opposed to any of the other "selected" studies. See Plan at 3-20 and 3-21 to 22 (7,650 AFY used as the sustainable yield). Furthermore, no explanation is provided as to why only natural recharge is included, when the Plan acknowledges that agricultural use is 50 percent of total water use and recharge from irrigation as well as distribution system leakage must be considered in recharge estimates (i.e., return flows).

With respect to the DRI recharge estimate, the estimate is based on the loss of storage of approximately 25,000 AFY over many years from sediments assumed in the DRI model to have an average specific yield of 22 percent. This value is very high for the sediments present in the Basin, especially where the groundwater is semi-confined and confined. Use of a more reasonable value for specific yield would lower the volume of water lost from storage, resulting in a much higher estimate of recharge.

V. Likewise, the Analysis of Undesirable Results must be based on the Best Available Science and Information

SGMA requires development of a Plan to meet SGMA's sustainability goal, which means avoiding statutorily defined, significant and unreasonable undesirable results through implementation of projects and management actions. Water Code §§ 10727, 10727.2, 10721(u), (v), (x). SGMA defines undesirable results to include any of the following:

> (1) chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon. Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and groundwater recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods;
>
> (2) significant and unreasonable reduction of groundwater storage;
>
> (3) significant and unreasonable seawater intrusion;
>
> (4) significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies;
>
> (5) significant and unreasonable land subsidence that substantially interferes with surface land uses; or
>
> (6) depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

[9] See, e.g., studies referenced in the Todd Report that reference much higher recharge estimates (e.g., on the order of 25,000+ AFY).